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THE DEVELOPMENT OF MIND AND BODY.

BY J. H. KELLOGG, M. D.

LET us first inquire, What is man? The zoologists describe man as an animal, a biped; and an eminent French biologist defines an animal as a stomach with various organs appended, which definitions would seem to characterize man as simply a two-legged stomach,—a digesting-machine. Considered from this standpoint, man is a delicately constructed mechanism, a self-regulating, self-repairing engine in which fuel is consumed, and by which work is done. Anatomically considered, the body is not a unit except in the sense in which a whole community is a unit, but it is rather an organized congeries of units like a swarm of bees, each individual cell possessing a character and life work of its own. Through the differentiation of the structure and function of the body, we find certain groups forming a framework of bones and connective tissues; others possessing the peculiar property of contractility, as in the muscles; others capable of separating from the blood certain elements and throwing them out of the body, or transforming them into substances known as secretions to serve useful purposes within the body; still others forming the nerves and nerve centers capable of receiving most varied impressions from the outer world, and transmitting them into impulses of various sorts which give rise to the infinite variety of activities represented in the human body.

Thus by the marvelous process of digestion and assimilation, various solid substances are first dissolved and absorbed, then reconverted into solid structures to take the place of worn-out and cast-off material. The wear and tear of this living engine gives rise to the production of poisons of many sorts; indeed, the body is constantly threatened with death by intoxication from the various toxins and ptomains produced therein. By a beneficent arrangement, however, the blood current is continually carrying away these poisons, and the blood thus contaminated must pass through the liver before it can enter the general circulation. The marvelous instinct of the liver enables it to recognize these poisons, which, by a still more wonderful vital alchemy, it is able to destroy or neutralize. The kidneys, on the other hand, are unceasingly at work removing from the blood which pours through them in a torrent, those poisonous elements which have originated in the brain, the muscles, and other bodily organs, as the result of vital work and which the liver may have failed to detain. The liver may be said to be a closed door against poisons, while the kidneys are an open door through which poisons may escape. Thus these two organs together perform a function which in some lower forms of animal life is maintained by a single organ representing both liver and kidneys.

The defensive faculty resides, however, not alone in the organs named. Every living cell — in fact every vital fluid within the body — seems to be endowed with the faculty of self-defense. The gastric juice destroys germs like a disinfecting fluid. The same is true of the bile, a perfect antiseptic. The mucus, or serum, which covers every living membrane, is a natural germicide, as it is also the fluid medium of the blood.

Most efficient of all, however, as germ fighters are the wandering cells which float in the blood, and the analogous cells found scattered through the tissues and collected in great numbers in the lungs, along the intestinal tract, in the spleen, the lymphatic glands, and the various points where special danger is threatened. These cells are capable of capturing germs and actually destroying them.

The prolongation of our lives from day to day is directly due to the unceasing vigilance of the various physiological sheriffs which march up and down the avenues and highways of the body,— most faithful sentries, and an all but invincible body-guard, promptly arresting and exterminating every invading microbe.

Presiding over and regulating all the marvelously varied activities and functions displayed by this complicated living machine, is the brain, which, though centered in the skull, extends through the entire body by means of the numerous nerve filaments sent out either directly through the various smaller openings of the skull, or indirectly through the spinal cord, and thus comes in touch with every living, working unit, harmonizing and unifying, as well as controlling, all the varied activities of the body.

One of the most interesting associations in the body is that existing between the cranial brain, which presides over all the sensations of voluntary motion and the other activities of animal life, and the great sympathetic, or vegetative, brain, located in the region of the stomach, and presiding over the digestive functions and the activities of every gland and blood-vessel in the body,— the heart and the lungs, and even the cranial brain itself. The cerebral, or cranial, brain, being both directly and indirectly connected with the abdominal brain by numerous large nerve-trunks, controls its activity, and, through it, the activities of the stomach, the liver, and other organs; and it is in turn, through the same channel, subjected to control.

An East Indian judge was wont to determine which one of several accused persons was the real culprit by making each of them chew a spoonful of dry rice for a given number of minutes, at the expiration of which time the mouth of each was examined, and the real culprit betrayed by the fact that his mouth would be found dry, through the mental emotion of fear upon the sympathetic nerves and thus upon the salivary glands. The pallor which accompanies fear and intense anger, the constriction of the throat which accompanies grief, the sudden paralysis and fainting symptoms resulting from fright, are also graphic illustrations of the influence of the cranial upon the vegetative brain.

Equally powerful is the influence exerted by the sympathetic brain upon the cerebral, or intellectual, brain. An overexcited solar plexus produces insomnia, and may induce cerebral congestion so intense as to give rise to sleeplessness, mental irritability, and even maniacal excitement. The peculiar manifestations of hysteria are dependent upon some irritating cause acting upon an abnormally sensitive sympathetic brain. Much of the erratic conduct in society must be attributed to the same cause. Carlyle became a pessimist in his later years because of his lifelong dyspepsia. It has been truth-

fully said that many a poor fellow has been sent to the gallows because the judge had a fit of indigestion. Travelers in Africa tell us that it is not an uncommon thing for a score of men to be decapitated because some dusky potentate happens to have a bilious attack. The greater share of the neuralgias, the headaches, the backaches, the strange nervous and other sensations, is quite directly traceable to the sympathetic nervous system, which controls every blood-vessel in the body, and hence the activity of every cell and every organ.

One of the most important of all aids to strength of mind and purity of heart is that purity of blood, strength of nerve, and equipoise of brain which are the result of a simple, abstemious life and vigorous muscular work.

A perfectly sound mind cannot exist in an unsound body; and as Herbert Spencer remarks, "People are beginning to see that the first requisite to success in life is to be a good animal." The typical man should present a symmetrical, all-round development. The man of muscles and bones may excel in mere brute energy, but lacks the judgment, the will, and the fine discriminating ability to make the best use of his powers; while the man with large brain but weak vital organs lacks the vitality and vigor necessary for the development of his highest and best intellectual powers. Cicero, finding himself a dyspeptic, and physically incapable of attaining the eminence he sought, went to Greece and spent two years in the gymnasium, when he was able to come back as symmetrical and vigorous as an athlete. Had he remained a dyspeptic, he might have been able to write homilies about the decadence of morals, but he could never have crushed Catiline with his anathemas, nor blasted Anthony with his lightnings. Said the late Henry Ward Beecher, "A man is what he is, not in one part, but all over." Mr. Beecher himself afforded an excellent illustration of this idea. The charm of his oratory depended as much upon the physical force back of it as upon his beautiful and sublime imagery.

Both men and women are deteriorating from lack of attention to physical training. Woman has acquired the reputation of being the "weaker vessel" because of those physical abuses to which her body has been subjected and the neglect to develop her physique by vigorous physical exercise. The Tasmanian woman excels her husband in agility; she can dive like a fish or an otter, or climb the tall gum-trees like a squirrel in quest of the opossums in their tops. Stanley declares that the two hundred women porters who once served him in Africa were the most efficient carriers he ever employed. The Arab women, the women of Patagonia, and the women of most wild tribes are practically the equals of their husbands in physical development and vigor.

Cæsar was able to do more work than any other man of his time because he kept his body, brain, and nerves in such fine condition by the use of vigorous physical exercise. Leonardo da Vinci was as proud of his ability to spring straight up from the floor and touch his head to the ceiling of his room, as of his artistic productions.

It is not possible to preserve the highest health without a sufficient amount of daily muscular exercise to induce vigorous activity of the skin. The Finns and Laplanders endeavor to compensate for the deficiency of skin activity resulting from their enforced idleness during the long winter nights by frequently resorting to the "sweat-house" which is attached to every well-finished home. But this forced and superficial perspiration is only a partial substitute for the more thorough-

going eliminative activity resulting from muscular work.

The large number of professional men who break down annually owe their collapse, not to overwork, but to deficient muscular exercise and improper diet. Yet the cities are full of young men seeking employment as clerks, accountants, — anything except that which demands hard, vigorous, muscular exertion. Fortunately the bicycle is doing something to remedy this condition of things.

That there is also an intimate relation between the stomach and the brain, between what we eat and what we think, is a fact which seems to be largely ignored. This is evidenced by the unrighteous messes which men and women complacently swallow under the name of food, thus flooding the body with poisonous substances which cloud the brain, irritate the nerves, contaminate every cell and tissue, clog the delicate vital machinery, and induce degeneration and premature decay. The business of the stomach, as previously stated, is to supply the body with the needed material to renovate its tissues and its energies. As soon as the stomach fails to do its duty, the whole body begins to decline. Every tissue suffers from starvation; every bodily process flags. The muscles become flabby and the nerves irritable, the brain is confused, and the mental powers languish. The stomach is to the body what the furnace is to the steam-engine. It receives the supplies of material out of which blood, brain, and muscle are formed, and which, through the wonderful chemistry of nature, are elaborated into thoughts, feelings, actions. As one sits at an ordinary table, and observes what sort of stuff people are trying to make bones, muscles, and brains out of, he is constrained to think that if the human stomach is not made of cast iron, there must surely be a day of trouble and retribution in store for them.

How different was the dietary of the ancients from that of the moderns, which authorities, both sacred and profane, inform us consisted of the simple, natural products of the earth. We read in Genesis 1: 29: "And God said, Behold, I have given you every herb bearing seed, which is upon the face of all the earth, and every tree in the which is the fruit of a tree yielding seed; to you it shall be for meat." With this exactly agree the teachings of Pythagoras, the ancient Grecian philosopher, while Plato in his famous dialogue "The Republic" represents Socrates as also recommending a simple, natural diet. The following lines from Ovid tersely express some of these views of Pythagoras as to diet: —

"O mortals, from your fellows' blood abstain,
Nor taint your bodies with a food profane,
While corn and pulse by nature are bestowed,
And planted orchards bend their willing load;
While labored gardens wholesome herbs produce,
And teeming vines afford their generous juice;
Nor tardier fruits of cruder kinds are lost,
But tamed with fire, or mellowed by the frost;

* * * * * * * *

"While earth not only can your needs supply,
But, lavish of her store, provides for luxury;
A guiltless feast administers with ease,
And without blood is prodigal to please.

* * * * * * * *

"O impious use! to nature's laws opposed,
Where bowels are in other bowels closed;
Where, fattened by their fellows' fat, they thrive;
Maintained by murder and by death, they live.
'T is then for naught that mother earth provides
The stores of all she shows, and all she hides,
If men with fleshy morsels must be fed,
And chaw with bloody teeth the breathing bread
What else is this but to devour our guests,
And barb'rously renew Cyclopean feasts?
We, by destroying life, our life sustain,
And gorge the ungodly maw with meats obscene.

"Not so the golden age, who fed on fruit,
Nor durst with bloody meals their mouths pollute."

RUINS OF THE HOUSE OF THE GREAT REBEL CHIEF, LE KOOTIS, SHOWING CARVED PILLARS AND WALL OF WOVEN MATTING.

ANCIENT CUSTOMS AMONG THE MAORIS.

BY MAUI POMARE.

We sometimes smile at what we call the old and foolish customs of our forefathers, but there may come a time in the future when our progeny will laugh at our ideas and ways. In this article I shall endeavor to present before my readers some of the manners and customs of the Maoris in bygone days as I have gathered them from listening to the old people as they recalled the days of their youth, and recounted the deeds of bravery and the ways of life in those times. When I look at the present generation of my people, and compare them to the image which my ancestors have left in my mind, I can hardly think it possible that my nation were once cannibals, and were called uncivilized. It is needless for me to say anything about cannibalism, for more competent pens than mine have already portrayed its supposed origin and history. Suffice it for me to say in defense of my people, however, that, if I am correctly informed, the root idea of the word comes from the Latin *caro*, meaning "flesh;" and if that is true, then all flesh-eaters are in a sense cannibals. For myself, I have turned over a new leaf, and am a vegetarian.

My people believed there were ten heavens and ten hells. After the soul had been created in the seventh heaven and sent to the fourth, it took its flight and lodged in the body of the child. The child being born, the relatives gathered around and welcomed the little stranger, first by weeping, and afterward by merry-makings. Before this convocation ended, the child was engaged to be married; for they believed in early engagements. If the child was a girl, she was called a *tapui*, meaning a virgin, till of age to marry the young chief to whom she was betrothed. The next thing after the child's engagement was baptism. The family priest would take the child to a neighboring stream, and, looking steadfastly into its little face, chant something, and then with the boughs of a sacred tree, he would sprinkle the child and dip it into the river. While doing this he would repeat the names of its ancestors, and should the child begin to sneeze or cry, the name which was being spoken at that instant became its name; while the priest continued: —

"Let this child be strong to grasp the battle-axe.
To grasp the spear,
Strong in strife,
Foremost in the charge,
First in the breach,
Strong to grapple with the foe,
To climb lofty mountains,
To contend with raging waves.
May he be industrious in cultivating the ground,
In building large houses,
In constructing ships suited for war,
In netting nets!"

As the lad grew up, his education began at home. I have written about education among my people in a previous article, so I need only repeat that he was made familiar with all the natural sciences, such as astronomy, geology, botany, zoology, etc. When the youth had completed his education, he was admitted into the ranks of the warriors, upon which his face was tattooed; he was presented with numbers of slaves and large canoes as his own, and, in fact, he became a great chief and hereditary lord of his fellow men, wielding his authority right and left, and commanding without resistance.

When such a man died, his tribe assembled to wail over his body. Hundreds and even thousands of Maoris sometimes gathered to these *tangis*. Let

us join such a company. We notice they all have green leaves on their hats, and wreaths of flowers and ferns on their heads. We hear the booming of guns while yet quite a distance from the village. We walk in silence. Leading the procession is the majestic figure of an old-time warrior. His tattooed countenance is sad; his hair is as white as the snows of Tararua; he is a little bent with age, but his steps are firm, and one perceives a kingly manner in all his movements. In his hand he carries the faithful *taiaha* (staff) which has shared his battles in the brave days of old. Soon we hear the *haeremais* (welcome of women's voices). As if by magic, a hundred or more of the singers break forth in sad, bewildering musical strains. At length we find ourselves standing in front of the great *whare* (meeting-house), decorated with elaborate carving. Here we listen to men, women, and children,—all trying to see who can weep the loudest, the longest, and the most earnestly.

The dead man lies outside in state, with the ancient heirlooms, the weapons of his ancestors all around him. There are no seats, but beautiful mats are spread all about, and we at length sit down upon them. Near the corpse are a group of relatives, dressed in their gayest native robes, and weeping bitterly. At length an old chief springs to his feet, and grasping his battle-axe in one hand, and partly facing the people and partly the mourners, in an eloquence of woe pours forth to his sympathizing audience the following sentiments:—

"See, o'er the heights of dark Tauhara's mount
The infant morning wakes. Perhaps my friend
Returns to me, clothed in that lightsome cloud;—
Alas! I toil alone in this lone world.

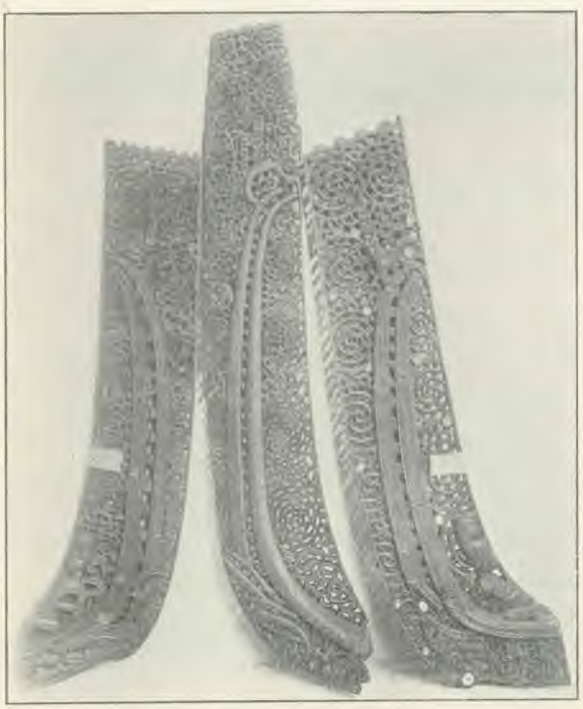
"Yes, thou art gone!
Go, thou mighty! go, thou dignified!
Go, thou who wert a spreading tree to shade
Thy people when evil hovered round!
And what strange god has caused so dread a death
To thee and thy companions?

"Sleep on, O chief, in that dark, damp abode!
And hold within thy grasp that weapon rare
Bequeathed to thee by thy renowned ancestor,
Ngahue, when he left the world.

"Turn yet this once thy bold, athletic frame!
And let me see thy face so
Beautifully chiseled into varied forms—
Ah! thy people now are comfortless and sad!

"The stars are faintly shining in the heavens;
For Atutahi and Rehua-kai-Tangata
Have disappeared, and that fair star that shone
Beside the milky way; emblems these
Of thee, O friend beloved!

"The mount of Tongariro rises lonely
In the South, while the rich feathers that



CARVED STERN POSTS OF MAORI CANOES.

A MAORI SALUTATION.

A MAORI BATTLE-AXE, ELABORATELY CARVED.

Adorned the great canoe Arawa
Float upon the wave! and women from the
West look on and weep.

"Why hast thou left behind the valued treasures
Of thy famed ancestor Rongomaihuia,
And wrapped thyself in night?

"Cease thy slumbers, O thou son of Rangi!
Wake up! and take thy battle-axe, and tell
Thy people of the coming signs; and what
Will now befall them. How the foe, tumultuous
As the waves, will rush with spears uplifted;
And how thy people will avenge their wrongs,
Nor shrink at danger. But let the warriors
Breathe awhile, nor madly covet death.

"Lo, thou art fallen; and the earth receives
Thee as its prey! But thy wond'rous fame
Shall soar on high, resounding o'er the
heavens!" *

After this eulogy the aged chieftain resumes his seat; and other noted chiefs follow, speaking and chanting their weird laments. After this has continued for some time, the assembly breaks up, and the people come forward to salute our company and bid us welcome. Their manner of salutation would naturally seem rather peculiar to a stranger. Instead of shaking hands or kissing as a greeting, they lay one hand upon the left shoulder of their guest, and press their nose against his.

Presently we hear the sound of singing, which is this time the call to dinner. We enter a commodious dining-hall, decorated with magnificent carving. The curtain at the farther end of the hall parts, and a veritable car-load of tempting viands is rolled in, accompanied by prettily dressed serving maids. This car is an immense table set on wheels running in grooves in the floor. The seats are pulled out from the sides of the table, and we sit down to a very elaborate dinner.

We are now to remain for several days the guests of the family to which belongs the dead. Meanwhile fresh companies of people arrive each day, and go through with experiences similar to our own. But at last the day of burial arrives. We fall in with the immense concourse of people that have gathered to follow the dead chieftain to his last resting-place. There is the sound of weeping and of weird and mournful singing; but as soon as the grave closes over the dead, all this is changed. We return to the sound of lively music; and immediately the great *hakari*, or funeral feast, is spread for probably two thousand people. Afterward they engage in favorite pastimes.

A MAORI CARVED BATTLE-AXE.

* Translated in Thompson's "Story of New Zealand."

In civilized countries persons are respected for possessing wealth; but among my people they are more regarded for giving it away. It will readily be conceived that a small fortune is thus often expended at the death of a prominent person.

The next day, after a series of farewells similar to the salutations upon our arrival, we take final leave of our bereaved friends.

PRACTICAL HYDROTHERAPY.

Heat and Cold to the Spine — The Dipper Pour — The Shower Bath.

BY J. H. KELLOGG, M. D.

Heat and Cold to the Spine (Figs. 1 and 2).— The application of heat and cold to the spine, or to any part of the body, is a remedial agent of great value. The derivative effects of the heat are intensified by the cold following it, provided they are both applied in the proper way.

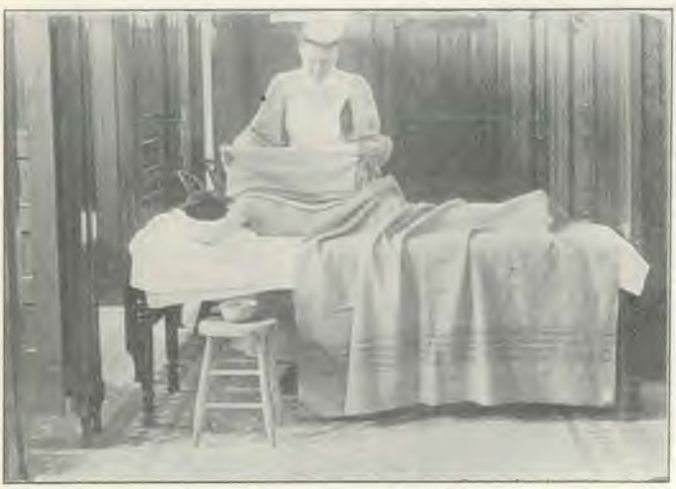


FIG. 1.—APPLYING HEAT TO THE SPINE.

The heat should always be applied first, in the form of a regular fomentation. The hot cloths should never be applied directly to the skin, but a woolen cloth should intervene, as is plainly shown in Fig. 1. Some prefer to give the fomentation with the regular fomentation cloths — one fourth of a woolen bed blanket; others use the spine bag half filled with very hot water. Undoubtedly the cloth is the more effective, as it fits the figure more closely, and can be made to cover a greater surface.

The fomentation should be left on from three to five minutes, or as long as it feels quite warm to the patient. Then the ice should be applied two or three seconds, passing it quickly up and down the spine, or over the spot being treated. Fig. 2.

The applications of heat and cold should be alternated thus for fifteen minutes, or even longer, according to the effect it is desired to produce. In some cases they are continued for half an hour.

This treatment may be given with the patient lying on her face, as shown in the illustrations, which is considered the better way; or the patient may lie on her back, simply turning on her side for the ice application. In this case the attendant must be careful to press the hot cloths well up in the small of the back.

Heat and cold to the spine is a vigorous treatment, and hence is not adapted to very feeble patients. Its chief use is as a tonic and a soother of the

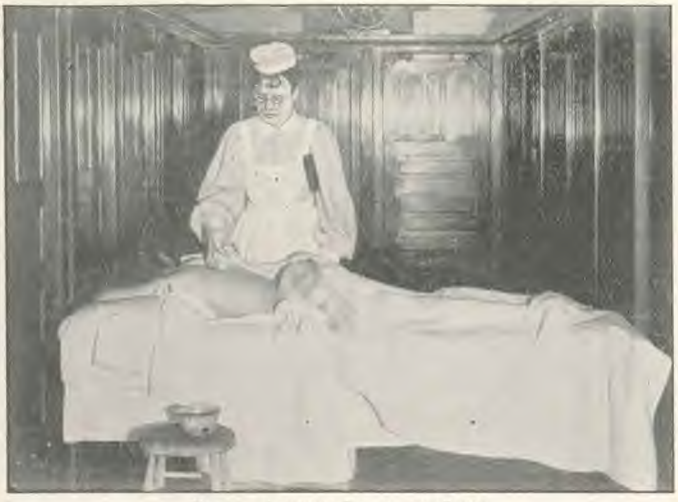


FIG. 2.— APPLYING ICE TO THE SPINE.

nerves. The effects are both soothing and stimulating. Hot and cold applications are often made over the heart, to stimulate its action; they are also used to reduce the congestion in bruises on different parts of the body.

The Dipper Pour (Fig. 3).— The dipper pour is given with the patient sitting on a stool in a tub. It is a mild application, especially useful as a local bath for an irritable spine, an inflamed joint, due to a recent sprain or bruise, or in cases of swelling with effusion.

In treating an irritable spine the water may be either hot or cold, as is most soothing to the patient; or the hot and cold may be alternated, the hot ranging from 112° to 115° F., and the cold from 65° to 70°.

The Shower Bath.— Fig. 4 shows the shower bath used at the Battle Creek Sanitarium. The spray is made to come from the pipes around the sides, and the shower from above. The temperature of this bath may range from 70° to 95° F. It should begin warm, and be gradually cooled down as much as is desired. A person with vigorous constitution and good circulation can accustom himself to the water as it comes from the lake, but no one should attempt to do this at first. Water has such a powerful effect that much harm may be done to one not accustomed to its use, or if it is not used in the proper way.

The shower bath is a most delightful "finish" for any hot bath,— in fact, it is a refreshing bath at any time. It is not necessary, however, to have the elaborate mechanism here shown; every family possesses in the ordinary colander a means of administering an efficient shower bath, by holding it above the patient, and pouring in water of the proper temperature from a pitcher. The force of the shower may be graduated by the height at which the pitcher is held.

FIG. 3.—THE DIPPER POUR.

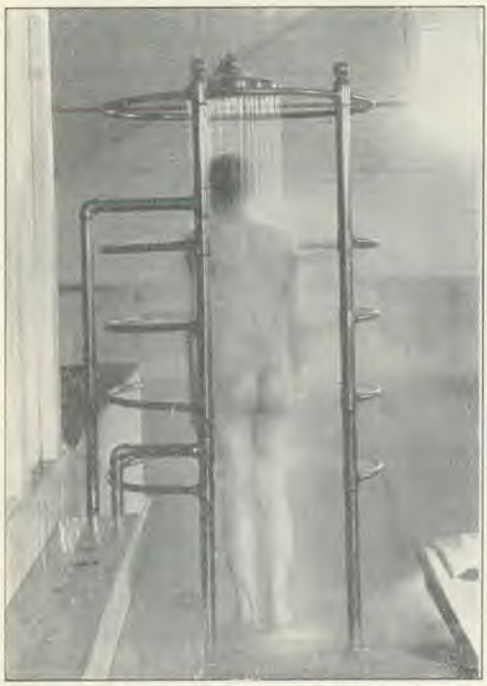


FIG. 4.—THE SHOWER BATH.

In taking the spray bath the patient is instructed to turn slowly but continually, that the water may come in contact with every portion of the body. Thus the bath, as well as being an excellent cleansing agent, is a great stimulator of the skin, calling the blood to the surface. The bath should be completed by a dry-hand rub.

Local spray baths are often administered by means of a hose and nozzle attached to a force-pump or some reservoir of water. The hot and cold spray is very successful as a means of reducing local inflammations. The warm spray is very grateful and soothing to swollen and rheumatic joints; in gout, also, and illy defined, wandering pains, it is an admirable remedy. The cold spray is very successfully used in the treatment of glandular enlargements, abscesses, and chronic ulcers, when thoroughly applied.

"THE prevailing impression that the famous soap of Marseilles was made from the pure olive oil of the south of France has been swept away by the fact that the soap-factories have been obliged to close because of the quarantine against India," says the *Medical News*. "It appears that for twenty years the manufacturers have been supplying the market with an inferior product made from common linseed oil imported from India."

THE world is full of sounds that we cannot hear. The human ear is so constructed that we cannot hear any sounds above a certain key, nor below a certain key. All sounds above and below this range are to us as if they did not exist. — *Dio Lewis.*

To think free is great; but to think right is greater. — *Thorild.*

BELGIUM and Italy have adopted the twenty-four system of noting time. Other foreign governments are likely to follow suit. They have concluded that the old method of counting twelve twice is awkward. The clock-makers at least will rejoice at the new method, as our old time-pieces will then be useless.

PHYSICIANS tell us that no intensity of disease avails for expelling dignity and majesty from a good man's countenance.

THE house not open to the poor will open its doors to the physician. — *Clifton H. Levy.*

THE best tonic and blood purifier is nature's own medicine — pure spring water.

THE PARADISE OF DOCTORS.[1]

A Fable.

BY JACOB BIGELOW, M. D.,

Late President of the Massachusetts Medical Society, Physician to the Massachusetts General Hospital, etc.

It happened once that a general awakening took place among the physicians, druggists, and citizens of the quiet old State of Massachusetts, during which it was discovered that a great and culpable neglect had long been prevalent throughout the community in regard to the important duty of taking physic. A conviction fell upon all that it was now imperatively necessary that every man, woman, and child should proceed at once and habitually, in sickness and in health, to take three times as much medicine as they had taken before. This new revelation, explained and enforced by competent authorities, quickened into sudden activity every department of industry connected with the preparing, prescribing, and dispensing of drugs. The repose of cities was disturbed in a manner not before known, by the rattling of doctors' carriages and the braying of apothecaries' mortars. Messengers were seen rapidly traversing streets and roads in all directions, bearing prescriptions and compositions. Nurses' wages were doubled, and cooks were transformed into nurses. All things gave evidence that a great and portentous reform had come over the land.

In all places of business and amusement, in the street and in the drawing-room, physic was the paramount subject of conversation. Newspapers neglected to announce the arrival of steamers and the brawls of Congress, that they might find place for the last astonishing cures and the most newly discovered specifics. Sympathetic intercommunications and experiences were imparted and listened to with untiring avidity. Many luxuries before unknown found their way into society; dinners were regularly medicated, wines scientifically sophisticated, and desserts were made up of conserves, electuaries, and dinner-pills. The atmosphere was redolent with the incense of aloes and myrrh.

Clergymen and moralists forgot that men were sinful; it was enough that they were bilious. Bile was regarded as the inate and original sin, which was to be extirpated with fire and physic even from the new-born child. Nobody was aware that bile is necessary to life; no two persons were agreed as to what the term *bilious* meant; it was something insidious, mysterious, and awful. Some held that it consisted in having too much bile; others in having too little. According to some, the bile was held back in the blood; according to others, it was absorbed, ready formed, into the blood. Fierce schisms and sects were generated on the question as to who, and whether any, were exempt from its contaminating influence.

The *bon vivant*, after his night's carouse, furnished abundant demonstrations of its existence on the following morning. A healthy laborer, who had had the temerity to boast of his freedom from bilious taint or suspicion, was convicted and brought to his senses by the ordeal of a dozen grains of tartar emetic.

On the exchange, brokers postponed their stocks and bonds, that they might publish daily lists of the prices of drugs.

[1] Read at the Annual Dinner of the Massachusetts Medical Society, May 26, 1858, and published in "Rational Medicine" in 1860.

Fortunes were made and lost in drug speculation. A man grew rich by a patent for manufacturing Peruvian bark out of pine saw-dust. Gilded pills of various weight and potency passed as a circulating medium, and were freely taken at the shops in payment for better goods. Finally, the physicians did not attempt to eat or sleep, but barely found time to enter their daily professional charges. They were worshiped and run after, by both sick and well, as the legitimate vehicles of medicine, and were ignominiously deserted if in any case they ventured to pronounce medicine unnecessary.

The fame of these doings went abroad, and Massachusetts acquired the enviable celebrity of being the paradise of medical men. The doctors in New Hampshire and the druggists in New York, hearing of the success of their professional brethren in this quarter, began to abandon their establishments and remove into Massachusetts. The example was followed in other States; new recruits were drawn from the counter and the plow, and in a short time the country and city were inundated by swarms of medical practitioners of all schools. Agreeably to the acknowledged law of commerce and political economy, that demand and supply necessarily regulate each other, the business of many persons, which had undergone undue exaggeration, was at length found rapidly to decline under increasing competition, and the aggregate receipts of the year were found, to the cost of not a few of the disciples of Esculapius, to be less than they had ever been before. Medicines became drugs, and the paradise of doctors became an excellent place for doctors to starve in. Nevertheless, although the market was as much glutted as the people, still a large surplus both of zeal and physic remained to be worked off in some way.

Meanwhile, the revival went on, and its effects began to tell upon the faces and movements of the people. There was a deficiency in the will to undertake, and the power to execute, even common enterprises. Men went languidly to their respective places of business, or stayed at home if it was their day to take a purgative or an emetic. Purses were found to be lightened, and the contour of persons grew sensibly less. In one thing only the economy of living was promoted: Owing to the decline of appetite, the consumption of food was much diminished. Under this order of things, it was noticed that labor and exercise were little in vogue, and people betook themselves in preference to the occupation of doing nothing. A small number, it is true, made a desperate effort to effect a change by doubling their doses of physic; but the result did not encourage a repetition of the experiment. At last the cholera came, and although a forty-drug power was promptly brought to bear upon it, the mortality was greater than it had ever been known to be before.

Nevertheless, weak-minded men and strong-minded women failed not to harangue audiences in the streets on the astonishing powers of medicine. Spirit-rappers were summoned to evoke from their rest the heroic shades of Rush and Bouillaud, Sangrado, Morrison, and Brandreth. These distinguished worthies exhorted their followers not to shrink or falter under the trials to which they were subjected, but rather to redouble their perseverance, until the truth of the faith which they held should be established by the testimony of their martyrdom in its cause.

At length a meeting accidentally took place between two old shipmasters, one of whom had lost overboard his barrel of beef, and the other his medicine-chest, in a gale of wind at the commencement of their passage. On examination and com-

parison of their respective crews, the contrast was so marked between the ruddy faces of the latter and the lantern jaws of the former, that a general mutiny sprang up in both crews against the further tolerance of the physic-taking part of their duty. The contagious insurrection spread from Fort Hill to Copp's Hill; and on the following night several medicine-chests were thrown overboard by men in the disguise of South Sea Islanders.

The spark which had struck the magazine caused the whole population to explode. A universal mass-meeting was called upon Boston Common, and protracted during several days and nights. Agitators, reformers, and stump-orators delivered their harangues, and defined their positions. Many speakers advocated an immediate application to the legislature, calling upon them to prohibit, by an especial act, all further traffic in drugs. One, more violent than the rest, demanded that the meeting should resolve itself into a committee of vigilance, for the purpose of making a descent upon the apothecaries' shops, and emptying the contents of their bottles into the streets. He was willing to allow to offenders themselves the option to quit within twenty-four hours, or swallow their own medicines. A more moderate citizen said he rose in support of the general sentiment, but would offer an amendment, that, in the contemplated destruction, an exception should be made in favor of Bourbon whisky. A few of the advocates of the policy lately prevalent attempted to make themselves heard; but their voices were so attenuated by the long use of jalap and salts, that they failed to produce any considerable impression.

An old lady, whose shrill voice drew immediate attention, protested against violent measures of all kinds, and moved, as a middle course, that resort should be had to homeopathy. It never did any harm, and was very comforting, especially when well recommended by the physician. It cured her child of the measles in six weeks, and herself of a broken leg in six months, during which time she had had two hundred and ninety-five visits, and took more than fifteen hundred globules. She had walked to the meeting on her crutches to exhibit to the assemblage the astonishing powers of the Hahnemannic system. Here she was interrupted by a bluff marketer, who somewhat rudely pronounced homeopathy to be a great humbug, since, but a short time before, his child had eaten part of a raw pumpkin, and was seized with convulsions; and the physician who was sent for, instead of taking measures to dislodge the offending cause, took out a little book, and remarking to the bystanders that "like cures like," proceeded to prescribe the hundred millionth part of another pumpkin. The next person who rose was a manufacturer, who had calculated that the homeopathic profit on the cost of the raw material was altogether unreasonable. He had himself expended seventy-five dollars in a quarter of a grain of belladonna, so divided as to keep off scarlet fever; but found, after all, that he had not bought enough, for his children had the disease a little worse than any of their neighbors.

At last an old gentleman, moderately endowed with common sense, got up, and inquired if there was no such thing in the world as *rational medicine*, and whether nothing could be made acceptable to the public but extremes of absurdity. He asked if it was necessary that every theologian should be a Calvinist or an atheist, or every voter at the polls an abolitionist or a fire-eater. He had had the good fortune to know several very sensible, straightforward physicians, who gave medicine when it was necessary, and

omitted to give it when it was unnecessary or detrimental. He deprecated the routine practise which, without understanding the nature of a disease, or the necessities of the existing case, inflicted a daily or an hourly dose of medicine, sometimes actual and sometimes nominal, but always at the cost of the patient. Medicine, in its place, was a good thing, but proved a bad thing when we got too much of it. He had himself had the misfortune to be several times sick, and, during the continuance of his disease, felt much more gratified on those days in which it was announced that he was to take no medicine, than when tartar-emetic was replaced by calomel, and calomel by colchicum, aconite, and the last new remedy. If patients and their friends were ignorant and unreasonable, it might sometimes be necessary to deal with a fool according to his folly; but he believed that sensible men and women were gratified by being regarded and treated as reasonable beings.

It was a mistake in medical men to suppose that their influence or social position could be improved by the mystery which they observed, and the activity with which they harassed their patients. In Great Britain, an island where the people subsist largely on blue pills and black drafts, the doctors were never known to attain the high aristocratic rank which was occasionally accorded to successful bankers, jurists, and generals. On the contrary, the country was overflowed with starved apothecaries and physicians advertising for situations as traveling servants. He thought one of the greatest misapplications of human industry was in the production of superfluous drugs and drug-dispensers. He did not believe in the transmutation of metals, but was a great believer in their transportation. In the form of calomel, the city of New Orleans alone had swallowed up some hundred tons of the quicksilver of Spain and South America. Palaces were being built in various cities alike from poisonous arsenic and harmless sarsaparilla. A century hence the mines of gold will be sought for, not in California, but in the cemeteries of the old cities, where it has been geologically deposited under the industry of dentists.

He believed that the experienced and intelligent part of the medical profession had long since arrived at the conclusion that many diseases were self-limited, and that time and nature had quite as much to do as art in the process of their cure. Skilful physicians were always wanted to inform the sick of the character of their diseases and of the best mode of getting through them; and their skill consisted not in the abundance of their nominal remedies, but in the judgment with which a few remedies were administered or withheld, and the general safe conduct of the patient. Some diseases are curable by art, and others are not; yet, in the treatment of all diseases, there is a right method and a wrong; and too much activity is quite as injurious as too little. A good shipmaster or pilot could often navigate his vessel in safety, though he could not cure the storm by which its safety was endangered. He believed that medicine would have fulfilled its true mission when doctors should have enlightened the public on the important fact that there are certain things which medicine can do, and certain other things which it cannot do, instead of assuming for it the power to do impossibilities. Among the good effects which must ensue from this diffusion of light would be the disappearance of quackery from the world; for quackery consists almost wholly in medication. And the more physicians lend themselves to formal superfluous and mysterious drugging, the more nearly

do they approach to being quacks themselves. He considered physicians an important and necessary class, to whose charge the sick always had been, and always would be, committed. He would gladly cleanse the profession from the fanaticism of heroic doctors on the one hand, and of moon-struck doctors on the other, and would replace these forms of delusion by a discriminating, sincere, intelligent, and rational course of treating diseases.

The old gentleman sat down, and his speech seemed good in the eyes of his audience. Resolutions were moved and adopted to the effect that it was unbecoming a free and enlightened people to be drug-ridden or globule-ridden, and recommending recourse to temperance, exercise, regularity, and rational medicine, whenever it happened that medical treatment was necessary.

The meeting quietly dissolved, and its members returned to their respective homes, most of them satisfied that the revival was past, and that medicine was not altogether the one thing needful. In a short time the price of drugs fell in the market, while that of provisions advanced. The New Hampshire doctors and the New York druggists, finding their occupations gone, returned to the places from which they respectively came. The surplus of indigenous medical men went off to California, or retired to cultivate the earth in the interior counties. Faces assumed a more vigorous and healthy aspect, and the country once more resounded with the music of the ax and hammer, and the cheerful rattling of knives and forks. Steam-engines, which had been erected for the pulverization of drugs, were attached to saw-mills and spinning-jennies. Last of all, a noble and useful art, which had long been depressed under the effects of its own exaggeration, was enabled once more to raise its respectable head, and to regain the confidence of society, under the name of Rational Medicine.

THE SELFISHNESS OF ILL HEALTH.

"UNSELFISHNESS is a game that two *ought*,— mark you, I don't say *can*, but *ought*,— that two ought to play at."

This remark was called forth by a case my friend and I were discussing. It was that of a young man who for several years had been in ill health. An acute disease had left him an invalid, not altogether hopeless or incurable, but still confined to his room, and with no immediate prospect of being able to leave it. Though it was a sad case,— for his hopes of a useful life were blighted,— it was not without its alleviations. Two sisters devoted themselves to him. They gave up all the pleasures of society for his sake. They lived only to anticipate his wishes. Morning, noon, and night saw them devising schemes for his amusement or laboring to add to his comfort. No sacrifice was too great for them to make. And the result, instead of being beneficial, was, as far as he was concerned, the reverse; for, from being a meek, patient sufferer, he was transformed into an unconscious tyrant.

"Poor Frank fancies the light hurts his eyes," said one sister as she drew down the blinds, and prepared to sit in semi-darkness. "The click of knitting-needles irritates Frank's nerves," said the other, as she laid her work aside. "Frank feels that everything bright and cheerful is mocking him," they chimed in concert; "and therefore we deny ourselves for his sake."

It was this that called forth my friend's remark. Frank did not dream he was selfish. He never realized that any self-sacrifice was required of him: he received his sisters' attentions as his right, and felt himself a martyr. It was his part to receive, theirs to give; and the result was that his misery and despondency, not to speak of his demands, increased day by day.

This is no unusual case. There is more of this unconscious selfishness in the world than appears at the first glance, and more of it, perhaps, in our own hearts than we think.

How many of us who are familiar with pain and weakness can say truly that we have never exacted more attention from our friends than we need have done; that we have always been patient and considerate, willing to see and thankful to receive every little kind deed bestowed on us? We are apt to take all as our right, as the proper tribute paid to our weakness and ill health. We seldom try to realize how much others may be denying themselves for our sakes, nor at what a cost their services are sometimes rendered. We become like spoiled children, — the more we get, the more we demand, and our wants, instead of diminishing, multiply day by day.

And, then, how many of us have a conscience void of offense in the matter of peevishness and irritability? What a deal of extra trouble do we unhesitatingly give in this matter! We are not quite so well to-day as yesterday, and therefore every one must feel the effects of it. We must not suffer, and no one know it. And how apt are we to grumble at trifles! The opening or closing of a door, the rustle of a paper, the fall of a cinder on the hearth, the condition of the fire, the placing of a chair, each is made a source of trouble to ourselves and of worry to our friends. . . .

"I never sing now because my sister does n't like it," said a sweet little maid; "she 's so sensitive, you know, and has had so much sorrow, that I feel it would be cruel to do anything she does n't like, so I 've given up singing."

Very right and kind of the little maid, but not so right of the sister who accepted the sacrifice.

There are sacrifices which we have no right to accept, even when they are offered voluntarily. "O that one would give me drink of the water of the well at Bethlehem, that is at the gate." Yet, when the brave men burst through the hosts of the Philistines, and brought back the water, David would not drink it. Why? — Because it had cost too much. They had risked their lives to get it. "Shall I drink the blood of these men who have put their lives in jeopardy?"

I think there is a lesson for an invalid in this. Some things that are offered to you cost too much. If they are the price of another's health or another's happiness or another's usefulness, they cost too much. Refuse to accept them; rather bear your burden alone. And does it ever strike you how much you may be the poorer by accepting these sacrifices? You may get what you long for, it is true; but even in the getting of it you will find it has lost its sweetness. One of a family who was deaf said, "Don't speak so much to each other; it irritates me to know you are speaking when I cannot hear what you say." And so, out of sympathy with the afflicted one, lips were closed, and smiles checked, and silence reigned. She got her wish, but the shadow that rested on the family circle was more depressing to her than the sight of gaiety which she could not join. Better to witness joy that you cannot take part in than to see no joy at all. . . .

What a blessing it would be, not only to the weak, the suffering, the invalid, but

to the whole of the little world in which they are placed, if they would but take to heart some such counsel as this : —

Do not foster and pet and magnify your complaints; they will only take deeper root by such treatment. And do not let your self-sacrificing friends make too much of you. Take your own proper part in the game of unselfishness; try to find out by experience the blessedness of consideration for others, and instead of always receiving benefits, try to bestow them on others.

"What can *I* give?" you will say, as you hold up your thin, nerveless fingers, — "what can *I* do for any one?" Give love instead of always claiming it, give joy instead of trying to take it away, keep back the murmur that will cause pain to your friends; cultivate a gentle, resigned, patient spirit, fill your sick-chamber with the light that comes from inward peace. "He who imparts light to another," as Dr. Trench says, "has not less light, but walks henceforth in the light of two torches instead of one." And it is the same with happiness; strive to make those beside you happy, and you will find how greatly your own happiness is increased. — *A. K. Forbes.*

THE "DON'T WORRY" REFORM.

WORRYING is the most unreasonable habit that a human being can indulge. The truth of this proposition can be shown by simply asking two questions: (1) Does worrying increase our happiness? The idea is too absurd to be considered. Worrying occasions more unhappiness than any other cause, perhaps more than all other causes combined. (2) Does worry help us in our work? However important the crisis that lies before us, are we prepared to meet it any more successfully by carrying a burden of anxious thought about it? This question can have but one answer, — No; our minds are rendered less fit for the coming problem by all the doubts and fears we entertain. The insanity of the habit is strongly emphasized by the fact that many people worry as much over the past as they do over the future. "If I had only done differently. If I had only avoided this or that mistake," they say with real anguish of spirit. What folly could be greater than to allow vitality to be wasted and happiness destroyed by that which cannot be recalled, changed, or modified? . . .

The strangest thing about this slavery is that we have come to regard it as unavoidable, an essential element of life, a stimulus that is needed to keep us up to the line of duty. A group of travelers were looking from an eminence upon a landscape in which an insane asylum was to be seen a little distance away. One of the party said, "I suppose a large proportion of the inmates were brought there by unnecessary worry." "Is there any necessary worry?" asked another of the group, with significant emphasis. The first speaker seemed startled by the question. He was a clergyman, yet acknowledged that he had gone through life with the idea that worry is an essential quality of human nature. . . .

How can the habit of worrying be conquered? — It cannot be done without resolute and persevering effort. But with such effort the habit certainly can be mastered. If the following suggestions are intelligently observed, the habit will lose its power; and quietness and peace will take the place of the feverish anxiety, the undercurrent of restless feeling which robs the human heart of its natural happiness,

and raises the question, so often heard, whether life is really worth the living: —

1. Realize that the worrying habit is an enemy which destroys your happiness.

2. Realize that it can be cured by persistent effort.

3. Attack it definitely, as something to be overcome.

4. Realize that it never has done and never can do the least good. It wastes vitality and impairs the mental faculties.

5. Consider what must be involved in the truth that God is infinite, and that you are a part of his plan.

6. Memorize some of the Scripture promises, and recall them when the temptation to worry returns.

7. Help and comfort your neighbor.

8. Forgive your enemies and conquer your aversions. . . .

A true spirit of brotherhood is impossible when the soul is tormented with an undercurrent of anxiety. "Fear hath torment. There is no love in fear, but perfect love casteth out fear."— *Theodore F. Seward.*

Cleanliness Enforced by Mohammed.

The following regarding the ceremonial washings required by Mohammed of his followers we find translated in the *Literary Digest* from an article by M. C. Grandon in *Cosmos*: —

"In every part of his political and religious code, the Koran, he [Mohammed] inserted recommendations like this on the subject of ablutions: 'O believers! when you give yourselves to prayer, wash your face and your hands up to the elbows; wipe your head and your feet down to the nails.' Now every good Mussulman must offer to God five prayers a day at predetermined hours — daybreak, an hour before noon, three o'clock, sunset, and twilight.

"The petty ablution, repeated thrice, must precede each of these five prayers, which makes fifteen ordinary washings, not counting the greater ablution that must take place in the bath when the necessity arises.

"Mohammed went farther still; in default of water he advised rubbing the face and hands with fine, clean sand, without doubt that Mussulmans might not, under the pretext of the lack of water, finally abandon the practise of ablution.

"The ablutions consist in pouring a little water on the right hand and then on the left, pronouncing these words while washing: —

"'In the name of God, the pitiful, the merciful.'

"Then a mouthful of water is gargled, always thrice, and thrice water is drawn into the nostrils, saying: —

"'O my God, make me to perceive the odor of Paradise.'

"A cup is then made out of the right hand; it is filled with water and the face is washed from forehead to chin and from ear to ear. Then the arms are washed up to the elbows, beginning with the right arm.

"The two hands, joined by the finger-ends, are dipped in the water and carried to the forehead, where they are divided and drawn down to the chin; the ears are then rubbed and the neck bathed.

"Finally, the feet are washed, beginning with the right foot, and passing carefully between the toes of each the fingers of the opposite hand."

The Reign of the Microbe.

During this Jubilee year of Queen Victoria there seems to be a wave of retrospect sweeping over the land, and article after article appears in the papers

and magazines showing the progress the world has made in the sixty years of her reign. One of these, by Mrs. Percy Frankland, on "Bacteriology in the Queen's Reign," appeared in the July *Longman's*. We quote the following paragraphs: —

"Bacterial fertilizers are among the latest achievements which bacteriology has accomplished in this wonderful half-century, and the purchase of special varieties of bacteria to suit the requirements of particular kinds of leguminous plants is now fast becoming a mere every-day commercial transaction.

"Museums of bacteria exist, and bacteria can be bought or exchanged by collectors with as much facility as postage-stamps! . . . From these bacterial depots carefully bred and nurtured varieties may be despatched to all parts of the world in response to orders."

"Anthrax, tuberculosis, cholera, typhoid, tetanus, erysipelas, are only a few of the diseases the active agents of which bacteriology has revealed to us. Bacteriology has, however, not been content merely to identify particular micro-organisms with particular diseases — it has striven to devise means by which such diseases may be mastered, and one of the most glorious achievements of the past sixty years is the progress which has been made in the domain of preventive medicine.

"The astounding fact that the blood of animals which have been trained artificially to withstand a particular disease becomes endowed with the power of protecting other animals from that disease is only in the earliest stages of its application. . . . The latest use which has been made of this method of combating disease is the employment of plague-serum for the cure of bubonic plague in India.

"Foremost, however, among the beneficent reforms which have followed in the wake of bacteriology must be placed the antiseptic treatment of wounds."

The most eminent names among the scientists on bacteriology are Pasteur, Koch, Lister, Hansen, Schwann, Latour, and Kützing.

Sanitary Reform in New York City.

The municipal reforms inaugurated by Mayor Strong in New York must be a source of rejoicing to the lovers of cleanliness and purity in that city. A brief statement of the work already accomplished is condensed from the *Forum* by the *Review of Reviews*: —

"Everybody knows something about the change that has been wrought in the condition of New York streets during the past two years.

"At present 433 miles of paved streets are cleaned by the department. Of these, 35½ are cleaned four or more times every day; 50½, three times; 283½, twice; 63½, once a day. The total, on the basis of one sweeping every day, is 924 miles, — nine miles farther than the distance from New York to Chicago!

"Trucks have been removed from the streets, and the ash-barrel nuisance has been abolished. The tenement-house districts have been improved as much as any other parts of the city. The *esprit de corps* of the street-cleaners has been made a vital force.

"The board of health has been charged with the execution of the new tenement-house law.

"No tenement has been built in New York in the past two years that has not had one fourth of the lot upon which it stands left open to the light and air. The dark bed-room is gone for good. Every room must have a window opening on the outer air. Dark hallways must be lighted. The worst of the old rookeries are gone. Sixteen rear tenements of the most vi-

cious type were seized, and the tenants ordered out. Other buildings were condemned in quick succession; the death registry serving as guide for the sanitary officials. The landlords resorted to the courts, but were beaten. Ninety-four tenements have been seized, of which twenty-two have been destroyed, ten have been remodeled under the direction of the department, and the rest stand vacant."

Bright's Disease Caused by Common Salt.

Dr. Giuseppe Levi, of Florence, has by his recent investigations and experiments thrown some light on the question raised by Bunge in his "Lehrbuch der Physiologischen Chemie," as to whether the work of excreting large amounts of sodium chlorid did not irritate the kidneys, so that salt, as well as alcohol, might be put down as an exciting cause of nephritis. Dr. Levi has experimented upon dogs and rabbits, and comes to the conclusion that large amounts of common salt, from one to four grams daily for each kilogram of the animal's weight, given for an extended time, do give rise to renal changes. He does not speak of the lesions as constituting nephritis, yet an inflammatory condition was present. The epithelium and the connective tissue were affected, and the lesions were similar to those which authors attribute to various toxic substances.— *Deutsche Medizinal Zeitung.*

Ichthyol for Burns.

Burns in which the skin is blistered but not broken may be very satisfactorily treated by means of a thick paste of bicarbonate of sodium and water spread upon the parts. By means of osmosis the serum is abstracted from the blister as fast as it forms, so that the separated skin soon becomes adherent to the surface beneath and in the course of a day or two the blister will disappear, and in its place will be found a flat surface covered with a thickened skin much resembling a callous. Great care should be taken to avoid breaking the skin, so that the serum beneath will not be infected. So long as an aseptic condition is maintained, suppuration will not take place, and a cure may be accomplished in a few days instead of requiring several weeks. The application of soda also affords prompt relief from pain.

Ichthyol may be used in the same manner; it should be painted over the affected part and covered with a thin cloth or tissue paper. The application may be renewed, if necessary, several times daily.

A Striking Object Lesson.

An interesting article appeared recently in *Pearson's Magazine* concerning an island called Penaria, lying to the south of Italy, which appears to possess so many unique characteristics as to merit the title given it by the writer of the article, "The Island of the Blessed."

It has a population of some four hundred souls, yet a visitor may roam over its entire area without finding a beggar or an idle person. There is neither wealth nor poverty, but each of the inhabitants has enough for his simple wants. There are no policemen or lawyers, nor even doctors; yet there is no crime, and the people live to a good old age. Each family has its plot of ground, and grows a crop of vegetables, fruit, wine, and oil; one cobbler supplies the community with sandals; clothes are made at home, thus dispensing with the tailor and the milliner. One priest ministers to the spiritual needs of the people, and peace and contentment seem to reign uninterruptedly in this favored corner of the earth.

This account of rural prosperity and happiness would seem almost too good to be true, and one would feel inclined to doubt the accuracy of the account given of these simple folk by the writer who visited them, were it not for some important facts in his story which may serve to explain to some extent such a unique illustration of human felicity. These islanders do not eat any animal food, but subsist upon the products of their farms, with occasionally a little fish; they sleep when the birds sleep, live principally in the open air, and are all engaged in honest toil of some sort.

Such a recital constitutes in itself a plea for a simpler life, for a bloodless diet, and for a closer observance of nature's laws. There can be little doubt that if we would all live more in accordance with the example set us by the islanders of Penaria, we should, like them, escape much of the feverish haste and the constant load of care which is the bane of modern civilization; we should also avoid many of the ills to which flesh is heir, and should be less inclined to ask the significant question, "Is life worth living?"—*From an English Vegetarian Journal.*

A New Crusade.

A new crusade has begun in New York City — against unnecessary noises. The *Public Health Journal* took it up, and its efforts are being seconded by the city press. The noises to be fought are, first and foremost, organ-grinders; then come steam whistles, street musicians, peddlers who cry out their wares, yellers of newspaper "extras," carriage "barkers," coal shoveling, and the noise made by trucks, carts, carriages, and wagons; and indoors are the singers and players upon musical instruments in flats or tenement houses, obstreperous children, pet animals, etc.

"Possibly it may come to this," says the *Journal*, "that a prospective tenant will refuse to sign a lease for a flat, a house, or an apartment unless the landlord will guarantee him against disturbance by noises."

Shedding of the Finger Nails.

Dr. D. W. Montgomery, of San Francisco, reported at the late meeting of the American Dermatological Association the case of a man thirty-five years of age who had been troubled from his birth with a constant shedding of the finger nails. His mother had been affected in the same manner, in her case the nails being shed every eight months. Two uncles were similarly troubled. No cause could be assigned for this peculiar manifestation, and it was not associated with any change in the hair or teeth.

SOME mothers are ever fond of giving their children powders and doses of one sort or another. It is very easy to do permanent harm in this way; and indeed a case has just come to light of a mother's unwittingly poisoning her child with "soothing-syrup." The doctor, as soon as he saw the body, formed the opinion that death had resulted from narcotic poisoning, and a post-mortem examination confirmed the diagnosis. He told the coroner that the drug on which the syrup depended almost entirely for its action was morphia, and it contained nearly a grain of it to the ounce. Half a teaspoonful of the syrup contained one thirtieth of a grain, while one thirtieth of a grain given to a child four weeks old had been known to cause death. It was pointed out that the mother did not know the danger of the syrup, and therefore a verdict was returned of accidental death through the overuse of soothing-syrup.

IS YOUR CHILD IN THIS SCHOOL?

"THERE is no more important question before us to-day than the ventilation of schoolrooms. Pure air under all conditions of life is an absolute necessity; but when thirty, forty, fifty, or even sixty children are shut up in a schoolroom, many of them coming from homes where the bath-tub is a luxury unthought of, and often the same garments are worn day and night, perhaps unwashed for weeks, only the most complete forced ventilation can keep the air decently pure.

The problem is intensified when we remember that to the impurities arising from natural causes, we must add those from catarrhal breaths, diseased stomachs, decayed teeth, and uncleanly persons. The chalk dust from the blackboard must not be forgotten. It is a very liberal allowance to say that in the average school of forty pupils, where there is no ventilation, the air is unfit to sustain vigorous life at the end of the first five minutes. You will find many a room thirty-eight by thirty-two by twelve heated by a vicious stove, or an equally vicious hot-air furnace, and absolutely with no means of ventilation except by lowering the windows. This the teacher hesitates to do, because a blast of cold air slays like a sword.

I say, there is no means of ventilation. Possibly you will find a hole in the ceiling, seven by nine inches in size, or one of the same dimensions in the side near the chimney, which for ventilating purposes is of no practical value.

Possibly you will find that the school authorities have dispensed with the outdoor recess, and that the teacher has substituted for it a five-minute gymnastic drill. I do not know who first suggested the idea of abolishing the outdoor recess. Whoever he was, he was no friend to the children. There is nothing that can take the place of it.

Go across the room and sit down beside that group of pupils. They are endeavoring to make out their lessons from the blackboard. You can get an indistinct outline of the writing, and that is all. The pupils are squinting their eyes, and twisting their heads, and straining themselves to make out the writing, but the light strikes the shining glazed board so as to give them the greatest amount of trouble. The time is near when these children must be taken to an oculist and have glasses fitted to their eyesight, which is permanently injured. In accounting for defective eyesight the blackboard must be held largely responsible. In short, the increasing short-sightedness of children is due to defective methods of admitting light, to insufficient quantity in certain parts of the room, or to other causes which admit of a remedy.

Where do these children get water to drink? It is as important to have pure water at the schoolhouse as it is at home. How far is it from the well to the vault? Fifty children, perhaps, must drink from two or three cups. Sometimes the water is passed about, and all drink from the same cup. Worse yet; if a child fails to drink all that is in the cup, it is passed to the next, or thrown back into the pail. Bah! it makes one sick to think of it. Various diseases are conveyed in this way; and the doctor wonders where the child contracted the disease. — *Hon. Henry Sabin, Supt. Public Instruction, Iowa.*

THE best critics in the world are they
Who, along with that which they gainsay,
Suggest another and a better way.

— *From a German poem.*

Stupidity among School Children.

A writer in the sociological department of the *Hospital* (July 17) warns parents and teachers against rash conclusions regarding a child's apparent "stupidity." He says: "Stupidity, real and apparent, in children presents a difficult study. There comes a time when the colt must be put in the harness, the child begin to study. As neither task is natural to the animal involved, it is almost impossible to accomplish it without a certain severity. The thing to be desired in both cases is that the severity may be no more than sufficient, that the powers of each creature may be guided in the right direction without being cramped and maimed. And therefore the application of whip, or bit, or spur must be accompanied by careful study of the animal. You can never make a cart-horse win the Derby, and you can never make a stupid child a clever one; but you can find out wherein his stupidity lies, and what compensation nature has afforded him. It is only in comparatively recent years that we have begun to perceive how much tone-deafness, color-blindness, or myopia, may have to do with an apparent dulness which was too often set down as the result of inattention. Even where no such easily diagnosed defect exists, one must admit such differences as puzzle the wisest. Against the phenomenal 'calculating boy,' to whom all arithmetical problems are as nothing, you put the child who can scarcely grasp the fact that two and two make four as an abstract idea. Yet he may be no more stupid than the other, but only of a more materialistic temper, which realizes things only when set in visible shape before it. The natural tendency of schoolmasters is to condemn as stupid the child who is dull in things scholastic. Life often reverses the schoolmaster's verdict, and shows that the so-called dulness was intelligence which had not yet found its proper channel."

IF MEN WERE WISE.

WHAT might be done if men were wise —
What glorious deeds, my suffering brother,
Would they unite
In love and right,
And cease their scorn of one another?

Oppression's heart might be imbued
With kindling drops of loving kindness;
And knowledge pour
From shore to shore,
Light on the eyes of mental blindness.

All slavery, warfare, lies, and wrongs,
All vice and crime might die together;
And wine and corn,
To each man born,
Be free as warmth in summer weather.

The meanest wretch that ever trod,
The deepest sunk in guilt and sorrow,
Might stand erect
In self-respect,
And share the teeming world to-morrow.

What might be done? This might be done,
And more than this, my suffering brother —
More than the tongue
E'er said or sung,
If men were wise and loved each other.

— *Charles Mackay.*

THE HISTORY OF ALCOHOL.

It is a curious fact that, although intoxicating beverages have been known and used from time immemorial, alcohol itself was not discovered until after the fall of the Roman Empire, and was not used for intoxicating purposes for many hundred years after that. Pliny, in his Natural History, written about A. D. 50, mentions that oil of turpentine could be extracted from the crude pitch by boiling the latter in open vessels and catching the vapors on fleeces, from which the condensed oil could be pressed. This marks the first beginnings of the art of distillation, which progressed but slowly; for two hundred years after we read that sailors were accustomed to get potable water from sea-water by similar crude methods.

The famous Geber about the close of the eighth century mentions the term distillation, but it is doubtful whether he understood much more by it than the separation by heat of two metals of different melting points. Albucasis, a famous alchemist of the eleventh century, speaks of the process in less doubtful terms; and late in the thirteenth century the art of distillation, and the properties, preparation, and uses of alcohol were clearly described by two European alchemists, Raymond Lully and Armand de Villeneuve. For some hundreds of years after its discovery, alcohol was distinctly the most valuable product of chemistry. The old alchemists went wild over it. They wondered at its power of dissolving oils and resins and balsams, calling it *oleum vini* and *balsamus universalis*, and making with it varnishes and perfumes and cosmetics, by the sale of which they replenished their not overfilled purses. They admired the clear, colorless, smokeless flame with which it burned, and named it *sulphur cœleste* in contradistinction to the ordinary, or earthy sulphur, which burns by no means so pleasantly. They used it as a preservative; they used it for the preparation of their chemicals; and above all they used it as a medicine.

For during many hundred years this *aqua vitæ*—water of life, as it was almost universally called—was the most valuable medicine in their large but inefficient pharmacopœia. Each alchemist, each physician, prepared his own elixirs, his own cordials, and claimed miraculous results for his own particular nostrums; but the basis of them all was the same; namely, alcohol, sweetened with sugar, and flavored by distillation or infusion with herbs and spices.

But the curious part of it is not that it should have been used as a medicine, but that it should have been used as a medicine exclusively. There seems to have been little or no idea of its intoxicating power. In Shakespeare, for instance, there is abundant mention of drinking and drunkenness. But Cassio, and fat Sir John, and the rest got tipsy on sack, and canary, and sherry, or if of lower rank, on ale and beer, but never on spirits.

But by 1688 people had learned that alcohol was intoxicating, and had also learned how to make it cheaply out of grain. Up to the seventeenth century all the *aqua vitæ* was made from wine, and was therefore expensive. But now they were able to make it from beer; and not only in France, at Nantes and elsewhere, but in Switzerland, and especially in Holland, at Schiedam and other places, great distilleries were pouring out quantities of cheap and fiery spirits. Early in William and Mary's reign, encouragement was given to similar distilleries in England, on the ground of assisting agriculture; and by the beginning of the eighteenth century all England was flooded

with native as well as imported gin at absurdly low prices.

The results were most disastrous. London streets abounded with gin-shops, and one could actually find placards on them reading: "Drunk for a penny; dead drunk for twopence; clean straw for nothing." The effects on the common people were so marked that all thoughtful persons were alarmed by it. In the wet, temperate climate of England, people might drink heavily of beer or wine, and still in fair measure retain their health and their capacity for work; but under the reign of gin, vice and misery and disease increased so fearfully that Parliament finally passed a law practically prohibiting its use. This famous "Gin Law," passed in 1736, is interesting as the earliest severe blow at liquor-dealing among civilized nations. It levied a tax of twenty shillings a gallon on spirits, and a license of fifty pounds for any one selling or dealing in it. And, being in advance of public opinion, it failed, much as other more stringent prohibition laws have failed in our own day.

To evade the law, apothecaries sold it in vials and small packages, sometimes colored and disguised, generally under false labels, such as "Colic Water," "Make Shift," "Ladies' Delight." There were printed directions on some of these packages — e. g., "Take two or three spoonfuls three or four times a day, or as often as the fit takes you." Informers were very prominent and exceedingly offensive, inventing snares to catch lawbreakers for the heavy rewards, and spying and sneaking around in a way particularly distasteful to the English mind. In consequence, they suffered in their turn. The mere cry, "Liquor Spy!" was enough to raise a mob in the London streets, and the informer was lucky if he escaped with a sound thrashing and a ducking in the Thames or the nearest horse pond. Indeed, such an outcry was made about the matter that the ministry became very unpopular, and the law was not enforced after two or three years, and was largely modified in 1743, after seven years' trial.

During the last century, drunkenness was the rule, not the exception, in all classes of society. In the lower classes it was actually encouraged. Did the troops win a victory, did a prince come of age, "Go home, Jack," would say a master to his servant, "build a big bonfire, and tell the butler to make ye all drunk." It was quite a compliment to call an underling an "honest, drunken fellow." And as for the gentlefolk — well, we can hardly conceive of the state of affairs. It was part of a gentleman's education to learn to carry his port. One, two, three quarts a night was a proper and reasonable supply. After dinner the ladies retired into another room — a practise still observed — so that the men should have no embarrassing restraints; and it was a matter of course for them to drink one another under the table as fast as was convenient. In the army and navy, in the learned professions, among the gentry and nobility, and even in the royal family, heavy drinking was the rule, and not the exception, until well on into the present century.

And they suffered for it. Their lives were shortened, their usefulness impaired, their estates squandered — and then the gout! Nowadays, with the example of Palmerston and Bismarck, Gladstone and Sherman, before our eyes, it is hard to think of a time when statesmen were incapacitated at thirty-five or forty. But it was so. A gentleman who reached middle age without being crippled was considered either unusually lucky or a milksop. Lord Chatham and many, nay most, of his contemporaries were horribly tortured by it. At critical periods in the nation's history a severe onset of gout, or

the illness leading up to it, was liable to cause the retirement of the most prominent statesmen. Many of them died young. Few indeed reached a healthy and vigorous old age. For heavy drinking was not confined to the idlers and spendthrifts, the courtiers and country gentlemen; it was a custom with the ablest and the most brilliant men in England.

It must not be inferred, however, that drinking was much more prevalent in England than in other parts of the world at the same periods. Indeed, the records of Germany and Holland show quite as startling pictures. And in our own country we have not much to boast of.

When the Puritans landed in Massachusetts in 1620, they found to their disgust, that beer and wine were both lacking, and we find Governor Bradford complaining bitterly of the hardships of drinking water. Nor was water a more favored beverage among the settlers of Massachusetts Bay eight or ten years later. The first list of necessities sent back to the home company, in 1629, is headed by an appeal for "ministers," and for a "patent under seale;" and only a line or two further down is the request for "vyne planters." They also ask for wheat, rye, barley, and other grains, and for "hop rootes."

By 1631 it had become necessary to pass a law for putting drunkards in the stocks; other laws followed concerning adulterations, save to savages, etc. In 1634 the price of an "ale quart of beere" was set at a penny, and brew-houses were soon in every village, in some places attached to every farm.

By 1650 every little New England town and village had its distillery — the seaport towns had scores of them — and the rum bullion, rumbooze, or, as it was universally known, "killdivil," was sold freely for two shillings a gallon, and was shipped largely to the African coast in exchange for slaves.

Liquor was not only used at dinner and supper parties; it was taken morning, noon, and night, as a matter of course. The laborer would not work at the harvest, the builders at their trades, without a liberal allowance of rum. It did not matter, either, what class of work they were doing. When the little town of Medfield, early in the last century, "raised" the new meeting-house, there were required "four barrels beer, twenty-four gallons West Indian rum, thirty gallons New England rum, thirty-five pounds loaf sugar, twenty-five pounds brown sugar, and four hundred and sixty-five lemons." A house could not be built without liquor's being distributed at every stage of the operation; and this practise was not obsolete till well on into this century.

The clergy, while keeping a strict eye upon the excesses of their parishoners, did not disdain a drop themselves, and their conventions rivaled the dinners of the non-elect. In 1792, Governor Hancock gave a dinner to the fusileers at the Merchants' Club in Boston, and for eighty dinners there were served one hundred and thirty-six bowls of punch, twenty-one bottles of sherry, and lots of cider and brandy. It would be but useless repetition to discuss the drinking habits of New York and other colonies. It is enough to say that well on into the present century drunkenness was extremely common, and, when people could afford it, a most pardonable and venial offense.

It is the pride of our civilization in the present century that, during the last fifty or seventy-five years, the whole tone of society has changed, and intemperance, while still unfortunately prevalent, is nothing like as common as it used to be. Indeed, it is hardly possible for us

to imagine the state of affairs in our grandfathers' times. A hundred years ago a gentleman who went out to dinner, and was not brought home drunk, was considered a very poor-spirited fellow indeed. So with the poorer classes. Just a century ago George Washington, in engaging a gardener, expressly stipulated in the contract that the man should have "four dollars at Christmas, with which he may be drunk for four days and four nights; two dollars at Easter to effect the same purpose; two dollars at Whitsuntide, to be drunk for two days; a dram in the morning and a drink of grog at dinner at noon."

Now we can hardly imagine a gentleman perceptibly exhilarated with wine at a dinner table. He certainly would never get a second opportunity, if the fact were known. And as for the working classes, a clerk, an engineer, a coachman, or even a gardener whose breath smells of whisky, or who is seen often dropping into a saloon, runs a good chance of losing his position.

For the world has at last found out what intoxication means. Alcohol in large doses is a poison, but it is a poison which injures the family and neighbors and friends of the inebriate more than the victim himself. It shortens his life, to be sure; but think of the other lives that it shortens! And while some attack the problem with fierce and violent denunciations, and others by quieter but not less effective arguments and appeals, the world certainly owes a debt of gratitude to those who are doing so much now, and who have done so much already, to relieve mankind from the burden of inebriety.—*Professor Charles E. Pellew, in Popular Science Monthly for July (abridged).*

CHIEF POKAGON ON "FIRE WATER."

SIMON POKAGON, the last chief of the Pottawatomies, is seriously ill, and in his last message to his brethren and the world he bewails his race's love for "fire-water" in the following characteristic way: —

"Pokagon must admit that he feels very deeply the ravages made among his people by the 'intoxicating cup.' Were it an open enemy, outside our lines, we might meet it with success; but, alas! it is a traitor within our camp, cunning as *wagoosh* (the fox). It embraces and kisses but to poison like the snake, without the warning rattle. Before I associated with white men, I had supposed that they were not such slaves to that soulless tyrant as the red man; but I have learned that the cruel curse enslaves alike the white man in his palace and the red man in his hut, the chieftain and the king, the savage and the sage."

Chief Pokagon is said to be the most civilized red man in the United States. He was at the World's Fair in 1893, and from his "Greeting," an impassioned protest addressed to the white man, published at that time, we quote the following arraignment of the white man who taught the Indians to drink liquor: —

"While we were being taught to love the Lord our God with all our heart, mind, and strength, and our neighbor as ourselves, and our children were taught to lisp, 'Our Father, who art in heaven, hallowed be thy name,' bad men of the same race, whom we thought of the same belief, shocked our faith in the revealed will of the Father, as they came among us with bitter oaths upon their lips, something we had never heard before, and cups of 'fire-water' in their hands, something we had never seen before. They pressed the sparkling glasses to our lips

and said, 'Drink, and you will be happy.' We drank thereof, we and our children, but, alas! like the serpent that charms to kill, the drink habit coiled about the heart-strings of its victims, shocking unto death, friendship, love, honor, manhood, all that makes men good and noble; crushing out all ambition, and leaving naught but a culprit vagabond in the place of a man. . . .

"The accursed drink came like a serpent in the form of a dove. Many of our people partook of it without mistrust, as children pluck the flowers and clutch a scorpion in their grasp; only when they feel the sting, they let the flowers fall. But Nature's children had no such power; for when the viper's fangs they felt, they only hugged the reptile the more closely to their breasts, while friends before them stood pleading with prayers and tears that they would let the deadly serpent drop. But all in vain. Although they promised so to do, yet with laughing grin and steps uncertain like the fool, they still more frequently guzzled down this hellish drug. Finally conscience ceased to give alarm, and, led by deep despair to life's last brink, and goaded by demons on every side, they cursed themselves, they cursed their friends, they cursed their beggar babes and wives, they cursed their God, and died."

A Respiratory Symptom of Tobacco Poisoning.

Dr. Morrow reports several cases of tobacco poisoning in which a certain peculiarity of respiration was noticed. In each case reported the patient was an excessive user of the "weed," and all presented about the same symptoms. The patients would take a deep inspiration, and then there would be no further breathing for a considerable interval, when there would again be a deep breath, attended with a sigh. Chapman reports cases of a similar nature, where the breathing is described as irregular, consisting of several short, shallow respirations, followed by a deep and gasping one.

Experiments made upon rabbits which had been poisoned with tobacco gave results as follows: (1) Slowing of respiration; (2) quickening to beyond the original rate; (3) slowing again and shallowing; (4) a change in type, in which expiration became absolutely passive, and the breathing consisted of an infrequent deep respiration, gasping in character. Next the pneumogastric nerves were cut, and the experiment repeated as before with practically the same results.

The poisoning seems to act principally on the respiratory center, paralyzing the expiratory division of it, and rendering the whole center insensitive to afferent nervous impulses.

He concludes by stating that a fairly common symptom of tobacco poisoning is a deep, gasping inspiration, occurring at intervals, and sometimes quite audible. This may be practically the only symptom complained of. It is probably due to the paralyzing action of the drug on the respiratory center, affecting especially the expiratory division, but also diminishing the irritability of the whole center to afferent impulses. This symptom may persist from a few days to some months after the poison is discontinued. — *British Medical Journal.*

The Water Club.

Among the men of this century who have left a mark on their time was Lord Alfred Tennyson, probably the most popular poet of our day. Among the reminiscences of his youth which he confided to

his friends was one of "The Water Club." When Tennyson was a young man, he and some of his friends organized a club for literary discussion. One of its first rules was that no wine should be used at any of the club meetings. From this rule the club had its name, given them half scornfully by some acquaintances.

Such a club rule was at least very unusual fifty years ago, when wine was freely used at meals and at all club meetings, even by very worthy people — by those who struck the keynote for other people. The reasons for which the Water Club banished wine were few and simple: —

1. For economy's sake. The lads were none of them rich, had just graduated from their university, and with their way to make in the world.

2. The club was for intellectual improvement, and they felt assured that wine dulled and clouded the brain, after, perhaps, a brief stimulation.

3. Wine often leads to anger and hot words. The members of this club were friends, holding their friendship dear. They dared not put it at the mercy of that "enemy which steals away men's brains."

"I drank, I liked it not; 't was rage, 't was noise;
An airy scene of transitory joys.
In vain I trusted that the flowing bowl
Would banish sorrow and enlarge the soul."

—*Julia Mc Naire Wright.*

A Rational Cure for Intemperance.

Christopher R. Eliot, in an article on "The Temperance Problem" in one of the August magazines, says: —

"Men drink because they are poor. Men drink because they have wretched homes. Men drink because they are unhappy. Men drink because they are insufficiently fed, poorly nourished, and have food they cannot enjoy. Men drink because they are not physically strong and healthy. Men drink because they crave sociability and like to meet one another under social and pleasant conditions. Men drink because they are out of work and have lost hope. Men drink because they have inherited an unhealthy or unevenly balanced nervous system from parents whose habits were not good. Men drink because the pressure and excitement of the times are so great that their physical system becomes exhausted and craves a stimulant. Men drink because they are tempted at every street corner, and because so many of their fellows, their companions, drink. Men drink because they have so little amusement, so little leisure, so much grinding, wearing, treadmill, routine work to do. Men drink because their animal, brutish natures have not been subordinated to their higher intellectual and spiritual natures. Men drink because in years of self-confidence and carelessness they awakened the appetite and formed the habit which at last became a disease, perhaps a kind of insanity, destroying their self-control.

"So true is it that wretched homes, poverty, poor food, lack of work, overwork, inherited weakness, craving for pleasure and excitement, the social instinct unsatisfied, an unhealthy condition of body and mind, overcrowding, villainous tenements, the sweating system, and many such conditions,— so true it is that these conditions of modern social life are responsible each in part for men's drinking, that I am convinced that intemperance is only a symptom, and not the disease itself, and that, if we are ever to get rid of it, we must go back of it, and treat these evil conditions which are its cause." . . . Discover the causes of the drink habit; and, if these causes are evil conditions, correct them; if they are natural cravings, not evil in themselves, minister to them in better ways. Build up the whole man, would you have him equal to the temptations of appetite."

As a "Heathen" Sees Us.

H. Dharmapala, of India, who represented the Asiatic Buddhists in the Parliament of Religions held in Chicago in 1893, delivered an address at Lake Hopatcong on July 4 last, in which he spoke as follows: —

"As the messenger of peace and good will, and as the representative of Asiatic Buddhists to the Parliament of Religions, I have to announce that millions of my people are hurled down the precipitous abyss of premature death by the demon of alcoholic drinks and narcotics, introduced by the civilizing pioneers of Christendom. . . . An enlightened people would not tolerate the sale or manufacture of intoxicating liquor; it would not allow foreign governments to send such products to our shores. A revenue that is gotten by selling alcoholic poisons to one's people is an unrighteous and illegal revenue. A prolific cause of insanity and idiocy is due to the dissolution of brain-cells brought on by intoxicating alcoholic drinks. The modern experimental psychologists have proved this. Stop drinking liquor. Stop the manufacturing, and let the government show that it is a righteous government by using every method to prevent its exportation to other countries. Millions of people are killed by European liquor introduced to Asiatic countries since the introduction of so-called Christian civilization."— *The Voice.*

The Effect of Alcohol on Dogs.

In a series of scientific experiments to determine the effect of alcohol on dogs, Professor F. C. Hodge, assistant professor of physiology in Clark University, Worcester, Mass., found that after taking alcohol steadily, the dogs became dull, timid, and incapable of half the exertion of non-alcoholic animals. Their condition appeared to him evidence that alcohol is one of the physiological causes of fear in man, as it is to be presumed that the results produced in man are at least similar to those produced in dogs.

The lesson of these experiments would therefore be that alcohol diminishes a man's working capacity and vital energy. It weakens him physically and mentally, and deprives him of courage and ambition.

SLY devices to gain tobacco converts among boys are used by certain tobacco manufacturers. The retail dealer is asked to fill out a blank giving the names of young persons who do not use tobacco. The manufacturers then send to each a check calling for a free plug of tobacco at the retail dealer's. These checks are honored by the manufacturer on presentation. The tobacco is given free as an inducement to boys to learn to chew, and the retailer is rewarded for his share in the effort. Cigarettes are also supplied free to all patrons who buy their tobacco of this manufacturer. In this way many new devotees to the poison habit are secured each year.

BY the increased flow of blood through the brain, and by the contact of alcohol with the brain substances, important changes are gradually brought about in the brain. The cells of the gray matter become fatty and shrunken, and as a result there is a shrinkage of the cerebrum. A proof of such change may be observed in the loss of mental power, the muscular trembling, and shambling gait of the drunkard.— *D. A. Robinson, M. D.*

IT is reported that fifty per cent. of the young men of Switzerland who would otherwise be eligible for military service are rendered unfit for it owing to the marked physical deterioration produced in them by excessive drinking.

HOME GYMNASTICS.

THE need of home gymnastics will be more readily appreciated if we consider the artificial character of city life and the highly specialized nature of each man's or woman's narrow routine in the daily avocation. The growing child has its alternations of work and outdoor play, relieving mental tension, stimulating the vital organs to healthful activity, quickening respiration and the heart's action, invigorating the digestion, quieting the nervous system, and predisposing the well-exercised body to calm and refreshing sleep. Furthermore, its responsibilities are light, its fare simple, and the mode of life methodical, its body unfettered by conventionalities of dress and etiquette.

But how is it with the adult? Just as soon as the pursuit of wealth takes possession of the mind, all the energies must undergo a readjustment. The brain has a new and constant excitement, time is reckoned in terms of money, meals are subordinated to alleged necessities of business, rapid transit conveyance takes the place of walking, and pleasures and recreations are given up or postponed till late hours.

Says Dr. Angerstein in his well-known book on "Home Gymnastics:" "Where the conditions of life are simple, a certain harmony of mental and bodily activity comes into play. People engaged in cattle-breeding and agricultural pursuits are not exposed to frequent excitements of mind or temper, nor to exhausting mental work; while the diversity of their occupations affords sufficient opportunity for exercising their bodily powers in many different directions. It is essentially different with an artisan, who must aim at developing in the highest degree a one-sided bodily dexterity. This one-sidedness increases with greater subdivision of labor, in order that the product of his work may be obtained, so far as possible, easily, rapidly, and cheaply. The artisan must take care that the expenditure of his bodily powers on his work be held within bounds, in order that he may gain in endurance. He must limit as much as possible the number of organs called into activity, in order to prevent the excitement and complication of the whole system. . . . Therefore the work of an artisan, because it is one-sided, never acts favorably upon the healthy development of the organism as a whole; and the more one-sided, the more narrowly circumscribed the work is, the more unfavorably it acts."

Then again in other pursuits there are frequent cases in which mental demands are raised to a perilous height, while the powers of the body lie more or less undeveloped. I refer here to that class of merchants and manufacturers whose business demands rapid mental activity and the closest attention, often sorely taxing both heart and mind; to the public servant whose duties subject him to exhausting activity; and to the professional man, who has to do hard thinking incessantly. In all these cases the physical life becomes degenerate and stunted under both mental pressure and bodily neglect, and by this degeneration, in time, a shadow is thrown on the disposition of the person as well as on his power of thought. The great lack of activity of the muscles and the habit of sitting required by the vocation bring about here also, and in a heightened degree, reduced activity of the heart and of the organs of respiration and digestion, in consequence of their being insufficiently excited. Defective formation of the blood, troubles of respiration, delayed evacuation of the intestines, stagnation in the vessels of the abdomen (hemorrhoids) are the primary

consequences. But by these the nervous system is influenced most unfavorably. Nervous sensibility and weakness appear, also a depression and irritability of the disposition, which destroy freshness and cheerfulness, and the capacity for the enjoyment of life, as well as for a productive activity.

In these cases, even more than in that of the artisan bound down to a one-sided bodily development, it becomes of the utmost importance to take care of the neglected body in order to rescue the entire man. Such a rescue, a recovery and preservation of all the powers of the human being — this basis and condition of all health and of all power for activity — can, however, be effected by suitable exercises of the body. . . .

Walking is one-sided only, and if it is to be reasonably effective, takes much time. This applies also to horseback riding. Walking trips and journeys into the mountains, which are certainly very stimulating and refreshing in their effect, can seldom be undertaken, and then only for a short time. There then remains the practise of methodical gymnastics, a form of bodily exercise which is less expensive in time and money, which can be taken in any place, and which is preferable to all other forms in that it is free from all one-sidedness, and is capable of being adapted to the most varied conditions and circumstances; also because it can be controlled and measured exactly with regard to its effect. — *Edward M. Schaeffer, M. D.*

Manual Training for Girls.

The measure of the growth of an individual is the benefit the world derives because that life exists. There are luxuries in education; but the necessities in all directions should come first. The evenly balanced, all-around educated man or woman is most useful to himself and to the community in which he lives.

Manual training is teaching the hand to follow the dictates of the brain. It is development of both powers into a condition of great usefulness. Manual training develops a girl mentally and physically at the same time. Manual training may well be along the lines of her work in after life, although piano playing, wood-carving, free-hand drawing, all tend to accomplish the same result in making the hand follow the thought. If the training be along the line of cooking, sewing, and general household work, there comes with it the knowledge of foods, their uses, and their preparation which every woman needs, because the food of a family determines, to a great degree, the power of the individual members, mentally as well as physically.

Manual training means most while the fingers are supple, the brain quick, and the growing body needing exercise. If girls are given help to develop dexterity of hand along with quickness of thought; if these can go together through their lives, the work of the days of womanhood will be more readily accomplished. Education for a girl means giving her the best preparation possible for her life-work, that the fullest measure of happiness, in all directions, may be her heritage. — *James H. Atlee, M. D.*

THE empress of Japan has had a gymnasium fitted up for her own use in the palace. Her husband is very fond of athletics, and wishes the women of his country to devote some time to healthy exercises. The empress owns a beautiful saddle-horse, and has the distinction of being the first woman of Japanese birth to ride on horseback.

DISINFECTION AFTER SCARLET FEVER.

BY KATE LINDSAY, M. D.

As most of the disease-producing germs are minute vegetable organisms which grow from other similar organisms, each, as in the higher order of plants, producing after its kind, it is very important to destroy all material which is likely to harbor any of them. Many kinds of disease germs are found principally in some certain secretion, or excretion, or morbid discharge from some organ of the body. Thus tubercular bacilli are found principally in the expectoration from the lungs or the purulent discharge from some tubercular sore. If this morbid matter is destroyed at once by burning or a strong disinfecting solution, it will do no harm; but if it is allowed to dry, the discharges will form a protective sheath around the germs, shielding them from the destructive influence of the air and light. If kept dry, they may thus be preserved alive for months, and even years, like other plant seeds. When this dried matter is ground into dust, it may be carried anywhere on clothing, or borne along in the streets by the wind, to start the disease in some other person who never came in contact with the consumptive who carelessly scattered the deadly microbes of tuberculosis.

Scarlet fever germs are found in all the secretions and excretions from the body of the patient, as well as in the scales from the skin. This microbe has a great deal of vitality, and when put away in clothing in a dark, unaired place, it will live for an indefinite length of time. Cold will not harm it, and it will withstand a very high degree of dry heat. It will attach itself to the walls of a room, and hide away in the dust in cracks in the paper or plaster, under the base-boards, in the seams of the floor, in dark, ill-ventilated wardrobes and closets, thus often infecting successive families who may inhabit the dwelling.

As it is such a very hard matter to gather up the dried seeds of the thistle after they have been once scattered abroad, the farmer who desires to keep a clean farm seeks to cut down the weeds before they go to seed and are furnished with wings with which to sow themselves far and wide. Thus the wise nurse or mother, or any one caring for the scarlet fever patient, will try to prevent infection and spreading of the disease by destroying the living seeds before they are in a condition to sow themselves wherever they find an unprotected human organism to grow in.

The time which a patient must be kept in quarantine will depend on the severity of the case and the length of time the scaling and discharges continue. It is seldom allowable in any case at all severe for the patient to be discharged from quarantine before five or six weeks have elapsed. As long as there are purulent discharges from sores, or the scaling continues, it is unsafe for the patient to go among others who are susceptible to the disease.

After the nurse has satisfied herself that the patient has passed the scaling stage, and that all the discharges from the nose and ears have ceased, she should consult the physician in charge of the case as to whether the patient may be released from quarantine. To make sure that he does not carry any of the infection out with him, he should be bathed with soap and water and then with a saturated solution of boracic acid and water, or better still, with peroxide of hydrogen in the normal saline solution, one part of the hydrozone to four or five parts of the salt and water.

The hair as well as the body should be shampooed and disinfected. After this thorough cleansing, the patient should be dressed in clean clothes of washable material and sent into another room, with a fresh bed, for three or four days. An inspection should be made every day; and if no scales or other morbid discharges appear, the temperature and pulse remain normal, and he seems well otherwise, give another cleansing bath followed by the disinfecting bath and shampoo of the head, clean the finger nails, brush, clean, and disinfect the teeth, spray out the ears and nose, to be sure that no scale or other dirt laden with germs goes out with the patient; then dress him in another suit, shoes and all; and you may allow him to go out, feeling sure that it will be safe for him to mingle with others.

After the patient has been thoroughly disinfected, the next thing is to clean and render aseptic the sick-room. This will be more or less difficult in proportion to the amount of care which has been taken to prevent the discharges and scales from the patient's body from drying and flying about. It will also depend upon the kind of room and furniture which have to be cleaned and disinfected. If the room has been freed from all things that will catch and hold contagion, such as curtains which cannot be washed, carpets, and upholstered furniture, and pictures in carved frames, bookcases full of books, wearing apparel, and the like, it will take much less time and work to kill the germs and render the same room safe for use than if these articles have been left in the room.

Many things will need to be burned to exterminate the germs contained in them. Nothing used by the patient when ill should be taken out of the room until there is a certainty that it is free from all microbes. No broom of any kind should be used in the scarlet fever room; all dust and other dirt should be picked up with a damp cloth wrung from some strong disinfectant solution, as bichloride of mercury (one part to five hundred of water), or a five-per-cent. solution of carbolic acid. This should be done every day during the illness of the patient, and all left-over food and dirt and waste of every kind, including hair combings, burned in the sick room, if there is a fire in it; if not, they should be wrapped up in paper so thoroughly that none of the dust can get out, and taken to the furnace or some other place of cremation. The nurse should see that this matter is attended to carefully. A sick-room cared for in this way will be very easily cleaned after the patient leaves it.

It is still customary to fumigate rooms after cases of infection; although, as it is usually done, it is a very uncertain method of destroying germs. To be of any value the disinfectant should be used in large quantities,— as much as three or four pounds of sulphur to each thousand cubic feet of space in the room, every seam and crack in the room being previously pasted up as nearly air-tight as possible, and the bedding and all things which it is desired to fumigate spread out so that the sulphur vapor can reach every part of them. All metals, such as door-handles and the like, should be disinfected with boiling water and a strong carbolic acid solution, and then covered with vaseline or some other grease, to keep them from becoming tarnished with the sulphur fumes. If the room is ten feet square with a ten-foot ceiling, use four pounds of sulphur, placing it in an iron kettle with a few sticks of kindling-wood; set the kettle on bricks in a tub of water in the middle of the room. The latter measure not only insures safety from fire, but increases the disinfecting efficacy of

the sulphur vapors, which are more powerful in a moist atmosphere than in a dry. Pour a little alcohol on the kindling wood, then light, and leave the room as soon as possible. Shut the door by which you have left the room, and paste it up on the outside so as to prevent the sulphur gas from escaping, leaving the room thus closed for twenty-four hours. After that, doors and windows may be opened and the sulphur fumes allowed to escape before the room is entered for its final cleaning.

If any part of the bed mattress is soiled with dried discharges, it is better to burn it, as the expense of rendering it sanitary will be greater than to purchase a new mattress. If cotton comforts have been used during the illness of the patient, they should be burned also, as disinfecting will not make them safe. All sheets and blankets should be disinfected in a five-per-cent. solution of carbolic acid or a 1–1000 bichloride solution, and then boiled. If cotton pillows are used, they may be ripped and the cotton burned and the ticks washed. Feathers should never be used either for the bed or pillows in such cases. The safest way is to burn them if they have been used; if saved, they should at least be well baked. The mattress should be treated in like manner. It may seem like waste to destroy so much, but it is better economy than to have the disease spread.

If the walls of the room are papered, the paper should be soaked off with a 1–1000 solution of bichloride, and fresh paper put on. If kalsomined or painted, they may be cleaned with rye bread, which should be burned. Even after fumigation it is always best to take up all the dust and lint with damp rags and burn it. The floors should be washed either with the 1–1000 bichloride solution or the five-per-cent. carbolic acid solution, and the greatest amount of care taken thoroughly to saturate every particle of dust in every crack of the floor. It should be borne in mind that it is by dust, soiled clothing, rags, paper, books and toys which have been handled by the patient during his illness, that the contagion is most often disseminated. The writer knows of a case where after scarlet fever the house was fumigated, cleaned, repapered, and painted inside and out. Afterward it was let to a new tenant with a family of children. It was in the spring when the new family came in. All were well until the following October, when cold weather called for another stove. The new paper had been put on over the stove-pipe hole, and when it was broken to let in the pipe, a piece of old woolen cloth was found in the hole and thrown out on the floor. This was picked up by a little four-year-old girl, who tore it to pieces for a pastime. After four days she sickened with scarlet fever, and died on the tenth day of the disease. All the other four children had the disease in a milder form. The lesson to be learned from this is that all the work of cleaning, painting, and papering was made void by neglecting to destroy this old rag. Some one unwisely put it there out of sight, and in this dry air-tight place the deadly disease germs waited for a victim. Throughout the whole course of any contagious disease, it should be the chief care of the nurse to see that no germ-infected thing ever leaves the room, be it clothing, bedding, food, dishes, furniture, or anything else that belongs to either the patient or herself. This care about destroying all infected dirt and disinfecting all bedding and clothing, and slops of all kinds, even the bath water used in the room, may prevent an epidemic even in a crowded tenement-house.

After the sick-room and patient have been made clean, the whole house should have a thorough sunning and airing. If any of the family have been away and thus escaped the disease, they should not be allowed to return until this work is all done. It were best to let the sick-room remain unoccupied and unfurnished for a time after it is cleaned. There are no better germ destroyers than fresh air and sunlight. After the patient, room, house, and all its belongings have been made free from germs, the nurse and all who have had any contact with the patient should subject themselves to a thorough cleansing and disinfection, taking a full soap and water shampoo daily for at least three days, and using the disinfectant sponge as directed in the case of the patient after each, and shampooing and disinfecting the hair as well as the body. Every one coming in contact with a contagious case should wear clothing which can be washed and boiled, and some cheap shoe which can be washed or burned — a white canvass-cloth slipper, or the like.

Grown people, even those who have had the disease in childhood, often contract sore throat from nursing a scarlet fever case, and will infect others, while they themselves are not seriously ill. This condition is especially likely to occur where the nurse has chronic catarrhal disorders of the nose and enlarged tonsils or diseased throat glands. Thus the necessity of keeping the throat clean and disinfected when caring for infectious cases of any kind.

When scarlet fever comes into a family, it may happen that one or the other parent may be especially predisposed to the disease, while the other is protected by a previous attack. The father may have had the disease in childhood, while the mother not only never had it, but is especially susceptible to it by reason of a recent confinement. It may seem cruel to the fond mother to be separated from her sick child, but it is the part of wisdom for her to avoid the disease by keeping away from the contagion; for her life belongs to her husband and other children as well as to the sick child; and it is unwise for her to risk the danger simply to gratify a sentiment. Or it may be the father who would be in danger from the infection, in which case it is best that he should keep away from the sick-room entirely. His work may be all that keeps the wolf from the door, so that it would be unwise for him to risk sickness and death, much as he may love his suffering child.

In case of death from scarlet fever or any other contagious disease the body should be buried as soon as possible. No public funeral should be held; and to prevent infection from the body it should be wrapped in disinfected sheets and put into an air-tight casket, which should never be opened again. Such bodies should never be carried by rail nor transported any great distance in any way, for it always involves more or less risk to the living, and will do the dead no good. Religious services can be held afterward, when the family are well and in a calmer state of mind than when perchance other members of the family are ill, and need the care which would be distracted from them by elaborate funeral preparations.

The matter of stamping out contagious diseases depends upon the intelligent co-operation of the people, and this can never be had until they fully comprehend contagion and its nature, and understand that disease is the result of causes which can be avoided; that an epidemic of

scarlet fever will come from sowing the seed in suitable soil, just the same as a crop of corn will come from planting seed in the spring. They must also get rid of the fatalistic idea that disease is heaven-sent, and therefore must be calmly submitted to and endured. God gave man the dominion of the earth, and what man seeks for in the direction of asserting this dominion is usually a success. Mortality from scarlet fever has been much reduced during the last decade, due no doubt to the fact that much stricter quarantine regulations have been enforced. Yet many persons, especially in the country, ignore all such restrictions, going in and out among others from the sick-room of their fever-stricken children even during the scaling stage of the disease, often sending milk, butter, fruit, and vegetables to town which have been handled and prepared by those who have been at the same time the nurses of the infected children. Sanitary knowledge is the crying need of the age, and for lack of it the people perish.

HYGIENE OF THE NURSERY.

BY J. H. KELLOGG, M. D.

Teething.— During this troublesome period, children require special care, as the digestive organs are more liable to become disordered than at any other time. The child is often fretful and restless; and if it escapes being treated for worms half a dozen times, although innocent of harboring any such vermin, it is unusually fortunate. Teething is generally held responsible for every disease which occurs during the period of cutting the teeth. It is probable, however, that the process of teething is really responsible for but a small part of what is charged to it. Lancing the gums is seldom required; the tissue covering the teeth is not sufficiently tense to require cutting in order to allow them to protrude. In fact, they do not tear their way out, but the tissue covering is gradually absorbed. About the only occasion for lancing the gums is the occurrence of infantile convulsions. Rubbing the teeth with various substances is also a questionable measure. All the rubbing required will generally be performed by the child itself with the finger or thumb.

Teething is facilitated by allowing the child to chew dry food, as thin slices of bread well browned in the oven, or granose. This may be given after the eighth month. A nurse should never try to rub the teeth through with the finger-nail or thumb, as the result will be inflammation of the gums. Early decay of the teeth, or the non-appearance of the teeth before the twelfth month, indicates the probable existence of rickets. In some cases of this disease, after the shedding of the temporary teeth, some of the second teeth fail to appear.

Exercise.— The disposition to exercise is characteristic of most young animals. A young calf or colt gambols or frisks about the pasture when but a few days old. The human infant is, however, much less able to care for itself than is the calf or the colt, and hence special provision must be made for its care in respect to exercise as well as in other regards.

When but a few days old, the infant begins to make active movements with its arms and legs, to encourage which its clothing should always be so arranged as to allow perfect freedom of movement of both the upper and lower extremities. The Indian mother's practise of binding

the little one tightly in bandages after the fashion of the Egyptian mummy is too often imitated by civilized mothers, and to the decided disadvantage of the growing infant. The legs especially should have abundant opportunity for movement, since at birth they are behind the rest of the body in development.

The development of a part depends upon the amount of blood which enters it. Exercise is one of the most effective means by which the blood supply of a part may be increased. The disposition of the little one to keep its legs in more or less constant motion is doubtless nature's method of stimulating their growth. A mother once asked the writer, "If a child is known to have by heredity a tendency to abnormal shortness of the legs, what may be done to counteract it?" I replied, "Begin to exercise the limbs of the child as early as possible — begin even when it is in the cradle." "How should it take exercise?"—"Simply by encouraging the child to exercise its legs by calling its attention to them, and by offering gentle resistance, that is, pushing the legs up by placing the hand at the bottom of the feet, and allowing the child to push it back, making slight resistance." The infant will very soon learn to kick vigorously against the mother's hand, and by such applications to the feet, the limbs may be made to develop with more than ordinary rapidity. Care must be taken, of course, not to overdo the exercise. The tiny muscles of the infant may be easily overexerted. The exercise may be repeated several times daily, but should not be continued for more than one or two minutes at a time.

As soon as the child becomes old enough to creep, it should be encouraged to exercise itself in this manner. It should not be considered desirable that the child is willing to sit quietly with its playthings hour after hour, instead of moving about in quest of new worlds to conquer. It should be induced to make little excursions to different parts of the room, and to other rooms of the house, when proper, or in summer-time about the lawn, by means of a ball or some moving toy, or other inducements. Care should be taken, however, not to require of it too great exertions, especially in hot weather.

When the child becomes older, and especially when able to walk around, the question of exercise is a very simple one, as it is necessary only to give it abundant opportunity for out-of-door play with other children, under proper supervision, or with suitable toys, as a cart or a wagon, and a chance to engage in the varied occupations which it will readily devise in imitation of those of its parents.

There are certain forms of what might be termed exercise which should never be allowed. Trotting on the knee, tossing up and down, and like exercises, are altogether too rough usage for a tender infant.

A child should not be encouraged to walk too early, nor before it shows a disposition to do so. A healthy child will teach itself to walk by first pulling itself upon its feet by means of some support, then walking by the aid of the support, and finally venturing to walk alone.

It must also be remembered that play is as really labor for a child as is hard work for the adult. Indeed, the first efforts of a child to engage in active play require greater exertion in proportion to its strength than does the ordinary labor of adults.

The kindergarten is of inestimable advantage to children who are just entering upon the period of childhood, affording them not only abundant opportunity for exercise, but for systematic educational play by which both the physical and

mental activities are directed and developed. The child who has the opportunity to attend a well-conducted kindergarten will have no difficulty in finding plenty of healthful, active occupation at home by which to secure a sufficient amount of exercise.

Open-Air Exercise.— Nothing is more important for a young child than an opportunity for daily exercise in the open air. After the first two weeks, the young infant should be taken out of doors for several hours daily, during the summer season, and for an hour or two even in the winter season, except in the very coldest weather. It should of course be properly protected, to avoid chilling or too great exposure to cold. The tonic effect of cold air is as healthful to an infant as to a grown person, but it is easily possible for a young child to be exposed in such a manner as to produce congestion of the lungs, and serious, perhaps fatal, injury from bronchitis or pneumonia, as the result of injudicious exposure. Daily open-air exercise is the best of all means of developing constitutional resistance against catarrh and consumption, and the various maladies which find their beginning in taking cold. Children who enjoy this advantage are seldom subject to colds, as are other children. Their ruddy cheeks, bright eyes, and red lips are an indication of their superior vigor and vitality; while the pale faces, lusterless eyes, and lifeless manner of the hot-house children who form so large a proportion of the little ones born and reared in cities, indicate the opposite conditions.

Too much coddling has killed more children than the opposite course; nevertheless, the so-called "hardening" of children by subjecting them to unreasonable and possibly damaging exposure is not to be recommended. Allowing them to run about without shoes, and with bare legs in cold weather, and neglecting to provide them with warm wraps when needed, are some of the abuses to which children are sometimes subjected by parents who, wishing to avoid one extreme, go as far to the other.

The most suitable system of exercises for children is that known as the Educational System of Swedish Gymnastics.

Caring for Nervous Children.

Intelligent people are beginning to understand the importance of protecting the nervous system in infancy, and the dangers of a shock to childish nerves. As a rule, the more quiet a baby is kept during the first year of its life the better chance it has for a life of health and happiness. The fact that so large a proportion of the human family die in infancy is due largely to the folly of nurses and the ignorance of mothers. Over-bright babies do not commend themselves to physicians, who know that the first year of the child's life should be spent largely in sleep. All efforts to arouse the dormant mind of a child at this period are attended with danger. The foolish practise of tossing a helpless baby in the air, while it screams both with affright and delight, is a most dangerous one. A physician with a large practise tells the story of a precociously bright child which showed evident delight when tossed in this way by a doting grandfather, who was accustomed to play with it in this way every evening. The child trembled with delight when the night's frolic was over, but one evening from this trembling it passed into a spasm, the first indication of one of those fatal brain diseases against which medical science is helpless. Nothing could be done but to wait until the little life had flown.— *New York Tribune.*

ALCOHOL IN COOKING.

SHALL we be required to answer for all sins of thoughtlessness? If so, a large number of Christian people will find a long score against them for tempting people who are trying to reform, or for creating an appetite for strong drink, by using alcoholic liquors in their cooking. Wine sauces, brandy puddings, and cider-flavored mince pies have been the stumbling-block over which many a man, trying to reform, has fallen.

A young man who had been a hard drinker, and had been taken to his palatial home dead drunk many a time, decided to reform and make something of his life. He signed the pledge, and fought bravely to keep it.

One day he said to a friend, "I do not think I can remain at home and keep my pledge."

His friend asked why, and he replied: —

"I can make myself go past saloons, I can remain away from the club; but I must go to the dinner table at home, and there often I find wine sauces; and the very smell of them stirs up my old appetite so it seems as if I would go wild."

The mother was told of her son's trials, and replied, as so many other women have done, "O, it's all nonsense; a little wine or brandy in cooking can't hurt any one; its just an excuse."

The writer knows other men who have given up strong drink, who never dare taste of a mince pie or any kind of pudding away from home, for fear they might find some flavor of strong drink that would make it a hard fight for them to keep the pledge.

And yet women, when their attention is called to these facts, will say, "Men have no business to be so weak," and go on cooking with the recipes themselves, and recommend them to their neighbors, forgetting what the Bible says about making one of these little ones to offend.

If some voice or pen could only arouse these thoughtless women, and get them to banish wine, brandy, and cider from their pantries, it would not only be a blessing to the men who are trying to reform, but would save many others from forming an appetite for strong drink at their mother's table. — *Golden Censer.*

The Lean-Meat Diet for Dyspeptics.

The truth seems to be that a person subsisting upon a lean-meat diet, while he may manifest a greater amount of strength than upon a more natural dietary, and may be unconscious of any abnormal condition, is like a person in a powder magazine — he is in constant danger of a vital catastrophe, says *Medical Progress.* The poison-destroying functions of his liver and the poison-eliminating capacity of his kidneys are taxed to their utmost to keep the proportion of ptomains and leucomains in the tissues down to a point which permits of the performance of the vital functions. The margin of safety, which nature has wisely made very large in order to provide for emergencies, is reduced to the narrowest possible limit, so that anything which temporarily interferes with the functions of the liver or the kidneys, or which imposes additional work upon them, may be sufficient to obliterate the safety margin, and produce an attack of grave or fatal disease. Invasion of the body by ptomain-producing microbes, such as the typhoid bacillus, the bacillus of diphtheria, the pneumococcus of Friedlander, the shocks resulting from accident, and even the depression of a severe cold, may be sufficient to consume the meager emergency capital;

and the result is acute inflammation of the kidneys, or death under chloroform, or from shock following an operation under anesthesia.

Soft Foods.

Habitually eating soft foods, even soft bread, to the exclusion of everything that is hard or crusty, is not only weakening to the digestive organs, but it leads to rapid decay of the teeth. When they are not used in the mastication of harder foods, the teeth become covered with tartar, and sometimes loosened in their sockets, or the gums will bleed. The use of hard bread and other substances requiring thorough mastication will do more to preserve the teeth than all other things put together. It will also tend to keep them clean; and by insuring good digestion it will help to make the breath fresh and pure. Those who suffer from indigestion seem instinctively to reject the softer, sloppy foods, as they are apt to make disturbance almost as soon as swallowed.— *Health Culture.*

The Potato-Patch Scheme.

The scheme originated by Governor Pingree while mayor of Detroit, Mich., of letting vacant lots in city limits to poor people for the purpose of raising potatoes for their own use, has spread across the sea, and he is receiving letters from Hungary and England requesting information in regard to the plan.

BEEF tea acts as an irritant poison in all cases of fever, on account of the excrementitious matter which it contains; and thousands of invalids have been sacrificed through an unwise reliance upon this decoction as nutriment, and through ignorance of the fact that, although highly stimulating, such stimulation is in the highest degree deleterious.

YOUR nerves will be strong, your children be healthy,
Your days will be long, and your purse will be wealthy,
Your time will flow on in contentment and quiet,
If once you conform to a pulse-eating diet.
— *E. Cympson.*

SOME NOVEL YEAST BREADS.

Apple Yeast.— Quarter and core, but do not pare, two medium-sized apples; cook with a small bunch of hops about the size of a hickory nut until tender. Rub through a colander. Add water enough so there will be two cups of the sauce, and two tablespoonfuls of sugar, two teaspoonfuls of salt, and one cake of Yeast Foam which has been dissolved in one fourth of a cup of water. Put into a sterilized glass jar; let it rise until bubbles can be seen all through it. Set in a cool place; and when cool, screw the cover on tightly. Keep in a cool, dark place. Use the same as other yeast.

Apple Yeast Bread (White).— For the sponge, use one and one-third cups warm water; two-thirds cup yeast; two teaspoonfuls sugar; two and two-thirds level cups "Gold Medal" or any other good spring-wheat flour. When light, add enough flour to knead without sticking to the board. Knead twenty minutes; let it rise, and shape into loaves (two). When light, bake from forty-five to sixty minutes.

Whole-wheat Bread.— Make the sponge the same as the preceding. When light, add whole-wheat flour sufficient to make a very stiff dough, and clear the board well in kneading.

EVORA BUCKNUM.

THE CULTIVATION OF REVERENCE.

BY MRS. E. E. KELLOGG.

"REVERENCE," says Dr. Clark, "is perhaps the last faculty to be fully developed in man, but it appears in innocent children and youth, and gives to both no small part of their charm. It attracts the young to the old, the ignorant to the wise, the timid to the brave, and even the sinful to the pure and noble. So it tends to elevate us by bringing us under the influence of those nobler and better than ourselves. . . .

"There are three kinds of reverence; the first is reverence for that which is above us, especially for God, for parents, and superiors. The second is respect for our equals; the third is reverence for things below us,—reverence for little children, for the ignorant, the poor, the suffering, yes, reverence for the soul of man when most degraded by sin. This reverence for all men because all are God's children is the highest attainment of man. To look up and adore is easy, but to look down and respect what is below us is far more difficult. But this spirit Christ has imparted to the world. He who loveth not his brother whom he hath seen, how can he love God whom he hath not seen? Irreverence toward God often comes from disrespect toward man. . . .

"The highest action of this sentiment of reverence is to feel the Spirit of God in all things, to feel God in nature, in our own lives, and in all the good and great who have lived. It is to cherish a habit of looking upward and seeing what is good and noble in all things."

We can readily see, then, how important it is that this trait of a child's character be wisely educated; and this leads us to ask in what ways this may be done. A writer upon this subject says: "With the little child the first unfolding of reverence begins through its relation to its parents. To the baby's mind his parents are marvels of wisdom and goodness, and with the love of his childish heart for them he mingles adoration or reverence. May it not be the parents' fault if this relation is not perpetuated throughout their lives? It is true that the time will come when with a broader vision the child will be obliged to measure his parents against a perfect standard; but if they have been trying to fashion their own lives as well as that of their child after the Perfect Pattern, they ought to make such growth in grace as will at all times command respect and reverence, though his highest reverence be transferred to his Heavenly Father."

As the child grows in understanding, reverence must be fostered in the training of all intellectual and moral qualities. Mrs. Mallison says: "Throughout every stage of instruction we must impress the child through his perceptions and imagination with the vastness of knowledge, and the small amount he can ever hope to master. So impressed, he is not likely to think himself very clever or very grand if he makes a little step in attainment. . . .

"Do not criticize people before him, particularly those who supply any of his needs as servants or teachers. I have known children so prone to dwell on the small details and defects of those about them that larger virtues and goodness were entirely lost sight of. A child should live as much as possible in admiration of nature, of knowledge, of others, and should thus learn that respect for all humanity which is the basis of all true courtesy. In many small ways this may be made apparent to the child. It is hurtful to the training of reverence if we permit unchecked, as many fond mothers thoughtlessly do, any want of the outward respect due to parents. In

words and manners we must teach the child reverential courtesy to the old, the weak, and those who serve him. Service must be regarded as a favor, a kindness done to him, to be requested — never a right, to be ordered."

Parents must themselves of course be worthy of honor, but in too many instances it is the parents' fault, through lack of foresight and proper training, that the reverence due them is not manifested. It is an old saying that familiarity breeds contempt, and fathers and mothers often tolerate an easy-going familiarity in the language and behavior of their children which lessens or destroys the feelings of true respect and reverence. The outward signs of reverence — the manners of the child toward parents and superiors — are of far more importance than many think. Among the many specifications given in the book of Leviticus we find in chapter 19 : 32 : "Thou shalt rise up before the hoary head, and honor the face of the old man, and fear thy God. I am the Lord." This rule is certainly as applicable to-day as it was in the days of Israel.

It was recently my privilege to spend an afternoon at one of the government schools for Indian children. The teachers who had them in charge had taught them, among their first lessons, to rise at once when a teacher or person of superior intellect or ability came into the room. We were taken from room to room, and in the sewing-room, the kitchen, the shoeshop, the schoolroom — wherever we entered — each Indian boy or girl immediately arose and remained standing while we stayed. The teachers considered that with these untutored children of a savage race the attitude of respect went a great ways toward creating in them a genuine feeling of respect and reverence toward their benefactors.

All children should be taught to stand in the presence of their superiors; to offer their parents the best chair, the lightest place, and the most comfortable corner. Many parents omit this training because they dislike to ask what seems to them almost like selfishness on their own part to require; but this can be easily avoided by the mother's insisting that the children shall thus honor the father, and the father that the family show reverence to the mother. Parents can also make such service pleasurable to the child by accepting such a show of respect with genuine courtesy and approbation on their own part.

Seek ever to teach the children to be looking for the good in men and things, rather than the evil; to search for truth rather than error. Read to them books in which this spirit predominates; let them study the lives of generous, honest, pure-minded men, who have lived and labored for righteousness' sake.

Reverence for God is aided by the exercise of reverence in other forms. In the words of another: "Long before we realize it, children are forming their conceptions of the Heavenly Father by what they observe around them. The tendency of children to become what they see those around them whom they love, is one of the most universally acting and powerful influences in the formation of character. The way you open your Bible, the spirit in which you engage in devotion, will have its bearing upon your children."

The manner in which you hear them say their evening prayers will aid greatly in establishing a spirit of reverence or the opposite in your child's character. If you seem to be in a hurry, anxious only to get the ordeal over; if they are allowed to repeat their prayers with as little reflection and almost as little reverence as they manifest in the common engagements of the day, what else may

we expect than that irreverence will become the most thrifty growth in their hearts? As a mother of experience has said: "We should endeavor to bring our children into a serious and tranquil state of mind before they kneel down. They may then be reminded of their faults with good effect, and thus gradually accustomed to unite self-examination with the duties of devotion,—examination not only of their outward conduct, but of their motives. At no time is the influence of a mother more valuable than when her children are retiring to rest. It is then that, having ceased from the business and pleasures of the day, their minds are more quiet, their feelings more tender, and more fitted for reverential thoughts. Happy is it if the spirit of her own heart be such as to enable her to make full use of these favored moments, to make use of them as valuable opportunities for withdrawing the hearts of her children from things which are temporal, and of fixing deeper and more lively impressions of those which are eternal. After a child has repeated his evening prayer he should not be allowed to return to trifling conversation or common pursuits. . . . Let him fall asleep with thoughts of God's loving-kindness and tender mercies mingled with remembrance of the mother's good-night kiss."

Reverence for the Sabbath and God's house and service will be largely dependent upon the parents' example. As a well-known writer says: "If it be the custom to lie in bed so late on Sabbath morning that there is no calmness or leisure for eating or praying; if all is 'hurry-skurry,' and the dressing of the body fills up the last moment; and if the child's Sabbath verse must be taught him while tying his necktie, and we rush out as the last bell for church is ringing, and must walk in frantic haste to church, perhaps finishing our toilet by the way, need we wonder if our children forget that it is the Lord's day, and that it is to worship him we are going?" It requires a quiet, reverential state on the part of children in order that their hearts may be in a receptive condition for deep and religious thoughts. Miss Harrison says that much of the well-intended Sabbath-school work loses half of its efficiency from the teacher's not understanding that the child must be in a gentle, reverential mood before he can be in the right religious attitude. The same is true of older individuals, and weariness, impatience, haste, and flurry on Sabbath morning are not at all conducive to a reverential mood either for parents or child. Neither will reverence for the worship of God be augmented by the too common practise of criticizing the sermon and the voice and manner of the speaker.

I ASKED the roses, as they grew
Richer and lovelier in their hue,
What made their tints so rich and bright;
They answered, "Looking toward the light."

Ah, secret dear! said heart of mine.
God meant my life to be like thine—
Radiant, with heavenly beauty bright,
By simply looking toward the light.

"THE world's most precious heritage is his
Who most enjoys, most loves, and most forgives."

THE SALVATION OF MR. CRANDON.

BY MRS. S. M. I. HENRY.

VI.

"YES, he is better; going to get well, Mrs. Crandon."

"I believe it, Dr. Green. I am so thankful."

"You have reason to be; he has been a very sick man."

"You thought he might die?" she whispered.

"I saw little chance for his life. His whole system was so exhausted that the conditions were very unfavorable. I have not seen a more desperate case in years."

"Well, you have my profoundest gratitude, Dr. Green."

"Not I; I could not take that. Give it where it belongs, — to God and Brother Grant. Brother Grant has been used of God to save us from great sorrow, and to teach us some things, I think."

"You are right, I do thank God with all my heart. As to Brother Grant, he has been a brother indeed; but it does seem odd, does n't it, that such treatment could save any one who is so ill? George thinks there is nothing like it. Doctor, did you ever have a spine-bag; I mean hot and cold to the spine? Well, Mrs. Grant gave it to me regularly, until I got rested. I have ordered a spine-bag for family use. O, I have learned so much from Dr. Grant that I presume we shall never ring you out again.

"But those foods! Did you ever try them? They seem to me rather slimpsy as a steady diet, to say nothing of the dryness; and I can't understand how the Grants can prefer them, nor my Stella, as she evidently does. I shall have to take George in hand as far as eating is concerned. He never could do his work on the sort of things Mrs. Grant has been giving him. He is getting up quite an appetite now, is beginning to crave food, and will be in need of something substantial, don't you think?"

"O doubtless that will come; but don't hurry. He is doing finely. It is really marvelous what these eight weeks have done for him. You must take him to the country soon."

"Yes; where he can have plenty of milk and cream and fruit; though Dr. Grant would call it heresy, or — what is just the same in his vocabulary — a bad combination, to take them together. Did you ever know, Dr. Green, that cream and fruit, and fruit and vegetables, should not be eaten at the same meal; and that flesh foods, even fowl, fish, and oysters, should *never* be eaten? Just think of it! never to eat any chicken or oysters again! What would the Ladies' Aid Society do without oyster suppers?"

"Well, Mrs. Crandon, I am perfectly frank to confess that after talking these things over with Dr. Grant, and watching him here, I have had a great deal to think about. Your husband's trouble did center in his stomach. He had symptoms of heart disease and other troubles; but Dr. Grant has proved his theory in this case — I am glad to say that much for him."

"You are not as afraid of your professional dignity as some are, Dr. Green. That must be because you have so much you can afford to be generous."

"Thank you. Professional dignity is all right in its place, but should never stand in the way of more knowledge and better light, or of any expedients by which a life may be saved."

"I think that is right, Dr. Green; and I must say that what has transpired does not diminish my confidence in you either

as a physician or as a man; and as to my feelings toward Dr. Grant and his good Katherine, you must imagine them. To think that he should leave his patients, or rather would undertake our case in addition, and do the double work which that made necessary; and that his wife would leave her dainty home for our sick-room and its necessary work; and that you would consent to it, is to me the most beautiful illustration of the spirit of the Great Physician which I have ever seen. It has helped me to be a better Christian.

"But some of their treatments do seem rather *too* scientific. That awful test-meal, Dr. Green. You really think there was something in that, do you?"

"Decidedly I do. I witnessed the process of analysis, you know — watched the development of the germs, and counted them for my own satisfaction. There were 'millions in it,' to use the familiar phrase."

"Well, laugh if you want to; I can afford to have you catch up my words and play on them, with my husband on the way to health. I have thought ever since that I would ask you if you believed that was a real test. It might be very scientific, you know, but not practical."

"It is practical enough to satisfy me, especially since the last test-meal did not give us a single germ."

"That does seem wonderful; and if you believe in it, I must, of course. The diet has made all the difference between the two tests, you think?"

"So Dr. Grant says, and we must accept his conclusions."

"Well, I suppose we must be more careful about our food after this; but I have always enjoyed cooking,— fixing up dainty dishes, and having them rich and good. I wonder if Dr. Grant is going to leave me without an occupation. Do you really think that meat is so bad?"

"O, as to that, I am not quite ready fully to agree with Dr. Grant, although there are many arguments in favor of his theory. I presume that I shall eat my steak and chops, roasts and chicken, and drink my coffee, and smoke my cigar to the end; but I am not going to recommend any of these things for Brother Crandon. When he gets quite well, he will probably use them, although more carefully, I trust. I think, Mrs. Crandon, that he ought not to drink his coffee so strong."

"I think so myself; and yet when he was in such a state that nothing else would get him in preaching trim, I could not very well help making him a cup as strong and hot as he wanted it."

"No, I suppose not. In an emergency it might be used to advantage; but I would confine it to the emergencies in the future.

"Well, good morning. You are to be alone now?"

"Yes, Dr. Grant has concluded to trust me with the spine-bag from this time."

Hooking the screen-door behind the doctor, Mrs. Crandon went into the room where her husband lay in a wheel-chair, looking out of the window with evident enjoyment. He was very thin and white, but looked out of his eyes clearly, and the knots had all been pulled out of his forehead. He reached his hand toward her, at which she smiled, and flushed with delight.

"O my dear," she said with a quaver in her tone, "how good it does seem to have you reach out after me again, instead of pushing me away."

"Did I ever do that, dear? Well, I was like one lost to everything that was good. I cannot understand how a man of prayer and faith in God, such as I have tried to be, could ever have gotten into such a fix. Love seemed perished

out of me. I did not seem to care for anybody. O, it was terrible! But Dr. Grant says it was all *germs*. It would be very funny, if it were not so terrible. But, dear, do you know I am ravenously hungry!"

"Really?"

"Indeed I am; it is a long time to dinner."

"I think so myself, and have all the time. Of course you cannot go on two meals a day as you begin to get up and about; and you will have to have more nourishing food soon."

"I think that is so, but Dr. Grant says we must be very careful, and that we would all be better to live on simpler foods, and only two meals a day. Dr. Green also thinks the food I have been eating is better for me."

"For awhile, yes; and we will be careful; but you cannot go hungry, can you? That would not facilitate your recovery."

"No, of course not."

"I'll tell you what I am going to do, George. It has been a long time since I got you anything to eat, and I am going to fix you a cup of bouillon. That cannot do you any harm, and will help you on till three o'clock. Of course we can't let you go hungry."

"Perhaps we better let the bouillon go this time, dear. Bring just a dish of fruit, please. Fruit is always good. I cannot have too much of that."

Old habits die hard, and no one will be surprised to hear that next day a lunch of something besides fruit was served for the convalescent. As Mrs. Crandon experienced release from dread and anxiety, the old life asserted itself in an ambition to "fix up something good," as of yore, and soon crystallized into a "genuine dinner" for the full-grown Crandon appetite. Why in the world should he not have a piece of the juicy chicken that Brother Spire, the meat-market man, sent them as a thank-offering because their beloved pastor was getting well? And was it not quite the delicate thing to do when Dr. Grant was seen running up the steps, to close the kitchen door on the odor of seething chicken? And who should say it was strange that no mention was made of the fact that a regular old-fashioned ministerial dinner was in process of preparation? Should Mrs. Crandon let her husband go hungry? He could not live forever on a sick-room diet. And must she not use her own judgment?

It was a very tempting tray that was taken in to the convalescent by Mrs. Crandon; and Mr. Crandon expressed his appreciation in the way that always made his wife most happy. But Stella, the bold, as she stood by and saw him eating, dared to remark: —

"You'll get germs again, papa, if you eat chicken."

(To be continued.)

THOUSANDS of women lament their lack of interest in life. Their hearts are empty, their hands idle. The world has been a disappointment to them, and the great burden of self is hard to carry. The happiness they sought has eluded them, and they are out of harmony with everything. If they would but learn the lesson of service and self-forgetfulness, they might attain to something better than the happiness of their dreams, — the blessedness of usefulness. — *Gertrude G. De Aguirre.*

LET the boys and girls feel that they are more appreciated at home than anywhere else; this is the way to keep them at home.

THE TRUE MOTHER INSTINCT.

An idea obtains in all classes of society that spinsters and childless women in general have no adequate conception of parental feeling or the child's nature. In reality they may be more liberally endowed with that nobler part of the instinct which has its seat in the soul than many who have become mothers after the flesh.

Physical motherhood, to be sure, will always furnish the best opportunity for the co-existent spiritual instinct to be perfected, and a woman who has been given such an opportunity ought to feel ashamed in the presence of one who, never having had it, yet understands and loves children better. Such instances are not uncommon; we all meet women who would inspire us with contempt if we did not pity them for their seeming acceptance of wifehood and maternity as merely superficial episodes, experiences they have passed through without the spiritual stamp of either bond being left upon their light natures.

We frequently see maiden aunts who are the true mothers of their married sisters' families, having a superior standard and practise of the relationship, the children, too, tacitly understanding the state of the case. The childless woman responds to the tender thrill of a baby's kiss, to the trust in its upturned eyes; having all the God-given equipment for motherhood in her heart, it is not difficult for her to appreciate the endless demands of the growing child or the responsibility of the parent. The sublime annals of maternal love and sacrifice are none the less holy to her mind because she has not added to them herself.

Sometimes she does add to them,—on a side-track, as it were. Witness the case of a certain spinster who entered upon the charge of a parochial school in a mountain district. One glance at her pupils was enough to convince her that they were "a hard lot;" she had heard that the last teacher had thrashed them unmercifully for their shortcomings, and that they were familiar with only the same kind of government in their homes.

"Children," she said, in her opening address to them, "I shall expect implicit obedience from you, but I tell you, to begin with, that I shall never strike a blow while I have charge of this school; but you will find that I intend to have obedience."

The sturdy young rebels, at first fairly paralyzed with astonishment, winked significantly at one another in delighted anticipation of an entire school term under the lax system proposed; doubtless it promised them only less fun than a protracted circus or menagerie riding through the village day in and day out.

At the expiration of the term, however, that teacher, soft in manner and speech, but strong in the granite courage of her convictions, had conquered that desperate parochial school without a blow, without a severe punishment of any kind. It must be said that she came out of the conflict of wills pale and worn, nearly exhausted; but she had been willing to make an hourly sacrifice of temper and of personal comfort in order to vindicate what she considered the sacredness of child life and the child's ownership of his body. The undisciplined mothers of her scholars evidently had been unwilling to make such a sacrifice of self in the control of their offspring, although most of them probably would have died to save them in a moment of supreme danger, from the force of the animal instinct of maternity.

If a jury of childless persons were called upon to cite the worst cases of unkindness

and cruelty to children that ever came under their observation, they would be obliged to testify that those violations of their innate ideal of the parental relation had been perpetrated by parents upon their own offspring. The lips of some members of such a jury might be sealed by the distressing memory that their own helpless childhood had furnished the instances, happening, as such things do, sometimes, in a social sphere whereof better things might have been certainly expected.

Actual parentage, as a concrete experience, brings with it a sense of possession; this mother feeling, too often abused, that a child is her own to do as she pleases with, is the only one pertaining to the love and care of the young that a childless woman cannot enter into or understand. — *Frances Albert Doughty, in Demorest's Family Magazine.*

INFLUENCE OF THE HOME ATMOSPHERE.

In the world of nature, life is dependent upon the atmosphere. Whatever else is secured, the atmosphere is essential to life's existence. It is in fact the atmosphere that gives the possibility of all the varied forms of vegetable and animal life in the earth and the sea and the air. So, again, the atmosphere brings death to every living thing, if elements that are hostile to life prevail in its composition.

It is not alone the component elements of the atmosphere that bring life or death to all within its scope; but the temperature and the measure of the movement of the atmosphere go far to decide the degree of life that shall be attained or preserved within the scope of its influence. Unless there is a due measure of oxygen in the air, the atmosphere is death-giving. Without sufficient warmth to the air its oxygen is of no avail for the sustaining of life. And even though the oxygen and warmth be present, the force of swift-moving air may carry death on its vigorous wings. No gardener would depreciate the importance of a right atmosphere for his plants; nor would any wise physician undervalue the sanitary importance of the atmospheric surroundings of his patients. As it is in the natural world, so it is in the moral sphere,— life and death are in the atmosphere.

A vital question in connection with every home is, Is its atmosphere suited to the life and growth, to the developing of the vigor and beauty, of a child's best nature? The question cannot always be answered in the affirmative, and where it cannot be it is of little use to talk of the minor training agencies which are operating in behalf of the children in that home.

The atmosphere of a home is the spirit of that home as evidenced in the conduct and bearing of the parents, and of all whom the parents influence. The atmosphere itself — there as in the natural world — is not seen, but felt. Its effects are clearly observable; but as a cause it is inferred rather than disclosed. Indeed, the better the atmosphere in a home, the more quietly pervasive its influence. Only as the home atmosphere is inimical to the best interests of those who feel its power, does that atmosphere make itself manifest as an atmosphere, rather than give proof of its existence in results that cannot otherwise be accounted for.

You enter one home, and, mingling with the family there, you feel the balmy air of love and sympathy. Parents and children seem to live for one another, and to be in complete accord in all their enjoyments and occupations; all is rest-

ful in the peace that abides there. You are sure that everything in the moral and social atmosphere of that home tends to the fostering and growth of whatever is best in the child-nature. It is obvious that it is easier for a child to be good and to do well in such a home than in many another home.

You enter another home, and the chill of the household air strikes you unpleasantly at the first greeting given you by any member of the family. There is a side of the child-nature that you know needs more warmth than that for its developing. Again, it is the burning heat of an excited and ever-driving household life that you are confident is withering the more delicate and sensitive tendrils of the young hearts being trained there. Yet again it is the explosive storm-bursts of passion which tear through the air, that make the home a place of peril for the young for the time being, however it may seem in the lulls between the tempests. In the one case as in the others, it is the home-atmosphere that settles the question of the final tendency of the home-training.

In view of the importance of the home atmosphere, parents ought to recognize their responsibility for the atmosphere of the home they make and control. It is not enough for parents to have a lofty ideal for their children, and to instruct and train those children in the direction of that ideal. They must see to it that the atmosphere of their home is such as to foster and develop in their children those traits of character which their loftiest ideals embody. That atmosphere must be full of the pure oxygen of love to God and man. It must be neither too hot in its intensity of social activities, nor too cold in its expression of family affection, but balmy and refreshing in its uniform temperature of household living and being. It must be gentle and peaceful in its manner and movement of sympathetic intercourse. All this it may be. All this it ought to be.

Every home has its atmosphere, good or bad, health-promoting or disease-breeding. And parents are, in every case, directly responsible for the nature of the atmosphere in their home; whether they have acted in recognition of this fact, or have gone on without a thought of it. In order to secure a right home atmosphere for their children, parents must themselves be right. They must guard against poisoning the air of the home with unloving words or thoughts; against chilling it with unsympathetic manners, or overheating it with exciting ways; against disturbing its peaceful flow with restlessness or fault-findings, or with bursts of temper.

Parents must, as it were, keep their eyes on the barometer and on the thermometer of the social life of the home, and see to it that its temperature is safely moderated, and that it is guarded against the effect of sudden storms. Only as such care is taken by wise parents, can the atmosphere of the home be what the children require it to be.— *H. Clay Trumbull, in Hints on Home-Training.*

Giving Up.

The wife and mother should not make her household cares an excuse for giving up all advancement. The busiest women are often the best informed ones. Let her once make up her mind that she will not neglect the higher things, and she will find that she need not. Let her take for herself out of every day the few moments for reading, for quiet thought, for the fostering of some accomplishment; and in thus making other things, in a measure, subservient to that most God-like of all work, the upbuilding of her own woman-

liness, she will be serving her family as she could in no other way.

The wife who gives up is the mother who fails to possess the confidence of her children. The husband can remember her as she was at her best; but to her children she has always been the same, and by-and-by she will be "nobody but mother"—treated kindly during her life, much as one would care for a faithful family nurse, and mourned when dead because of the empty chair left behind, rather than the empty heart.

Ask the man of the world whether he cherishes his memories of his mother as a companion, a gentle moral and spiritual mentor, an encouragement to high achievement, or as a tireless servant, catering to his appetite, looking after his merely physical wants. Of course attention to physical welfare is necessary to the development of symmetrical manhood, but it is safe to say that the man of to-day has less appreciation of what his mother did for the boy of yesterday, than of what she said to him, and what she wished him to become.

If any type of womanhood should be held up to the world as an "example" to other women, it is the wife who gives up—she who exchanges the heart of life for the husk, the substance for the shadow, the spirit for the flesh.—*Sel.*

TAKING THE GOOD OF THINGS.

"MOTHER, why don't you use the lovely toilet set that Mrs. Eaton gave you for your dresser at Christmas?"

"Because, my dear, it is so delightful to have something with its first freshness on it in reserve, to use when making ready for guests whom we delight to honor."

"But, mother, if you will consent to use them every day, and 'take the good of them,' I will promise to replace them when they have become soiled, or have lost their first daintiness."

The above conversation was repeated to me by the mother herself, who used the incident as a text on which to found a little sermon on the duty and beauty of living in the present.

"I feel quite competent," she said, "to speak of this subject, because I have been so derelict myself. I can see now that I have always lived too much in the future. There has always been in my thoughts and plans an unformulated, and for the most part, perhaps, unconscious reference to an indefinite 'sometime' when our circumstances would justify the use of my precious bits of cut glass, choice china, finer linen, modish gowns, etc., every day, unhampered by the consciousness that they could not be replaced if broken or defaced.

"But my daughter's appeal caused a startling arrest of thought. A voice seemed to say to me, 'Here you are on the down-hill side of life. The future is too brief and uncertain to be counted upon, or to afford opportunity for much change. The memories of home and home life which your children are to retain forever are already fixed and unchangeable. And yet, even now, you are so absorbed in the contemplation of some indefinite future or the pursuit of some desired acquisition, that the beauty and the duty of to-day are half forgotten or overlooked altogether.' And then and there I resolved to endeavor to redeem the remaining time. Henceforth I am determined to make each day as it passes just as beautiful in every way as I possibly can."

Said another woman to me: "For

many years I kept my most beautiful things laid away, to be taken out and used only when company was expected. But one day there came a fire which destroyed in an hour all my cherished daintinesses. How I regretted then that they had not been used and enjoyed while they were in my possession!"

Do not these little incidents suggest a prevailing fault in our American life — the ever-present struggle for some future, perchance indefinite, good? "Sometime," we say, "I mean to check this busy, hurried life, and take time to read and study, to take a little pleasure trip, at least once a year, and begin really to live."

Alas! the future — that ever-alluring "sometime" — is a receding quantity — it is never reached, and we are consequently never satisfied. —*Sel.*

Hygiene of the Bed.

The bed is the place where we spend about one third of our lives. A woman who has reached sixty has spent twenty years in bed. Many bad habits and bad positions are formed during sleep. Some persons assume an attitude which cramps the chest so that respiration is not full and complete. The shoulders should not be drawn forward, or the arms folded tightly over the chest. A narrow bed is preferable for growing girls, so they will not have room to sprawl over a large space, nor to assume a dozen grotesque shapes. The pillow should be small and hard. A large, soft pillow should not be tolerated by any girl who desires to have her head well set on her shoulders.

The bed clothing should be light but warm, of such a nature as to allow the air to pass through it freely. If the air in a bed, which soon becomes saturated with the perspiration from our bodies, does not pass off, it makes us uneasy and restless, and sound sleep is impossible.

Some women say they can sleep only on one side. If so, then there must be something wrong with them. One side is probably not evenly developed with the other. A healthy woman or girl can sleep and should sleep on one side and then on the other, even changing unconsciously in the night. Some women twist and contort their faces during sleep, and thus form wrinkles which continue during their waking hours. The reasons for this are various. Indigestible food in the stomach is one cause. Going to bed in a depressed state of mind causes the corners of the mouth to be drawn down and gives a sad expression. In going to sleep, think of pleasant things, — of your many blessings, the goodness of God, of the joys of life, the blessings of home, friends, parents, or children. Under no circumstances let the sun go down on your wrath, or on any other evil thought. If you have enemies, forgive them — love them. Love is the great beautifier of the faces of women, and hateful and evil thoughts act contrariwise. —*Journal of Hygiene.*

Dust a Microbe Carrier.

Micro-organisms are the great producers of disease, and dust is the chief carrier of micro-organisms. If there is any one ubiquitous thing, it is dust, and yet, notwithstanding its dangerous contents, it is being continually poked up, so to speak. As soon as the housemaid is up, it is hustled and dusted into the air, so that by the time the family is astir, any germ which may have quietly settled in some corner where it could do no harm is floating about in the air, ready to appropriate any convenient and moist resting-place, such as the human lungs or a bit of the breakfast, which will shortly carry it into the system of one of the inmates.

The street-cleaning department, too, spends much of its energy in simply stirring up the dust about the streets; a little of it is carried off in carts each day, but every particle thus removed has probably been previously stirred up and allowed to settle a dozen times.

The carpets and upholstery of modern houses were apparently designed as dust collectors. It is impossible to clean thoroughly a thickly upholstered sofa or chair, and almost as difficult to get a modern carpet or rug clean; these articles always contain more or less dirt, which in the case of the carpet is superficially stirred up at each sweeping. In fact, the reckless way in which house and street cleaning are handled is really appalling.

Dusting should always be done with a damp cloth, and carpets cleaned by a closed sweeper well filled with bits of paper. The street-cleaning problem is simply a question of water supply. A thorough flushing of the streets once or twice in twenty-four hours offers a simple, hygienic, and thorough solution.— *Popular Science Monthly.*

A Class in House-Cleaning.

The *Outlook* says that "Mrs. Booker T. Washington, the wife of the Principal of Tuskegee Institute, in Alabama, has been accomplishing a good work of late in the institution of an entirely novel Sunday-school class — a class in house-cleaning. Every Sunday Mrs. Washington goes over to a neighboring plantation, and takes one of the negro cabins to show how such work must be done. She washes, cleans, sweeps, dusts, and puts things generally to rights. This is the object-lesson. Each Sunday she notices the improvements which may have been made during the week in the other cabins. Those improvements have now become so marked that the owner of the plantation has set apart a cabin for Mrs. Washington's use, which serves as a model for the other cabins. Recently the owner of the plantation expressed a desire for a school to be started on the plantation, and this Mrs. Washington has also done, there having been no school before nearer than eight miles."

It is well to remember that dust-cloths slightly moistened, and afterward shaken out of doors, are much more sanitary than feather-dusters, the use of which drives the dust from one place only to settle upon another.— *Youth's Companion.*

Mothers should encourage their daughters to keep diaries, but not to compile journals. The simple record of events and happenings as kept in a young girl's diary may become a most valuable possession which may be a great assistance in fixing a date or clearing up a doubtful point. Such information will be of great interest in after years. The written record of a date or fact is worth a hundred opinions as to its occurrence. But the writing down of thoughts and feelings or reflections, encourages self-consciousness, and will prove useless and even injurious to a young girl. Introspection should be discouraged in young people, particularly in sensitive girls, who usually need but little encourgement to become morbid.

The London *Academy* tells a new story of De Quincey. He had to fill up a census paper, and the set questions puzzled him greatly. He finally managed to characterize his occupation as "writer to the magazines," but when he came to the occupations of his three daughters, his troubles began again. At last he put a ring around their names and wrote: "They are like the lilies of the field — they toil not, neither do they spin."

EDITORIAL.

CITY WATER SUPPLIES.

THERE is no matter of greater consequence to a city than its water supply. Water is as necessary to every human being as air and food; hence the character of the water supply of a city must influence, either favorably or otherwise, the health and life of every resident, old and young. The majority of large cities obtain their water from such natural sources as lakes and rivers. In comparatively few cases, and those only in towns of moderate size, is the water supply obtained from safe subterranean sources, through artesian wells. It is hence a matter of importance that the public should know that the water obtained from lakes, rivers, and brooks is always exposed to contamination from a variety of sources which renders purification by filtration or combined filtration and boiling a matter of necessity for complete protection. As it is practically impossible to secure either filtration or boiling of water by each individual family, it is highly important that the boards of public works, or committees having in charge the public water supplies of a city, should provide proper means for a general purification, whereby the whole city may be protected.

The purification of public water supplies by filtration on a large scale has long been practised in European cities; but notwithstanding the great need for similar protection in this country, it is a matter greatly to be regretted that this important hygienic measure has been adopted only to a very limited extent. Such purification is made necessary by a variety of causes, which are practically always present in connection with the water obtained from small lakes and rivers, which are in many instances the only practical source for a public water supply. Supposing the source of the water to be a small lake, the following conditions demanding purification by filtration will be found pretty uniformly present:—

1. The water of lakes, like all surface water, contains great quantities of infusoria, microscopic forms both animal and vegetable, and among the rest, larvæ of various sorts of insects.

2. The excreta of the vast number of fish which the lake contains continually contaminate the water.

3. The borders of the lake abound in vegetation, which decays during the hot weather in such quantities as to give the water a very decided and unpleasant flavor.

4. The water-shed which supplies the lake comprises many square miles, usually dotted over with farm-houses and barns, and peopled with swine, cattle, and human beings. During heavy rains, and especially during the spring time, when the ground is frozen, the water which falls is wholly carried off upon the surface, taking with it a great amount of fecal matter swarming with germs capable of producing grave and even fatal maladies; and all this is swept into the lake.

5. Examination of lake water shows it to contain germs capable of producing death sometimes within the short space of two weeks. Water obtained from one lake and examined in our laboratory was found to contain germs which killed a guinea-pig when introduced by hypodermic injection.

6. The water supply being taken directly from the lake without filtration, large numbers of fish find their way into the pipes, the water supply being sometimes cut off by the accumulation of dead fish in the fish trap, which must be cleaned out once in so often, in order that the flow shall not be interrupted. Every family which uses this water for drinking purposes is liable to be using water strained over dead fish.

The value of large filters in the purification of city water supplies was not fully appreciated until the recent experiments of

Professors Pasteur, Koch, and others, which demonstrated the fact that the removal of germs from the filtered water was facilitated by the presence and growth of immense numbers of certain minute vegetable organisms in the filter-bed. Of the three most important of these, two are similar to the nitrifying microbes which aid in the reduction of fertilizers in the soil. Another has the peculiar faculty of coating each grain of sand on the surface of the filter-bed with a gelatinous covering, thus forming by the cohesion of the various particles, a complete protective layer, which renders it impossible for microbes, even the most minute in size, to penetrate the filter-bed beyond a very short distance.

These two classes of organisms, operating together, purify the water in the most effective manner. The gelatin-forming microbes have the effect to remove the germs from the water, while the nitrifying organisms consume the dissolved organic matter contained in the water, whether animal or vegetable in character, thus ridding the water of ptomains and various poisons and ill-smelling and tasting substances, the products of the action of germs upon decomposing substances. The nitrifying germs reduce these various products of putrefaction to harmless inorganic salts ; even the ammonia is converted into nitrous acid, which combines with lime, forming compounds which are attacked by another organism which produces nitric acid, which in turn enters into combination with bases, forming harmless salts.

We quote as follows respecting the practical application of this method of water purification from an article by Professor Hungerford, in the *Scientific American* for July 31, and hope that this information may be the means of encouraging the authorities having in charge the water supplies of some of our inland cities to introduce this method of protection, which at the present time is recognized as one of the most efficient and reliable known : —

" In practise, the unfiltered water is maintained on the surface of the sand at a depth of from two and one-half to six feet. The bacteria which exist in the water together with the suspended impurities being unable to enter the sand, on account of gelatinous growth, form a film or slime on the surface of the filter that materially aids in the straining process, by retaining over ninety per cent. of the suspended matter in the water that subsequently follows. After entering the sand, the water comes in contact with the nitrifying organism, which converts the dissolved organic matter into harmless inorganic salts, and destroys any bacteria that may have penetrated the surface. The water is drawn from the bottom of the filter clear, bright, and sparkling, and practically free from bacteria.

" In time the film of impurities on the surface of the sand becomes so thick that not enough water can pass through it to meet the demand, and the filters then require cleaning. This is effected by scraping the film or ' blanket,' as it is called, from the surface of the filter-bed, care being taken to remove as little of the sand as possible ; for, thanks to the gelatinous organism, the suspended impurities have been unable to penetrate the surface. The filter is then in condition to run for another period of time, ranging, under the varying conditions, from two weeks to four months. Cleaning costs from fifty cents to one dollar per thousand square feet feet of filtering surface. The average cost of filtering one million gallons of water in six American filter-beds is about one dollar. In waters containing from ten thousand to fifty thousand bacteria per cubic centimeter (about fifteen drops), these filters commonly remove all but fifty or seventy-five, and frequently all, of the bacteria. Mr. George W. Fuller, biologist of the Massachusetts State Board of Health, says of the Lawrence filters : ' Out of one hundred and two analyses, fifty-eight indicated that the filtered water was absolutely sterile.' An experience of the writer at the Lambertville, N. J., filter-beds showed the influence of the gelatinous growth in removing the suspended matter. When the filters were first put in operation, the turbid water showed only a very slight change after passing through them. As soon, however, as this growth had taken place, the water became clear and odorless.

"All properly constructed filter-beds improve with age, instead of deteriorating; but it is essential that they be so constructed that all the conditions necessary for the inception and growth of the nitrifying organism are rigidly adhered to, as otherwise undesirable bacteria will infest the beds, and make the water far worse after than before filtration. The bacteria grow through the bed after the manner of mildew through a bolt of linen. A properly constructed filter-bed may be compared to a well-cultivated garden, in which the weeds are destroyed and the plants flourish, and a poorly constructed filter to a neglected garden, in which the weeds outgrow and dwarf all other vegetation.

"The popular idea regards all bacteria as disease-producing microbes. The bacteria are really a microscopic growth of the lowest order of vegetable life. Some, however, are deadly, as the typhoid, cholera, and bubonic plague germ; some produce diarrhea, and others impart a very objectionable taste to water, or fill the pipes with their growth. Any or all of these that may exist in the water are efficiently removed by the filter, and the immediate reduction of water-borne diseases is testified to by all communities where this method has been adopted."

INTESTINAL ASEPSIS BY MEANS OF A FRUIT DIETARY.

THE value of a special dietary as a means of relieving certain forms of stomach and intestinal disorders has long been recognized. The "grape cure," so extensively practised in Switzerland; the kumyss and whey cures employed in Germany and France; the antiseptic regimen established by Dujardin-Beaumetz, the principal feature of which was the exclusion of flesh foods; and a variety of other special dietaries, have each been successful in the treatment of special forms of digestive disorders, and have thereby demonstrated the value of an exclusive diet as a means of correcting various intestinal and gastric disturbances.

The comparatively small amount of definite knowledge in regard to the bacteriology of the stomach which has existed until within a very short time, has furnished no rational basis for an explanation of the curative properties of these special dietaries; but researches made within the last year or two have shown very clearly that the good results thus attained must be attributed to the discouraging influence of the special dietary upon the development of microbes in the alimentary canal. Researches made some two years ago in the Laboratory of Hygiene of the Battle Creek Sanitarium, determined the interesting fact that in the digestion of a sterile meal of cereals or fruits, no microbes are found present at the close of the first hour of digestion.

Further studies of the subject have fully confirmed the proposition that the healthy stomach is capable of defending itself against the attacks of microbes, no matter how received; and that the presence of bacteria in the stomach in considerable quantity is of itself an evidence of disease. Other experiments in connection with these observations show that most of the microbes found present in the stomach in diseased conditions do not thrive in nutritive media containing fruit juices. Since making this discovery, a fruit dietary has been adopted by the writer and his colleagues as a means of overcoming those conditions of the stomach giving rise to symptoms commonly said to indicate "biliousness," and the results have been most satisfactory.

Not infrequently in cases where the stomach fluid was found to contain at the end of the first hour of digestion the enormous quantity of one million microbes per cubic centimeter, or thirty million per ounce, it has after a few days of fruit regimen been found practically sterile or nearly so, after an ordinary test-meal.

Close adherence to a fruit dietary for a day or two is often sufficient to clear the tongue, and to change the entire aspect of

the case in a patient suffering from intense biliousness as the result of a septic state of the stomach and alimentary canal. In very extreme cases a week or ten days of adherence to a fruit diet is required. In some instances it is found better to alternate the fruit regimen with a mixed dietary consisting of fruits, grains, and nut preparations, for a week or two, or until the tongue is clean and the symptoms of septic poisoning have disappeared.

In cases of dilatation of the stomach, in which there is a tendency to the accumulation of septic material in the stomach, resulting in periodical attacks of biliousness, sick-headache, or migraine, we have found it a wise precaution to have the patient adopt, as a regular habit, the practise of taking fruit as an exclusive diet one day out of each week.

A plan which gives even better results in many cases is to allow the patient to take an ordinary antiseptic regimen consisting of fruit, grains, and nut products, perhaps with the addition of kumyss or buttermilk, for one meal each day, but limit the other meal or meals, as the case may be, entirely to fruits.

The fruits which we have found to be most satisfactory are fresh strawberries, peaches, grapes, and apricots. Baked or stewed apples and pears, stewed prunes, and other cooked fruits are likewise valuable in a fruit regimen, together with such tropical products as oranges, bananas, pineapples, etc. In cases in which the fruit dietary is continued for some time, it is well to add nuts in moderate quantities, but these must be prepared by thorough blanching, disintegration, and cooking. Care must also be taken in the use of fruit as well as of nuts to avoid ingestion of the skins, which are often retained in the stomach for a long time, to the great detriment of the patient. The writer has known cases in which the skins of prunes were washed out of the stomach several days after the prunes were eaten, having previously been the cause of no small inconvenience to the patient. Such indigestible particles retained in a dilated stomach, the motility of which is diminished to such a degree that it cannot readily free itself from foreign and indigestible matters, are usually accompanied by a sufficient amount of fermentable and decomposable material to encourage the development of microbes of various sorts, thereby maintaining a septic state of the stomach, which might otherwise be able to empty itself completely of deleterious material.

Not a few persons are suffering from stomach and intestinal sepsis who are not aware of it. The absence of flatulence, acidity, and similar symptoms is no evidence that sepsis is not present. The fermentation of farinaceous and saccharine substances,—starch and sugar,—and the fermentation and putrefaction of proteid substances—albumin, casein, etc.—give rise to entirely different classes of symptoms. The fermentation of starch and sugar in the stomach gives rise to the production of carbonic acid gas, acetic acid, lactic acid, and other acids of the fatty-acid series; while the fermentation of proteid substances gives rise to the formation of ptomains, which may or may not produce local symptoms, but when absorbed into the blood and circulated through the body, give rise to nervous symptoms, degenerations, tissue changes, and functional disturbances of a most varied character. Some of these ptomains are highly toxic in character, and when present even in quantities too small to be readily recognized by the chemist's balance, may cause the most pronounced disturbances.

The biological test devised by Bouchard—which consists of the determination of the urinary toxicity by the injection of the urinary secretion into the veins of a rabbit, and noting the symptoms induced there by it, and the exact amount per kilogram required to produce death—enables us to detect these poisons in the most minute quantities; and the study of this subject by the aid of the biological method of testing the character of the tissue-extract removed from the body by the kidneys, has made it possible to reach the prime seat of disease in a considerable number of very chronic and obscure cases. Too much credit cannot be given Professor Bouchard for the light which this method of investigation has thrown upon the

pathology of disease, and for the assistance which it renders to practical therapeutics by enabling us to give the right direction to curative measures.

After making a thorough trial of the milk diet, the kumyss diet, the buttermilk diet, and the great variety of intestinal antiseptics which have been proposed, the writer does not hesitate to say that the fruit regimen affords the most effective of all means of rendering aseptic an infected alimentary canal.

DO DOCTORS CURE DISEASE?

THAT eminent medical teacher, Dr. Jacob Bigelow, whose name appears in another column, ascribed the irrational state of the art and science of medicine in his day to the false ideas of the public respecting the power and the function of the physician. In speaking upon this point, he remarked that "the vulgar estimate of the powers of medicine is founded on the common acceptation of the name, that medicine is the art of curing diseases; a far more just definition would be, that medicine is the art of understanding diseases, and of curing or relieving them when possible." We believe that Dr. Bigelow's idea of the function of the physician was wholly correct, although his method of expressing it may not be quite perfect. The office of the physician is, in our estimation, not to cure the disease, but to cure the patient.

The public is suffering to an extent of which they have little comprehension, in consequence not only of their own misapprehension but of those of physicians respecting the functions of the medical man. That it is not the physician's duty to cure disease is evidenced by many facts. Not a few diseases are incurable, being either fatal or self-limited in their nature. No intelligent physician professes to be able to *cure* measles, smallpox, diphtheria, whooping-cough, typhoid fever, or any other disease of a similar character. Under favorable conditions, however, the patient recovers from all of these maladies,— not, however, by the cure of the disease, but by its disappearance after having run its allotted course.

To make the meaning clearer, one or two illustrations may be offered: Morphia will cure pain, but it does not remove the cause of the pain. It cures the difficulty, but not the patient. An anesthetic will cure the pain caused by the amputation of a leg, so that the operation may be painless; but the patient is not cured,— at least not by the anesthetic.

The public should be educated up to the idea that disease is not altogether an evil — that it is simply a manifestation of morbid conditions present; and that if these are removed at all, it must be, as a rule, by the efforts of nature, through the natural forces of the body,— the *vis medicatrix naturæ*. To check these efforts without removing the cause of the difficulty is to interfere with the natural process, and to make the patient worse rather than better. Physicians should continually instruct their patients that nature is the great physician, and that if they are cured at all, it must be by the recuperative powers of their own bodies, the duty of the physician being simply to aid nature in accomplishing this, and not to thwart or embarrass her efforts to restore the sick man to health.

Preventable Deafness.

It is well known to specialists that about ninety-five per cent. of all cases of deafness begin with acute and chronic inflammation of the nose and throat. Chronic and nasal catarrh are probably more largely responsible for deafness than any other one cause. It is now well known that this disease is maintained, if not originally produced, by germs. For this reason, the best remedies are antiseptic vapors, which may be introduced into the nose in various ways, but particularly by

means of specially constructed vaporizers and inhalers. In some instances it is well to cleanse the nose by means of a proper solution. A teaspoonful of common soda added to a pint of water is the best of all cleansing solutions: It may be introduced into the nose by the following simple method: Submerging the nose in the solution, keeping the mouth wide open meanwhile, the patient gently draws the water up into his nose; when it reaches the back of the throat, it will pass out through the mouth. In most cases, however, the solution is not necessary, as the inhalation of the antiseptic vapors by a properly constructed vaporizer will cause an abundant flow of serum from the nasal mucous membrane, by which means the masses of dry mucus will be loosened and separated, and may then be removed by a gentle blowing of the nose.

A Test for Damp Rooms.

At this season of the year, even in sleeping-rooms, fires are very seldom lighted — several weeks, even months, often passing in the summer time without the employment of artificial heat of any sort in any portion of the dwelling except the kitchen and laundry. The result is the accumulation of moisture from the condensation of water upon the inside walls of the house, especially in the north rooms and those which are shadowed by trees, or those in which the windows are constantly shaded by blinds and curtains. The kitchen and laundry also contribute their quota of dampness, until the walls, beds, drapery, upholstery, etc., are thoroughly saturated. Such apartments furnish an admirable field for the development of molds, must, and fungi of various sorts, and are wholly unfit for human beings.

We would recommend that those of our readers whose homes are subject to the above criticism make use of the following very simple means of testing the air of sleeping and dwelling rooms for dampness: Spread in a tin pan two pounds of fresh quicklime broken into small bits. Place the pan in the room to be tested, tightly closing the doors and windows. At the end of twenty-four hours weigh the lime; if it is found to have increased in weight more than half an ounce, or one per cent., the room must be considered unfit for a living or a sleeping room on account of the dampness. Of course if the walls give to the hands a sensation of dampness, or if mold grows upon the walls, this alone furnishes evidence for the condemnation of the room as insanitary.

The Result of Overeating.

It is generally true with physical as well as moral transgression, that one bad habit invites another; and especially is this the case in reference to dietetic errors. A person who eats too fast is likely to eat more than is necessary; and the same is true if too large a variety of food is partaken of, or food rendered exciting and stimulating by seasoning with irritating condiments.

Intemperance in eating is responsible for a greater amount of evil in the world than is intemperance in drink. Indeed, it can be clearly shown that intemperate eating is, in the first place, one of the most potent causes of intemperance in drink, and also that it is one of the obstacles in the way of the reformation of those who have become the victims of alcoholic intemperance.

The evil consequences of excess in eating are at first simply imperfect digestion, the overtaxed organs being unable to accomplish the complete digestion of the alimentary mass. In consequence of the delay thus occasioned, changes take place by which acids are developed which irritate the mucous membrane, and gases are produced by which the stomach is distended, and its muscular walls weakened and partially paralyzed. In course of time, inflammation of the gastric membrane is developed, and dilatation of the stomach occurs.

This condition is one which cannot always be wholly cured. It gives rise to a great variety of ailments in addition to the discomforts connected directly with the stomach itself. Dilatation of the stomach often originates very early in life. The writer has found the organ dilated to more than its normal size in children ten or twelve years of age, and in many cases has been able to

trace this condition found in adults back to early childhood.

At first an individual who overeats will be likely to accumulate flesh quite rapidly; but very soon the digestion becomes so much disturbed that no gain takes place, and, indeed, the patient not infrequently becomes considerably emaciated even while daily taking large quantities of food. When the opposite is the case, the blood is filled with crude, imperfectly elaborated material, which, when absorbed, fills the system with poisonous substances. At first the liver is able to exclude these to a considerable extent, but after a time the energy of this patient organ is entirely exhausted, and the whole system suffers in consequence. Biliousness and the various conditions usually attributed to torpidity of the liver are generally due to poisoning of the system by toxic substances absorbed from the alimentary canal, which may be either the result of the putrefaction of food in a dilated stomach or colon, or the products of imperfect digestion.

Excessive eating also occasions injury to health by producing an excessive fulness of the blood-vessels, thus incurring the risk of rupture within the brain, and resulting paralysis. Other equally serious mischiefs may arise from the accumulation in the system of a greater quantity of nutritive material than can be utilized, which occasions general clogging and obstruction of all the bodily functions, and imposes an enormous burden upon the kidneys in the elimination of the unusable material.

Sleeping after Meals.

Schule, an eminent German physician, has recently made a series of interesting observations upon the condition of the stomach during sleep, and has ascertained that the movements of that organ are greatly lessened, while the acidity is greatly increased. He concludes from this that it is of especial importance that persons suffering from weakened digestion, particularly those in whose cases there is excessive formation of hydrochloric acid,—a condition known as hyperpepsia,—should avoid sleeping after meals, but should remain for some time after eating in a state of wakeful repose.

This observation quite agrees with the fact frequently noted by the writer, that persons suffering from hyperpepsia often complain of the presence in the stomach, before rising in the morning, of a large quantity of acid fluid, which, upon examination, is found to contain an excessive amount of hydrochloric acid.

A SANITARIUM FOR CONSUMPTIVES AT GUADALAJARA, MEXICO.

We are glad to learn from Mr. D. T. Jones, superintendent of the Guadalajara (Mexico) Sanitarium, that their fine new building is under roof and that there is an excellent prospect that it will be ready for patrons within a few months. In the meantime they are able with present accommodations to care for many persons who are applying for admission to the institution. A fine residence formerly owned by a wealthy Mexican has been leased and fitted up for temporary occupancy as a sanitarium. The writer had the opportunity of inspecting the place last fall, and can assure those who may wish to spend the winter at Guadalajara that they will be made exceedingly comfortable, besides receiving excellent care from physicians and nurses. The residence now in use includes a whole square; the buildings occupy part of two sides; and the remainder of the inclosure, comprising several acres, is laid out in beautiful flower gardens and walks, and set out to fine orange, lemon, lime, and palm trees, and other tropical fruits and plants.

ANSWERS TO CORRESPONDENTS.

FRUIT JUICES.— C. S., of Illinois, asks: Can peaches and fruit juices be put up so that they will keep without sugar?

Ans.—Yes. Sugar is not at all necessary to the keeping of fruit if it is properly put up. It is only necessary to expose the fruit to the proper temperature for the proper length of time. Ordinary fruit requires boiling for ten to twenty minutes. The fruit must be fresh, and the cans, covers, rubbers, etc., must all be thoroughly sterilized. See "Science in the Kitchen," published by the Modern Medicine Publishing Company, for more specific directions.

NERVOUSNESS — CONSTIPATION.— An overworked mother in Washington (Mrs. L. S.) states her symptoms as nervousness, night chills, constipation, cold feet, and general bad feelings, and asks for advice as to baths, diet, etc.

Ans. — We would suggest the following: Fomentation to the stomach at night, followed by a moist abdominal bandage to be worn during the night, and a cool sponge bath followed by a vigorous rubbing upon rising in the morning, and a nourishing diet. The patient, if thin, should eat fat-making foods, and avoid stimulants of all kinds, live out of doors as much as possible, and secure rest from care and worry.

POOR CIRCULATION. — Mrs. C. B., of Indiana, desires suggestions as to treatment and diet for a person suffering from poor circulation and inactive liver.

Ans. — What is commonly called poor circulation; that is, coldness of the hands and feet, is most commonly due to an irritated condition of the sympathetic nerve centers of the abdomen. This condition frequently arises from indigestion: hence the remedies must be applied to the stomach rather than to the feet. A hot and cold foot bath, warm coverings for the feet, and moderate exercise are other measures of importance. The general weakness of the circulation, indicated by the swelling of the extremities, a condition which often accompanies disease of the heart, the organ being so weakened as to be unable to maintain the proper circulation of the blood, will be relieved by keeping the patient in bed, or in a horizontal position, and by friction, rubbing from the feet upward. By carefully graduated exercise and other suitable treatment, the heart may be gradually strengthened in the majority of cases, so that the difficulty may be overcome.

ALCOHOL AND DIGESTION.— W. E. H., of Pennsylvania, asks (1) if it is harmful to take a spoonful of alcohol mixed with water after every meal, "to help tear up and digest the food;" and (2) if this practise will increase a person's weight?

Ans. — 1. It is the writer's conviction that alcohol is harmful in all doses and under all circumstances. I have never seen any good result from it when administered internally, although in the early years of my practise I made use of it in cases for which it was supposed to be especially beneficial. Certainly nothing could be more erroneous than the idea that alcohol has the power to "help tear up and digest food." The tearing up, or comminution, of food is a process which belongs to the mouth; the mouth is the mill. In it the food should be ground to a pulp before swallowing. Then it is the duty of the stomach, or rather of the saliva and the gastric juice in the stomach, to digest the food. Alcohol not only does not assist either in dissolving or digesting food, but positively hinders the work of normal digestion. It is the duty of the gastric juice to dissolve the albumin and similar substances upon which we depend for blood and tissue building. Alcohol hinders this action of the gastric juice, and, in addition, prevents the stomach from producing the normal quantity of gastric juice. This has been shown by numerous experiments made by the writer and others. Experiments made by Sir William Roberts of England, more than a dozen years ago, and more recently by Professor Chittenden, show most conclusively that alcohol hinders rather than aids digestion.

2. Persons addicted to the use of alcohol frequently increase in weight, not, however, because alcohol is a food, or because it is assimilated, nor because it economizes the bodily wastes by diminishing the wear and tear, but simply that by its use the liver, kidneys, skin, lungs, and other excretory organs are rendered incapable of doing their work properly, and so the natural wastes, débris, or excretions of the body are left to accumulate in the tissues, thus increasing the weight, but without increasing vitality or vigor, or in any way adding to the sum total of energy in the body. An increase of weight is often an evidence of disease rather than of health. The plump, rosy-cheeked beer-seller is the poorest sort of subject for the surgeon; and when attacked by fever, pneumonia, or some other grave disease, is more than twice as likely to succumb than is the total abstainer. Alcohol is a great deceiver.

DISORDERED STOMACH.—J. M. S. writes that about sixteen years ago, when a lad of seventeen, the patient ate an enormous quantity of blackberries, which made him very sick. The vomiting continued for nearly three weeks, and he has had recurrent attacks of it ever since, lasting two or three days at a time. The mass thrown up is dark and offensive. He has become weak and thin; his throat is sore, so that he can scarcely swallow solid food; and his chest is sunken.

Ans.— The symptoms would seem to indicate ulceration of the stomach. The attacks described are probably acute gastritis. We would advise a visit to the Sanitarium at once, as the case requires immediate attention.

DYSPEPSIA.—Mrs. A. E. H., Illinois, asks: "1. What is the cause of a continual pain in the right side below the lowest rib? I vomit bile, especially in the morning. Coarse food, even granose and granola, seems to increase the pain. My diet has been for several months bromose, beans purée, potatoes, nut meal, and bananas. I cannot eat any acid fruit. 2. What kind of dyspepsia is this? 3. What will remove the pain? 4. Would it be advisable to use buttermilk, toast, and eggs? 5. What would you recommend for continual inactivity of the bowels? 6. What causes yellow patches around the eyes, temples, and forehead? and what will remove them?"

Ans.— 1. The most probable cause of the trouble is a movable or floating kidney; it may be due to prolapse of the stomach. We would recommend a liquid diet.

2. You are probably suffering from hyperpepsia, with dilatation or prolapse of the stomach.

3. An abdominal supporter, careful regulation of the diet, fomentations over the stomach at night followed by the moist abdominal bandage to be worn during the night, a cool sponge bath in the morning, and general tonic treatment will be found helpful.

4. Buttermilk diet is often useful in such cases.

5. Nut foods, particularly malted nuts and bromose, encourage activity of the bowels.

6. Discoloration of the skin is an indica- of malnutrition, with an increase of blood and flesh. The symptoms will probably disappear.

RADISHES — HARD-BOILED EGGS — HOT-WATER DRINKING.— L. Mc H., of Illinois, writes: "1. Is there any food value in radishes? 2. Are they hard to digest? 3. Why is a hard-boiled, mealy yolk of an egg easier to digest than a soft-boiled one? 4. Will hot water taken in the morning encourage the flow of gastric juice? 5. If so, is this hurtful? 6. Will salt added to the water before drinking tend to decrease this flow?"

Ans.— Very slight.

2. Yes.

3. Because it is easily broken up or disintegrated in the stomach.

4. Yes.

5. No, if the quantity of hot water is not too great, and provided an increase of hydrochloric acid is desirable, as in hypopepsia and apepsia.

6. Yes.

FOOD VALUE OF STRAWBERRIES.— A lady in Massachusetts, Mrs. E. E. P., wishes to know (1) the food value of strawberries; (2) the name of the acid which they contain.

Ans.— 1. The nutritive value of the strawberry is 10.1 per cent.

2. Malic acid.

LITERARY NOTICES.

THE *Outlook* is what it claims to be,— a weekly newspaper in magazine form. It considers all the questions of the day — religious, political, moral, and social — in a most practical and sensible manner; while its fiction is always of a pure and elevating character. One issue each month is called the "Magazine Number," being illustrated, and having nearly twice the usual number of pages of interesting matter. Altogether, it is a most valuable family magazine. Ten cents a copy, three dollars a year. The Outlook Company, 13 Astor Place, New York.

"THE Meaning of the Greater New York," in *Demorest's Magazine* for September, is interesting both for its subject-matter and its twelve fine illustrations. One of the most valuable features of this magazine at present is the portraits of authors, artists, actors, and other notable people, which it is publishing each month. Twenty cents a copy, three dollars a year. Demorest Publishing Company, 110 Fifth Avenue, New York.

THE September issue of *Lippincott's* is a number of more than usual interest. There are four articles which may be especially recommended to the practical-minded reader. "The Trend of Horticulture," by George Ethelbert Walsh, furnishes some highly interesting information as to what has been done, and what is yet to be done, in the way of improving fruits and flowers. By and by we shall have thornless roses and raspberries, and seedless grapes and apples. William Trowbridge Larned writes of "The Rocky Mountain Prophets" (the Mormons); that "greatest feat of sanitary engineering in the world"— the Chicago Drainage Channel — is described by John L. Wright; and Theodore Stanton, who has made special advance studies of the Paris Exposition of 1900, sets forth the part to be taken in it by various nations of Europe. J. B. Lippincott and Co., Philadelphia.

AMONG the many interesting features of the *Ladies' Home Journal* is the series of articles begun in November last, entitled "Great Personal Events," the stories being told, whenever the dates of the happenings make it possible, by eye-witnesses. These articles are intended to portray a succession of the most conspicuous popular enthusiasms which America has witnessed. The tenth in number, which appears in the September issue, is "When Henry Clay Said Farewell to the Senate," by John F. Coyle. The story is of thrilling interest, and the illustrations which accompany it add greatly to the reality of the facts related. Ten cents a copy; one dollar a year. The Curtis Publishing Company, Philadelphia.

The New Crusade for September has a full and interesting table of contents. "The Occupations of Children" by Mrs. Frank Malleson, will furnish many practical hints to puzzled mothers. "Children's Quarrels" by Dr. Mary Wood-Allen, is a valuable aid to the understanding of causes of disagreement among children. In the October number will be begun a series of articles on "Child-Study;" also a series entitled "Life Manifestations," which will be biological in character. Both series will be interesting and valuable. The Wood-Allen Publishing Co., Ann Arbor, Mich.

PUBLISHERS' DEPARTMENT.

MANY of our subscribers are calling for back numbers containing the illustrated articles on hydrotherapy. The demand for these has been so great that it is impossible to supply them at the present time; but within a year a new series of articles will be published, in which the same or similar illustrations will be used. These articles will not be a republication of old articles, but will present these subjects in a new way, and with practical illustrations which will be found of great interest.

WE call special attention to the announcement of the clubbing arrangements for GOOD HEALTH and the *Voice*, the popular weekly published by Funk & Wagnalls, New York City. The *Voice* is unquestionably the leading advocate of temperance and temperance reforms in this or any other country. It is published weekly, is ably edited, and is an exceedingly interesting publication. The subscription price, $1.50 a year, is cheap; notwithstanding, the publishers of this enterprising weekly are so much interested in the extension of the principles represented by GOOD HEALTH that they have offered exceptionally favorable terms in a clubbing arrangement whereby we are able to place GOOD HEALTH and the *Voice* together for the price of the *Voice* alone. This offer is not confined to new subscribers, but for the next sixty days it will be open to old subscribers as well as new. We know of no two journals which could be more appropriately coupled together than the *Voice* and GOOD HEALTH — they make a strong team. We sincerely hope that several thousands of our subscribers, new and old, will improve this opportunity.

THE announcements which have been recently made in these columns, that we were about to naugurate a plan for the organization of Schools of Health in the leading cities and towns of the country, has awakened a great interest over a wide territory. Hundreds of letters are coming into our office weekly asking for further information, evincing an interest in the work which this journal represents. Good Health clubs are now in process of organization in forty or fifty cities, among which may be mentioned the following in Ohio: Springfield, Columbus, Toledo, and Cincinnati. Recent reports from Springfield indicate that at least two clubs of one hundred members each will shortly be organized in that city. Glowing reports have been received from several of these cities, and it is believed that within a few months several thousand persons will be enlisted in this great educational scheme, receiving free the benefit of instruction which otherwise could not be obtained for almost any monetary consideration.

THE Battle Creek Sanitarium reports a larger number of patients than ever before at any season of the year. The total number of people at the institution at the present time is over twelve hundred, and those who are acquainted with the guests of the institution are unanimous in declaring that there was never gathered together a more intelligent and contented lot of invalids. The fact that there are seventy persons from the State of Texas alone certainly speaks well for the reputation of the Sanitarium in that State.

THE management of the Battle Creek Sanitarium report the following among the numerous men and women of distinction who have arrived at the institution within the last month: —

M. V. O'Shea, B. L., the well-known educator and lecturer of Buffalo, N. Y., who was recently elected to fill the chair of Psychology and Pedagogy in the Wisconsin University.

D. F. Robertson, Esq., a leading merchant of Columbus, Miss.

Hon. C. A. Culberson, governor of Texas, with Mrs. Culberson, and friends.

Joseph G. Seaver, Esq., and son, H. E. Seaver, Esq., brokers of Philadelphia.

Dr. R. J. Moffat, of St. Johns, New Brunswick.

J. M. Bennett, Esq., of San Antonio, Tex.

Mrs Lillian Baldwin, wife of Chas. H. Baldwin, Esq., a Chicago attorney.

R. G. Hancock, Esq., a contractor, of Mansfield, O.

Rev. H. G. Mc Cool, pastor of the Presbyterian church in Farmingdale, Ill.

H. L. Locher, Esq., of the Prang Art Co., Boston.

D. V. Youngblood, Esq., and father, F. M. Youngblood, Esq., attorneys for the Illinois Central Railway, Carbondale, Ill.

Mrs. Julia A. Halbert, wife of H. S. Halbert, Esq., president and manager of the Southwestern Life Insurance Co.; also Miss Halbert.

Mrs. Tessie Goldsmith, wife of Henry Goldsmith, Esq., a leading business man of Winfield, Kan.

Sidney F. Andrews, Esq., attorney for the Illinois Central Railroad, and son of the late Col. James Andrews, who won more than national

fame as the contractor and builder of the Eads Bridge of St. Louis.

Professor L. Gould, of Oak Park, Ill.

Chas. M. Roe, Esq., a leading Chicago stationer and book dealer.

Sidney Sutton, Esq., a well-known railway conductor, of Peoria, Ill.

Hon. J. J. Tollerton, judge of the State District Court, Cedar Falls, Ia.

A. J. Whiteleather, Esq., superintendent of public schools, Etna Green, Ind.

T. W. Mc Anulty, Esq., Montreal.

Miss Alice Shane, Pittsburg, Pa., sister of G. P. Shane, Esq., manager of the Pennsylvania Light Co.

A. R. Campbell, Esq., a leading Texas lawyer, and partner of Judge Williams of the State Supreme Bench.

C. C. Coss, Esq., officially connected with the Standard Oil Co., Lima, Ohio.

NOTHING could be more delightfully cool and exhilarating than the Michigan weather for the past month. A few warm days in June have been succeeded by an almost continued succession of bright, cool, breezy days, which have been greatly appreciated by the patients of the Battle Creek Sanitarium. Michigan is without doubt one of the most delightful summer resorts in the entire Union. The center of the State has the advantage that while cooled by the breezes from the lakes which almost completely surround it, it is at the same time free from the annoying dampness which is the necessary characteristic of the air of a seaside resort. No one living in Michigan need think of the seashore for a healthful change.

ONE CHANCE OF EFFECTING A CURE.— A nervous young lady called a physician for a slight ailment, but one which she magnified in her own estimation into a serious one.

"Run," said the doctor to a servant, giving him a prescription, "to the nearest drug-store, and bring back the medicine as quickly as you can."

"Is there much danger?" asked the young lady, in alarm.

"Yes," said the doctor, "if your servant is not quick, it will be useless."

"O doctor! shall I die?" gasped the patient.

"There is no danger of that," said the doctor, "but you may get well before John returns."— *Boston Traveler.*

WE are often asked, "Where can a good whole-wheat flour be obtained?" This is a matter in which the writer has been interested for many years, and to which he has devoted considerable attention. Unfortunately, good whole-wheat flour is an exceedingly scarce article. Most of what is sold as whole-wheat flour is by no means what it claims to be. Despairing of obtaining an article which could always be relied upon as being exactly what was wanted, the writer some months ago induced the Battle Creek Sanitarium Health Food Company to put in a complete milling establishment for the manufacture of whole-wheat flour which could be thoroughly commended as exactly what should be expected of such an article. The Battle Creek Sanitarium Health Food Company now manufacture a whole-wheat flour which is superior to the best made elsewhere, and also a hulled-wheat flour which is a little better still; that article consists of the whole wheat with the exception of the covering or skin of the wood, which is removed before grinding by an ingenious machine recently constructed for this purpose. The hulled-wheat flour made by this system is, without question, the best flour to be obtained for persons whose stomachs are so irritable that the bran found in graham flour is objectionable; cases of this sort are certainly very rare, and, on the whole, good graham flour and wheat meal are to be preferred to any other flour.

THE Battle Creek Sanitarium Health Food Company also manufacture a superior quality of wheat meal, or graham flour, which is made from the choicest selected wheat, and is actually free from the straw, cockle, chaff, and other rubbish nearly always found in ordinary graham flour. Any one who will take the trouble to sift a few pounds of graham flour will be astonished to find, on examination, the character of the matter left behind in the sieve. Millers, unfortunately, are inclined to look upon graham flour as a sort of "feed," in which to dump the odds and ends which cannot be manufactured into choice grades of fine flour.

Samples of these excellent flours above mentioned, together with their delicious products,— wheatose, crystal wheat, and other grain preparations,— will be sent on application to any one who may desire a choice article. The price is necessarily a little higher than that at which cheap commercial products may be obtained.

BETWEEN seed-time and harvest is a good opportunity to inquire about farming lands in South Dakota, only one day's ride from Chicago. Bountiful crops of wheat, corn, barley, and flax reward the tiller of the soil. As a stock and dairy country South Dakota leads all the world. First-class farm lands with near-by markets can now be bought for $10, $12, $15, and upwards, per acre, and this

is the time to invest. For further particulars write to Geo. H. Heafford, General Passenger Agent, Chicago, Milwaukee & St. Paul Railway, Old Colony Building, Chicago, Ill.

"SAY, mister," said the little fresh-air child as she watched the cattle enjoying their cud, "do you have to buy gum for all them cows to chew?"

To the cool mountain resorts of Colorado the Northwestern Line (Chicago & Northwestern R'y) is the direct route, also to the wonderful Black Hills of South Dakota and other Western resorts. Tourist tickets at low rates. Up-to-date trains superbly equipped with through palace sleeping-cars, free reclining-chair cars and dining-cars. Apply to agents of connecting lines or address W. H. Guerin, M. P. A., 67 Woodward Ave., Detroit, Mich.; or W. B. Kniskern, G. P. & T. A., Chicago, Ill.

AN Eau Claire (Wis.) correspondent tells of a dry-goods firm which advertises that its "store is the coolest place in town, as the trade-winds are kept constantly circulating from aisle to aisle, and there is such an air of polite attention."—*Printer's Ink.*

MADE THEM SICK.—A lady who is employed in demonstrating the products of the Battle Creek Sanitarium Health Food Company stated to the writer not long ago that in a single day when in Detroit, between twenty and thirty persons reported to her that they had been made sick by drinking a much-advertised food coffee, and had consequently acquired a profound prejudice against coffee substitutes of all sorts. They had never tried Caramel-Cereal, but when induced to do so, were not a little pleased with the results, as they earnestly desired to renounce the use of tea and coffee, and were glad to accept such a wholesome and palatable substitute. Other demonstrators of Caramel-Cereal have had similar experiences elsewhere.

The public ought to understand that the manufacture of a thoroughly wholesome and reliable coffee substitute is by no means a simple matter. Anybody can roast grains in an oven, and make a sort of substitute for coffee, but without an understanding of the nature of the chemical change which takes place in the roasting of grain, the operation may be so mismanaged as to produce pyroligneous acid in large quantities. This acid is exceedingly irritating to the mucous membrane of the stomach, and produces highly unpleasant effects, such as nausea, vertigo, headache, loss of appetite, and other evidences of acute poisoning. It is only by the most experienced and judicious manipulation that a reliable, palatable, and wholesome cereal substitute for coffee can be produced. It is for this reason that, although scores of imitations of Caramel-Cereal have recently been placed upon the market, this old and well-tried coffee substitute which has been used in the Battle Creek Sanitarium for the past thirty years, undergoing, during this time, various modifications and improvements, is winning to itself an increasing multitude of friends, and at so rapid a rate that the amount used at the present time is more than five times that used two years ago.

THAT portion of South Dakota which is traversed by the lines of the Chicago, Milwaukee & St. Paul Railway is the finest agricultural and stock-growing section of the Western country. For "Letters from Farmers," printed in pamphlet form, finely illustrated, and descriptions of farm lands, address Geo. H. Heafford, General Passenger Agent, Old Colony Building, Chicago, Ill. Now is the time to look for homes in South Dakota, where land is cheap and good.