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DISEASES PRODUCED BY DRINK.

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In delivering a lecture on the above subject, I confess my bewilderment at the task I have undertaken; for when I review in my mind the different causes of disease in the human body, drink heads the list, and is either the chief cause, or a very important factor, in a great majority of them. Let me remind you that I mean by drink any of the ordinary beverages containing ethylic alcohol, as this is the prime agent of destruction and deterioration in them all. The proportion of it in various drinks varies greatly; thus beer and claret contain only from 5 to 10 per cent, while whisky, brandy, etc., contain 50 per cent, or one-half their volume. It would be a very interesting question to discuss whether drink, which costs the nation annually about £120,000,000, really renders any equivalent service; but this does not lie within my province tonight, and I will merely state my own opinion, based on close study and careful observation, that I consider it a great waste of money. Alcohol undoubtedly is valuable as a drug, if carefully prescribed in suitable cases, but it is not a food, inasmuch as it does not renew, repair, or build any structure, and it reduces the animal temperature.

For the better comprehension of how drink produces different diseases, I will briefly describe its physiological effects in the healthy body. As soon as it reaches the stomach, it is rapidly absorbed into and circulated through the system, along with the blood, in its ordinary course to the right side of the heart, then to the lungs, where it is exposed to the influence of the air, then back again to the left side of the heart, and through the large artery called the aorta, into the general system, so that it comes into close contact with every minute part of the organism. A certain amount of it is exhaled with the breath; some, eliminated through the skin in the perspiration; some, if large quantities have been administered, may be detected in the urine. The greatest part of it, however, cannot be accounted for; it most probably forms new compounds, or is broken up in a way which scientific investigation has not yet demonstrated. Its effect on the blood itself in very small quantities cannot be detected, but in large quantities the red-blood corpuscles are altered in shape, and have a tendency to run into rolls and unite. In this way there is a decided interference with the supply of oxygen to the tissues, as these corpuscles are the oxygen-carriers. When they become united into rolls, their course through the minute circulation, or capillary vessels, is arrested, and this again gives rise to stagnation, and, if of frequent recurrence, to disease.

The first effect noticeable when drink is taken is a great amount of vascular excitement, as evidenced by the blush seen on the face of any one who has partaken of even a fairly moderate amount. It causes the heart to beat more quickly and forcibly, and is in this sense a stimulant. From experiments most carefully conducted by the late Dr. Parkes, we learn that the heart, stimulated by alcohol, does an enormous amount of extra work, and in so doing becomes badly nourished, enfeebled, and unable to do its duty with regularity and precision. In addition to its immediate effect on the heart, there is the remoter effect upon the blood-vessels.

The flow of blood through the arteries is regulated by the organic system of nerves called the sympathetic, which is not under the influence of the will. In the normal state, then, the caliber, or size of bore, of the vessel, is prevented from becoming too large, and so the blood is not hurried through, and time is allowed for each organ to abstract its peculiar requirement from it as it passes through. Now, alcohol paralyzes the sympathetic nerves, and so there is no check on the bore of the vessels, and they become dilated, and there is a rush of blood through them; so you perceive that the blush is caused by this want of regulation, and not by the increased force of the heart's propelling power. These vessels after awhile contract, and regain their normal size; but in old topers there is a chronic dilatation, shown by the persistent rosy hue of the face, and especially of the nose, which is a ready indicator of bad habits, and in confirmed drunkards you will often see the luxuriant growths known by the very appropriate name, "grog-blossoms." The above effects constitute what is known as the first stage.

In the second stage the principal symptoms are due to interference with the cerebro-spinal system, which presides over those movements performed without the interference of the will, and therefore called automatic, or self-acting. The power of muscular co-ordination is also lost; the drinker begins to talk thick, his lower lip falls, his movements generally become very lethargic and irregular.

In the third stage the power of willing and thinking is lost, owing to the influence on the higher nervous centers.

In the fourth stage the centers are all paralyzed except those that govern the heart and the lungs; if pushed still further, death ensues.

There is one physiological effect I must dwell particularly upon, and that is the reduction of animal temperature, or bodily heat. It is a prevalent delusion that "a drop of spirits" warms one and keeps out the cold, and it is commonly taken on that plea. When taken with hot water, the latter may do some good; but it has been abundantly proved that alcohol always reduces bodily heat. It is generally supposed that this is effected by its acting as a check to heat formation; but from experiments most carefully conducted by himself, my friend, Dr. Bevan Lewis, of the West Riding Asylum, concludes that the very opposite is the case, and that "the characteristic action of alcohol is that of greatly increasing the heat product, while dispersion of the fresh-formed heat is facilitated by the peripheral vasomotor paresis, and that it is only in very small doses that we get a temporary lowering of heat formation." If these observations are correct, and I believe they are, the loss of temperature is of much greater significance than is commonly imagined; for although alcohol actually produces more heat at the expense of the bodily structure, it at the same time causes its extra consumption in such a way that not only is it of no service to the system, but it proves a most potent factor in its deterioration. In a word, instead of adding to, it takes from, and this principle, carried to any extent, must end in physiological bankruptcy.

Before going on to the enumeration of the long list of actual diseases caused by alcohol, let me impress upon you that each one of them is preceded by innumerable symptoms that cannot be actually named before their culmination in special diseases. It is really remarkable how much liberty can be taken. Nature's recuperative tendencies are so great that we are very apt to neglect the frequent warnings given of the slow and insidious, but on that account no less sure, march toward actual and irreparable mischief. If we were able to chronicle carefully the frequent headaches, the sleepless hours, the unpleasant dreams, the heavy morbid feelings, the sense of languor and depression, and many other abnormal states of mind, which every confirmed drunkard has undergone in the earliest stages, long before he could be accused of deserving that name, it ought to be sufficient to teach us what a dangerous article drink is; and its danger lies in its treacherous encroachment. The work of physical deterioration is accompanied by a gradual weakening of the will, which process will surely lead to the most disastrous results. No appeals, however loud, of shattered health, of ruined home—no, not even the terrors of death—have the slighest effect upon the unfortunate victim.

DISEASE OF THE STOMACH.

The functional disturbances of the stomach are perhaps the most frequent results of drink. For the proper performance of its duties it should secrete the proper quantity of its peculiar juice called gastric

juice, which has the property of dissolving the solid, albuminized constituents of the food, and converting them into soluble peptones, so that they can be taken up readily by the blood; this juice is secreted by the mucous membrane which lines the stomach, and its solvent power on the food depends on a principle called pepsine, and an acid allied to hydrochloric or lactic acid.

The food also must be subjected to the peristaltic action of the organ, by means of which it is thoroughly subjected to the action of the gastric juice.

A temperature of about 100° F. is also required, and the constant removal of those parts of the food which have been digested.

Remembering, then, these facts, it will be easy to understand how drink gives rise to dyspepsia, or indigestion. Alcohol, in any but the smallest quantities, destroys the pepsine and its food-dissolving function; it alters its composition, and so perverts its action; furthermore, in considerable quantities, it irritates the walls of the stomach, and gives rise to considerable congestion; and often the whole coat is covered by a thin layer of mucus, which further prevents the food from proper contact with the walls, and thus, by lessening the natural stimulus to the formation of gastric juice, greater mischief is done. The churning action of the stomach is also interfered with, and the proper temperature is not maintained; thus every essential to good digestion is interfered with. These changes are not a surmise or a theory; they have been actually observed in the stomach of Alexis St. Martin, who suffered from a bullet wound, which enabled Dr. Beaumont to see through the fistulous opening in the walls of the stomach.

In the earlier stages, if drink be abandoned, or taken in moderation, the stomach regains its former functions; if, on the contrary, the indulgence is prolonged, the work of destruction advances, and a condition of chronic catarrh of the stomach is induced. The mucous membrane becomes changed in structure; there is a great increase of connective tissue, which, after a while, contracts and blocks up the follicles, or tubes, that secrete the gastric juice, and in this way they are often changed into cysts, or bags. The surface of the membrane becomes hard, rugged, and uneven. In the milder case, the principal symptoms detected are a heavy feeling over the stomach, pains in the side, a nervous, irritable disposition, flatulence, and a feeling of fullness from flatulent distention of the stomach by the production of gas and various acids, such as butyric, acetic, etc., by fermentation; acidity and heartburn are also often present. The appetite is much impaired or lost; the only craving is one for more drink, expressed often by a heavy sinking feeling at frequent intervals, so that the body is apt to suffer either from want of a proper quantity of food, or the improper use made of what is taken, or partly from both.

The effects often extend to the membrane lining the intestine or bowels, so as to cause the greatest irregularity in their action, rendering them sometimes too costive and sometimes the reverse. The failure in the digestive powers, as you can well understand, completely upsets the proper performance of all mental and physical duties; and in order to have a healthy, clear, and well-balanced mind, ready to cope with questions in a calm, dispassionate way, it is essential to take food in proper quantity, at regular intervals, and to digest it properly.

DISEASES OF THE SKIN.

The skin is a complex organ, performing a variety of most important functions. It serves as an integument, or covering, to protect the deeper organs from injury, etc.; it plays an important part in the sense of touch; it excretes carbonic acid, water, etc., and so resembles the lungs, kidneys, and liver in function; it is an organ of absorption, and, lastly, it plays an important part in the regulation of bodily heat. I will not attempt to give you in detail the structure of the skin, but refer you to a lecture on that subject already published in this course, and will merely remind you that it is composed of two layers, the outer scarf skin, and the deeper true skin. In the latter layer are deposited the sweat glands and the oil glands, and through it blood-vessels and nerves ramify in great abundance.

I have already mentioned how rapidly alcohol causes the rosy hue, or red glow, in the face, and I explained that this is caused by the paralysis of the vasso-motor nerves that govern the tension of the blood-vessels. Their caliber, or bore, is enlarged. Repeated imbibitions, then, are liable to produce a chronic dilatation, the imprint of which is often left on the face.

I want here to point out to you the important part taken by the skin in regulating the bodily heat. You can well understand how the extreme congestion of the extensive vascular network of the skin produces a great waste of heat by radiation, conduction, or evaporation. Owing to the effect on the vaso-motor nerves, the blood-vessels are prevented from contracting, and a rush of blood through them is established; so, when the body is exposed to cold air, the heat of the blood is constantly given away to the air, according to the law of radiation, "that when two bodies of unequal temperature are brought opposite to each other, an unequal change of heat takes place through the intervening distance; the temperature of the hotter body falls, while that of the colder rises." It is therefore exceedingly fallacious to think that the drink "warms one," or keeps out the cold. The feeling is a deceptive one, as the very reverse is the case.

As most of the diseases of the skin are caused by an "alteration in the composition of the blood, or by modified blood distribution, owing to morbid changes in the nervous centers, or nerve trunks," and as alcohol is guilty of both, we can easily comprehend what a large share it takes in the production of those red spots called acne on the face of many people; how it gives rise to a disease called eczema, which is composed of small vesicles which burst and discharge, at first a thin watery fluid, and sometimes a decidedly purulent one, which dries up and forms those disagreeable-looking scabs. Erysipelas is also much more liable to attack partakers of alcohol. It is only right to explain that all the above affections may be caused by other agents than drink.

DISEASES OF THE HEART.

The very fact that alcohol, as I have already shown, increases the rapidity of the heart's action, and compels it to do a great amount of extra work without receiving any compensating nutrition, nor even its normal amount, is sufficient to explain how it must act most injuriously on this most important organ. Irregularity of the valves, giving rise to valvular diseases, so dangerous to life, changes in the structure of the walls of the heart from the deposition of fat in, or its substitution for, true muscular tissue, often occur. Those afflicted with fatty degeneration of the heart generally suffer from general obesity, *i. e.*, deposition of fat all over the body, and complain of a depressed feeling over the heart, distressing palpitation, lose their breath after the slightest exertion, and cannot undertake the slightest effort with pleasure. The quality of the life-giving liquid, the blood, is deteriorated, and the heart is unable to propel a sufficient quantity through the body.

A heart so unfitted to perform its duties is liable at any moment to cease beating, and so the life of its possessor is always in the greatest jeopardy.

DISEASES OF THE BLOOD-VESSELS.

Most of the blood-vessels, especially the arteries, are liable to various diseases from the abuse of drink, especially those exposed to a great deal of strain, *e. g.*, the arch of the aorta, which lies nearest the heart, and receives the first impulses of the heart's propelling power as the arterial stream is forced on its course through the system. The deeper layers of the vessels become inflamed; and new formations appear, which become changed into fat or into a soft caceous (cheesy) looking mass, or sometimes into a calcified hard mass from the deposition of lime. In the latter case, the artery becomes quite hard and rigid, and unable to perform its functions; its elasticity and its power of expansion and contraction are destroyed. These changes throw much more work on the heart, which at first becomes hypertrophied, or increased in size, but ultimately degenerated in structure. The walls of the arteries become ulcerated, and at these ulcerated spots the blood-pressure gives rise to those saculated dilatations called aneurisms, which sometimes burst and cause sudden death.—*Medical Temperance Journal.*

(To be continued.)

Polish Women.—Bayard Taylor, speaking of the beauty of the Polish women, attributes it to the manner in which they are trained during their childhood.

"In Poland," he says, "girls do not jump from infancy to young ladyhood. They are not sent from the cradle directly to the parlor, to dress, sit still, and look pretty. No, they are treated as children should be. During childhood, which extends through a period of several years, they are plainly and loosely dressed, and allowed to run, romp, and play in the open air. They take in sunshine as does

the flower. They are not loaded down, girded about, and oppressed every way with countless frills and superabundant flounces, so as to be admired for their much clothing. Plain, simple food, free and various exercise, and abundant sunshine during the whole period of childhood, are the secrets of beauty in after life."

THE AGING OF THE EYE.

THIS subject is far too wide a one to be dealt with as a whole within our limits here; but there are one or two points of special interest that may be touched upon; and we cannot do better, perhaps, than present them in their general outlines, given in a valuable publication entitled, "Eyesight, Good and Bad," written in a popular style by Mr. Brudenell Carter, well known as a leading authority on ophthalmic science.

The chief features in the constitution of the eye, are, we suppose, generally understood. In principle, says our author, it almost precisely resembles the common camera-obscura of the photographer, which, we may explain, is merely a dark box with an adjustment of lenses in the front of it, and a ground-glass screen at the back. The ball of the eye is the box of the camera. The transparent cornea in front is a bay-window admitting light into the box. The iris is a colored curtain to be pulled back when too little light is entering, and to be drawn forward when there is too much. The pupil is the space surrounded by the curtain. It used to be supposed, until quite a recent period, that the blackness of the pupil, and the darkness of the interior of the globe of the eye, were due to a power of absorbing light possessed by its inner tunic. It was thought that none of the light passing into the eye was reflected, and hence it was supposed the interior of the living eye could never be seen. This, however, was altogether a mistake. By means of a perforated mirror and an arrangement of lenses, the late Mr. Charles Babbage discovered a means of rendering every detail of the eye visible. It was found that there was no such absorption of light by the interior of the eyeball as had been supposed; that light was in fact reflected, only the observer could not discover the fact without being himself in front of the pupil, and then, of course, he prevented the light's going in. The writer of this had an opportunity the other day of making a minute inspection of the insides of the eyes of a patient at one of the large London hospitals, where—as everywhere else where ophthalmic surgery is practiced—the "ophthalmoscope" is so continually in use that eye-doctors of the present day can but wonder how their predecessors could have got along without it. This simple and beautiful instrument—which, when Babbage invented it, singular to say, was thought to be of so little practical use that the idea was allowed to be lost, and had to be re-invented by another philosopher, Professor Helmholtz—has resulted in many most important discoveries connected with the mechanism and diseases of the eye.

The inside of the eyeball is filled with transparent liquids, in the midst of which is suspended a veritable crystalline lens, through which must pass all the light from the bay-window in front. This crystalline body, and the fluid before and behind it, may, for our present purpose, be considered to form one refracting medium, one lens, corresponding to the lens of the photographer's camera. This transparent medium, just as in the camera, throws upon a screen behind it an image of whatever is in front. The screen is the retina, which is simply the optic nerve,—the nerve coming from the brain to the eye, and spreading over the inside of it, like a very delicately sensitive lining.

Now, if we take a perfect human eye and a very accurately focused camera, both gazing out, so to speak, at some distant object, the two instruments will in principle exactly correspond with each other. In each case, parallel rays of light coming from that distant object will fall upon a convex lens, and will be refracted —that is, bent—toward each other, and will meet in a focus which falls exactly on the screen behind, where a clear, sharp picture of the object will be produced. In the case of the eye, the screen, as we have explained, will be the retina, which will receive the picture, and will convey it to the brain, and the distant object will be clearly seen. Thus much has long been understood quite well. But here now is a remarkable difference between the two instruments—the eye and the camera. The eye may be taken from the distant object, and be turned upon the finger-nail or a book in the hand, and instantly this near object will be seen with perfect clearness. Turn the camera upon some near object, and nothing can be seen

at all clearly till the instrument has been refocused. How is this? If the camera requires readjustment, why does not the eye? The fact is, the eye does require it. It is just as necessary that the eye shall be refocused, as it is that the camera shall be. That this is really the case, has long been recognized by scientists. Indeed, if we observe closely, we shall be quite conscious of some kind of a readjustment taking place when we turn the eye from one object to another. The sight is almost instantaneously adapted to the fresh object; but until it has been adapted, we do not see the thing. "If," says our author, borrowing an illustration from Professor Donders, "we take a piece of net, and hold it between the eyes and a printed page, we may at pleasure see distinctly the fibres of the net or the printed letters on the page through the interstices of the net; but we cannot clearly see both at once. When we are looking at the letters, we are only conscious of the net as a sort of intervening film of an uncertain character; and when we are looking at the net, we are only conscious of the page as a grayish background. In order to see first one and then the other, we are quite aware of a change which occurs in the adjustment of the eyes; and if the net is very near, and we look at it for any length of time, the maintenance of the effort of adjustment becomes fatiguing." The fact that some alteration in the eye, having the same effect as the refocusing of the camera, really does take place, was long ago clearly established; but the nature of the alteration, and the mechanism by which it was effected, are quite recent discoveries.

We mentioned just now a crystalline lens suspended in the midst of the transparent fluids which fill the globe of the eye. "This," says Mr. Carter, "is a solid body, which is inclosed in a delicate, transparent, and structureless membrane. In shape it resembles an ordinary bi-convex lens, except that it is less strongly curved in front than behind. In youth it is a soft or moderately firm and highly elastic body, perfectly transparent and colorless, and as bright as the brightest crystal." This is now known to be the little focusing apparatus of the eye. Let us again look at that perfect eye gazing at a distant object. The eye is in repose; there is no strain upon it of any kind, and this lens is in its normal condition, and is held steady, so to speak, just inside the pupil, by an elastic membrane radiating from it, and attached to the wall of the eye. If, now, we suppose the gaze to be turned upon some near object, then the rays of light coming from that object, instead of being practically parallel, as they were before, will be divergent; and the lens in its normal condition will not be able to refract them sufficiently to bring them to a focus on the retina. Either the retina must be moved back a little, or some change in the refracting power of the eye must take place. Various theories have been propounded from time to time; but it has only been of late years that the real facts have been known. It is now certain that that little crystal lens has a marvelous power of changing its form. The moment the eye is taken from a distant object and turned upon a near one, a zone of muscle, hidden round the edge of the lens, pulls at the elastic membrane which holds it taut, as a sailor would say. The elastic membrane stretches a little, and the lens bulges out before and behind. It becomes more convex; and the more convex the lens, the greater will be its refracting power. Thus, the divergent rays from the near object will be brought to a focus in as short a space as the practically parallel rays from the distance. In other words, the eye has adapted itself to the altered distance, the image falls, as before, exactly on the retina, and the thing is again clearly seen.

If this simple and beautiful mechanism be understood,—and after all, it is only the mere mechanism of the thing that we can pretend to any knowledge of,—the power by which the muscle and membrane pull against each other with such a nicety of balance as to perfectly and instantly adjust the focus, is a mystery as profound as it ever was; but if we understand this simple and beautiful mechanism, we shall be able to understand something of the changes in the power of vision which usually take place with advancing years. It is a common observation that short-sight has a tendency to improve as years go on,—that it has a tendency to lengthen. It is usual, also, to speak of short-sight as an exceptionally strong sight. Both assumptions are pronounced to be erroneous, and it is easy to perceive where the error lies. The power of the eye never varies in its distant range, —apart, of course, from disease. As we have said, a distant object is seen by rays that are practically parallel, and an image

is formed on the retina merely by the passive reception of those rays. So long as the media of the eye remain transparent, and the optic nerve unimpaired, the distant range of the eye will not vary, because it depends not upon any muscular power of accommodation—not upon any effort of the eye—but upon the natural formation of the eyeball, and its merely passive power of refracting light, precisely as an ordinary glass lens does.

The sight of a near object, on the contrary, involves in the case of a normal eye an actual muscular effort. A near object is seen by rays that are more or less divergent, and which require to be more powerfully refracted than the parallel rays, in order to bring them to a focus within the same space. We have seen how this refraction is brought about by an alteration in the shape of the lens. In youth, this alteration is easy enough. Elastic membranes yield readily, muscles are vigorous, and above all, the lens itself is soft and highly elastic. But, as years go on, a gradual hardening process takes place in this crystalline body. It gradually loses its elasticity, and becomes more and more rigid, and the power of accommodation constantly diminishes. It is found, on an average of observations, that at ten years of age the crystalline lens may be rendered so convex as to give a clear image of an object three inches from the eye. At twenty-one, it will only accommodate itself to an object four and a half inches from the eye. Anything nearer will be obscure, because the lens will not assume a form sufficiently convex to refract to a focus on the retina rays of light so divergent as any nearer object will radiate. At forty years of age, the 'near point' has reached to a distance of nine inches; and at fifty, to thirteen inches. At sixty years of age, the lens has so far lost its flexibility, and therefore its power of responding to the muscle, that it cannot ordinarily give a clear image of any object less than twenty-six inches from the eye. At seventy-five, the power of accommodation is wholly lost; light still passes through the eye, and is focused on the retina, but only when it comes in parallel rays. Parallel rays it can converge on the retina; but divergent rays require that extra refractive power which the aged eye has lost by the hardening of the lens.

Not as a matter of disease, then, but in the ordinary course of years, and in every eye alike, is the bodily sight gradually weaned from the scrutiny of near objects around, and permitted to turn a clear vision only upon things afar off.

When the eye has so far lost its power of assuming sufficient convexity to bring a clear image to the retina, a pair of convex lenses in the shape of spectacles carefully adapted to individual requirements, will make up the deficiency to a nicety; and one of the strongest impressions Mr. Carter's book is calculated to leave on the mind of the reader is, that an immense amount of discomfort would be obviated, and many a good pair of eyes would be saved, by a readier resort to the aid of spectacles, provided only that they be selected under skillful advice.—*Sel.*

THE PEOPLE OF LIBERIA.

DOUBTLESS many of the readers of GOOD HEALTH have heard of the emigration of negroes from this country to Liberia, Africa, which has been going on quite actively since the close of the war. We have met one or two of the agents of the Colonization Society, who were cultivated young colored gentlemen, graduates of their college in Liberia, returned to this country for the purpose of interesting their countrymen in the enterprise. We have recently learned more of the objects of this effort, and acquired considerable interest in it, through Dr. E. W. Blyden, the president of Liberia College, who is now visiting this country for the purpose of furthering the objects of the enterprise, and a New York gentleman who applied to us for the purchase of a set of our new temperance charts for use in the college. We have taken pleasure in contributing to the Liberia College an assortment of our health and temperance works, and shall be interested in watching the future history of the college as a colonization scheme. Thinking that our readers may like to know more of this interesting effort to re-instate the negro in his native country, we append the following extracts from an article which appeared some time since in the New York *Tribune*, and was lately reprinted in the *African Repository*, a journal published quarterly by the African Colonization Society. In a recent conversation with a

Tribune reporter on the manners, customs, and habits of life of the residents of Liberia, Dr. Blyden related the facts given below.

"You must know," said Dr. Blyden, "that there are two different classes of people in Liberia,—the colonists and the Aborigines. The latter consist of several tribes,—the Pessehs, Golahs, Veys, Mandingoes, Bassas, Kroos, and Greboes. They are the aboriginal people of the Republic. Each tribe has its chief, whose word is law. The Pessehs are, perhaps, the largest tribe. They form the peasantry of the coast, and are a farming people. The Mandingoes are the commercial tribe. They control all of the interior commerce, and also the trade between the head waters of the River Niger and the coast. They are Mohammedans, and in their schools and mosques they use the Arabic language. Their laws are from the Arabic, taken from the Koran and the Traditions.

"Here is the Risalat," said Dr. Blyden, taking a book from the top of a large table that was piled high with treatises in the Arabic, Persian, Hebrew, Greek, and Syriac tongues. "This book," he continued, "is a treatise on the laws, written with a reed of bamboo in ink which is indelible, and is taken from the leaves of a tree common in that country. Occasionally you see on the page words written in red ink. Well, the red ink is also indelible, and is taken from the leaves of a tree also. The word *Mahomet* is always in red ink."

"Who wrote the book?"

"It was written by a man who never saw a white man, and to whom you can only give any sort of an idea of a white man by likening him to a ghost. This poem in the first part of the book is called the 'Dalya,' because every verse—every line being a verse—begins with the letter d. There are five hundred verses. Every student is required to commit the poem to memory; and he must also commit the whole of the Koran in Arabic.

"But this is a digression: we were talking about the tribes. Next in intelligence to the Mandingoes are the Veys. They occupy the northwestern portion of the coast, extending fifty miles into the interior. It is a portion of the territory that is now a subject of dispute between the British Government and Liberia. It is known as the northwest boundary question. The Veys have invented a language of their own, and write in the characters of that language. It is a syllable alphabet, each character representing a syllable. They have schools in which they teach their language. In reading the writings of these different tribes, you begin on the right of the page and read toward the middle of the book, and not from left to right, as we do.

"The tribe next in importance is the Kroos. Their native home is in the county of Sinou, in the central part of the Republic. The Kroos are found all along the coast. They are the sailors, without whom it would be impossible for foreign vessels to trade on that malarious coast. Foreign ships, on arriving on the coast, employ Kroo men to man their boats for loading and unloading. They are considered indispensable. The Bassa tribe are the great palm-oil producers."

"What is the religion of these people?"

"All of the tribes except the Mandingoes are pagans. But they have no regular form of idol-worship. They all believe in a Supreme Being, to whom they pray, particularly in time of distress."

"How do they live?"

"In towns, presided over by a headman, who is responsible to a superior officer called the chief, who is in turn ruled by another and more powerful chief. All cultivate the soil, and raise cattle and other stock."

"What is the style of dress of the natives?"

"The coast tribes wear cloth around their loins. The cloth is of their own manufacture. The tribes in the interior, where cotton is cultivated, wear a long robe similar to the Roman toga. They are fond of all sorts of gold trinkets, like anklets, ear-rings, and bracelets."

"These shirt-studs," said Dr. Blyden, pointing to some plain gold studs in his shirt-bosom, "were made by the natives out of African gold. It is strange to me that the Indians of this country did not discover gold, and use it. The Africans did."

"How many do these tribes number all together?"

"One million people within the territories of Liberia, which extend 600 miles along the coast and 200 miles inland. The natives produce palm-oil, camwood, ivory, gold-dust, rubber, gum-copal, hides, and beeswax. Most of these products go

to Europe—to Liverpool, Hamburg, and Rotterdam."

"What part do the colonists from this country play there?"

"All of the inhabitants are under the control of the Liberian colonists—negroes from America. They are represented in the Liberian Legislature by their chiefs."

"What sort of amusements do the Aborigines indulge in?"

"All of the tribes, except the Mandingoes, have rude musical instruments for entertainments in the festival season. They improvise songs, especially of a martial character, which tell of the deeds of their fathers. They dance around fires in a manner similar to that of the Indians of America. They are jovial and happy in their temperament. One characteristic of the negro at home is, that he sings during his work. In this respect they are in marked contrast with the Indians, who are always sullen."

"How is the climate in Liberia?"

"I found it hotter here in July than I ever found it in Liberia. I wear thick flannels there, just as I am wearing today."

"What do the natives eat?"

"Rice principally. Then they have mutton, beef, fish, potatoes, and yams. They drink palm-wine; that is, wine made from the palm-tree. It is not intoxicating unless taken in very large quantities. The Mandingoes, who are warriors, and are large, powerful men, as well as scholars and merchants, drink no stimulants of any kind, being Mohammedans. Consequently they form a great barrier to the importation of liquors from abroad. There are all of the tropical fruits there in abundance."

"Of what kind are the dwellings of these people?"

"The houses are made of wattled bamboo, and are plastered inside and outside with clay. The roofs are covered with thatch. The houses are comfortable, warm, and tight. They have fires in them morning and night, for the natives always sleep by a fire. The first thing one notices on entering a town are the blacksmith shops, of which there are many, and in which iron farming implements are being made. Then you see the women making pottery and tanning leather. The men weave and the women spin the cotton. They have a primitive loom of their own manufacture, with which they make very strong cloth. In the dry season they live out of doors to a great extent."

"When did the first colonists go to Liberia?"

"In February, 1820, eighty-eight colored persons sailed from New York in the ship Elizabeth, for the purpose of starting a colony in Liberia. There is a curious story in connection with that expedition. At the time it started, the Hudson River was frozen over. Some one had to be hired to cut a way through the ice in order to let the ship start on her voyage. The man who was employed to cut the ice, and who did it, was the late Commodore Vanderbilt. He was paid $100 for his labor. After a voyage of five weeks, the colonists landed at Sierra Leone. They finally settled, however, at Cape Mesurado, which is 260 miles southeast of Sierra Leone."

"How many colonists from America are there in Liberia?"

"From 20,000 to 25,000," replied Dr. Blyden.

"Where are they settled?"

"Over a tract of land on the coast 600 miles in length. By cession, purchase, and gradual acquisition, they have greatly extended their territory. In the first years of their settlement, they occupied the anomalous condition of a colony without a mother country. In 1847, they declared themselves independent, and were received into the family of nations, first by Great Britain, and afterward by other countries. Now they are in treaty stipulation with all of the great powers, including the United States."

MODERN ASCETICS.

IN ancient times there existed among the Greeks a sect known as stoics, who were rigid ascetics. They eschewed all the pleasures of life, and made it the business of their lives to conquer all their natural appetites and passions. Human nature received no mercy at the hands of these stern disciples of the ancient Grecian philosophy. At the present day the gratification of the appetite is so unstinted and so well-nigh universal, it would seem that asceticism had quite disappeared from the earth; but from the article which we quote below from a contemporary, it appears that the spirit of self-con-

trol which it represented is not quite extinct from the earth, although preserved in a most repulsive and hideous form :—

Hindostan is the native land of religious fanaticism. Burke ascribes it to the impressive grandeur of nature (Himalayas, great rivers, East Indian tornadoes, etc.); Jacquemont, to subjective peculiarities of the East Aryan races ; but the fact, of itself, admits of no dispute : the Hindoos, as a nation, have always shown a remarkable tendency to sacrifice reason to faith, earth to heaven, and the welfare of the body to the fancied interests of the soul. The cave-temples of Elora are said to have been excavated by volunteer armies of laborers ; and in a country where large hospitals full of eupeptic monkeys can be supported by voluntary contributions, such things are by no means impossible.

During the yearly assemblies on the "God-field," at the junction of the Jumna and Ganges, many devotees sought a grave in the depths of the twice holy flood ; and Father Ricot, who witnessed one of these festivals, ascribes the extravagance of the pilgrims to the momentary inspiration of religious frenzy. But the achievements of the fakirs prove that even the modern Hindoos are capable of the most deliberate self-sacrifice. At the court of Baroda the spectators often leave the circus games of the Guiecowar to witness the stranger performances of a self-torturer, who, "for the edification of the pious," skewers, scorches, or mutilates himself in a way from which no mortal could recover.

Nepaul, the borderland of Buddhism and Brahminism, swarms with fakirs, as Spain with begging friars. On the highway from Goorkha to Benares the traveler meets them at every cross-road. Some of them content themselves with sitting bareheaded in the open sun ; others hang head downward from a bar which they clasp with their hands and knees ; others exhibit self-inflicted wounds, gashed faces, bared and splintered ribs, hands and feet bristling with tenpenny nails, as if they had undergone crucifixion. In the larger cities, where the public is used to such trifles, the more ambitious ascetics load themselves with wagon chains, or bend their bodies in the form of a right angle, till the inflection of the spine becomes permanent. A not infrequent penance consists in tying the hands to the ankles, and turning round and round like a cartwheel. Near Goruckpoor the train of Lord Dalhousie met dozens of these animated monocycles, some of whom had rolled along for a distance of several hundred miles !

The Buddhists, with their superior talent for organization, have whole convents full of martyr maniacs, who vie in the rigor and extravagant absurdity of their penances. Even novices forswear clothes in winter and cold water in summer, and sleep on gravel piles. The sanctity of the presbyters is computed by the quantity of nauseous drugs they can swallow. Some of them emulate Dr. Tanner, and eat only once a day, and at certain intervals only once a week.

Near Rangoon, at the mouth of the Irrawaddy, a society of penitents have located their convent in a pestilential swamp, and point with pride to their open windows that admit every variety of troublesome insects. A thousand miles farther north the Thibetan monastery of Sookung braves the ice-storms fo the eastern Himalayas at an elevation of 14,500 feet. The monks subsist on the charitable contributions of the neighboring towns, and are often in danger of freezing to death before they reach their castle in the clouds ; but their home-life is said to be comparatively comfortable, especially in winter time, when visitors are rare, for asceticism of the more persistent kind seems somehow to depend a good deal on public approbation. Simon Stylites had visitors from all parts of the Christian world, who admired and at last almost worshiped him. Besides sticking to his pillar, he had a trick of doubling himself up till his forehead almost touched his narrow pedestal. At evening prayers he often treated the spectators to a variety of Talmagian gymnastics ; and if they implored him to come down, his only answer was a grunt of stern defiance. In a lonely desert he probably would have anticipated their wishes. If there is anything meritorious in self-torture, the Indian fakirs, too, get all the encouragement they deserve.

A Hindoo who might dismiss an ordinary beggar with a kick, would share his last rice-cake with a mendicant presenting himself with a drag-chain round his neck and a bull-ring in his nose. The inventor of a new torture can count upon a liberal share of public patronage. The English garrison of Cawnpoor was once honored by the presence of a *bikschu*, or religious devotee, who had stationed himself in a corner of their parade ground,

and promoted the welfare of his soul by squatting down between two blazing fires, while the sun inflicted its caloric on his shaven head. A crowd of natives watched him with respectful admiration; and whenever one of his fires threatened to go out, they fetched in a fresh supply of fuel to further the good work.

The exploits of a sensational *bikschu* become the boast of his native place. Rass-el-Shork and Rass-el-Hissam, two suburbs of Delhi, had several riots about the respective merits of their fakirs. The matter was finally referred to a Mohammedan umpire, and the men of Hissam proved that their hero had passed forty-eight hours in tenter-hooks, and glorified Brahma by eating a three-pound bundle of wormwood; while the Shork party claimed the prize of virtue for a saint who had swallowed a gallon of cajeput oil, and turned somersaults till the arithmetic of the suburb failed to express the number of thousands. He had also tolled himself from Delhi to Agra, fasted a full week, and abstained from drinking water while he counted the number of grains in a two-bushel measure of millet seeds. But all his labors proved in vain when the umpire learned that the Hissam champion had once sat two days and a night in a nest-hill of the *formica rufa* (a kind of red horse-ants).

Our word *fakir* is derived from the Arabian *fakhar*, a pauper, a mendicant. The Mohammedan dervishes, however, do not entirely part with their reason, though the Sufi sect believes in the sanctifying influence of celibacy and solitude. The Brahmins and Buddhists are both ultra-ascetic, but with this difference, that the former practice their penances as an expiation of some special sin; the others on general principles, and with a view of subduing the vitality of the body; for the world-blighting dogma of the antagonism of body and soul seems to have been first promulgated by Buddha Sakya-muni, the Nepaul arch-pessamist.

THE AIM OF EXERCISE.

It should be understood by the public, as it is known to the profession, that the aim of exercise is not solely to work the organism which is thrown into activity, though that is one, and a very important, part of the object in view, because as the living body works, it feeds, and as it feeds, it is replenished; but there is another purpose in exercise, and that is to call into action and stimulate the faculty of recuperation. When a man goes into training, or, which is practically the same thing, when he habituates himself to the performance of special classes of work, he so develops this recuperative power or function that the repair or replenishing necessary to restore the integrity, and replace the strength of the tissue "used up" in the exercise, is instantly performed. The difference between being accustomed to exercise and able to work "without feeling it," and being barely able to accomplish a special task, whether mental or physical, is the difference between possessing the power of rapid repair by nutrition, and not having that power in working order; so that some time must elapse before recovery takes place, and during the interval there will be "fatigue" and more or less exhaustion. The practical value of a recognition of this commonplace fact in physiology will be found in the guidance it affords as to the best and most direct way of developing the power or faculty of recuperation by exercise. Many persons make the mistake of doing too much. Exercise with a view to recuperation should never so much exceed the capacity of the recuperative faculty as to prostrate the nervous energy. The work done ought not to produce any great sense of fatigue. If "exhaustion" be experienced, the exercise has been excessive in amount. The best plan to pursue is to begin with a very moderate amount of work, continued during a brief period, and to make the length of the interval between the cessation of exercise and the recovery of a feeling of "freshness" the guide as to the increase of exercise. We do not mean that false sense of revival which is sometimes derived from the recourse to stimulants, but genuine recovery after a brief period of rest and the use of plain nutritious food. If this very simple rule were carried into practice by those who desire "to grow strong," there would be less disappointment, and a generally better result, than often attends the endeavor to profit by exercise unintelligently employed.—*Lancet.*

—The first man who introduced chemistry and chemicals into medicine was Paracelsus, who flourished four centuries ago. He did not live long enough to appreciate the mischief he had wrought.

BREAKING DOWN.

We are frequently startled in these days of hurried living and prevalent mental disease, by hearing that some friend, apparently up to this time well in mind and robust in body, has suddenly broken down, falling, it may be, into hopeless invalidism, or dying after a sudden and short illness. And the question very naturally arises, "What is the cause of this sudden failure of all the powers?" or, "Why did not some physical warning of such failure give him an opportunity to save himself before it was too late?" These questions seem insoluble riddles, "inscrutable mysteries," and the pious leave them with Providence for reply, while the impious use them as a foundation for hopeless pessimism. But the rational person, who neither ignores nature nor quarrels with Providence for making nature, knows that both these questions have natural answers; that there is a cause for this sudden failure of strength; and that premonitory symptoms of its approach were no doubt given again and again, but were utterly unheeded.

It often happens that the strain which causes the final collapse is not nearly so great as some that have been previously borne without apparent injury. So a rope may be worn to the last strand by lifting ten-pound weights, and that last strand be broken by lifting a single pound. A long-continued exhaustion of the natural powers has preceded the final and fatal effort. Overwork of mind and body, loss of sleep, mental anxiety, have depleted the strength and nullified the resisting power. Warnings that the account of vigor, physical and mental, was being overdrawn, have repeatedly come, but all to no purpose. There have been attendant pain, physical lassitude, and unnatural craving for food, with that sense of mental weariness which is always a precursor of flagging power. But these kindly warnings of nature have been either wholly disregarded, or rebuffed by a use of drugs or stimulants. Even a mighty effort of the will will often neutralize these important warning symptoms. But though the indications are thus stifled, the consuming of the vital energy goes on just the same. The penalty for broken laws will be exacted, though it may be deferred; and when the time of settlement comes, no compromise will be possible, but the uttermost farthing will be demanded and collected.

Physicians and others who have had much opportunity to observe men, have often remarked upon the fact that persons of great natural vigor will often give way before those of feeble natural powers. Here is a case where the race is not always to the swift, nor the battle to the strong. The cause of this is very plain. The weak man cannot abuse his strength without feeling his folly so keenly that he perforce forbears. But the strong man works all day, and studies, or, far worse, dissipates, all night, and declares that he feels perfectly well meanwhile. It is very difficult to make such a man understand that he is drawing bills on health, which, after thirty-five, or even sooner, he must pay at one hundred per cent interest. Thirty-seven is called by physicians the fatal year for all who have been "fast young men." It is very seldom that a man who has drawn heavily on his physical and mental powers between the ages of twenty and thirty, passes the critical year mentioned without some serious indication of physical or mental disease.

This fact explains some cases that often seem very strange to us. When a man is a hard worker, the fact of overstrained endurance is a less surprising one. It is very noticeable how many able business men are cut down in the prime of their life and vigor. The strain of conducting a successful business in these days of savage competition, of push and rush, is very great, and it is not strange that so many give way under it. Race-horses are never long-lived, we are told, though they may score some magnificent records on the sportsman's book. Power is not always the evidence of endurance or vitality, and power lavishly wasted may be regarded as the measure of nothing but the rapid downward course to invalidism, helplessness, or death.—*Canada Educational Monthly.*

POISONOUS HONEY.

Few people know that in bad seasons honey is apt to be poisonous. This arises from the fact that in such seasons the bees are obliged to gather it from poisonous flowers. Great care should be taken to remove all poisonous plants from the neighborhood of the hives. A specimen of honey from Trebizond, gathered from the *rhododendron ponticum*, which is common in that neighborhood, was sent in 1834, by Mr. Keith E. Abbott, to the

Zoological Society in London, and in 1859 it still retained its poisonous qualities. In 1796 a great many people in Philadelphia died from eating honey gathered from the flowers of the *kalmia latifolia*. In good seasons the bees avoid poisonous herbs.

Weight of Women's Clothes.—In relation to rational dress, the dress reformers have, we are glad to see, been advised to give attention to the absurd fashion now prevailing as regards woman's dress, and especially at that time of the year, when, in addition to their ordinary clothes, ladies cover themselves with heavy mantles of fur, etc. Many women complain of feeling tired after a short walk, whilst they are really carrying a weight which would soon tire a strong man. Their waists are encircled with a belt or hoop, to which a load heavier than a felon's chain is attached, and the shoulders and chest are compressed by an additional burden. Breathing is laboriously performed, and the contents of the trunk and pelvis are thrust down with a force, which, if represented in pounds, would occasion considerable surprise. It would be a matter of great interest if medical men would ask their female patients to ascertain precisely the total weight of the clothes they wear indoors and out.—*London Medical Record.*

PHILOSOPHY FOR A SLEEPLESS MAN.

A MEDICAL writer in the *Boston Journal of Chemistry* recommends a man who cannot sleep at night to philosophize thus:—

Well, I am in for it again! I would like to sleep promptly, soundly, and long; why do I not? I suspect that I am not running this physico-mental machine even in a fairly physiological manner. I cause it to run at an abnormal rate during the day, and keep up intense mental excitement through stimulation of one sort or another, prolonging excessive mental activity too far on toward the night; and because of this, and the lack of a fair degree of muscular exercise, I only half breathe; of my fifteen or sixteen inspirations per minute, not one distends the air cells of my lungs to half their capacity. Thus the organism suffers in two ways: 1. The circulation is not sufficiently oxygenated for its general purposes; and 2. The waste matters are not "pumped out" of the substance of the brain as effectually as need be. My coffee was strong and nice this morning; it stimulated me very satisfactorily throughout the day; and, what I had not bargained for, I am still feeling the spur. That new brand of cigars is exquisitely flavored; but, upon the whole, a perfect night's sleep would be far more exquisite; at least, just now I am in the mood to think so. I sneered at that food reformer who told me he was never a good sleeper until his present simple, natural habits made him so; but now, just at this moment, it seems as if it would be a good trade to exchange some of my favorite dishes for coarse food and balmy sleep! . . . And so I would con over and look through myself and my habits, feeling sure that my eyelids would droop, and sleep come before I should have completed the work of reform; and I am sure that every sufferer will find that a real reform, a permanent reform, will unfailingly lead on to *health*, and so to sweet and satisfactory sleep.

Beer and Vitality.—The president of the Connecticut Mutual Life Insurance Company, one of the oldest in the country, has for years been investigating the relation of beer-drinking to longevity. His object was that he might solve the problem whether beer promotes vitality or otherwise; in other words, to know whether beer-drinkers are desirable risks to a life insurance company. We give his conclusions. He declared, as the result of a series of observations carried on among a selected group of persons who were habitual drinkers of beer, that, although for two or three years there was nothing remarkable, yet presently death began to strike, and then the mortality became astounding and uniform in its manifestations. There was no mistaking it; the history was almost invariable; robust, apparent health, full muscles, a fair outside, increasing weight, florid faces; then a touch of cold, or a sniff of malaria, and instantly some acute disease, with almost invariable typhoid symptoms, was in violent action, and ten days or less ended it.

It was as if the system had been kept fair on the outside, while within it was eaten to a shell; and at the first touch of disease there was utter collapse; every fibre was poisoned and weak. And this, in its main features, varying in degree, has been his observations in beer-drinking everywhere. It is peculiarly deceptive at first; it is thoroughly destructive at the last.

TEMPERANCE AND MISCELLANY.

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

Conducted by MRS. E. E. KELLOGG, Superintendent of Hygiene of the National W. C. T. U.

GENUINE BEAUTY.

BEAUTIFUL faces are those that wear,
It matters little if dark or fair,
Whole-souled honesty printed there.

Beautiful eyes are those that show,
Like crystal panes where hearth-fires glow,
Beautiful thoughts that burn below.

Beautiful lips are those whose words
Leap from the heart like songs of birds,
Yet whose utterance prudence girds.

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

Beautiful feet are those that go
On kindly ministry to and fro,
Down lowliest ways if God wills so.

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

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

—*Sel.*

SKETCHES OF TRAVEL.—NO. III.

BY MRS. E. E. KELLOGG.

THE PALACE OF WESTMINSTER.

UNDOUBTEDLY the most imposing edifice in all the city of London is the new Palace of Westminster, comprising the Houses of Parliament, the new Law Courts, and Westminster Hall, a portion of an ancient royal palace originally built by William Rufus. The building is gothic in style, contains over a thousand apartments, and covers an area of eight acres. Three lofty towers adorn the structure, the largest of which, through whose portals the Queen enters on the opening and prorogation of Parliament, is called the Victoria tower, and is three hundred and forty feet in height. An immense clock with four dials, each nearly twenty-five feet in diameter, surmounts the next higher tower, while the bell, popularly called "Big Ben," whose clear tones sound the hour, is one of the largest in the world, weighing no less than thirteen tons. Five hours of hard labor are required to wind the striking fixtures of this clock.

The palace is built upon the bank of the Thames, and its river front is adorned with statues of all the English sovereigns from the Conqueror to the present Queen. The whole interior of the building is adorned with lavish magnificence, the corridors are decorated with fresco-paintings of scenes in the history of England, and the halls are richly gilded and adorned with statuary of celebrated English statesmen and nobles.

The House of Peers, in which the lords of England sit in council, is a room about ninety feet in length by forty-five in width. Its windows, filled with stained glass, contain the portraits of all the kings and queens of England since the Conquest; its walls and ceilings are richly adorned with heraldic emblems, while the niches between the windows are occupied by the statues of the eighteen barons who extorted the Magna Charta from King John. Near the center of the room is a seat covered with crimson cloth, the celebrated "woolsack," on which the lord chancellor sits. Behind this stands the gilded throne of the Queen.

The House of Commons is more simple, yet is handsomely fitted up with carved oak paneling, richly adorned ceiling, and stained glass windows. In the lobby of each of the Houses—neither of which was in session at the time of our visit, it being Easter holiday—we were shown the hat-racks, upon which the Lords and M. P.s hang their respective head coverings, each peg properly labeled with name and title, indicative of the care with which Englishmen proverbially guard their head-gear.

Westminster Hall, one of the few remaining portions of the ancient palace founded by the Anglo-Saxon kings, now forms the vestibule of the Houses of Parliament. It has been the scene of many royal feasts and ceremonies, the last of which was a public festival held at the coronation of George IV., when, according to the custom of those ancient times, the king's champion, in full armor, rode into the hall, and threw his gauntlet upon the floor, thus challenging any one to mortal combat who should dispute the right of the newly elected king to the title of sovereign. In this hall were held some of the earliest English Parliaments, and here Edward III. entertained the captive kings, David of Scotland and John of France. Here Charles I. was condemned to die, as was also Scotland's brave champion, William Wallace. In this hall, Cromwell, wearing the purple, ermine-lined robe of royalty, with a scepter in one hand and a Bible in the other, was inaugurated Lord Protector. Eight years later, in accord with the then existing party spirit, his body was rudely dragged from its grave in Westminster Abbey, and thrust into the Tyburn pit; while his head, with those of two of his

party, was exposed on the pinnacles of this same Westminster Hall, where it remained for thirty years. A gale at last carried it to the ground, and it was afterward sold to a distant relative of the Lord Protector, who still has it in his possession.

In this Hall many of the great trials of State have taken place. Here occurred the famous seven years' trial of Warren Hastings, as did also the acquittal of the seven bishops who had been committed to the tower on account of their opposition to the Roman Catholic innovation of James II.

Beneath the Hall is St. Stephen's Crypt, the most ancient portion of the palace. It was erected by King Stephen, and has recently been thoroughly restored. It is a low, vaulted structure, beautifully adorned with carvings and tracery. In it we were shown the place where Guy Fawkes was discovered just in time to prevent the completion of his intended demolition of the Houses of Parliament.

THE BRITISH MUSEUM.

Nothing serves to give one a better idea of the vigorous intellectual life of the English people than a visit to their National Museum, the nucleus of whose now vast contents was formed by a library and collection bought of Sir Hans Sloan in the seventeenth century. The Museum is a world in its vastness, containing an unrivaled collection of antiquities of every description,—Egyptian, Assyrian, Greek, Roman, and British, and a library exceeding nine hundred and fifty thousand volumes, among which are a greater number of American books than is contained in any library in the United States. Besides books, it has an exceedingly rare and valuable collection of manuscripts, and autographs of the great of all lands and languages.

Through the courtesy of Eld. Wm. Jones of London, we enjoyed the pleasure of a visit to the Assyrian department in company with a party in the charge of a gentleman familiar with Assyrian antiquities. This gentleman expounded the otherwise mysterious characters, and explained the use and history of the various objects which make up the collection, most of which have been excavated from mounds found on the right bank of the Tigris River, and quite probably form part of the ruins of ancient Nineveh. A large collection of bas-reliefs, sculptured on tablets, or slabs of alabaster, which originally decorated the palaces at Nimroud and Konyunjik—the latter supposed to have been the palace of Sennacherib—are very remarkable. Besides being beautifully carved, thus making valuable works of art, they commemorate the chief events in the lives of the Assyrian rulers, and serve as engraved histories which corroborate in a wonderful manner the truths of Scripture. The entrance gateways of these ancient palaces were generally ornamented on each side with colossal winged bulls or lions, with human faces, elaborately curled hair and beards, and wearing a high tiara. Several of these in a most excellent state of preservation are to be seen in the Museum. We were also shown an obelisk of black marble which was excavated near Nimroud. It is decorated with five tiers of bas-reliefs, illustrating the presentation of offerings to King Silima Rish, whose reign began about 932 B. C. The unsculptured surface is covered with inscriptions written in the vernacular of Nineveh recording exploits in the reign of the king, and giving the names of the donors to the obelisk, among whom are "Jehu of the house of Omri, king of Israel," and "Hazael," the contemporary king of Syria.

MADAME TUSSAUD'S WAX-WORK EXHIBITION.

One evening of our stay in London was spent at Madame Tussaud's exhibition gallery of wax figures, justly considered one of the "sights" of the metropolis. Here we met the celebrities, in effigy, of all ages and countries; and the accuracy of their portraits, the life-like poise of the figures, the ruddy complexions, and the historic fidelity of their garments, made it seem as if the wheel of Time had turned backward a few centuries, and we had been ushered into the presence of the real personages whose deeds, both good and evil, have so long been portrayed in history.

The first to greet us upon our entrance was our own beloved Washington, to whom is justly accorded an honored place among the wax nobility. During the evening we met the genial faces of our two martyred presidents, Lincoln and Garfield. All of England's sovereigns reign together here in peace and quiet; here is the present Queen and her court, her late consort, the late lamented Princess Alice, and the Prince and Princess of Wales, with their children playing with dog and doll, so thoroughly life-like you can hardly believe they are not real existences. King Henry VIII. in his grand court dress, with all his wives about him robed in queenly splendor, form a unique group. Near by sits Mary Queen of Scots, dressed for her execution, with the rosary which she held in her hand when beheaded at Fotheringay Castle three hundred years ago, on the floor at her feet, looking as if it had just fallen from her fingers. The beautiful Lady Jane Grey, clad in a dress of Quaker drab, stands near her, with an expression so childlike and innocent on her sweet face that it almost brings the tears to one's eyes to remember her tragic fate. Here, too, are the great reformers, Luther, Calvin, Knox, and Wesley; the poets Shakespeare, Chaucer, and Byron, and Sir Walter Scott in full highland costume. In another room sits, in effigy, the Berlin Congress. Statesmen, scholars, and rulers of all nations are numbered among the collection of celebrated characters; and so life-like in appearance are they that at a distance it is quite impossible to distinguish between the animate and inanimate people sitting and standing about the room. Indeed, it often requires very close scrutiny to discern between the wax person and the real one.

Once during the evening we sat for several minutes on a seat with some one whom we supposed to be a living member of the human family, but found to our astonishment that it

was the wax model of William Cobbett, the great politician. At another time, having become separated from our party, and desiring some information, we ventured to question a policeman, who, with his gloves in his hand, stood near the outer door. Receiving no reply, we were about to make a second inquiry, when the truth flashed upon us that the man was "wax." The master-piece of the entire collection is the statue of Voltaire, said to have been modeled from life.

In what is termed the *Golden Chamber* is exhibited the bed upon which Napoleon I. breathed his last on the lone isle of St. Helena. The carriage in which the emperor rode at the battle of Waterloo, still covered with the saber cuts of the dragoons who captured it, a tooth extracted while in exile, his favorite garden chair, the atlas in which he drew his battle plans, his table ware, and even the hairs of the tail of his favorite horse, are among other Napoleonic relics to be seen here.

The most extraordinary relic in the gallery is the model of the guillotine used in Paris during the first French Revolution, and the original knife by which Louis XVI. and Marie Antoinette were decapitated, together with twenty-two thousand other unfortunate victims.

Written for GOOD HEALTH.

THE PLACE AND POWER OF TRACTS.

BY JULIA COLEMAN.

THE farmer who is his own mechanic, as he walks through his forest land, looks out the timber that he wishes to use with a wise and careful selection. These hemlocks will do for flooring, those pines for shingles; that chestnut will wainscot the bath-room, this black walnut will make doors for the vestibule and the parlors. But when he finds a tree with a peculiar curve, just right for a pair of sleigh-runners, he cuts that up carefully. The entire tree may be good for various purposes, but the runners are cut out by themselves, and put away to season. In another tree he finds an axe-helve, in a sapling a cane; and these, too, are carefully cut out or trimmed up and prepared for service. These are the choice bits intended for tools to help him work or to help him walk, and if carefully selected and well prepared, they do him long and excellent service.

Now what these choice bits are to the mass of lumber, tracts are as compared with other literature. The massive tomes with their fair pages make a grand show, like so many smooth, well-grooved, well-fitted pieces of flooring or siding; but the tract is the choicest bit, wisely selected for a special purpose, and well fitted to do good service. Not inapt is the derivation, from *trahere*, to draw out; for the tract ought to be a special point or topic drawn out from other material or writings on account of its aptness or power. The best, brightest, or most convincing thing said on that subject, condensed, trimmed up, and arranged so as to make the strongest impression—such is the model modern tract.

If this be true, tracts ought to be the best reading extant on the topics of which they treat. Perhaps this is not invariably the case; for some men rush into print in a tract who have not the ability to write a book, but the majority of the tracts issued by societies, etc., for definite purposes, we believe come fairly under this description. We see, then, how entirely mistaken those people are who exclaim, "Oh, it is nothing but a tract!" and cast it scornfully aside. We believe the reason for this misapprehension, which certainly has prevailed to no small extent, is the imperfect or ill-advised methods of distribution. Some would give only to individuals. They would have the tract exactly fit every case. But a very small number of tracts can be used by that method, because it involves an immense amount of reading on the part of the giver, and such an accurate knowledge of individual cases as necessarily comes to but few distributers. An approximation of this is attempted on the part of many distributers, who look at the tract with one eye and at the recipient with the other, and try to make some sort of fitness in the gift, which, however, is oftener irritating than helpful; and the questions come up, "Did she think I needed *this?*" "What *could* she have seen about me that should lead her to give me such a tract!" when very likely if the attention of the donor were called to the offensive point, she would have disclaimed all knowledge of it.

To avoid all this, another course is often adopted, and tracts are given out indiscriminately. A miscellaneous assortment is taken in hand, and one or more is given to any one, sometimes with painful and sometimes with ludicrous results. In one instance a tract on dancing was given to a man who had lost both his legs. The tract itself might have been good enough; but it was of no use whatever to the wounded soldier, and like other things out of place, it became a nuisance. But suppose the subject of dancing to be discussed, to become of general interest in the entire community, say in some country place on the advent of a dancing master who is trying to get up a class. Suppose, also, that a minister is opposed to it, and the local paper is favorable or non-committal on the subject. The minister proposes to preach about it, but he wishes to give his people something to read, and study, and pray over, besides. So he sends for specimens of tracts on that subject, and selecting those best, and most suitable for his purpose, he secures a supply for his own congregation, calls attention to them in his sermon, and has them distributed at its close. Almost everybody is interested—the young people of course, and the parents and grand-parents naturally enough, and everybody else because it is a matter of public interest.

Even if the local paper is willing to discuss the matter, it may not be willing to insert the tract, which is cogent and convincing, and may often be added to what is published in the paper. It is true that "everybody reads the papers," and you can reach a larger number through them, but not always so effectively. There may be more than one paper, and the congregation do not all take the one containing the articles which it is desired they should all see.

If you send the paper to some, it costs anywhere from ten to thirty or forty times as much as the tract, and then the attention is diverted to other articles; and it is not so easily preserved as in tract form, as the paper gets mislaid or used up. If the article is cut out, it is not in a neat and convenient shape. If several more copies are wanted, they are not so cheaply obtained, and the supply soon runs out. A far larger number of copies will be likely to be preserved, and read and re-read, in the tract than in the newspaper, and so they will be more likely to accomplish the desired result. In this case the result aimed at is to so instruct the people in the objections to be urged against dancing that they shall not countenance it; and if a large proportion of the readers are so convinced that the dancing master cannot get up a class, the result is direct and evident; and it may be no less manifest, though not so extensive, when only some individuals are dissuaded from this patronage.

This, then, is a real place for tracts, and one where they manifest the most power to move large numbers of people to think the same thoughts, and to act in concert.

This is particularly the case with regard to temperance work, which is now in a condition where tracts can be used to great advantage. It is hardly necessary to scatter miscellaneous tracts "on temperance," because almost everybody believes that "temperance is a good thing;" but people do very greatly need to be instructed as to effective methods of work. They also need definite instruction on the scientific aspects of the question, and this they must have in a form convenient for reading and study. Very few of the common people are sufficiently advanced to get this instruction by lectures, as do the students of continental universities. They are not in the habit of taking notes, and mostly they have neither pencil nor paper with them to put down even the most striking thought; to say nothing of being able to outline the lecture. And if they take notes, they have no books of reference to help them out with their topics, if they were disposed to study.

The lecturing is indeed most desirable. One of our greatest regrets is that we have not more scientific lecturers in the field. But when such a lecture has started the thought, and shown the importance of this knowledge by showing its character, the reading should come with it, and indicate the means by which it could be carried on. A course of reading consisting mainly of tracts, could most advantageously be commenced by such a lecture, and be carried on by the local society afterward, the society also distributing tracts on the subjects as they read, thus imparting to others as much instruction as possible. The subject of special investigation may be wine, beer, or cider; something that comes home to the people, attacking their popular tipple, whatever that may be; and thus it will be an easy matter to keep the public thought aroused, and the interest awake, sufficiently, at least, to secure the reading of the tracts.

We would not convey the idea, however, that tracts are all, or even the principal agencies to be employed. They can be used to great advantage wherever large numbers are to be reached, and the means at command are small, as is largely the case in the temperance work at the present time. It would not only be difficult to procure and give out books on these topics, but it would be still more difficult to get them read by large numbers. But the local society taking up such a course of reading, might have a small library for reference containing the best and most available works.

The "Plan of Readings on Beer," now in use in the Women's Christian Temperance Union, provides for the use of a $3 library; and by the references they learn to find out what is in these books, and therefore how to use them; for neither books, pamphlets, nor tracts are of much value unless you know what is in them. After the people have their taste cultivated for reading, and their appetite whetted by the frequent use of tracts, we may hope that far greater use will be made of valuable temperance literature of all sorts than ever before.

We recapitulate the points regarding the place and power of tracts as follows: 1. Through this means a large number of people may be reached, and influenced on a definite point; 2. They may be so used as to promote habits of careful thought and investigation, and lead to the use of more abundant and larger literature.

GETTING A COUNTRY PRACTICE.

BY ROSALIE GRAY.

DR. MINTURN.—So read the sign which was hung just below one of the front windows; and as the young practitioner surveyed it, he modestly hoped that it would not draw a great many calls while he was away from home, and wondered if he had not better take it down and leave it until he returned with his bride. He had just graduated, had not yet tried practicing, and was rather sanguine in his ideas upon the subject. He finally decided to let it hang, as it would serve for an advertisement while he was away; and writing on a slip of paper that he would be at home on the eighteenth of the month, which important piece of information he placed beneath his name, he departed on his short journey.

The marriage came off, quietly and inexpensively, at the house of the bride's uncle. Annie had lived with this uncle ever since she was a little orphan child of three years. Now, having been fitted out respectably in the way of clothing, which with his large family and limited means was all her uncle could afford to do, she left, with Charlie, for his near home, with many kind wishes and prayers for her happiness.

Dr. Minturn's sole tangible possessions

were a horse and buggy, a very few articles of furniture, a pretty good stock of medicines and surgical instruments, and a loving little wife, whom he well-nigh idolized. He had rented a tiny house in the pretty village of Pineville, and had boldly hung up his sign, although it was directly opposite to that of Dr. Jagger, who supported his with many years of experience, a generous sprinkling of gray hairs, and great pomposity of manners. The unpretending little house rented by the new doctor, consisted of three rooms, all of which were obliged to do double or treble duty. One was a combination of parlor, sitting-room, and office; the kitchen served also for a dining-room, and the one sleeping apartment was the spare room when company came.

Annie's skillful hands soon transformed their abode into a little paradise. Roses and other flowering vines were trained over it, shedding their fragrance all around; bright flowers flashed from every available nook; hanging-baskets were fashioned of mosses and creepers; curtains of snowy muslin were suspended from the windows; glasses and shells, filled with buds and blossoms, were liberally distributed around the rooms; and innumerable little inexpensive things, which only a woman's hand can form, filled up the voids, giving an air of refinement, and purity, and comfort to the whole. But people cannot subsist upon pretty knick-knacks; even a plain way of living requires money for its support; and our friends became painfully conscious of this unpleasant fact as the romance of their lives was invaded by the appearance of the empty flour-barrel and butter-plate, and a perverse lack of patients.

Annie would sit in her front window, and watch the patients flock to the house of her opposite neighbor, and wonder why people would persist in rushing blindly on to their ruin, as she felt certain they were doing in thus passing by her husband. Of course, she reasoned, a talented young man, just fresh from the hospitals, must be better posted than one who had been rusticating for so many years in a country town. She had heard that a wife had much influence in establishing a practice, and she resolved that if her husband lacked business, it should not be owing to any dereliction of duty on her part. She gathered all the children of the neighborhood around her, and amused them by the hour with stories; she dressed dolls for the little girls, and played horse with the boys. She received all calls with the utmost affability, returned them promptly, and was sociable with the most stupid and tiresome as well as with the most eligible inhabitants of the town. Pineville was a place of considerable gayety, and the new comers, on principle, responded to all their invitations to parties and tea-drinkings, molasses-candy frolics, quiltings, and sewing-societies. They threw open their own small house in return, and entertained pleasantly and freely, putting themselves on a diet of potatoes and salt for days afterward to make up for the extra outlay. People visited them, liked them, and made much of them, but, in a business way, ignored them. Her best friends seemed to forget, in times of sickness, that Annie had a husband, and persistently sent for their old physician.

When our friends came in contact with Dr. Jagger, he always shook hands in a pompous manner, smiled with an air of satisfaction, which seemed to say, "You are not in the least in my way, and are quite welcome to stay here if you wish," and blandly inquired how they liked "our little town." When others inquired his opinion of the new doctor, he would stroke his own gray beard affectionately, and reply, "Oh, a clever boy enough! A very clever boy, but needs experience." This style of eulogy was not calculated to throw patients in the way of the new candidate, who, penniless and half discouraged, was awaiting calls.

It is true that, owing to the fact that Dr. Jagger was sometimes away, or was too tired to ride when wanted, our friend found some few opportunities for airing his medical knowledge; but the generality of his patients were either very poor pay, or no pay at all, as his opponent showed remarkable energy in being on hand for people of importance. Humanity, however, cannot always be ubiquitous, and the time came when Dr. Jagger was wanted for one of his wealthiest patients, and he was away from home. The occasion was urgent, and Dr. Minturn was called. It was a case of fever, which the older physician had been attending, and he had pronounced his patient fully convalescent. A relapse, however, accompanied with unexpected symptoms, had alarmed her friends, and they had speedily gathered around her from far and near.

When Dr. Minturn entered the sick

room, he started, supposing, for a moment, that the lady had died since the messenger had left home, and that they were now holding her funeral. Arranged in a neat row around the walls seemed to be all the old men and women of the neighborhood, with their hands folded and their faces drawn up into solemn knots, ready to do duty as mourners at a moment's warning. Occasionally one old woman at a time would tip-toe softly to the bedside of the invalid, clasp her hands, roll up her eyes, and return noiselessly to her seat, perhaps remarking, in an audible whisper, to her next neighbor, "Poor thing! she seems to be sinking!" or some equally cheering bit of news. In one corner of the room were seated two little boys, trying to look demure and sad, with their feet dangling in the air. Finally, one of them slipped down and proceeded to pet a cat, which seemed to be imbued with the general feeling of silence pervading the apartment. But he was immediately called to order by a rigid female who had mounted guard over him. "George Washington!" was shrieked in a harsh whisper, "come right back here to your seat! Arn't you ashamed to be playing when your aunt Sallie is almost dying? See how much better Thomas Jefferson behaves!"

Thus admonished, the young culprit returned to his seat beside his twin brother, feeling that in some way, which he did not exactly understand, he had been instrumental in killing his aunt.

"Do you think she will be likely to last long?" was whispered in the doctor's ears.

"Not at this rate," he replied aloud, advancing to the bedside of the patient. He felt the pulse, and remarked, "It is high, but it is owing more to unnecessary excitement than to fever. This room is too warm and close; she must be moved."

"O doctor! it will kill her," was whispered by one who seemed to be commander-in-chief.

"Did you send for me to prescribe for this patient?" demanded the doctor.

"Yes."

"Then I expect to have my orders obeyed. What have you here?" and he opened a door into an adjoining room. It proved to be a parlor; one of those dreary, unused parlors one so frequently finds in the country, which are seldom opened except for funerals; it is probable that this one would very soon have been required for this purpose had it not been for our friend's decision. "This will do," remarked the doctor authoritatively. "Open the windows to air the room, and put up a bedstead as quickly as possible; we will move her at once. This close room, with so many to breathe the air, and all this whispering, is enough to kill a well person."

(CONCLUDED NEXT NUMBER.)

YOUNG LADIES AND DRESS.

A LADY who had taught for over thirty years, once gave the writer some very interesting information. "When a new scholar was introduced," she said, "I always looked first at her dress. If that was plain, neat, and tidy, I was pretty confident that I had good material to work with. For the first two or three years of my teaching, I was in the habit of scrutinizing the features, and the formation of the heads, but these came at last to be quite secondary considerations. One school was so expensive that none but daughters of the wealthy could possibly enter it; so when a young lady came to the class-room in a plain dress, I was sure that it was on account of her idea of the fitness of things. This argued common sense. Common sense is always in antagonism to vanity, and where there is vanity there is self-consciousness. So, you see, a plain dress came to mean a great deal to me. I learned never to expect anything from a girl whose school dress was silk or velvet. I shall always retain the impression made upon me by a quiet little body in a blue flannel dress, and the plainest of plain trimmings. She came from one of the first families in wealth and culture, and was the most unobtrusive child I ever knew, as well as the most brilliant. When she told me graduation day that she had decided to study for a physician, I was not in the least surprised, and I was sure she would succeed, as she certainly has, in the most marvelous manner. She carried off every honor; and though the girls in 'purple and fine linen' sneered at her plain attire and lack of style, there was not one who could ever compete with her."

Certainly, on the whole, the deductions of this teacher are correct. It takes time to array one's self in elaborate garments, and the girl whose mind is occupied with loops and trimmings and general furbelows cannot, for philosophical reasons, have room for much else. Then there is a reason deeper than this, even. The girl

whose tastes are in the line of dress and display has not an intellectual development. She may be imitative and intuitive to a degree, but she will always, or generally, be superficial in her learning and shallow in character.

A very good story in this connection is told of a prominent musician in New York. A young lady went to him for a course of "finishing off" lessons. "Let's see what you can do," said the teacher, and placed before her a simple air of Mozart's. She played a few bars, and was interrupted. "Take off your rings," said the great man. A few bars more, and another interruption. "Take off your bracelets." A little further on she was stopped again. "Your sleeves are too long. I want to see your wrists." The pupil pinned up her sleeves, with a face on fire. At last she succeeded in finishing the selection.

"Do you want me to teach you?" the instructor asked, as she took her hands from the keys.

"Yes, sir."

"Very well. Come to me to-morrow at this hour, without any jewelry, and in some sort of a dress that you can breathe in. I don't know at all how you have played this aria, because of the rattling of gewgaws, and the distressing noise you have made in getting your breath. I am afraid you haven't the instinct of a musician. A musician thinks first of his art, and last of appearances, but it seems to me you think first, last, and always of how you look."

Now this may seem rough and very uncalled for to some, but he was an honest soul and a grand musician. His words proved true. This young lady had not the musical instinct, and after a fair trial was dismissed. Her teacher proved that her practice had been superficial, and all that she had done had been spoiled by vanity and self-consciousness.

A school girl who dressed very plainly, but in good taste, was once asked why she did not "rig up" more.

"Because," she said, "I haven't time to fuss about clothes and learn too, and then I should like to have something new to wear when I am older. Velvets and brocades, and diamonds and pearls, and all those fine things, will be new to me by and by, and there is nothing left for you girls to anticipate."

Certainly a very wise and satisfactory answer.—*Sel.*

"RAPID TRANSIT LAGER-BEER SALOON."

SUCH are the words which are placed above a down-town saloon in this city. What a terrible significance they have! "Rapid Transit," indeed, from respectability to ruin, from health and happiness to disease and death, from what might be a heaven here, to a hell hereafter. Easy travel is it along the downward road, with a swift and pleasant gliding motion; but what a terminus! Could the end be seen, how few would be the passengers along its sin-stained way! One is reminded of the vision of the dreamer, who saw a bridge stretching over a broad, dark stream, with here and there a trap door, down through which ever and anon the unheeding passenger fell,—fell from the bridge of life into the rapidly rolling river of death, and not of death alone, but eternity. Surely this is one of the largest traps. Never are its hinges still, but one after another falls through, struggles hopelessly with the roaring torrents, and is swept away to join thousands of unwary ones who have preceded him.—*N. Y. Witness.*

ALPHABET OF PROVERBS.

A GRAIN of prudence is worth a pound of craft. Boasters are cousins to liars. Confession of a fault makes half amends. Denying a fault doubles it. Envy shooteth at others and woundeth herself. Foolish fear doubles danger. God reacheth us good things by our own hands. He has worked hard who has nothing to do. It costs more to revenge wrongs than to bear them. Knavery is the worst trade. Learning makes a man fit company for himself. Modesty is a guard to virtue. Not to hear conscience is a way to silence it. One hour to-day is two to-morrow. Proud looks make foul work in fair faces. Quiet conscience gives quiet sleep. Richest is he that wants least. Some faults indulged are little thieves that let in greater. Trees that bear most hang lowest. Upright walking is sure walking. Virtue and happiness are mother and daughter. Wise men make more opportunities than they find. You will never lose by doing a good turn. Zeal without knowledge is fire without light.—*Sel.*

—No man or woman of the humblest sort can really be strong, gentle, pure and good without the world being the better for it.

POPULAR SCIENCE.

—An English firm is manufacturing barrels of steel. A cask made of steel is found to be much stronger and considerably lighter than a wooden cask.

A Gun-Powder Motor.—An ingenious German has invented an engine which is run by gun-powder, the piston being driven to and fro by successive explosions of a small quantity of gun-powder, introduced into the cylinder by an ingenious device.

Water-Melon Sugar.—A Georgia gentleman has been conducting a series of experiments for the purpose of determining the value of water-melons as a source of sugar, from which he concludes that an acre of good land will produce seventeen tons of melons, from which twenty-four pounds of sugar can be obtained.

The Moon as a Weather Gauge.—Sir Wm. Thomson, by a long series of observations, and careful comparison of the phases of the moon with the indications of the barometer, thermometer, and anemometer, has arrived at the conclusion that there is no dependance on the weather by the changes of the moon.

Cement for Handles.—A material for fastening knives or forks into their handles when they have become loosened by use, is a much-needed article. The best cement for this purpose consists of one pound of yellow resin and eight ounces of sulphur, which are to be melted together, and either kept in bars or reduced to powder. Two parts of the powder are to be mixed with one part of iron filings, fine sand, or brick dust, and the cavity of the handle is then to be filled with this mixture. The stem of the knife or fork is then to be heated and inserted into the cavity, and when cold, it will be found fixed in its place with great tenacity.

Man and Evolution.—It seems that some of our scientists have become discouraged in the attempt to prove man to be the product of an evolutionary process reaching back millions of ages into the misty past, and beginning with the monad, or living molecule; and so they have adopted the view expressed in the following paragraph from a lecture by Prof. Winchell:—

Man, also, in his earliest European advent, was the equal of modern man. Nor do we find anywhere any links graduating from man toward the rank of the brutes. The apes have a genealogical tree; we trace them back to the beginning of tertiary time. Man has no genealogical tree. He stands apart, as if he had been the product of an independent origination. However this may be, he is most closely related in plan of organization to the other members of the animal kingdom. The facts, in short, are such that we may, with Wallace, hold to the evolution of other animals, and yet not embrace the doctrine of the evolution of man.

New Telescopes.—The great telescope lately made by the Clarks for the Halsted Observatory, at Princeton, proves to be in every way an admirable instrument. The diameter of the object-glass is twenty-three inches, and its focal length is a trifle less than thirty feet. Its mounting is somewhat heavier and considerably firmer than that of the Washington Equatorial, although the latter instrument has a larger object-glass. At present the Princeton telescope ranks second in the United States, and fourth in the world. Its only superiors are the Vienna Equatorial, with an aperture of 27 inches; the Washington, 26 inches in diameter; and the Newhall telescope (at Newcastle in England), 25 inches in diameter. A number of larger instruments are, however, in progress, of which the McCormick telescope, for the University of Virginia, is nearest completion. It was ordered in 1870, at the same time as the Washington telescope, and is of the same size. The object-glass was finished some ten years ago, and the mounting partly made; but work was then suspended until the observatory should be in readiness for its reception, and it is only very lately that orders have been received to go on with the instrument. Now that the Princeton telescope is out of the way, the Clarks will probably have it ready for mounting in less than a year. Besides this, they have in hand two still larger object-glasses. One, for the Pulkowa Observatory of the Russian Government, is 30 inches in diameter and about 45 feet focal length. It is now nearly finished and the mounting is under construction by Repsold, in Germany, so that this instrument may, perhaps, be at work within two years from now. The other is for the Lick Observatory, in California. The lens is to be 36 inches in diameter. Thus far, only one of the two discs of which the object-glass is to be made has been received from France, and nothing has yet been done with it; but the other disc is expected within a few weeks, and then they will go to work upon it vigorously.

In Paris, also, two large telescopes, each of 29 inches diameter, are building; one for the National Observatory in Paris, the other for the observatory founded at Nice by Bischoffsheim. The object-glass of the Princeton telescope differs from those of the large instruments previously constructed in having the two lenses somewhat widely separated. They are about seven inches apart, with provisions for a free circulation of air between them. The plan is so successful that the Pulkowa and Lick object-glasses are to be arranged in the same manner. A very considerable incidental advantage of this construction is the abolition of a "ghost" formed by reflections between the lenses, which is very troublesome in large glasses of the old form. The cost of the Princeton telescope, with its spectroscope and accessories, was $26,000, and nearly $6,000 more has been expended in putting the observatory in order. The apparatus for moving the dome and shutters is worked by a four-horse power gas-engine; and this also drives a dynamo machine of Edison's construction, which furnishes electricity for lighting purposes about the instrument, and also for use in connection with the spectroscope. Professor Young proposes to devote the instrument, for the present, at least, mainly to stellar spectroscopy, a department of research which promises interesting results, and requires a powerful telescope.

GOOD HEALTH.

BATTLE CREEK, MICH., AUGUST, 1883.

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

A HYGIENIST ABROAD.

COMING HOME.

EIGHTEEN hours from Cologne brought us back to London ; and we were happy indeed to find ourselves safe at the great Charing Cross Hotel, with our thirty bundles of luggage, containing medical and surgical instruments and apparatus, traveling conveniences, and mementoes gathered in the various continental countries visited.

One who has never traveled in Europe among the little countries of which at least half a dozen would be required to equal in area one of our larger states, can have no conception of the annoyance to which travelers are subjected in having all their luggage overhauled two or three times a day, at the custom-houses on the frontiers of these petty sovereignties. Just as you are getting settled down to sleep at night, the car-door is jerked open, and a porter shakes you up, and indicates to you that every scrap of baggage must be hauled out, and carried into the station to be inspected. So you tumble out with your valises, bags, and bundles, and, with the aid of a couple of porters, get into the station, and arrange all in a nice row upon a form, behind which stand a half dozen men in blue coats with great brass buttons, indicating their official position. If you are an experienced traveler, you deposit an extra fee in the hands of one of the porters, in addition to the usual amount expected for assisting with your luggage ; and if you watch him carefully, you will notice that he winks at the officer who undertakes to go through your luggage ; and in that case you have only to open one or two valises, and close them again, scramble back into the cars, along with a crowd of sleepy, growling passengers, some of whom are pretty certain to get into your apartment, and spoil your calculations for a comfortable night, unless you are able to get there first with your baggage, and fee the guard to lock you in. If you have not learned the magic influence of an extra franc or two used in the manner suggested, you will probably have to submit to the overhauling of every single package, though it may touch your heart in its tenderest spot to see some of your frail works of art tossed about as though they were worthless stones, and to find at the completion of the operation your snugly packed bundles left in a sadly demoralized condition for you to scrape together in the two or three minutes left before the train starts, and tumble on board in miscellaneous confusion. Under the circumstances, if your patience is not as badly demoralized as your baggage, you must be either a good Christian or an experienced vegetarian. After safely passing through all of these afflictions with a score and a half of bundles, we felt, upon reaching London, that the hardest part of our journey was accomplished, although we had yet to travel nearly four thousand miles before reaching our journey's end.

Having still a few days to spare before the time appointed for our steamer to sail, we took the opportunity to revisit some of the medical institutions in which we had spent the greater portion of our time during our month's stay in London. We also spent considerable time in the selection of the most improved forms of surgical appliances, such as we had not already purchased in Vienna and elsewhere.

The last day of our stay in London, we spent a few hours very pleasantly and profitably with Dr. J. Mortimer Granville, who did us the favor to show us the various methods of applying his ingenious apparatus for nerve percussion and vibration, with which he has been accomplishing such remarkable feats during the last two or three years, in the cure of various obstinate nervous diseases. We met in his office a young American lady who had been sent from the United States to receive this treatment, after having been treated for a painful spinal disease for six years by many of the best American physicians, without obtaining any relief. Although she had been under treatment but two weeks, she was already nearly well, and in a week or two more would be discharged cured. Understanding that we intended to make a thorough trial of the method, Dr. Granville kindly devoted nearly half a day to making us familiar with all the details of the method, and the results of his experience in its use, especially those obtained since the publication of his papers on the subject, which we had examined with great interest. We were fortunate in being able to obtain from Messrs. Weiss & Co., instrument-makers, a very fine apparatus which they had just completed, and which, they informed us, would be the second one brought to America, where this method of treatment is as yet quite unknown.

Monday evening we started for Liverpool, which place was reached at midnight. The greater portion of the last day before sailing was spent in repacking baggage. We found time, however, to run out to Manchester, the head-quarters of the Vegetarian Society, where we found our good friend, Mr. R. Bailey Walker, the energetic secretary of this Society, at his office in the beautiful building of the Young Men's Christian Association. After an hour or two very pleasantly spent with Mr. Walker and several other vegetarian friends to whom he introduced us, we reluctantly said "Good-bye," and hastened back to Liverpool.

The next morning we were pleased to meet our friend G. R. Drew, of California, who is stationed here as ship missionary by the English Mission, which is under the charge of Elder J. N. Loughborough, and has its present head-quarters at Southampton, England.

Nine o'clock found us safely on board the steam tender of the City of Rome, and at half past one we were landed safely on board the largest steamship afloat; in fact, the largest in existence, with the exception of the Great Eastern, which is now lying idle in the docks. Perhaps our readers would be interested to know something more about this magnificent passenger steamer. The vessel was constructed for the Inman Line, who were disappointed in it, however, as the speed was not quite so great as desired. The vessel accordingly changed hands, being secured by the Anchor Line, who, after thoroughly refitting her machinery, adding four boilers, and putting in larger engines, have succeeded in producing the finest steamer which ever crossed the ocean. The one trip which the vessel had made since the refitting, showed her capacity for speed to be equal to, if not greater than, that of the famous Alaska, although unfavorable weather had prevented her making as good time as the latter boat has made under the most favorable circumstances. Her owners are confident, however, that on a fair trial she will prove superior to the Alaska in speed, as she undoubtedly is in every other particular. The following is a brief description of the boat, as given us by the chief engineer, who had the kindness to personally accompany us through the regions below, where the ponderous machinery was throbbing, explaining to us the use of each part, and the nature of the improvements which have been made :—

The length of the vessel is six hundred feet; breadth fifty-two feet and three inches; height from the bottom of the hold to the top of the pilot-house, fifty-eight feet; capacity, eight thousand and four hundred tons, equivalent to that of eight hundred and thirty freight cars. The vessel is fitted to carry five hundred saloon passengers and two thousand steerage passengers. The saloons, cabins, and state-rooms are furnished and decorated in the most luxuriant style, and all the appointments are equal to those of the best hotels. This magnificent floating palace is propelled at the rate of twenty miles an hour by a ponderous engine of twelve thousand horse power, the motive power of which is furnished by twelve mammoth boilers, in which the steam is generated by sixty-three furnaces. The engines are the largest carried by any vessel, and among the largest in the world. Three great pistons are driven by three high-pressure and three low-pressure cylinders, the first forty-six inches in diameter, and the second eighty-six inches, the length of stroke being six feet, and sixty revolutions being made per minute. The diameter of each of the immense crank-shafts is twenty-five inches, each weighing twenty-one and one-half tons. The propeller is made of steel, being twelve feet in diameter, and has a pitch of thirty-two feet and three inches, by which is meant that deducting a loss of from four to thirteen and one-half per cent for resistance, each revolution of the propeller moves the ship forward thirty-two feet and three inches. The actual difference made by each revolution is about thirty feet under ordinary circumstances. As the propeller revolves sixty times a minute, or once a second, the reader will at once realize something of the immensity of the power which is able to project through the water such a mass as this great vessel at the rate of thirty feet a second.

The immense engines and mammoth boilers and furnaces occupy a great portion of the hold of the vessel, requiring for their management one hundred and thirty men, including engineers, firemen, coal-heavers, machinists, and electricians, the latter having in charge the four electrical engines by which the ship is lighted. Two hundred and eighty tons of coal are daily consumed in the production of steam, nearly three thousand tons of coal being taken on board at Liverpool, and two-thirds that quantity in addition before leaving New York. The steam is conveyed to the engines by a pipe thirty-three inches in diameter, through which it travels at the rate of six thousand feet per second.

The size and weight of the vessel are so great that it moves through the waves with great steadiness even during hard storms, so that when smaller steam-ships are tossing and rolling, and being constantly submerged by the dashing waves, this great steam-ship moves along as steadily as though the sea were calm, apparently considering anything but a violent hurricane as quite beneath her notice. Another feature of this vessel which renders it superior to any other with which we are acquainted, is the great attention given to proper ventilation of all parts of the ship, by means of short ducts communicating with the huge ventilators by which the furnaces are supplied with air. An excellent draft is created through the state-rooms at all times, thus making it a matter of small consequence whether the port-holes are open or closed, although the great steadiness of the ship renders the closure of the ports rarely necessary. The absence of ship smells is another feature decidedly noticeable, which may be fairly attributable to the great attention to cleanliness in every department.

Thus pleasantly situated, we start out on our re-

turn voyage with every anticipation of a pleasant passage. We left Liverpool at 3:30 P. M., Wednesday, June 27, and the next forenoon reached Queenstown, where the mails from London, with a few additional passengers, were received on board, the latter swelling the number of passengers to one hundred and ten saloon, and six hundred steerage. A little repairing in the engine department made a slight delay necessary, the final start being made at four P. M. Our expectations of comfort were fully realized. Although quite a severe storm was encountered when two or three days out, we knew nothing of the sea-sickness with which we suffered so intensely on the voyage from New York to London.

The fourth day out found us at night in the center of the iceberg region, with a dense fog settled down upon us. As we sat in our state-room at midnight, writing, now and then looking out into the dense darkness, watching the gleaming phosphorescent lights dancing in the thick foam at the vessel's side, and listening to the hoarse voice of the powerful fog-horn, our sensations were too strange for description. The slow throb of the ship's great iron heart, and the double watch which we had observed placed in the fore-part of the ship at night-fall, told us as plainly as words might have done, that our situation was not free from danger; and the next day, when the fog lifted, and a huge iceberg made its appearance a short distance from our course, it became clearly evident that the extra precautions taken were by no means unnecessary. Last year, as some of you may remember, our good ship had the misfortune to collide with one of these icy islands, doing serious damage to her bow. This time we were fortunate in keeping out of their way, although so thick was the fog for some hours during the night that a collision would have been unavoidable had an iceberg been lying directly in the line of our course.

The days on shipboard are all very much alike. At seven o'clock the rising bell is rung. At eight o'clock the gong announces that breakfast is ready; but as breakfast may be obtained till ten o'clock, we usually took our morning meal at nine. At half past twelve a gong again sounds for lunch. At five o'clock dinner is announced, when we take our second meal; then at nine or ten o'clock the majority of our unhygienic fellow-passengers take their supper, after the English fashion; but we prefer to go to rest with a clear conscience, at least so far as our stomach is concerned. The meals are served on board the City of Rome in excellent style, a good variety of food being served, a sufficient portion of which is plainly cooked to enable us to make out a good meal without doing violence to our dietetic principles. Every variety of fruit obtainable is furnished in abundance, including oranges, lemons, peaches, apricots, grapes, strawberries, and tomatoes, as well as various kinds of canned fruits.

We find our time fully occupied in completing writing which we have had in hand during our absence, and which we wish to finish before reaching home, so that we may be able to devote our time entirely to the numerous patients whom we expect to find waiting for us at the Sanitarium. Most of the passengers occupy their time reading, promenading upon the deck, and playing shuffle-board and other ship games. We have among our fellow-passengers a great variety of American and English types, from the venerable clergyman down to the New York rowdy, among the gentlemen; and from a gray-haired matron of fifty or sixty summers and winters—whose kindly face is beaming with philanthropy and goodwill for all mankind, who has a husband in business in London, a son an officer in the army, and other sons and daughters at the family homestead in a Western State—down to a fast, flippant, fashionably-dressed, would-be-fascinating grass-widow, who struts about in the most absurdly stilted of French boots, with her pug nose lifted high in the air, and chattering like a magpie whenever she can find a male auditor.

The two nationalities, English and American, seem to be about equally represented among the male passengers. The discovery of this fact led to the proposal that on the anniversary of our national independence, which happened to occur during the voyage, the struggle between the two nationalities should be re-enacted in the form of a "tug of war," in which the combatants are arranged along a long rope which is divided into two equal parts, by a red ribbon tied around the middle, thus separating the contesting parties. On one side were a dozen Americans, and on the other side an equal number of Englishmen. At a given signal, each party pull with all their might, the "tug of war" continuing until one party succumbs, and is hauled away in triumph by the victors. Three several trials were made, in each of which the Americans were successful, which was quite in harmony with the spirit of the day, and the Englishmen accepted their defeat with the same good grace shown by Mr. John Bull a century ago.

On the morning of the fifth day, we passed a fleet of fishing smacks anchored on the great bank of Newfoundland. The waves were rolling high, and the little vessels were tossing about like nutshells, making a great contrast to our steady-going vessel.

The sixth day out from Queenstown a pilot-boat was sighted, at first a mere speck, a long distance off. The pilots had evidently discovered our steamer by its long stream of black smoke some time before, and by the aid of the stiff breeze were bearing down upon us. In less than half an hour the little yacht was crossing our course just in front of the ship's bow, when she quickly sent out a skiff with a pilot on board, and at the same moment a rope ladder was dropped over the steamer's side, while her motion was slowed, and five minutes later the pilot stepped beside the captain on the pilot-deck. The Americans were of course anxious for news from shore, and eagerly snatched the copies of the New York papers which were brought on board. We were

all somewhat disappointed, however, when we found upon looking at the date of the supposed fresh dailies that our news was two weeks old, from which it appeared that our little pilot-boat had been cruising around about six hundred miles from land, for a fortnight before our departure from Liverpool.

On the evening of the same day, we were passing through numerous schools of flying fish, which, we were assured by the sailors, sometimes make such long flights above the waves that they not infrequently find themselves stranded on board passing vessels.

To-day, the seventh, is a perfect day on the ocean. The mist has cleared away, and the sun's rays come down so fiercely that the passengers, to escape the heat, gather in little knots under the shade of the life-boats, which are arranged along the upper deck on either side. The blue expanse above is broken only by a few scattered cirrus clouds, which here and there weave themselves into the most weird and fantastic of cloud imagery; and the blue waste beneath is only broken by the white caps of the waves, which glisten in the sunlight like little snow-banks scattered over the surface of the ocean plain. Away off on the horizon can be seen here and there a ship, with sails all spread, looking in the gray distance as we imagine the poet saw that phantom ship which bore its luckless passengers across the river Styx.

The long distance has dwindled down to the last one hundred miles, and our jolly old captain assures us that just as the sun is setting in the west, we shall glide over the bar into New York harbor. Then, if we find the health officers and custom-house officials in an accommodating mood, we shall perhaps get through with our inspection, and be safe on land by midnight.

We forgot to report that we saw a whale this morning. The huge fellow, when first discovered, was almost along-side. He seemed to be embarrassed in the presence of strangers, and started off to the south, spouting the sea-water high in the air, and rolling his huge body among the waves as though annoyed at having been disturbed while taking his late morning nap.

Our good captain was disappointed in his calculations; when fifteen miles from shore, we ran into a fog-bank so dense that it became necessary to cast anchor for the night, and it was not until noon of the eighth day from Queenstown that our good steamer reached her dock on the New York shore, at North River. After several weary hours spent in getting our numerous packages through the custom-house, we sought a hotel, and after resting a few hours, boarded the car for home, where we arrived July 8, with an addition of fifteen pounds, and we hope with a considerably larger amount to our stock of useful information, having been absent from home exactly five months, lacking three days. We were happy to meet many of our friends and co-workers from the Sanitarium at the station on our arrival; and on finding ourself quietly seated in our pleasant little office near the Sanitarium main building, we felt deeply grateful that a kind Providence had brought us safely home through many unseen dangers, and in the consciousness of increased physical strength with which to engage with renewed energy and enthusiasm in our work for suffering humanity.

A Medical Temperance Rally in England.—A few days after our arrival in London, we had the pleasure of attending a grand medical temperance rally. The meeting was held in the largest theater in London, and an immense audience was present. We were pleased to meet upon the stage a large number of eminent medical gentlemen who were willing to indorse the object of the meeting, by words as well as by their presence; and that the significance of this fact was recognized was evident from the hearty cheers with which they were greeted by the audience, and the frequent interruption of the remarks by applause. We enjoyed the occasion greatly, not only on account of its being the first temperance meeting which we had attended in England, but because it confirmed our previous high estimate of the advancement which has been made in scientific temperance in England. Although America led off in the organization of temperance societies, England must have the credit of taking the lead in scientific researches relating to alcohol, and the establishment of this great reform upon a scientific basis.

At some future time we may give an abstract of the remarks of different speakers, which we feel sure will be of interest to our readers.

Was he Bilious or only Sober?—The jovial Dr. O. W. Holmes thinks Pollok must have been suffering with a torpid liver when he wrote his "Course of Time," and says that if he had had the privilege of looking over the manuscript, he should have turned it over and written on the back a prescription for biliousness. We are afraid the venerable Doctor, notwithstanding his gray hairs, is inclined to sympathize too heartily with the hilarious

and trifling spirit of the age, which is coming to consider everything sober or serious as born of dyspepsia and bile. As though a man could not write in a solemn vein without being a hypochondriac! It would be equally fair to suggest, and possibly nearer the truth, that some of the Doctor's satires sparkle with wit born of champagne. Pollok wrote soberly, but we fail to see the symptoms of biliousness, the venerable Doctor to the contrary, notwithstanding.

Poisoning by Cheese.—Several persons of Lynn, Mass., were recently poisoned by eating cheese. The eminent chemist, Prof. Bowker, of Boston, analyzed samples of the cheese, and reports that he finds no "foreign fats or substance not found in natural cheese." The chemist suggests that the ill effects arising from eating the cheese were due to some animal poison which eludes detection by chemical analysis. Cases of poisoning by cheese are very common. We have long held the opinion that this article ought to be discarded altogether as a food substance. It is a wonder to us that the number of cases of poisoning from the eating of cheese, is not much greater. We have often seen persons eating cheese in which the formation of mold was so extensive as to give the cheese the appearance of having been thoroughly penetrated by a moss-like growth.

Dried-Apple Jelly.—We have often wondered what became of the great stock of old and almost worthless dried apples which is annually left unsold on the arrival of the new crop. The mystery is solved. The jelly manufacturer discovered long ago that these same unsalable dried apples might be manipulated in such a manner as to make them sell for a larger price than the very finest article of dried apples to be produced. This is the way in which he accomplishes the metamorphosis:—

"He buys up the old apples, boils them to a pulp, and, with his little bottles of ether, proceeds to make of them all sorts of fruit-butter. Apple, peach, pear, plum, quince, grape, or whatever is desired, comes forth from his kettle as readily as the required wine from a conjuror's magic bottle. Does he want preserves of small fruits? They come forth also at his call, fully imitated, even to the seeds, which are imported from England—a little hard, black seed, grown, it is said, expressly for this purpose. For jellies, nothing more is necessary than gelatine, some simple coloring matter, and a little ether of the proper flavor; and it is charged that the shrewd makers will slip an occasional seed into the jellies to remove all suspicion that they might have been made from old boots instead of from ripe and luscious berries."

Austrian Mud-Baths.—This is the *modus operandi* of a mud bath in Austria, according to the correspondent of a contemporary medical journal. We are going to see the baths in a few days, and will observe whether the description is correct:—

"Here in Austria they excavate a marsh where decaying vegetable mold and water is in abundance, cart it to the bath-houses, grind it in a mill, and pass it into a large tank, where it is mixed with water and heated by steam. From the tank it is drawn off into portable bath-tubs, where it is again mixed, more water added, and the temperature brought to the desired grade. Then it is wheeled into the bath-room, and the unfortunate bather plunges into a black, bad-smelling mixture, where he remains from twenty minutes to half an hour, when he steps into a second tub, full of pure water, to cleanse himself. The mud is too precious to be wasted, so after being used, it is deposited in a great heap, where it is said to remain ten years before it will be fit for use a second time. These heaps remind us in more ways than one of those which the dairy farmer accumulates behind his cow stable. The mud-bath is popularly believed to be very beneficial in all cases,—a veritable cure-all. The physicians questioned on the subject were unwilling to

commit themselves as to its indications and effects, except in the case of hypochondriacs, with one exception, and he said where a poultice for the whole body was necessary, he knew of no more convenient method of applying it."

Betel-Nut Chewers.—The chewing of the betel-nut is one of the curious forms of artificial stimulation practiced among barbarous tribes. It is thus described in the *Leisure Hour:*—

"Betel-nut chewing is universal among the inhabitants of the Malay Peninsula. The betel-nut seems as essential to a Malay as tobacco to a Japanese, or opium to the confirmed Chinese opium-smoker. It is a revolting habit, and if a person speaks to you while he is chewing his "quid" of betel, his mouth looks as if it were full of blood. People say that the craving for stimulants is created by our raw, damp climate; but it is as strong here at the equator, in this sunny, balmy air. I have not yet come across a region in which men, weary in body or spirit, are not seeking to stimulate or stupefy themselves. The Malay men and women, being prohibited by the Koran from using alcohol, find the needed fillip in this nut, but it needs preparation before it suits their palates. The betel-nut is the fruit of the lovely, graceful, slender-shafted areca palm. This tree at six years old begins to bear about one hundred nuts a year, which grow in clusters, each nut being about the size of a nutmeg, and covered with a yellow, fibrous husk. The requisites for chewing are a small piece of areca nut, a leaf of the Sirih or betel pepper, a little moistened lime, and, if people wish to be very luxurious, a paste made of spices. The Sirih leaf was smeared with a little fine lime taken from a brass box; on this was laid a little brownish paste, on this a bit of the nut; the leaf was then folded neatly round its contents, and the men began to chew, and to spit, the inevitable consequence. The practice stains the teeth black. I tasted the nut, and found it pungent and astringent, not tempting. The Malays think that you look like a beast if you have white teeth."

Probably the average tobacco-chewer would condemn the practice above described as uncleanly and abominable, but what would a betel-nut chewer say of a tobacco-user? We know of no mode of stimulation practiced by either barbarous or civilized human beings, which is more detestable than tobacco-chewing.

Narrow Escape from Death by Coal-Gas.—The experience of a family in Batavia, N. Y., recently, should serve as a warning to all who are users of coal, to see that their stoves have sufficient draft to carry off completely the gases of combustion, which are extremely poisonous in character. An examination of the stove would probably have shown a defective draft or a damper in the stove-pipe, either of which is an exceedingly dangerous accompaniment of a coal stove.

"A family by the name of Healey retired to bed at the usual hour, one Saturday night, and during the night so much coal-gas escaped from the stove that the sleepers were rendered insensible, and in that condition they remained until Monday morning. Mrs. Healey regained consciousness about 7 o'clock, when she arose and prepared breakfast. About 8 o'clock she called her husband and son, who responded and ate their meal. They all supposed it was Sunday, and Mr. Healey, who is employed on the railroad, put on his best suit of clothes, expecting to go to church with his wife; but her head pained her so that she concluded to remain at home, and therefore Mr. Healey stayed around the house. Late in the afternoon another son who had been out of town, returned home, when they discovered that they had lost a day in their reckoning."

A Smoker's Blood.—The following incident is a powerful confirmation of the fact observed many years ago by Richardson, that tobacco-smoking produces serious and perceptible changes in the blood:—

"A gentleman of wealth and culture,

with a cigar in his mouth, passed out of an instrument-maker's establishment as a professor of microscopy entered it. The wealthy gentlemen was himself an amateur in the use of the microscope, and had just been trying the power of one upon a drop of blood from his finger. The instrument was still adjusted on the counter, and the professor glanced into it. Inquiring of the proprietor who the gentleman was, he informed him that he was his best customer, buying largely of his instruments. 'And this is a drop of blood from his finger?' asked the professor. To the affirmative answer he said, 'Very well; tell your best customer, if you can without impertinence, that unless he stops smoking at once, he has not many months to live.' He did not stop, but left for Europe in a few weeks to recruit his failing strength, and in a short time his death was announced from Paris, the doctors styling his disease 'a general breaking up.'"

Malarial Germs.—Probably no other one thing, aside from personal habits, is so frequent a cause of illness in most parts of the United States, and in many other portions of the world as well. Notwithstanding the almost universal prevalence of this cause of disease, for many years it eluded the most persevering efforts to discover its real nature, and the most conflicting theories have been propounded respecting it. Recently, however, several observers have been successful in detecting, by the aid of the microscope, a new variety of germ, which appears to be always present when malaria is active, and may be fairly considered as its essential element. One observer found these germs present in the blood of all the patients in a hospital in Algeria who were suffering with malarial fever. They seize upon the red blood corpuscles, and ultimately destroy them. Their form resembles that of a necklace of black beads, and they possess a whip-like motion.

Beecher on Bankruptcy.—The famous Brooklyn divine thinks bankruptcy is a good thing for a man who has children. He says, with much truth as well as force, "I see many men who are bringing up their children as I should bring up mine if, when they are ten years old, I should lay them on the dissecting table and cut the sinews of their arms and legs, so that they could never walk nor use their hands, but only sit still and be fed. Thus rich men put the knife of indolence and luxury to their children's energies, and they grow up fatted, lazy calves, fitted for nothing at twenty-five but to drink deep and squander wide, and the father must be a slave all his life in order to make beasts of his children. How blessed, then, is the stroke of disaster, which sets the children free, and gives them over to the hard but kind bosom of Poverty, who says to them 'Work!' and working makes them men."

Absinthe Drunkards.—In France "Absinthe" is displayed on the window of every saloon, as "beer" is in Germany, "wine" in Italy, and "ale" in America. It is the common drink of the lower classes, who are ready to swallow anything which yields excitement to their restless spirits. It is the beverage of the commune, and its use may lie at the foundation of much of the misery of France; for even Frenchmen recognize its poisonous character, although they continue to use it. The following is a description of the mode of manufacture:—

"The main constituent of absinthe is oil of wormwood. It is made by the distillation of alcohol with water, absinthium (wormwood), and various spices, such as fennel, anise, and coriander. The resulting liquid is diluted more or less, the various brands differing greatly in the amount of water and other substances present in each. It is most frequently made by the simple admixture of oil of wormwood with alcohol and water, various essential oils being added to give pungency."

How any human being can form a taste for such a villainous concoction is a mystery which we cannot fathom. It is probable that the fascination of the beverage lies in its effects rather than in its flavor.

Scientific Buffoonery.—Some scientists seem to delight in doing what is calculated to shock the sensibilities of the unlearned, even going so far in some cases that their own sensibilities must be pretty well tested. For example, M. Paul Bert not long ago entertained a party of friends with crocodile steaks; and Dr. Hermes, director of the aquarium at Berlin, feasted his confreres on the eggs of a snake, a huge python recently arrived from India. How much better for humanity would it be if these men of science, whose fame and influence are world-wide, would set an example of sobriety, and exhibit some experiments illustrating the advantages of simplicity of diet, instead of seeking to startle the world by such repulsive exhibitions!

"A Wave of Temperance."—A prominent English brewer, a member of the House of Commons, is lamenting the falling off of the revenue from liquors, which he attributes to "a wave of temperance;" but he takes comfort in the fact that such a sensational movement is not consistent with the English character, and predicts a reaction, or a wave of intemperance, which will make good the loss, and more. Undoubtedly many a bloated brewer sighs to see the day when his now depleted pockets will again be filled. It is one of the greatest marvels that society will tolerate the existence of such fiends.

Dutch Butter.—The manufacturers of oleomargarine butter in America have for years exported a great share of their product to Holland, where it has been used in the adulteration of butter sent to England, which has given rise to the term "Dutch butter" as a synonym for bogus butter. The sale of butter from Holland has nearly ceased in consequence; but plenty of samples of "Dutch butter" are exhibited on the hotel tables everywhere on the Continent.

London Meat.—The following item, clipped from a reliable exchange, furnishes food for reflection to carnivorous people, and an argument for the vegetarians: "Nearly four hundred and eighty tons of meat unfit for food were seized in the London markets last year."

Coffee-Drunkards.—The term is quite common in Russia, and is certainly appropriate; for it is by no means difficult to become actually intoxicated by drinking a dozen of the little cups of black coffee as it is prepared in that country.

For the Sick Room.

Hot-water Bottles.—For many purposes, dry heat is better than moist, as for warming the feet or hands, and in many cases of neuralgia. Water cools more slowly than most solid substances, and hence a bottle filled with water will retain its heat a long time. The water may be made to retain its heat still longer by adding salt. A still better fluid is a solution of acetate of soda, which may be made by dissolving ordinary baking soda in strong vinegar as long as effervescence continues.

Granulated Eyelids.—We have found the hot spray applied to the eye one of the most useful of all means of treating this disease. If a spray apparatus is not at hand, simply laving the eye with water as hot as can be borne without inconvenience may be employed. The application should be made daily for several months, as this disease is one which requires months, and in some cases, years, for its successful treatment.

Noises in the Ear.—This most unpleasant accompaniment of disease of the ear is sometimes so distressing that the patient is rendered almost frantic. Indeed, cases of insanity have been traced to this cause alone. Some cases may be relieved by simple inflation of the ear, which may be done by grasping the nose with the thumb and forefinger in such a way as to close it completely, closing the mouth, and then making an effort to expel the air through the nose. This should not be repeated oftener than two or three times a week.

Publishers' Page.

☞We mailed most of the copy for this number of GOOD HEALTH from Strasburg, Germany, famous for its goose-liver pies and its wonderful clock. We have since completed the object of our visit to Europe, and are safe at home again. We have spent our vacation hard at work in the hospitals of London, Paris, and Vienna, and in visiting the most famous of the various medical establishments in England and on the Continent. We have received many valuable suggestions, and made many valuable additions to our store of information, which we hope to make useful to others in connection with our work at the Sanitarium, and otherwise. We have also found time for the completion of some small works which we have had in hand for a year or two, and which we hope to get through the press speedily. We have done a little sight-seeing by the way, and have had a pretty good opportunity to study the habits and character of the people among whom we have traveled. We have come home well satisfied with the results of our trip, and refreshed in mind and body.

☞Just before leaving London, we had the pleasure of a brief visit with the able editor of the *London Temperance Record*, the leading temperance journal of Great Britain, and one of the most vigorous exponents of temperance in the world. The Temperance Publication House, by which this journal is issued, is one of the largest and most flourishing institutions of the kind in England, and issues a large number of most excellent publications. We were also pleased to meet Mr. Evans, who is connected with this house, and whose name is familiar to American as well as English readers, as an able temperance writer.

☞For some years we have contemplated the preparation of a complete work on "Foods and Healthful Cookery," and have been collecting material, and making investigations with reference to the work for a long time. We are now arranging for the establishment of an experimental kitchen, which we shall place under the charge of a scientific and experienced cook, for the purpose of conducting a series of experiments during several months, with a view to improve the methods of cookery in relation to health. The results of these experiments will be embodied in the new work, and the practical portion of the work will be prepared by Mrs. K., whose health is sufficiently improved by her European trip to enable her to do a larger amount of literary labor than heretofore.

☞A great temperance convention will be held at Lake Bluff, Ill., Aug. 14 to 24. The following announcement we clip from the *Union Signal*. The general plan will be a discussion of the theme "Alcoholism and its Remedy." Among the prominent topics of lecture will be the following:—

License—Its History and Results. BY JOHN B. FINCH.
Prohibition—Its History and Results.
Alcoholism as related to Crime. BY GEO. C. CHRISTIAN.
Alcoholism as related to Insanity and Idiocy.
Alcoholism as related to Disease. BY I. N. DANFORTH, M. D.
Alcoholism as related to National Prosperity.
The Delusions of Alcoholism. BY J. H. KELLOGG, M. D.
Alcoholism as related to Heredity. BY MARY WEEKS BURNETT, M. D.

☞We notice in several of our exchanges the following statement: "Dr. Hammond, formerly Surgeon General of the United States army, says: 'I know of no possible condition which renders the use of whisky, gin, rum, or brandy necessary or proper.'"

Something like twenty years ago, Dr. Hammond conducted a series of experiments for the purpose of demonstrating that alcohol and tobacco are useful foods, and hence may be used habitually with advantage. He claimed to have found conformation of his theory in the results of his experiments. The advocates of the habitual use of these poisons have fortified themselves behind the so-called scientific experiments of Dr. Hammond. We should be glad to believe that the Doctor has repudiated his former position, and become a temperance reformer; but from what we know of him, we consider this to be in the highest degree improbable; and we have no doubt that he would feel himself very much abused and misrepresented by the above paragraph, should he become aware of its circulation.

☞We are delighted to see that our good friend, Dr. Norman Kerr of London, gave a vegetarian dinner the other day to a large company for the purpose of demonstrating the fact that a wholesome and palatable meal can be produced without animal food, and at an exceedingly small expense. Dr. Kerr is not himself a vegetarian, but is a physician of large experience and extensive research, and is always ready to give the weight of his large influence in favor of every good reform. Although several hundred persons were present at the banquet, the cost was less than $10!

☞Mrs. J. Ellen Foster, who spent a short time at the Sanitarium last summer, has been making a very successful tour in the Southern States. Her first lecture was in Memphis, Tenn., and was highly applauded as a most eloquent and logical plea for prohibition. Mrs. Foster is one of the most gifted of the numerous lady temperance lecturers now before the public.

☞Dr. P. M. Lamson, the senior member of the Sanitarium physicians, has just gone to her home in New York, to spend a short vacation.

☞We recently had a short visit from one of our patients, whose face is familiar to many of our patrons, Prof. D. Moury, of Vanderbilt University, formerly of Goshen, Indiana. The Professor is adding a knowledge of medicine to his other acquisitions, and we suspect is making shrewd designs upon the public, which will ultimately develop themselves in the shape of a little Sanitarium somewhere.

☞Among our recent arrivals here are Mrs. Judge Sherwood and daughter of Kalamazoo, who were with us a few weeks five years ago. The Judge is also spending his summer vacation with us. We hope to do much to relieve Mrs. Sherwood, the patient, from the ills with which she has been tormented for many years.

☞Our old friend, T. J. Cox, Vice-President of the National Bank of Iowa City, is again with us, together with his estimable wife, his son, and accomplished daughter. Mr. Cox is always a welcome visitor.

☞During the week ending July 28, the number of arrivals at the Sanitarium reached forty-five. During the preceding week thirty-eight guests were registered.

☞The present season is thus far a remarkably healthy one in Michigan. The constant cool weather has prevented the prevalence of bowel diseases, which have prevailed so extensively elsewhere. Taken altogether, we know of few healthier places in the world than the Peninsular State.

☞The Sanitarium grounds never looked so beautiful as just at present. The plentiful rains have given the lawns, groves, and flower gardens a freshness and luxuriance which could not be surpassed. The large fountain in front of the main building, the hammocks swinging among the trees, the little groups of patients gathered in the shade, and the frequently arriving hacks and carriages with new patients, make the place a busy and attractive scene.

THE SANITARIUM.

☞ We were glad to find on reaching home a goodly number of patients at the Sanitarium, most of whom are making substantial progress toward recovery. The last two weeks the number of arrivals has been greater than any previous year during the same time, and at the present rate of increase the total number will be swelled to two hundred before another two weeks is past. Our well-organized force of attendants and nurses, and the strongest medical corps we have ever possessed, enable us to care for the large number of new patients promptly and satisfactorily. A large number of cottages have been secured, so that we hope to be able to accommodate all who may come, even should the number swell, as we expect it may, to three hundred or more.

☞ For several years we have been having many applications, through physicians and otherwise, from persons who wish to gain a thorough and practical knowledge of nursing. After deliberation upon the subject, we have decided to organize at the Sanitarium, the coming fall, a "Training School for Nurses." The School will probably be opened about October 1, and will continue six months. The course of training will comprise all departments of nursing, including surgical nursing, bandaging, monthly nursing, etc. The large number of patients requiring nurses, and the great variety and constantly increasing number of surgical cases, afford a rare opportunity for practical experience in connection with theoretical study. The course will also include the use of massage, the use of electricity, water, Swedish movements, and other remedial agencies. Terms for board and tuition for six months, $150. A limited number of persons will be allowed to pay their expenses in work during and after the term of study. Prospectuses of the course will be ready in a few weeks.

☞ On reaching home, we were glad to find the Sanitarium corps of physicians efficiently reinforced by Drs. Smith and Maxson, who have recently completed their medical education at two of the most distinguished schools in the country, Dr. Smith graduating from the medical department of the University of Pennsylvania, and Dr. Maxson from the University of Michigan. Both gentlemen have already established a reputation in the Sanitarium as medical men, having spent their vacations here, engaged in duties connected with the medical department. Their hosts of friends congratulate them upon the completion of the arduous course of study required by our first-class medical colleges, and entertain for them the brightest anticipations respecting their future professional career.

☞ Judge Scott and lady are among our most welcome guests. The last time we saw the Judge, he was departing for home against our most earnest protests, having come here a few weeks before, with one lung so diseased that his case seemed almost hopeless. He had made marvelous improvement, but was still in so precarious a state that we thought it the height of imprudence for him to return to his home and business. However, by the aid of indomitable pluck and the skillful nursing of his intelligent and devoted wife, he has made a most excellent recovery, and comes back to exhibit himself as a man raised from the very brink of the grave, and under circumstances not the most favorable. Mr. and Mrs. Scott always have a cordial welcome from all who have had the pleasure of making their acquaintance.

We were also delighted to receive a short call from our friend, Mr. Fred Scott, son of the Judge, who was also at one time a patient here—afterward assistant to us for some time as stenographer. He has now nearly completed the classical course at the University of Michigan, and during his vacation is acting as city editor of "*Chaff*," one of the most popular State papers published in Detroit. We were hardly prepared to recognize in the tall, broad-shouldered, stalwart young man whom we met at the door, carrying an avoirdupois of one hundred and sixty pounds, the lank, thin-visaged youth who could hardly turn the scales at ninety-five three or four years ago.

☞ We were happy to greet among the few patients whom we had met before, our old friends, Rev. Mr. Meack and wife, who were present with us for several months six years ago. Mr. Meack, at the time of his first visit to us, was so completely broken down in health that we had little hope of recovery, but we were happy in helping him to so complete a recovery that he has since been able to engage almost constantly in his arduous duties as a minister, and now he returns to us, not broken-down in health, but simply for the purpose of recruiting from the results of too prolonged and arduous labor.

☞ Eld. A. S. Hutchins and wife, of Vermont, who have been stopping a few weeks at the Sanitarium since our absence, left us a week or two ago for their home in Vermont, much to the regret of all, as their presence and labors among patients and helpers have been of great value, and were highly appreciated. We were sorry to have Eld. Hutchins leave us, as his arduous labors for others had materially retarded his progress healthwise, and it seemed to us that should he regard the indications of duty to himself, he would have remained a patient with us for several months to come.

A FORMAL RECEPTION,

EXTENDED TO DR. J. H. KELLOGG BY THE SANITARIUM AUTHORITIES, PATIENTS, AND GUESTS.

DR. J. H. KELLOGG, Managing Physician and Superintendent of the Medical and Surgical Sanitarium of this city, having returned Saturday night from a five months' absence in Europe, the Board of Directors and guests of that institution extended him a formal reception and welcome in the parlors of the Sanitarium last evening.

The parlors were handsomely decorated for the occasion with evergreens and flowers, while the central columns of the large room, which were entirely hidden by trimmings, supported an arch, upon which were inscribed the words, "Welcome Home," and above which hung an artistically constructed floral bell. The tasteful arrangement of the parlors was the labor of the ladies of the institution, under the direction of Mrs. Doolittle, mother of Mrs. J. H. Ballagh, who has been a patient at the Sanitarium since her injury in the Chicago & Grand Trunk Railway disaster.

The reception rooms were well filled with the guests of the institution, who were noticed to be ladies principally, most of them being able to sit during the exercises, while a few unfortunate ones were brought in on their cots, or in easy chairs tipped back in a reclining position. The center of the room was reserved for the directors, physicians, matrons, house-keepers, and nurses, in the midst of whom was Dr. Kellogg.

In response to the earnest solicitations of her friends, Mrs. J. H. Ballagh appeared, attired in her full wedding costume, for the first time since her marriage. It will be remembered that Mrs. B. was injured in the accident of the C. & G. T. road, April 27, while on her wedding trip, and has been a patient at the Sanitarium ever since.

The exercises commenced by prayer, Eld. A. S. Hutchins returning thanks in an appropriate and impressive manner, after which a quartette consisting of Mrs. S. I. Abbey, Mrs. C. E. Powell, Prof. Stone, and Mr. T. O. Lewis sang a song of welcome.

Eld. Hutchins then briefly reviewed the history of Dr. Kellogg from his boyhood, and by some very amusing anecdotes proved in a facetious manner that his theme had always been water, water, and it was not strange that he had ridden his hobby into the present magnificent building, and had become the controlling spirit of this extensively known water-cure. He spoke of the liberal support which the institution was receiving, and said that during the doctor's absence of five months 533, people had received treatment there, by actual count, and that today the building was taxed to its full capacity. His remarks were full of information concerning the institution, and were delivered in an exceedingly entertaining manner.

On the part of the Board of Trustees, Mr. A. R. Henry, one of the members, extended to Dr. Kellogg the hand of friendship, and assured him of their hearty co-operation, in well chosen terms.

Dr. Smith extended the congratulations and welcome of the staff of medical advisers connected with the institution, in a clear, earnest tone of voice, which, together with his well-selected terms, attracted the deep interest of his listeners. The doctor's remarks were arranged with care, and received with applause.

Dr. Kellogg responded by informing the audience that his tour abroad was not one of pleasure, but one of labor and research. He had visited many large health institutions while absent, to find, if possible, something of the kind superior to the Sanitarium, but had not succeeded; and while many things had suggested themselves to him for information and adoption, he had found nothing to copy. The doctor assured the patients that he had finished his book-writing, and could now devote the whole time to them. He said he wrote the last line in his latest production while entering New York harbor. He assured the managers and patrons that the institution was founded upon a principle, and had vigor and constitution enough to stand, even should the present medical faculty all step out, as it was not dependent upon any person or set of persons. He extended thanks for the honor accorded him by the demonstration of welcome.

The speaker was followed by Dr. French, who paid the executive ability of Dr. Kellogg a high encomium, by stating that it was due to him that the building was reared and the present complete facilities for treating patients attained. He said he hoped that the trip taken by the doctor had been the means of strengthening him mentally, physically, professionally, and morally, if the latter were possible. His remarks were received with applause.

Dr. C. T. Newkirk, of Bay City, also made remarks of a complimentary nature to the institution, as did also ex-Mayor W. C. Gage, both gentlemen being brief, owing to the lateness of the hour.

The quartette sang "Home, Sweet Home," after which the company quietly dispersed. The whole affair was under the direction of the matron, Mrs. L. M. Hall, who discharged the duties of presiding officer in an easy, graceful, and satisfactory manner.

A word in reference to the managing physician. He returns to the institution greatly invigorated by his short vacation abroad, and armed with an experience gained from an observation of the practice of the best institutions there, which will be of benefit to those visiting the Sanitarium for purposes of health.

The advertising which those enjoying its benefits have given it abroad, will crowd its already limited capacity, and even now the Board of Trustees are contemplating enlarging its present facilities to accommodate those who may apply. The Sanitarium keeps up with the times by observing all of the modern improvements, and adopting them as fast as they prove satisfactory.—*Battle Creek Journal.*