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ARE WE A DYING RACE?*

BY J. H. KELLOGG, M. D.

IT is the prevailing fashion at the present time, as it has perhaps been in all previous times, for men to congratulate themselves upon their superiority over their predecessors. That the present generation is superior to all others in its wealth of knowledge is, without doubt, true. It could scarcely be otherwise, since knowledge is naturally cumulative by inheritance. Libraries are inherited, as are horses, lands, and bank accounts. Observation shows that intelligence is transmitted in like manner; and there is abundant reason to believe that health, endurance, and longevity might be increased by the same method of natural accretion.

The practical question to which I wish to call attention is this: While we are evidently growing wealthier and wiser, are we growing stronger or weaker? "Weaker and wiser" the adage runs, and unfortunately the facts sustain the popular impression. Notwithstanding our marvelous accumulations of wealth and wisdom, we are certainly going down physically toward race extinction. This assertion will doubtless appear in the highest degree reckless, and perhaps absurd, in view of the well-known fact that the average length of human life has been doubled within the last two centuries, as is clearly shown by reliable vital statistics. In defense of the position taken, it may be said that vital statistics are not the true measure of the constitutional vigor of the race; the average length of life does not represent the vital capacity of the race. The true measure of vital endurance is not the average longevity, but the number of individuals per thousand or million who attain great age.

Another measure of racial vigor is the power to resist degenerative changes in the individual, as shown by the number of organic diseases; that is, such maladies as result from tissue degeneration. The fact that the average length of life in the city of Geneva two hundred years ago was only about twenty years, while at the present time, in civilized countries, the average longevity is more than forty years, does not indicate that the vigor of the race has doubled. The sole indication is that a sufficient number of persons have been kept alive to double the average.

Sanitarians pride themselves in having saved millions of lives, thus doubling the average length of human existence; and the credit claimed for sanitary science is

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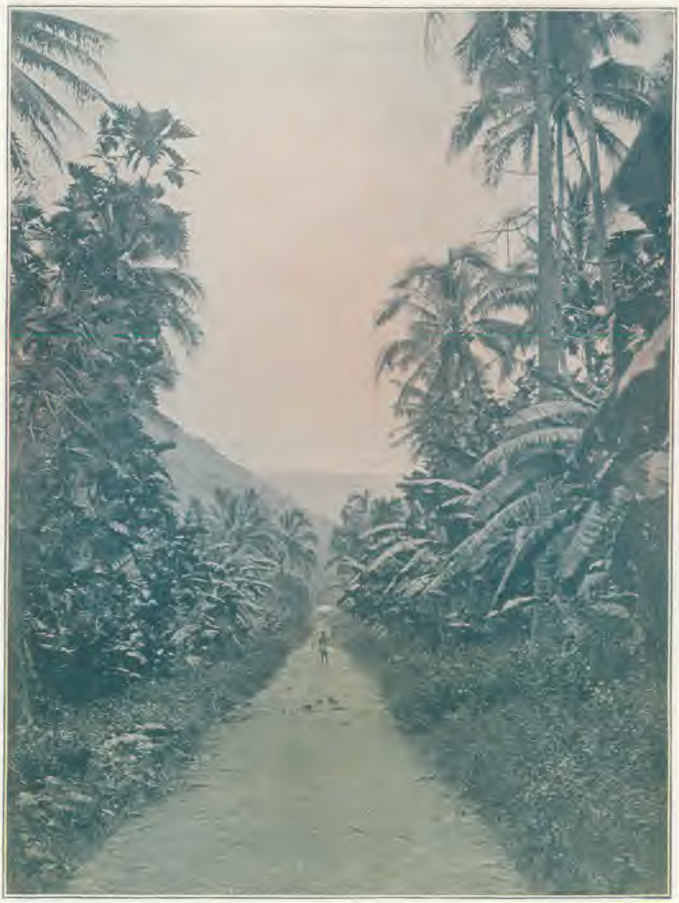
justly its due. Nevertheless, we must not see in this great increase in the average length of human life an indication that by a continuation of the same method human longevity may be indefinitely or even very greatly increased. Sanitary science is practically a modern innovation. Two hundred years ago artificial means for limiting the natural operation of epidemics, plagues, and pestilences were almost altogether unknown, and consequently these death-dealing agencies operated as a means of natural selection, — a weeding out of weak, weazened, puny, constitutionally tainted, and feebly resistant individuals, and a keeping alive of the strong, vigorous, pure-blooded, strong-lunged.

When cholera invades a community, although all may be exposed, not all suffer from the disease. The same is true of typhoid fever and similar maladies. The man who has a sound stomach is able to digest cholera germs as well as other vegetables; thus they are rendered incapable of doing him harm. The gastric juice of a healthy man readily destroys typhoid fever germs, and, in fact, germs of every description. The man whose liver is sound, whose hepatic vigor has not been consumed in the disinfection of the blood rendered impure by the absorption of poisons from infected food or the decomposing contents of an overloaded stomach and bowels, is able to combat successfully the poisons generated within the body by the invading microbes of typhoid or yellow fever or malignant malarial parasites, and so to bring the possessor of such a well-kept liver safely through the vital cyclone which we denominate cholera, typhoid fever, or a pernicious malarial attack; whereas the man whose liver has been spoiled by whisky, tobacco, gormandizing, excessive consumption of effete meats, or blistering condiments, succumbs to the onslaught of these disease germs, which would be powerless to injure a perfectly sound man, or one whose vital organs had been maintained measurably intact.

The plagues and pestilences of the Middle Ages acted as a measure of securing the "survival of the fittest," the result of which was a race of men many of whom were capable of living to more than three times the present average span of human existence, — a fact which is partly obscured by the low average length of life. But this low average was simply the natural result of a high death rate due to pestilence, which sometimes carried off millions in a single year, and actually depopulated whole cities and provinces; while at the present day sanitary science has shown us how to hold at bay such death-dealing agencies as cholera, yellow fever, smallpox, and other epidemic disorders which are found knocking at the door of our seaports almost weekly, by the erection of a sanitary cordon. The same principle applies to such maladies as scarlet fever, diphtheria, measles, and we may also say pulmonary tuberculosis, or consumption, although the latter has as yet been only to a small degree brought within the pale of sanitary restrictions.

Every one who has studied the subject of centenarianism must have been struck with the fact that examples of great age have rapidly diminished within the last century. Going back to the early ages, it is interesting to notice the uniformity with which men lived to advanced years. For instance, Abraham lived to the age of 175; his son Isaac died at the age of 180; Jacob, 147; and Ishmael, 137. Still farther back in the history of the world we find the same uniformity, with a far greater extension of life. Pliny tells us that in the time of the Emperor Vespasian, a little more than eighteen hundred years ago, there lived in the portion of Italy lying between the Ap-



A SAMOAN SCENE NEAR APIA.

ennines and the Po, one hundred and thirty-four persons who were more than one hundred years of age. Of those persons, three had reached the age of 140; four, 135; four, 130; two, 125; and fifty-seven, 110. At the present time, where could such a collection of supra-centenarians be found? Henry Jenkins, an Englishman, was born in 1501 and died in 1670, aged 169 years, his age being proved from the registers of the Chancery Court. Old Parr, another Englishman, born in 1463, lived 152 years and nine months, and then died from high living while on a visit to the king at London. Jean Korin, a Hungarian peasant, lived to the age of 172 years. It is said that at the present time the greatest number of persons above one hundred years is found in Hungary. One Hungarian peasant, born in 1537, lived to the age of 185 or 187 years, and was able to walk a mile only a few days before his death. His remarkable age, which was ten years greater than that of Abraham and five years more than that of Isaac, was attributed to the simplicity of his diet, which consisted of simple cakes of grain, with milk. There was living in Moscow, in 1848, a woman aged 168 years. Van Owen tabulated ninety-one cases of death at the advanced age of 120 to 130 years, thirty-seven between 130 and 140, and twenty-eight at 160 and beyond. Lord Raleigh made famous historically the Countess Desmond, who appeared in court in the year 1614, at the age of 140, still in the full possession of all her faculties, both mental and physical. A Dane, born in 1623, lived until his 146th year. Jean Effingham died in Cornwall in 1757, aged 144 years. Numerous other similar instances might be cited, in which persons in the centuries immediately preceding the present, have lived to an extreme age, although it must be noted that for examples of very extraordinary longevity it is necessary to go back a century or two.

Those who have studied the subject of longevity have exhibited considerable skepticism respecting the extraordinary ages recorded, notwithstanding the reliability of the evidence presented, asserting that since the Christian Era no persons of royal blood or of noble lineage, the length of whose life is recorded in history, has reached the age of one hundred years. This observation is easily accounted for by the fact that so-called noble blood is not conducive to long life. History records the names of very few rulers who have attained the age of fourscore. Of three hundred popes, only five reached eighty years. The examples of great longevity are all to be found in the lowly ranks of life, among peasants and common laborers, and a study of the habits of centenarians has shown them to be, without exception, persons of simple habits of life. The majority of them used neither spirits nor tobacco, and many have abstained even from meat and stimulating foods of all kinds, living upon the simplest and most frugal fare.

The German government has recently collected some interesting statistics relating to longevity in that country. From these it appears that in 1888 there were ninety-one persons in Prussia who were over a hundred years old. Between 1864 and 1886, upward of 7,000 persons over one hundred years of age died, and of these 155 were more than 109 years old. A study of these statistics will develop a very interesting and significant fact. If between 1864 and 1886, 7,000 persons died at the age of over 100 years, the number of deaths of this age in each year may be ascertained by dividing 7,000 by 34. The result is nearly 300, which represents the minimum average number of persons of this age alive in each year between 1864 and 1888. This does not

represent the total average number of persons alive in each year between these periods, since 155 persons died who were more than 109 years of age, and there must have been at least nine times that number who were over 100 years of age, as it is not at all unlikely that there were more deaths of persons at each age less than 109 and upward of 100 than persons over 109. Multiplying 155 by 9, and dividing by 24, gives us 58, which, added to 292, gives exactly 350 as the minimum average number of persons over 100 years of age alive each year between 1864 and 1888. In 1888, however, there were but ninety-one persons alive in Prussia who were over 100 years of age, indicating a very great decrease in longevity within twenty-four years, the total number of persons alive upwards of one hundred years being only one fourth of the average number alive at that age during the whole period of twenty-four years. The actual decline from 1864 to 1888, must, however, be much greater, since 330 represents not the number of persons alive in 1864, but the average for the entire period from 1864 to 1888.

Taking this fact into consideration, the number of persons upwards of 100 years of age alive in Prussia in 1864 must have been more than six hundred. Such a dropping off in longevity within less than a quarter of a century is certainly a most appalling and significant circumstance. This fact is one which sanitarians who write respecting the possible improvement of the human race under the influence of improved sanitation, would do well to consider. Public sanitation, quarantine laws, and general hygienic regulations serve a most useful purpose in the prevention of epidemic and endemic diseases; but the result of this protection is the keeping alive of a great number of poorly organized, constitutionally weak, hereditarily feeble, individuals who would otherwise die, and so the death-rate is diminished and the average length of life is increased; but the race is not thereby benefited, but is, instead, weakened, for these defective individuals are kept alive only to intermarry with the well, and by the inexorable law of heredity their weaknesses and deficiencies are transmitted, and thus the actual constitutional vigor of the race is diminished. It thus appears that our modern boasted sanitation is not an altogether unmixed good; it is, indeed, a source of racial deterioration, since it negatives the operation of the natural law of selection. Nevertheless the writer is heartily in favor of public as well as private sanitation, and would not for a moment suggest less attention to public hygiene, but more earnest attention to the hygiene of the individual, physically, mentally, and morally.

(To be continued.)

ASPIRATION.

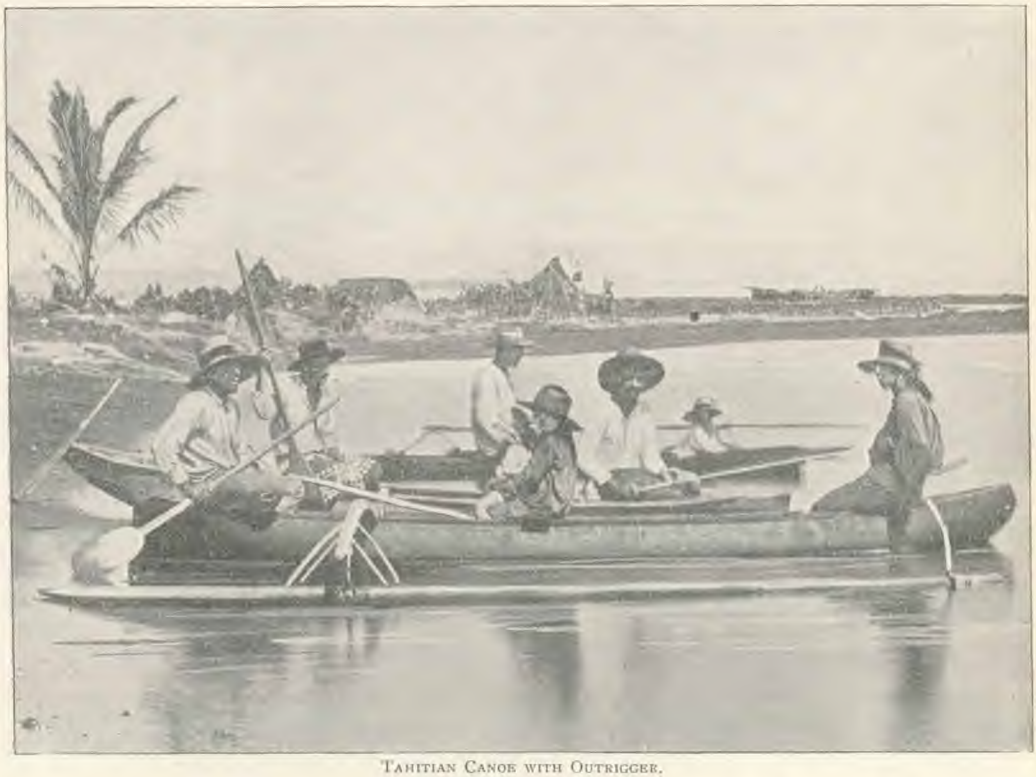
LORD, let me not be too content
With life in trifling service spent,—
Make me aspire!
When days with petty cares are filled,
Let me with fleeting thoughts be thrilled
Of something higher.

Help me to long for mental grace
To struggle with the commonplace
I daily find.
May little deeds not bring to fruit
A crop of little thoughts, to suit
A shriveled mind.

—*Helen Gilbert, in the Independent.*

AN ISLAND PARADISE.

THE opening of steamship lines between San Francisco and Vancouver and Australia has made the hitherto almost primeval region of Oceanica, or Oceania, easily accessible, and brought the unsophisticated islander and his curious abodes under the gaze of the eager traveler. One of these lines of steamers calls at Fiji, and the other at Samoa. The former name has long been identified with cannibalism and savagery in its worst forms,— an association which, however, has been long broken off in fact; so that now the stranger is as safe in the forests and glades of those islands as upon his own estate, and more so than at night upon the streets of his own city.



TAHITIAN CANOE WITH OUTRIGGER.

The route we have chosen lies by way of Samoa, the "lotus land of the Pacific," and fortunately, too, for those who desire to see nature, inanimate and sentient, in its most attractive and uncorrupted forms. The fourteen islands which compose the Samoan group, of which Upolu, Savaii, and Tutuila are the principal, are of volcanic origin, being thrown up from the depths of the sea in rough and ragged contour. They are covered from shore to apex with the everlasting verdure of tropical growth. The inexpressible beauty of the scenes continually presented confirms the hopeful seeker after Paradise that he is almost there.

The village of Apia, the center of government and the landing-place of steamers, is situated on the island of Upolu. It is a small, straggling town of one street, deriving its importance entirely from its

political and commercial standing. This, of course, could not be very considerable in a country of less than two thousand square miles, and not over thirty-six thousand people.

No sooner do the rattling anchor-chains come to rest in the harbor of Apia than our vessel is surrounded by a multitude of boats and canoes from the shore. Many of these are "dug-outs," held in proper position by an outrigger, and are propelled through the water by paddles or the wind at a rapid rate, and may often be met at sea several miles from shore, and in rough water. This style of boat is common in both the Pacific and Indian oceans.

THE CHIEF'S HOUSE AT APIA, SAMOA.

From the boats, and the water as well, come swarms of natives, who throng our decks, and smilingly greet us with the modest suggestion to purchase from their boat-load, or armful, or basketful of shells, shell beads, coral, fruit, cocoanuts, fans, war-clubs, or other trinkets. For reply, we first gaze at, then admire, their splendid physique, but we stare less delightedly at their bushy heads, the hair of which has been stiffened with lime till it is bleached to the coveted red or sorrel color which is the pride of the Samoan.

Invitations to go ashore are generally accepted if the steamer will tarry long enough to permit. Otherwise this call is all the traveler gets of South Sea Island life. But even if he is allowed to stroll about the dull, sleepy town, he sees little to claim his attention. At Apia one gets but a poor idea of the simple life of the half-civilized islander. To see this in its most unadulterated form, one must visit some of the smaller islands.

Dr. and Mrs. F. E. Braucht, who have recently gone to Samoa as medical missionaries, and opened a small sanitarium

MAKING KAVA.

in Apia, write thus of the customs of the people : —

"Perhaps some may have an idea that because we are working among South Sea Islanders our patients are dirty heathen living in miserable hovels, but that is not true. Our patients usually come to us ; but when they are too ill to do so, and we go to their homes, we usually find them in neat little Samoan houses or huts, lying on a mat with perhaps a *lava lava*, or loin cloth, thrown over them.

"The Samoan house is built by placing poles in the ground in a circle, and putting a thatched roof of sugar-cane leaves on the top. Around the sides cocoanut-leaf mats are hung, fastened at the top, and arranged in such a way that they can be let down to keep out wind and rain. The floor consists of small pebbles gathered from the beach and spread on the ground, over which mats are laid.

"The natives sleep and eat in the same room. At night they spread sleeping-mats upon the floor, and lie down to rest with a bamboo pillow under their heads. They remove their *lava lava* and spread it over them from head to foot, and then go to sleep, awaking in the morning refreshed and apparently much more rested than had they slept on a fine hair mattress, with good springs, and a soft feather pillow under their heads.

"They have no regular time for meals, but eat every hour if they happen to feel like it. The food is cooked in the morning, and put away in baskets to be eaten cold. At meal-time it is placed on leaves on the floor, and the fingers are used in place of fork and spoon. We have several times sat down to such a repast, and really enjoyed the food. Their oven is simply a hole scooped out in the ground, in which a fire is built and stones placed over it. When the stones become hot, the food is placed upon them and covered with leaves. On the top of this, more stones and earth are placed. Food prepared in this way is very palatable.

"The Samoans are polite in their manners. They always say, 'If you please,' and 'Thank you,' and instead of saying, 'Excuse me' when passing in front of another, they bend quite low. They do not kiss on meeting friends whom they have not seen in a long time, but instead rub or touch noses."

Hospitality on the islands is of the patriarchal kind, free and plenteous. When a stranger first arrives at a village, he is presented to the chief, by whose direction a house, called the guest-house, is set apart for his use while he is with them. It devolves upon the Maid of the Village, with her attending maidens, to see that the house is prepared for the guest, and to entertain him during his stay. In Mr. Wagner's case, three of these maidens acted as his entertainers, and right royally did they fulfil their mission.

The first act of hospitality shown a stranger is an invitation to drink *kava*. Mr. Wagner, in a late *Harper's*, thus describes the ceremony as it was performed on his arrival at the village on Manono : —

"Here [at the chief's house] were assembled Falatta himself and a number of old men and chiefs, prominent among them were the 'talking man,' or public orator, and an extraordinary-looking individual named Peisano, the chief's jester. They were all seated in a semicircle round the floor, cross-legged in that peculiar attitude only possible to the supple-jointed Polynesian. In the center sat the two girls who were to prepare the kava. Having first carefully rinsed their mouths and washed their hands with water brought to them by an attendant, they proceeded solemnly to chew pieces of the kava-root cut up and handed to them by one of the men. When the mass had been thoroughly masticated, it was placed in a large four-legged wooden bowl, which

stood between the girls. Water was poured upon it from the cocoanut shells always kept hanging in the cool shade of the thatch, and they proceeded to knead and squeeze it till all the juice was extracted. They then strained and skimmed it with long wisps of delicate pandanus fiber, till at last the bowl was filled with a liquor that in appearance was not unlike *café au lait*.

"All being ready, one of the girls clapped her hands twice, while the other dipped a polished cocoanut-shell cup into the bowl and filled it to the brim. The 'talking man' now stood up, and called 'Ooatenah,' which was the nearest approach a Samoan could make to the pronunciation of my name. The Maid of the Village took the cup, and advancing slowly, with bended head, to where I sat, bowed to the ground, and handed it to me. Having first turned aside, and, in correct Samoan fashion, spilled a little on the threshold as a libation, I looked toward the chief, said 'Manuia,'* to which they all replied 'Manuia lava,' drained the bowl, and handed it back to the maid. The 'talking man' now called the name of Falatta, the cup was handed to the chief, and the same routine gone through; and so on until each man, in his turn, according to his rank or seniority, had been served. The whole ceremony, from the commencement of the preparation of the kava to the drinking of the last cupful, was conducted with the utmost solemnity, as the Samoan looks upon it almost as a religious function, the libation being always poured out as a propitiatory offering to the household gods."

In the evening, just before he retired, Mr. Wagner was subjected by his fair entertainers to a course of *lomi lomi*, or massage. He thus describes his experience: —

"A pile of soft mats was laid, and on it was placed one of their curious pillows, formed of a piece of bamboo about three feet long, which is raised about six inches from the mat by a short pair of legs placed at each end. I stretched myself out, one of the girls seating herself at my head and one on either side of me. The former deftly ran her fingers through my hair and over my face and neck, while the others rubbed, kneaded, and punched my back, chest, arms, and legs with a skill and lightness of touch that no professional 'masseur' could imitate. By and by I began to feel as if charged with electricity, and glowed and tingled from head to foot, till gradually a delicious drowsy feeling stole over me, and I dropped off to sleep."

The attire of the islanders is of their own manufacture. Tapa, a cloth made from the inner bark of certain trees by beating it to a pulp and then beating several layers together, is the usual material for their wardrobe. A small quantity of this, with a broad fringed girdle of brightly colored fiber and a long string of shell beads, suffices for the demands of a Samoan belle, who wears her scanty wardrobe with as much grace and modesty as any European or American. Ideas of modesty in dress are taught us rather than inborn; and the simplicity of the islanders in this respect is indicative of innocence rather than vice. It is true that these children of nature are susceptible to the degrading influences of vicious white men. Tobacco, whisky, and other such tokens of civilization are readily received by them, and these terrible curses are fast sweeping these races away.

*Good health to you.

PRACTICAL HYDROTHERAPY.

A Portable Shower Bath.

BY J. H. KELLOGG, M. D.

THE accompanying cuts illustrate, somewhat imperfectly, a very simple but efficient shower-bath apparatus which is comprised within so small a compass that it may be readily carried in a trunk or even a valise. The apparatus consists of a metal vessel with a perforated top so constructed that when it is inverted, the water does not run out until a small plug is pulled out by means of a string attached. The apparatus is ready for use as shown in Fig. 1. Fig. 2 shows it in actual operation.

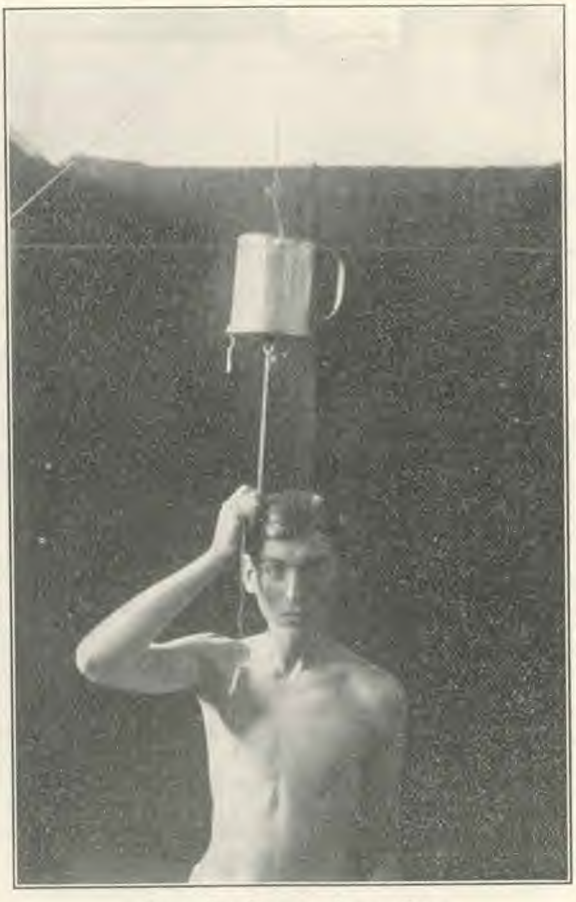


FIG. 1. THE PORTABLE SHOWER BATH.

The advantages of the shower bath as a hygienic means can scarcely be overestimated. While not absolutely indispensable for the morning tonic bath, it is certainly one of the most convenient and effective means of applying cold water in such a way as to secure highly tonic effects.

The contact of cold water with the skin rouses the nerve centers in a most remarkable manner. The impression made by the contact of cold with the skin is conducted to the nerves which control the centers of sensation; and these in turn stimulate the nerves which control the muscles, the stomach, the liver, the intestines, the bladder, the lungs, the heart, the brain, and every other internal organ. Indeed, the power of cold applied in this manner to arouse the nerve centers is so great that it is the most effective of all means of restoring the equilibrium of an intoxicated man. It is a custom with sailors sometimes to throw a drunken comrade overboard, the contact with cold water bringing him quickly to his senses. It is the custom at the Workingmen's Home in Chicago to employ the cold shower bath as a means of sobering up the unfortunate victims of drink who are brought in daily, often a score or more in

a single day ; and it rarely if ever fails to accomplish the desired results, and in a very prompt and efficient manner. A cold shower bath is equally efficient in reviving a person under the influence of opium or any other narcotic drug.

The above facts are mentioned simply to illustrate the powerful tonic effects of the cold bath. The cold bath is, in fact, a natural stimulant. It actually increases the power of the muscles to contract. In an experiment made under the direction of the writer for the purpose of determining the effects of the cold shower bath upon muscular strength, it was found that the total strength was increased nearly fifteen hundred pounds, or about twenty-five per cent.

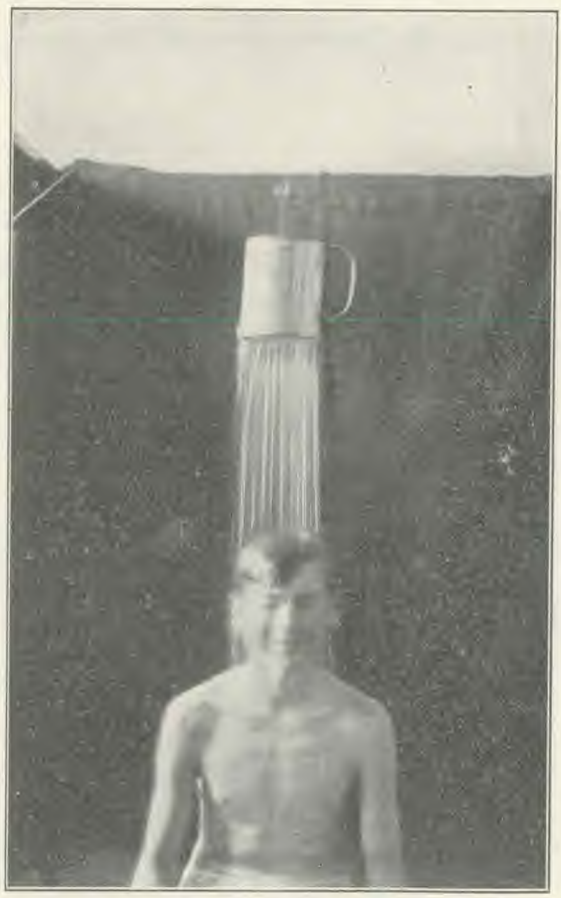


Fig. 2. The Bath in Use.

In like manner, the cold bath increases the activity of the heart, which thus sends the blood with greater vigor and force through the arteries and veins. In consequence, the activity of every internal organ is quickened.

The bath acts directly upon the brain, rendering brain action more vigorous, thus enabling the individual to think with greater ease and clearness.

The liver makes more bile, the gastric juice is not only secreted in greater quantity by the stomach, but its quality is improved, the bowels are stimulated to greater activity, the activity of the kidneys is also increased, and thus the blood is purified.

The practise of taking a cold shower bath regularly every morning is highly conducive to health and longevity, and should be universally practised. The temperature of the water employed and the length of the bath must be carefully adapted to the individual and to his physical condition. The following rules or suggestions may be found helpful : —

1. One who has not been accustomed to the cold shower bath should begin with water at a moderate temperature, say 70° F., and the application should not be longer than five to ten seconds. Those who have resolution enough to endure the contact at a lower temperature may employ water at 50° without injury, and perhaps with better effect, but the application should be as short as possible, not lasting more than one to three seconds. By degrees the skin will acquire ability to react, and

then the application may be prolonged, or the temperature may be lowered. But the bath should never continue for more than ten or fifteen seconds.

2. The colder the water, the better the reaction, provided the application is not continued too long.

3. Headache following the bath, weakness, or prolonged chilliness is an evidence of poor reaction.

4. In persons who do not react well, especially those who have not been accustomed to the contact of cold air or cold water with the skin, reaction may be encouraged by exercise before or after the bath, by a hot full bath or shower bath, electric-light bath, or some other form of hot bath just before the application of the cold bath, or by vigorous rubbing after the bath, by wrapping in warm garments, or by drinking hot water. Better reaction occurs after application of a lower temperature than after a more prolonged application of a more moderate temperature.

5. A good reaction is indicated by a feeling of warmth and glow over the whole body. Cold feet, cold hands, stiffness in the limbs, as well as headache, chilliness, and languor, are indications of poor reaction.

6. Under any of the following conditions, a cold bath should never be taken without previously taking a hot bath; viz., exhaustion from muscular or mental work or loss of sleep, great feebleness from disease, hemorrhage, or shock. Aged persons, young children, and delicate persons of all ages must avoid too severe cold applications, and should always have a hot bath of some kind before the application of cold. Perspiration is not a contraindication for the cold bath unless the individual is at the time greatly fatigued or exhausted, or suffering from fever, as in a certain stage of malarial fever.

The portable shower bath may be used almost anywhere. It can be held over the head with the hand and successively brought over the various portions of the body, or it may be suspended from the ceiling by a cord passed through a ring or attached to a nail. To avoid wetting the floor, the person taking the bath stands in a common wash-tub or an ordinary full-bath tub. When required for a local application, as in the application of cold shower to the foot, knee, or any other circumscribed portion of the body, the part to which the shower is to be applied may be held over a pail or tub, or an oil-cloth may be placed underneath the part, and so arranged as to conduct the water into a suitable receiving vessel.

THE *Health Magazine* summarizes the causes of disease as follows: Heredity; impure air; impure water; climate; habitations; occupation; food; intemperance of various kinds; clothing; errors in exercise; sexual errors; parasites; contagia; expectant attention and other mental causes, including worry, etc. It will be observed that almost all factors in bodily derangement are subject to the direct or partial control of the individual.

IT will never do to relegate our thinking powers into another man's custody. One mind is probably as much as the Creator intended one man to manage. If he does that acceptably, he is a genius.—*Margaret Sidney.*

IT needs no legendary lore to prove this fact, that the right relation between man and the animals is that of love.—*Arnold F. Hills.*

HYPOCHONDRIA, OR IMAGINARY DISEASE.

N. MACDONALD, writing in the September number of *Demorest's*, speaks thus of this very prevalent form of disease : —

"Job, that wise and much-afflicted man of the East, in the extremity of his suffering gave expression to the terse generalization that 'man is born unto trouble, as the sparks fly upward.' The truth of this statement will be only too apparent to the student of history and of human life even in its particular aspects. But he will realize at the same time that the most of those troubles have been self-created, and have been less the result of transmitted taints and environment than of mental constitution and disposition. Disregard or ignorance of the conditions essential to health has been responsible for nearly all the ills that have afflicted humanity in all ages. But there is an aspect of this question of trouble which makes it still more subjective. An individual may not be ignorant of the laws of health, nor neglectful of them in regulating his conduct, and yet his fears may induce that condition which his habits of life would tend to avert. As the contagion of panic is communicated from one to another in a crowd, so may the imagination be a potent factor in disseminating disease. When there is a predisposition toward any particular disorder, the danger of infection is enormously increased; but even in such a contingency a calm and equable frame of mind will do much to avert trouble.

"There is, however, a class of ailments which are purely imaginary in their inception and largely so in their progressive development, such as hypochondria. Some of these cases are the most distressing that the physician meets with in his practise. In dealing with real physical ailments he has something tangible to work upon, but in treating imaginary ones he limits his efforts almost entirely to attempting to divert the patient's attention from his fancied troubles. Unfortunately, imaginary ailments sometimes develop into real ones. Hypochondria may result in serious cerebral lesion, and may end in suicide or madness.

"Though the predisposition to this mental malady may be inherited, the active cause of the trouble is a too frequent absorption of the mind in introspection and indulgence in morbid fancies. In consequence of constantly dwelling upon every slight disturbance of mental or bodily function, the individual body or mind may finally seem to the perverted imagination to be really afflicted with what before it only dreaded. Occasionally it may end more seriously — external things may be completely overshadowed or blotted out, environment obliterated, and the deranged egoists left to reign supreme in a world of their own creation.

"Fortunately, persons liable to suffer from imaginary ailments are not those in whom humanity is greatly interested. It is almost impossible to conceive of an unselfish, sympathetic nature being so afflicted. It is only when the mind is occupied solely with itself that the individual is liable to be so troubled. But the same self-centered, egoistic habit of mind which prevents the healthful and natural outflow of the sympathies is responsible not only for hypochondria, but also for most of the suicides and cases of insanity in the world. Where there is no inherited tendency to such peculiar mental conditions it is quite certain that an abnegation of self in a sympathetic regard for others would prove in almost every instance a safeguard against them. . . .

"In cases where there is an inherited predisposition to mental troubles, the children should be reared with the great-

est possible care. Those subjects which excite their keenest interest should be permitted them for study, and every effort made to develop the social and sympathetic side of their natures. . . .

"Though the worst cases of hypochondria are but a short remove from madness, those suffering from the mildest forms may live to an extreme old age, continually complaining of their pains and misfortunes and in anticipation of premature death, and persistent in their efforts to make others as miserable as themselves. A drastic method of treatment which would inflict real bodily pain, though unsanctioned by therapeutists, would probably approach nearer to being a specific in such cases than any other mode of treatment that has been adopted."

IT ALL WILL COME OUT RIGHT.

WHATEVER is a cruel wrong,
Whatever is unjust,
The honest years that speed along
Will trample in the dust.
In restless youth I railed at fate
With all my puny might,
But now I know if I but wait,
It all will come out right.

Though vice may don the judge's gown
And play the censor's part,
And fact be cowed by falsehood's frown,
And nature ruled by art;
Though labor toils through blinding tears,
And idle wealth is might,
I know the honest, earnest years
Will bring it all out right.

Though poor and loveless creeds may pass
For pure religion's gold;
Though ignorance may rule the mass
While truth meets glances cold,—
I know a law complete, sublime,
Controls us with its might,
And in God's own appointed time
It all will come out right.

—*Ella Wheeler Wilcox.*

THE widow of the late Baron Hirsch is not only carrying out the philanthropic projects of her lately deceased husband, but new works of charity in addition. Although not generally known to the world, among her good deeds are the endowment of the Pasteur Institute in Paris, the establishment of a maternity hospital in Munich, and magnificent donations to a general hospital in Warsaw; the founding of twenty-five annuities of three thousand francs each for indigent gentlewomen; and the contribution of two million francs to a home for retired railway employees, the latter being in memory of her husband's former presidency of the Oriental Railway Company.

LAVERAN says that the transmission of malaria through the air is difficult, if not impossible; that a goodly number of observations make it probable that drinking-water may be the medium of transmission; but that mosquitoes have much to do with the inoculation of the malarial parasite.—*The Sanitary Inspector.*

THOU mayst as well expect to grow stronger by always eating, as wise by always reading. It is thought and digestion which make books serviceable, and give health and vigor to the mind.—*T. Fuller.*

THERE is nothing so awful as getting used to the awful.

THE MODERN COLLEGE EDUCATION.*

An institution, to be of any value to a community, must bear a distinct relation to the needs of the community. A form of government devised in the tenth century would not be applicable to the twentieth. In England, the most conservative of European countries (except Turkey), a statute of Richard II, if unrepealed, can be pleaded in court just as well as a statute of Victoria. This is an obvious absurdity. To the practical American it will doubtless seem a trifle grotesque that the will of a dead-and gone feudal majority in the Plantagenet period should still be binding upon the modern Englishman, in an age of railways, bicycles, and telephones. However, America, as well as every other civilized country, is doing much the same thing with regard to its system of higher education; it is imposing upon its young men in the nineteenth century a curriculum devised by dead-and-gone priests for the young men of the twelfth.

The college education of to-day consists principally of the dead languages, more particularly Latin. Greek is also included, but very few have a good knowledge of it.

The modern college course consists primarily of instruction in the grammatical elements of the Latin language, and secondarily, for a few students, in the main contents of Latin literature. The curriculum does not meet the requirements of modern life, but was the necessary training of a priest in the twelfth and thirteenth centuries. This form of education has been modified by slowly admitting the elements of science. But it still bears traces everywhere of its priestly origin; and it is still wholly out of accord with modern requirements.

An education that is to train the faculties must proceed on very different lines. It would have to be built up on entirely different ground, by sweeping away at once all the relics of medieval preconceptions. Languages having crept in, people take it for granted that they are the foundation for higher education; and that if Greek is dropped out, you must substitute for it, not geology, or astronomy, or zoology, or painting, or the study of Zulu and Aztec customs, but French or German. This is pure preconception. It shows innate inability to get away from a prescribed set of subjects.

Languages, however, though useless in themselves, are "so valuable as training," which is an error, a pure preconception. Most people have been put through no other mental gymnastics than the linguistic; therefore they think that particular form of gymnastics exceptionally important. When one comes to look the facts in the face, however, who learn languages most easily? Children, negroes, servants, the uneducated; these pick them up without an effort, and retain them well, while great philosophers and great scientists are often unable to acquire a moderate command of any tongue save their own. Even philologists are sometimes very bad linguists; and I have seldom met with highly developed philological faculty in a man who spoke several languages fluently.

Beyond a doubt, the course of learning Greek and Latin does afford one single piece of good mental training; it is unrivaled as a method of understanding the nature of grammar — that is to say, of the analysis of language. But this knowledge itself, up to a certain point, is absurdly overrated; ignorance of grammar is treated as a social crime, while ignorance of very important and fundamental

*Abstract of a paper by Grant Allen in the *Cosmopolitan*, October, 1897.

facts about life or nature is treated as venial, and in some cases even as a mark of refinement.

An intelligent system of higher education designed to meet the needs of modern life would begin by casting away all preconceptions equally, and by reconstructing its curriculum on psychological principles. Such an education ought primarily to be an education of the faculties; and for this language and grammar have proved failures. While training the faculties, the mind should be simultaneously stored with useful facts. For these purposes a general education in knowledge is the most satisfactory; and I say knowledge on purpose, instead of saying science, because the meaning of science has been unduly restricted. I would include among the most important forms of knowledge a knowledge of man's history, his development, his arts, and his literature. For a groundwork, a considerable range of subjects is best; this may be supplemented later by specialization in particular directions. Let us first have adequate acquaintance with the rudiments of all knowledge; in other words, let us avoid gross ignorance of any; afterwards, let us have special skill in one or more.

Education ought to include for everybody some general acquaintance with the following subjects: mathematics, physics, generalized chemistry, zoology, botany, astronomy, geography, geology, human history, and especially the history of the great central civilization, which includes Egypt, Assyria, and Babylonia, Persia, Asia Minor, Hellas, Italy, Western Europe, America; human arts, and especially the arts of painting, sculpture, and architecture in North Africa, Western Asia, and Europe.

A general education in physics would require that the student be taught the fundamental laws of matter, solid, liquid, and gaseous; the principles of gravitation; the main facts about light and heat; and some ideas of electrical science. In biology he should be taught the general classification of animals, a little comparative anatomy and physiology, and some idea of specific distinctions. At present quite well-informed people will speak of a porpoise or a lobster as a fish. Such grotesque blunders ought to be made impossible; they ought to be considered far more damnatory evidence of ignorance and ill breeding than "you was" or "me and him went there." A man or woman ought to leave college with a fairly competent general idea of most of the arts and sciences, to be supplemented by exact knowledge of one chosen subject.

There is a deep-seated prejudice in favor of the college itself; of education as essentially a thing of teaching, not of learning; of education as bookish and scholastic,—another baneful legacy of the monkish training.

It is the opinion of the writer that a father would do better by his children and not less economically for himself if, instead of sending them to an American or English university for three years, he would send them to travel for two years.

The knowledge obtained by travel is real and first hand; it teaches and leaves a lifelong impression. Let any cultivated man or woman of middle age ask himself or herself seriously: "How much of what I know that I really prize did I learn at school and college, or learn from books, and how much did I learn from things seen and visited in London, Paris, Venice, Florence, Munich, Nuremberg, Dresden, Brussels?" Will not the answer be to the first half, next to nothing; to the second half, almost everything?

The writer, speaking of himself, says: I went away from Oxford without a single element of education worth speaking

of, and without the slightest training in method or development of faculties. Everything that I have ever learned worth knowing, I have taught myself since by observation and travel; and I reckon in particular my first visit to Italy as the greatest and most important date in my mental history. Oxford taught me how to write imitation Latin verses; Italy taught me who the Romans were, and why their language and literature are worthy of study.

NATURE'S PHYSIOLOGICAL GUARDS.

BY KATE LINDSAY, M. D.

THE principal channels by which the body is invaded with infection are the alimentary canal, the respiratory tract, and the lymphatic and glandular systems. The skin, when it is healthy and unbroken, seldom becomes a medium of infection; but when its glands are inflamed, or their ducts enlarged and their secretions disordered, they become so many pockets for the capture and cultivation of microbes. A crop of boils and pimples on the face furnishes a forcible illustration of the facility with which disease germs will flourish and grow when protected and fed by the morbid secretions of an unhealthy sebaceous gland or hair follicle. The skin when wounded soon begins to suppurate, unless it is cleansed and covered with an antiseptic dressing to shut out the infectious germs which are floating about in the dust of the air.

To protect the body from the infectious matter with which it must constantly come more or less in contact, it is provided with what have been very appropriately called the "physiological guards." Those of the alimentary canal are the digestive fluids, and the cells which cover all the surfaces of this thirty-foot tract, as well as the blood corpuscles and serum, and the secretions and lining-cells of all the intestinal glands. The respiratory surfaces are likewise guarded by their secretions and lining-cells, which, when normal, have the power to destroy and throw off disease germs and other poisonous matters. Examination of the nasal passages of the healthy nose have led to the discovery that while the external parts were full of all kinds of morbid germs, the internal passages yielded a sterile secretion.

It is a matter of much importance to strengthen and support these physiological guards of the body, that they may be in the best possible condition to resist disease. This can be done by never overtaxing them, or requiring them to do work which they are not fitted for. The respiratory surfaces should be supplied with plenty of fresh, pure air, free from all irritating and gritty matter. Care should be taken to avoid overworking the stomach and other digestive organs either by large amounts of food, or that of poor quality. If all the digestive fluids, from the saliva to the intestinal juice, are kept normal and active, they will destroy any germs that may come in contact with them, and the body never be made aware of the infection by a symptom of disease. If the skin is kept sound and clean, and the surface circulation active, it will protect itself from disease infection. Indeed, every cell and secretion and normal fluid of the body, when healthy, has this physiological guarding power.

Medicine a Science.

When the great Dutch physician, Van Boerhaaven, died, about the middle of the last century, there was found among his effects a book on the title-page of which was inscribed, "Within this book are all the secrets of medicine." His executors eagerly opened it, hoping to find therein a panacea for all the ills to which flesh is heir. To their amazement the first page was blank, also the second and third, and so on through the entire volume. Finally on the last page they found these three short sentences: —

"Keep the head cool.
Keep the feet warm.
Keep the bowels open."

It is needless to say that the simplicity of this inscription was far in advance of the current therapeutic views of the last century. The science of modern pathology had not yet been born. Disease was still looked upon as something mysterious, having a moral as well as a physical side, and to be exercised by supernatural means. The invention of the various instruments of precision gradually placed at our disposal facilities for the accurate study of disease changes. As our knowledge from this source slowly accumulated, the idea was impressed upon the medical profession that many of the time-honored remedies had been useless and in some cases even harmful. Pathological processes were found to follow fixed laws of development. Given as premises certain abnormal changes in different organs, certain conclusions could be drawn with almost mathematical exactness.

In this way, medicine has gradually approximated to the status of an exact science. That it is positively so at the present time is a thesis which is, perhaps, maintained with difficulty. If all people were alike in temperament, constitution, and physique, it might be true. We are all creatures of heredity and environment. If (as Mr. Beecher is said to have advised on a certain occasion) we could select our grandfathers and grandmothers, we could largely reduce the number of our own physical ills. But we have no such choice. The variable factor in medicine is still the individual constitution. Yet it is comforting to know that the category of things in medicine hitherto considered unknowable, is, year by year, growing less. . . .

Moreover, physicians have come to see that their office is mainly to assist nature in her struggle against disease. Perverted functions are to be set right by hygienic measures and proper diet. The sphere for drug administration has thus been greatly narrowed. There is much truth in the statement of the old country doctor, who, after a long life of active practise, announced that he only needed four remedies — "a heater, a cooler, an opener, and a shutter." It will be noticed that there is a practical agreement between his views and those of his illustrious Dutch predecessor. — *The Independent.*

Will-Power in Disease.

A writer in *Demorest's* says: "There is nothing so important in all nervous diseases as the exercise of the will-power. It is a common habit of nervous people to think that they cannot avoid yielding to the various manifestations of their disease. This is true to a limited degree, but all such manifestations can be greatly modified by a resolute turning to some other subject, not waiting for some one else to work the diversion."

A GOOD hearty laugh each day, even if it is at first somewhat forced, will go far toward removing a tendency to morbidness.

The Faulty Use of the Voice.

Much of that "dire discord that stalks on earth" is due to the unnecessary lack of control of the organs of speech. In this the Americans are perhaps the world's most notable offenders. Milton ascribed the lack of music in the English voice to the fact that they lived "farre northerly, and doe not open their mouths wide enough to grace a southern tongue, being observed by all nations to speak exceeding close and inward." But in America, lack of resonance, harshness, and inwardness are confined neither to gulf nor lake, sea nor desert. Most likely it was upon retiring from a drawing-room that Dr. Holmes wrote, "Silence, like a poultice, comes to heal the blows of sound."

Voice is the prisoner of conscience. It is the acclaiming herald of the soul, that goes forth free, but is subject to the law. We should see that our children's voices are properly "placed," and not regard their quality and quantity as of divine ordinance. Much may be done at home, by the intelligent parent, toward the cultivation of a soft voice. Dogmatic rules have no place here, but those who have received vocal lessons can discern when the voice is keyed right, as readily in conversation as in song. The appreciation of the changes to the several registers, is not difficult, nor is a musical education indispensable. For our demonstration these registers may be divided into lower and upper chest, head, and falsetto, names suggested by the sensations experienced by the singer while using his voice. If we run the scales from the lowest to the highest tone capacity, the changes from one register to another will be felt successively by the individual. The ear can easily detect the register in which the voice is pitched. The child trained to speak in the proper pitch will not unlearn its lesson in after years.

Nature is the one jewel of consistency: she never voluntarily undoes her work. But spite of her endeavors to produce the best, supplemented by parental assistance, certain cases seem prone to make unnaturalness natural. These should be placed under a competent master of elocution, and kept with him until their bad habit is eradicated. Let us have more of the education of speech in our colleges and less of the meandering glee-clubs. Public schools should have their talking master, then would their exhibitions prove more pleasing to parental audiences. The prevalence of hoarseness among public school teachers is proof of their incapacity to control their voice, and their need of knowledge upon this subject. The time spent in many schools upon so-called singing, at most a mere travesty, could be properly and profitably passed in elocutionary exercises. True, it is the age of reason, and emotionalism has hid her head. But while oratory may not impress as of yore, nevertheless, it is through speech that man asserts his divinity, it is by speech that he is distinguished from the rest of the animals,— the one faculty they have not in common. So long as the world is peopled, speech will be potent for pleasure; let us not seem to draw our breath in pain to tell our story.— *Fayette C. Ewing, M. D., in the Dietetic and Hygienic Gazette.*

The Nerves Never Grow Old.

Commenting on the common causes of nervous disorders, Professor W. H. Thomson, M. D., LL. D., says: —

"The message of modern science about the nervous system is more hopeful than ever. It tells us that the nervous system has a greater store of reserve vitality than all the other bodily systems put together. It is the only texture that is found not to have lost weight after death by starvation,

as well as after death by any cause. It is the last to grow old; and as to the mind, it need not grow old at all, provided it be steadily applied with that mighty spiritual element in us which we call interest. Even the muscular system can be wonderfully sustained by interest; for should a man attempt the same muscular work on a treadmill which he lightly endures along the mountain brook after a trout, he would faint dead away. But the mind will by interest grow steadily, even while bone and sinew are wasting through age."

Street Disinfection.

A New York health journal says that "there is talk in some of the Western cities of disinfecting the streets by mixing a suitable disinfectant with the water in the sprinkling carts. It is said that the cost would be trifling, as there are several kinds of well-known disinfectants of which a half gallon to each tank of water would prove sufficient to cause the instant death of every disease germ with which it came in contact."

Model Towns.

There are said to be two towns in Kansas, with a population of about two hundred each, in which there is not a vacant house, not an idle man or boy, not a tippler, and not a dog. The claim is made that there has never been a drop of intoxicating liquors sold in either place. The towns are Lost Springs and Ramona. That this is the result of women's work may be gathered from the closing remark of the newspaper report, "A crusade against the use of tobacco will be the next move of the women of Ramona."

"PARIS barbers and hair-dressers are now obliged, in accordance with police regulations, to employ sanitary measures in carrying on their business," says the *Medical News*. "They are required to use only nickel-plated combs, to substitute pulverizers for powder-puffs, to cover the hair cut off with sawdust and have it promptly removed, and to place all metal instruments, razors, shears, combs, clippers, etc., in a sterilizer for ten minutes before they are used."

A Fatal Hair Shampoo.

Kerosene, as a wash for the hair, has been used and recommended by numbers of people, but the possible benefits to be derived from it are scarcely sufficient to overbalance the danger attending its use. The odor is disagreeable, but its chief danger lies in its inflammability. Several persons have been frightfully disfigured, and others have lost their lives, from lack of care when near a fire. In a recent case in England, a lady was burned to death by the oil's igniting from simply rubbing the hair in drying, which is supposed to have generated enough electricity to fire the kerosene, as there was no fire or flame in the room.

The kerosene was doubtless a poor quality, which forms gas at low temperature. The gas thus formed must have been ignited by sparks, which may be easily produced by rubbing dry hair in a warm, dry atmosphere.

The Complexion.

A recent authority says that complexion is a matter of digestion, and that when there is good digestion, a beautiful complexion is likely to follow. In order to attain and maintain this condition, a fruit diet is recommended, consisting of plums, blackberries, white and red grapes, oranges, peaches, etc. It is needless to say this fruit should be fresh, not preserved or pickled, or even canned, if much sugar is used in the canning.

THE BENUMBING POWER OF ALCOHOL.

THE following convincing statements in regard to the effect of alcohol in maintaining the heat of the body are from the pen of Chas. H. Shepard, M. D., a prominent member of the American Medical Temperance Association : —

"The popular impression in regard to the action of alcohol upon the heat and cold of the body, while at variance with the facts, is of such long standing as to have acquired the authority of age.

"We are frequently told by the unthinking that to pass through a severe ordeal, or endure the hardship of a cold spell, one needs something like a warm toddy, or the bracing effect of a brandy sling. Again, to endure the exhausting trial of a hot spell, it has been thought that a comforting glass of wine was of great value, and the use of alcohol in some form has been supposed to be of great service in removing the exhaustion of fatigue. The fallacy of such ideas is quickly apparent to the unprejudiced student.

"It is well known that alcohol, when taken into the body, is rapidly absorbed unchanged into the blood. Then it speedily commences to pass out of the body in an unaltered condition. The principal channel of elimination is the lungs ; smaller portions are thrown off by the excretions. The results produced by the presence of alcohol in the different portions of the body form a most interesting study. When diluted and disguised and partaken of in the form of beer or wine, if there is a sufficient amount of vital resistance in the stomach, the alcohol will be thrown back in the reverse order to the way it came ; otherwise, and this is the most general condition of the community, the stomach passes on the load to the other organs, for them to do as best they can with the intruder. The invariable effect of alcohol when taken into the stomach is that of paralysis of the nerves of sensation, the amount of this paralysis depending upon the quantity of the poison administered. This explains why it is that persons feel better after having partaken of the liquid ; they have less feeling, and what they do have is less reliable. The same fact is true of all narcotics, they benumb the sensations, only in different degrees, depending much upon the ability of the system to throw off the poison.

"The reason that alcohol is injurious to those who are exposed to the extremes of climate, such as great heat and great cold, lies in the fact that it is in no sense a food, and it is productive neither of heat nor of energy, nor does it save any tissue destruction; on the contrary, it is such a virulent poison that a large amount of vital energy is called into requisition to free the system from its presence. The consequent waste of vital tissue is considered by the unthinking to be an added force ; on the contrary, this effect upon the circulation is directly injurious ; for it causes the heart to do more work without any counter-balancing advantages. The ultimate result is exhaustion.

"Alcohol is only obtained by the destruction of the elements of nutrition, and therefore contains nothing whatever that goes to the building up of the body. Its use as a food is a monumental error. Beefsteak is 156 times more nutritious than wine, and one grain of wheat is equal in nutrition to a keg of beer.

"What gives power to resist heat and cold is the same as that which promotes health and resistance to disease. Whatever nourishes the body improves the circulation and tones up the system, strengthens every function, and accom-

plishes the result without any drawback. These desiderata are only to be secured by wholesome food and drink, suitable exercise, sunshine, and sanitary surroundings.

"In discussing the subject of the injurious effects of alcohol as a narcotic, it is natural to inquire why we should use any narcotic. Tea, coffee, and tobacco should be placed in the same category as alcohol, by all who would study their needs and duties to themselves, and who desire to promote their highest effectiveness in the work of purifying their lives and helping their fellow men. There is no occasion for any narcotic to those who would live the higher life. If the world is ever to be reformed, it must come by the reformation of individuals."

Imprisoned at His Own Request.

Last July a young man in New Jersey induced the police to lock him in jail, so he could not get cigarettes. He had begun smoking at the early age of ten years, and at twenty-six was a nervous wreck, with a will-power so weakened that he was utterly unable to resist the clamorings of his appetite for cigarettes when it was possible to get them. Within the last three years their terrible effect has been painfully apparent,—his constitution is now ruined, his once robust body is reduced to a skeleton, he is so nervous he can scarcely hold a glass of water, and his head aches incessantly. Again and again he had determined to drop the habit, but found to his dismay that he could not do it, as he no longer had the will-power to obey the dictates of his conscience.

Victor Hugo Not a Smoker.

Victor Hugo was not a smoker, asserts the *Literary Digest*. As Théodore de Bauville once said, "In the house of Victor Hugo, peer of France, no one has ever even attempted to smoke." One evening one of his guests was vaunting the beneficent effects of a cigarette on a creative imagination. The great poet at once arose in revolt. "Believe me," said he, "tobacco is more hurtful to you than beneficial; it changes thought into reverie."

A BRIGHT lad, from a good home, so-called, was observed by his teacher to be growing morose. Little things were missing from the schoolroom, but the thief could not be detected. Soon sums of money, from friends and others, were taken, and it was developed that this boy, who needed nothing which his indulgent parents did not supply, was pronounced an irresponsible kleptomaniac, rendered so, the physician said, by the use of cigarettes. Another boy only fourteen years old was unfit to attend school on account of frequent epileptic fits, caused, his physician said, by the use of tobacco.

DR. BOLLINGER, director of the Anatomico-Pathological Institution in Munich, asserts that it is very rare to find a normal heart and normal kidneys in an adult resident of that city. The reason for the kidney disease is the tax put upon these organs by the drinking of excessive amounts of beer, and the cardiac hypertrophy and degeneration are secondary lesions for the most part. The consumption of beer is everywhere increasing.—*Popular Science News.*

THE *Popular Science News* says that "if, after eating pure food, fresh, outdoor air is breathed, the blood will show a large increase in red corpuscles, but by drinking stimulants, the red disks are decreased in serious proportions."

EXERCISE FOR INVALIDS.

BY J. H. KELLOGG, M. D.

THERE is no one thing which is so necessary to chronic invalids, from a therapeutical standpoint, as exercise. Exercise is the most important of all the means of vital regulation in the body; it regulates the relations of the supply and demand of the system — if there is too much material taken in, exercise will compensate for it. Exercise also regulates all the vital processes of the body, — excretion, elimination, etc. All these physiological effects of exercise are as necessary for a sick person as a well one. If we wish to know the value of a medicine for a sick man, we first ascertain its effect upon a well man; and when we find that it is able powerfully to modify the vital processes of a well person, we know that it may control those processes in a sick person. So the most powerful agents of any kind in disease are those which have the most influence in health.

Oxygen is the most powerful of all stimulants, and quickens all the vital activities. A person takes into his lungs seven times as much oxygen when exercising as when lying quiet, while the amount of carbon dioxide eliminated is about four times as great when a person is exercising vigorously as when he is lying down.

It may be asked, "What kind of exercise is best for invalids and convalescents?" — They require just that kind of exercise which is suited to aged persons, as there is in them the same lack of capacity for severe exertion of any kind. Carriage or horseback riding, walking, Swedish gymnastics, or any other exercise requiring slow movements of the arms and legs, are appropriate in these cases.

Great care must be taken to avoid fatigue in the case of the feeble, as exercise involves the use of the nerves as well as the muscles, and the convalescent or the weak person becomes discouraged when his vital forces are exhausted. Thus, it is very important to remember that the invalid and the old man mus always stop short of fatigue in exercising.

For a very feeble person exercise must be begun very gradually; especially with those who have been long in bed must the most extreme caution be observed in this respect. Standing or an attempt at walking is too much for such a patient to undertake at first. When he has been in bed, lying in a horizontal position for a long time, his blood-vessels have become distended, and he experiences tingling or numb sensations, or his limbs become rigid, upon trying to bear his weight upon them. In putting him on his feet at once, there is too great a change; there must be a long series of steps between lying in a horizontal position and getting on one's feet and walking off. The first thing to do is to teach the patient while in bed how to use the arms and legs. Have him pull the legs up in the bed and then stretch them out again, and continue this exercise until the muscles of the legs have been considerably strengthened. But it is entirely too long a step for the patient to pass directly from his position in bed to a standing position. After exercising the legs in bed for some days, he should be placed in a chair, and his feet allowed to rest on the floor for a time each day; then he should be helped to his feet and allowed to stand for a moment, and after a little while he will be able to take a few steps by the help of an attendant, and soon to walk without help. Massage and manual Swedish movements are of great value in such cases, as they furnish to a degree the results of exercise without effort on the part of the patient.

Manual Training an Aid to Mental Balance.

In an address before the Massachusetts Teachers' Association, Mr. Thomas M. Balliet remarks as follows: —

"Manual training, appealing to eye and hand, establishes a co-ordination between the sensory and the motor parts of the brain, which is a most important step in the organization of the brain. This proper knitting together of different centers, this opening of paths of association between the sensory and central portions of the brain on the one hand and the executive portions on the other, is most vital to its health and efficiency. It makes for perfect sanity and mental health, for well-balanced adjustment of life to environment, for good judgment, for self-control, and for firmness and poise of character. Much of our present school work divorces knowing from doing, and often exaggerates the relative value of the former as compared with that of the latter. Examinations test knowing more than doing, and even university degrees are conferred on the basis of attainment in knowing rather than attainment in doing. This may be to a large extent unavoidable, but it is nevertheless unfortunate. The legitimate end of knowing is doing. Right thought, to remain healthy, must ultimately issue in right deed. . . . Day by day the idea is gaining ground that mere brain education is not the true foundation of a symmetrical and thoroughly developed mind."

How to Walk.

At a recent medical congress, says the *Health Magazine*, much amusement was created by an orthopedic expert who analyzed the peculiar locomotion of some of the distinguished functionaries of Washington. He said that he had been making quite a study of the matter of "toeing in" and "toeing out." In London, it is the fashion to toe out a great deal. Sculptors frequently exaggerate this tendency, and the statue of Lord Admiral Nelson was instanced as an illustration. People who walk in deep snow toe straight ahead. There are two classes of ordinary individuals, those who keep the body straight in walking, and those who incline the trunk forward.

The heel of the forward foot should strike the ground first and the leg be straight when the weight falls upon it. The weight should lie forward on the balls of the feet, with the body slightly inclined, the chest erect and leading, and the head gracefully poised.

The trunk should aid in its own progression, instead of being "toted" along as dead weight by the long-suffering legs. The arms should swing easily, and the trunk move without any swaying or rocking motion. The legs should operate from the hip and not the knee, and the toes should not pierce the air as if skyward bent. Whether they turn in or out will depend a good deal on the rapidity of the gait. Tall people should remember that short steps are more graceful than long reaches, and that their shoe heels will thus wear more evenly.

Dr. Eliza M. Mosher, Woman's Dean of the University of Michigan, holds the position of guide, philosopher, and friend to the six hundred girls in the university. She guides them in the selection of their course of study, and looks after the overworked nervous ones, finding out where the tight places are in the lives of the women students. She examines all ladies who are admitted to gymnasium work, and is responsible for their physical fitness for it. Her duties include also those of professor of hygiene, and director of physical culture.

COMPLICATIONS IN MEASLES.

BY KATE LINDSAY, M. D.

As stated in the previous article, most of the deaths from measles result from some complication, these being liable to occur not only during the active stages of the disease, but during the time of convalescence. These may, however, in the majority of cases at least, be prevented by proper treatment and care.

As the poisons produced by the disease not only cause inflammation of the skin, but of the mucous membrane of the digestive tract, and of the air-passages, as well as other lining membranes of the cavities of the body, it is an important matter to lessen the functional work of all these organs as much as possible.

Most of the complications which increase the fatality of all infectious diseases are due to added infection by other microbes, the most common being the ordinary putrefactive, or pus-forming, microbe, which infects wounds, and formerly caused so much trouble in the surgical wards of hospitals. These little plants, which are all about us, find in the diseased secretions and inflamed surfaces of the body which always exist in any case of infectious disease, just the right kind of soil to grow on ; and as the protecting covering of the epithelium is in a great measure destroyed, there is nothing to hinder these microbes from entering the tissues themselves, just as they do in a wound. In case the patient is predisposed to tubercular disease, and any of the tubercular bacilli are lurking in the glands of the body, or find entrance into the lungs through the air, an acute tubercular inflammation may take place, and death occur from what is known as quick consumption ; or the disease may assume a more lingering form.

The most frequent complication in the case of small children is capillary bronchitis ; in older children, catarrhal pneumonia. The former especially is apt to be a very fatal disease, as the little one has small bronchial tubes with very weak walls, and does not know how to expectorate the foul secretions which gather in the tubes. As the disease advances, the smaller tubes become completely closed up, thus shutting the air out of the air-cells. It is generally supposed that this condition arises from taking cold ; but it has been the experience of the writer that it is quite as frequently caused by indigestion or overloading of the stomach. The little patient is generally very thirsty in this disease, and if given the bottle or nursed at the breast, it will swallow an amount of food as great as or even greater than when in health, to quench its thirst. This, combining with the morbid secretions swallowed from the throat and tubes, forms a foul mass of fermenting matter in the digestive tract, the poisons from which are distributed to every organ in the body. After the liver, the lungs are the next organ to receive the poison, and from thence it is distributed to the capillaries. Even after the attack of measles has entirely subsided, and the patient is convalescent, the greatest care should be taken not to put more food into the stomach than it can digest. If the patient is an infant at the breast, it should be nursed only half as much, or even less, than when in health. To satisfy the craving for drink, give plenty of pure boiled water, either cold or hot, as the child seems most to relish.

Exposure to cold and dampness, and overheating from too vigorous exercise, and cooling suddenly afterward, often

bring on a relapse after the patient is apparently well, as the system is in a weakened condition, and lacks vitality to resist exposure. If every child were compelled to maintain twenty-one days' quarantine for measles, and forbidden to return to school until after the lapse of three weeks, no matter how mild the attack, many lives would be saved yearly, as well as many cases of chronic invalidism prevented. In the country especially, children who have had mild forms of the contagious diseases are often permitted to return to school as soon as the acute symptoms have subsided. Sitting with damp feet in the dry, overheated air of the schoolroom, and then suddenly rushing out into the cold and dampness outside at recess, to say nothing of the coasting, skating, and snowballing after school is through, it is not surprising that such children are seriously ill again in a day or two with croup, or a cold and inflammation of the lungs.

As in scarlet fever, often the most serious complications and sequelæ follow an originally mild attack of measles. Osler and other modern authors tell us that in measles the intestinal glands are often swolen and sometimes even ulcerated, as in typhoid fever. In such cases a little indiscretion will often induce serious and even fatal inflammation of the bowels, or it may extend into the peritoneum, and a severe peritonitis result; or appendicitis, terminating in an abscess, may result from the many microbes which are always found in the intestinal tract, and infecting the deeper tissues. In young girls near the time of puberty, this infection may extend so as to affect the pelvic gland, and involve the ovaries and Fallopian tubes.

Many times a serious complication is brought on by some error in diet, as a Christmas feast, a Thanksgiving dinner, or some other surfeit. Even a return to ordinary food should be gradual; and as in typhoid fever, it is safest to keep to a light fluid diet of milk, gruel, dry toast, and the like, until the patient has fully recovered his former health.

If a convalescent patient has been so unfortunate as to upset his stomach by overeating, unload the stomach at once, and have him fast for twenty-four hours; then use fluid food a day or two. If there is rise of temperature and pain in the bowels, foment and give small hot enemata until it is relieved. Follow by cool compresses, repeating the fomentations every two or three hours. If the disorder of the stomach results in an aggravation of the bronchial catarrh, after freeing the stomach, foment the chest and let the patient inhale steam, which may be medicated with a few drops of tincture of benzoin, turpentine, menthol, or any other soothing solution. Do not allow the patient to be exposed to draughts, nor to breathe dry, overheated air.

As after every eruptive fever the skin is very sensitive, a convalescent child should never be permitted out of doors either in the damp of early morning, or after sundown in the evening. See that the feet do not remain damp and cold after coming in from outdoors. Woolen garments should be worn for underclothing, and next the skin if the body is not oversensitive to the friction of wool; if, however, the roughness of the wool proves uncomfortable, a thin cotton garment may be worn next the body, and the flannel over that. A cool or tepid sponge followed by brisk friction with oil will help to protect the surface from chilling. While this care should be exercised to protect from surface chilling, the other extreme of shutting the patient up in overheated, badly ventilated rooms must

be avoided. Be sure that the sleeping-room is cool, dry, and well ventilated.

When the sun has warmed the outdoor air, the convalescent patient may be allowed to go out on the sunny side of the house; and, if old enough, he should be instructed to inhale deeply, keeping the mouth shut and inhaling through the nose. If the patient is able to do so, he may be allowed to walk about until he begins to feel tired, then come into the house and rest for a little while, and after a time go out again. He must not, however, stop exercising and sit down on the ground, a damp log, or a stone. He should be well wrapped up before going out of doors. If the patient be an infant, it may be carried out in arms. If too weak to walk, the patient may be warmly wrapped up and carried out on a cot for his daily airing. The danger of taking cold from exposure is very much lessened if the patient is not allowed to overeat.

The eyes and ears frequently remain inflamed after measles. The difficulty with the eyes is most frequently due to catarrhal inflammation of the conjunctiva, sometimes caused by taking cold, and in other cases from neglect to keep the eyes clean, or from using them while yet weak and inflamed. The infection of the middle ear is due to the extension of the inflammation from the throat into the tube leading to the drum cavity. This may result from taking cold or from failing to keep the nose and throat clean and disinfected. An inflammation of the middle ear terminating in suppuration is liable to damage the hearing for a lifetime, even causing death by the further extension of the inflammation to the drum membranes. Enlarged cervical glands, also unhealthy, sore gums and ulcerated teeth, all contribute to favor infection of other organs in their immediate vicinity. Sore eyes or a running ear in a child are often thought to be very trivial ailments; so the eyes are neglected until the disease becomes chronic and the lids granulated; or if the ear be the ailing member, it is allowed to go on discharging foul matter until the hearing is destroyed, and the drum and bones ulcerated entirely away.

While the eyes are weak and inflamed, a warm saline spray should be used several times a day and the edges of the lids anointed with boiled vaseline. When in the bright sunlight, the eyes should be protected by colored glasses. The patient should be careful about reading by artificial light; in fact, until the eyes are entirely well, he should not use them in the evening at all. Children who have recently had measles should have their school tasks so lightened that they will not be compelled to use the eyes in the evening.

If the throat and nose are kept clean and disinfected, the ears are not likely to suffer. Sometimes, however, in case of scrofulous children, the ears will become infected even when reasonable care has been taken to prevent it. Infants often suffer much from this cause, as they cannot tell where the pain is. When a baby begins to bore into the pillow and cry continuously, the ears should be examined. If it becomes quieter when something warm is applied over the ear, and flinches and cries when pressure is made behind it, it is quite evident that inflammation is present. Use the ear douche several times a day, keep the throat and nose clean, and foment the ear. If there is suppuration and the ear is discharging, use a spray of hydrozone and water, one part to four or six of water. If no spray or douching apparatus is at hand, warm water may be allowed to drop into the ear from a clean cloth or sponge until it is cleansed and the pain is relieved. If

possible, a physician should be consulted at once. No discharging ear should ever be neglected.

In cases where after the time for the symptoms of the disease to subside there still remain a slight fever, cough, loss of appetite, strength, and flesh, it is evident that some serious chronic disorder is threatening the patient's life. It is usually tuberculosis of the lungs or an unresolved pneumonia. If such cases are neglected, they will in a short time be past all hope of recovery. The first thing is to improve the nutrition. It may be necessary to put such patients in bed for a few weeks until the unfavorable symptoms abate; at any rate they should be kept there until the period of chilliness and rise of temperature is past each day. Next see to it that the patient has only such food as he can digest and assimilate. Foment the chest, and apply the moist chest pack at night. Inhalations of creosote, menthol, benzoin, or other soothing vapors may help to allay the irritation of the cough. In many cases it is best for the patient to change his residence, if possible. Many a life has been saved by moving from the city tenement to the country.

When the chills and fever have ceased, increasing weight and returning strength soon begin to give evidence that nature is triumphing over the disease. The unresolved pneumonia deposits begin to be removed; and if there are tubercular deposits, nature fences them off from the sound structures with a wall of connective tissue. Every effort should be made to give such patients a chance for physical culture and an outdoor life. As in all cases of convalescence from any severe acute disease, the temperature, the weight, and the bodily strength furnish a very good index of the patient's progress toward recovery. Every parent or other guardian of children should have and make use of a pair scales and a thermometer.

As many cases of measles never come under a physician's care, or if a doctor is called at the onset of the disorder, he ceases his attendance as soon as the more acute symptoms are over, it is very important that mothers, nurses, and all who have the care of children should know how to feed, dress, and care for the little patients through both the acute stage of the disorder and the period of convalescence.

CENTERED.

To each man's life there comes a time supreme —
  One day, one night, one morning, or one noon,
  One freighted hour, one moment opportune,
One rift through which sublime fulfilments gleam,
One space when fate goes tiding with the stream,
  One once, in balance 'twixt too late, too soon,
  And ready for the passing instant's boon
To tip in favor the uncertain beam.

Ah, happy he who, knowing how to wait,
  Knows also how to watch and work and stand
  On life's broad deck alert, and at the prow
To seize the passing moment, big with fate,
  From opportunity's extended hand,
  When the great clock of destiny strikes "now"!

—*Mary A. Townsend.*

THE HYGIENE OF CHILDHOOD.

BY J. H. KELLOGG, M. D.

(Concluded.)

Diet.— The popular notion seems to be that children should be allowed to eat whatever they crave and whenever they please. This is a very mischievous practise, and results in weakening their digestive organs at a very early age. Candies, nuts, sweet-meats, and "knick-knacks" generally, are exceedingly harmful, and should never be allowed children at any age. Their digestive organs are not as strong as those of older persons, and will not bear the amount of abuse which those of their parents endure with impunity.

The diet of children should be simple in character. It should consist chiefly of fruits and grains, with plenty of milk. Eggs should be sparingly used, and meat would better be discarded altogether. Condiments, such as pepper, vinegar, pepper-sauce, mustard, and other stimulating articles of diet, should be wholly interdicted. The use of tea and coffee is another practise which should be discountenanced in the young as well as older persons. The use of stimulating articles of diet not only weakens the digestive organs, but develops those parts of the system which would better be restrained.

Fine-flour bread is another article of diet the general use of which is in the highest degree detrimental to children, by interfering with their normal development. Parts of the grain have been removed, so that it does not contain the requisite amount of bone- and muscle-forming material. Such food is fattening, but not strengthening. Graham bread, cracked wheat, oatmeal, and other whole-meal preparations are in the highest degree wholesome, and are especially adapted to the wants of a growing child. The taste for these articles, if not naturally possessed by the child, should be early cultivated. A child brought up on knick-knacks is never a healthy child. The large use of sweets is sure to result in some sort of dyspepsia sooner or later. Candies should be discarded altogether.

The habit of eating fruits, nuts, sweet-meats, etc., between meals, is very detrimental to the health of a child. When it is considered how universal is the custom of allowing children to indulge in titbits of every description without restraint, it is not to be wondered at that infantile dyspeptics are becoming exceedingly common. Great regularity in meals should be observed from the very beginning of the infant life. After the first year of infancy, the child should be strictly confined to three meals a day, and the last meal should not be taken less than two and one-half hours before retiring. The child should not be allowed to taste a mouthful between meals. The habit of eating between meals, when early acquired, becomes as inveterate and difficult to break as that of tobacco-using or liquor-drinking. A confirmed dyspeptic confessed to the author that he had experienced greater difficulty in breaking off the habit of taking sugar between meals than in discontinuing the use of tobacco, although he had been an inveterate user of the weed for years.

The Bowels.— Children should be instructed respecting the importance of regularly relieving the bowels and bladder at certain times each day. The call of nature should never be resisted or delayed a moment when such delay can be avoided. The inactive condition of the bowels, and the irritable state of the bladder which often result from the violation of this simple rule of health, are not infrequently the means of inducing abnormal excite-

ment in the genital organs, which may result in the formation of habits most deplorable in their character and consequences.

The Daily Bath.— This is one of the most important means of aiding normal development and preventing disease in children. It is especially useful in preventing colds. The bath should be taken immediately on rising in the morning. Children are more susceptible to cold than adults, the skin being more delicate, and hence the temperature of the water should not be more than fifteen or twenty degrees below that of the body at first, until the child becomes accustomed to a low temperature. A child ten or twelve years of age may bathe in water at a temperature of 70° F., but infants or children below six or eight years of age should not be subjected to a lower temperature than 85° F. Shower baths should not be employed at first, but the sponge bath should be used instead, a portion of the body being moistened, then quickly dried and rubbed, then another portion treated in the same way, and so on until the whole body is bathed. In cold weather a little oil should be applied to the surface after bathing.

Care of the Ears.— Few ailments are more common among children than earache. The foundation of chronic deafness is often laid in early childhood. Most mothers are unconscious of the fact that they themselves are responsible for causing much suffering to their children from attacks of this painful malady. In her anxiety that her children's ears shall be perfectly clean, the mother endeavors to remove every particle of ear-wax from the inner portion of the ear by boring it out with a hairpin or some other sharp instrument, covered with a towel, or with the corner of the towel twisted to a point, when really this portion of the ear requires no attention. Nature takes care of it in the most admirable manner. The membrane lining the canal of the ear contains a great number of little glands, which secrete a waxy substance having an intensely bitter taste. The purpose of this is to prevent the entrance of insects and to keep the ear clean, as the layer of wax dries in scales, which rapidly fall away, thus removing with them every particle of dust or other foreign matters which may have found entrance into the ear. Nothing more irritating than a few drops of olive-oil, warmed to a temperature a little above blood heat, should ever be placed in the ear.

Moral Training.— Depraving influences are so abundant and so certain to be brought in contact with the little one at a very early period in its existence, that the attempt to fortify the mind against such influences cannot be begun at too early an age. It is of the greatest importance that while the minds of the children are yet impressible, such images of truth and purity should be formed as cannot be easily effaced. Children ought early to be taught to love right because it is right. The instinct of fear should seldom be appealed to, and never when such an appeal can be avoided. The dignity of truth, the nobility of purity, and reverence for nature and the God of nature should be held up to the young mind as the highest possible incentives for right doing. A moral character founded upon such a basis will not be disturbed by the "winds of doctrine" or the waves of unbelief; it is founded upon a rock which cannot be moved.

Vicious Habits.— Many mothers are wholly ignorant of the almost universal prevalence of secret vice, or self-abuse, among the young. It is exceedingly common among girls as well as boys. The nature of this vice is such that it may be acquired and continued for months and even years, possibly during the greater

part of a life-time, without its existence being suspected by those who are not skilled in its detection.

This vice is not confined to any one class of society ; it penetrates all classes. Those whose social surroundings have been such that they would be least suspected are frequently found to be among its most abject victims. Too little attention has been given to this matter. Certain writers have taken the position that the prevalence of the vice, as well as its bad effects, have been greatly exaggerated. This has had a tendency to lull to sleep parents who might otherwise have realized the dangers with which their sons and daughters were threatened.

Mothers place their children in boarding-schools which enjoy a good reputation as successful and respectable schools, and imagine they are safe, when in reality their associations are such that if they escape contamination with this foul vice, it is to be regarded as almost a miracle. Mothers should always be on the alert to detect the first evidence of this vice in their children. The only positive evidence is, of course, detection of the child in the act. If the child is observed to visit some secluded spot daily or more or less frequently, or to be much alone, avoiding the company of other children of like age, it should be carefully watched. The habit is often pursued at night after retiring or in the morning after awakening, before getting up. Not infrequently children are engaged in this soul-and-body destroying vice while their parents suppose them to be quietly slumbering in healthy innocence. Those addicted to the habit sometimes feign sleep to gain an opportunity to practise this vile but fascinating indulgence. A suspected child should be watched under all circumstances with unceasing vigilance.

Mothers cannot be too careful of the associations of their little ones. Often those who would be the least suspected of such wickedness are the agents of sin, who will instruct the little ones in this debasing habit. Trust no one not known to be pure. Keep your little children under your own roof until you are sure that their characters are sufficiently well formed to resist the encroachments of evil. Build up bulwarks against vice by developing the pure and the good in their dispositions, and by repressing evil tendencies.

In the writer's opinion, sentimental literature, whether impure in its subject-matter or not, has a direct tendency to impurity. The stimulation of the emotional nature, the instilling of sentimental ideas into the minds of young girls, has a tendency to develop the passions prematurely, and to turn the thoughts into a channel which leads in the direction of the formation of vicious habits.

Another cause, which has been generally overlooked, is the improper dressing of infants. It is the custom with most mothers and nurses during the early years of infancy to envelop that portion of the body of the infant in which the genitals are located in many folds of diapers, for the purpose of avoiding the necessity for frequent change. Sometimes this thick mass of material is still further augmented by a covering of oiled silk or rubber. The effect of this practise is to retain the moisture of the excretions in contact with this delicate portion of the system, which, with the heat accumulated from the body, acts like a poultice, stimulating and irritating the nerves of the parts, and thus inducing an abnormally sensitive and excitable condition.

The cure of this habit is by no means an easy matter. Close supervision is absolutely necessary. Immediately upon waking in the morning, the child should be taken out of the bed and dressed, and should be employed from that moment until retiring at night. In case there is

any disease of the bladder or rectum, or of any other portion of the body immediately associated with the genital organs, the matter should receive attention from a competent physician, so that whatever influence it may exert as a cause of the habit may be removed.

Children suffering from incontinence of urine should be made to empty the bladder frequently, as the nervous condition which results from overdistension often produces an uneasy state of the genitals, which may not only lead to the formation of the habit, but will present a great obstacle in the way of its permanent cure.

Care should also be taken to see that the bowels are properly evacuated. Constipation of the bowels is often the cause of sexual excitement which cannot be easily controlled so long as the physical condition is such as to antagonize the effort of the will in the direction of reform.

Itching of the genitals is another physical condition which should receive attention, medical aid being called unless regard for cleanliness suffices to secure relief.

DO NOT OVERFILL THE BABY'S STOMACH.

BY KATE LINDSAY, M. D.

THOSE who have the care of children frequently seem to forget that the capacity of their stomachs for containing, as well as digesting, food is limited. The individual who would go on pouring fluid into a vessel after it was full would be considered demented by all sane persons; yet, strange as it may seem, that is just the way that many otherwise sensible persons treat an infant's stomach.

At birth the stomach is a small pear-shaped organ, capable of holding from six to eight teaspoonfuls, on the average. Yet the writer has often been consulted by an anxious mother who feared that her young baby was not eating enough because it did not empty an ordinary half-pint nursing bottle. And utterly oblivious of the fact that the little stomach was spilling over, as evidenced by the habitual throwing up after every meal, as soon as the overstretched organ had relieved itself, it was filled up again.

It is often remarked that the abdomen of a bottle-fed baby is larger than that of an infant nursed in the natural way. This dilated condition of the stomach is the result of the continuous distention of the little organ by more fluid than it can hold. It is also still further stretched by the formation of gas from the fermenting, undigested food. To thus continually misuse the stomach is to destroy the contractility of its muscles, until it becomes so weak and flabby in its walls that it is like an inert sac more than a living, vital organ.

The stomach of the average-sized healthy baby gains in capacity for food-holding about half an ounce per meal for each month of life; that is, the baby who takes six or eight teaspoonfuls at the end of the first week of life, will, at the beginning of the second month, be able to take from ten to twelve teaspoonfuls at a meal. Of course this quantity should not be added all at once, but by a very slight daily increase, to correspond with the daily growth and increased functional capacity of the digestive organs. The child will not be able to take at a meal the ordinary half-pint nursing-bottle full until it is from

eight to ten or eleven months old. When a baby, whether nursed or bottle-fed, vomits after eating, its food should be diminished in quantity. If nursing, shorten the time a few minutes; if bottle-fed, give an ounce or so less food.

COLORADO SANITARIUM QUESTION BOX.*

BY W. H. RILEY, M. D.,

Boulder, Colo.

1. WHAT are coarse vegetables?

Ans.— Coarse vegetables are those which contain a large amount of woody matter, or cellulose, such as cabbage, carrots, beets, etc. This woody matter, or cellulose, as it is termed, is indigestible by the human stomach. Some of the lower animals, such as the horse, ox, and sheep, are capable of digesting this substance to some extent at least, so to them it is a food but to the human subject it is not. It gives bulk to the food, but cannot be digested by the human stomach. As a matter of fact, there is very little nutriment in these coarse vegetables, so for persons with weak digestion they are objectionable and should not be eaten.

2. Is catarrh a germ disease?

Ans.— Yes; at least some forms of it. Catarrh usually begins in this way: When one takes cold, the blood-vessels on the surface of the body are contracted by the effects of the cold, and this drives the blood inward, causing congestion of the blood-vessels in the inner parts, as in the mucous membrane of the nose or throat. The tissues lose their vitality to some degree, and this makes conditions favorable for the growth of the germs which are inhaled from the air. Where there is a yellow discharge from the nostrils, it is usually due to the presence of germs. The disease is not contagious.

3. Please give a diet list, or class of foods, to maintain a healthy digestion.

Ans.— The diet required depends largely upon the condition of the stomach and the digestive system. If one has a healthy digestion, all he needs to do is to eat a reasonable quantity of good, wholesome food. Fruits and grains are the cleanest and most natural foods; and if properly cooked and prepared, are the best for most people.

To make out a diet list for one who has any stomach trouble would first require a test-meal to determine the particular kind of indigestion the person has. If he has hyperpepsia, or a too copious secretion of the acids of the stomach, he should be put upon a diet that will lessen this secretion. If he has hypopepsia, or too little secretion, his diet should be such as will stimulate the secretion of the fluids of the stomach. For all healthy persons, grains and fruits, and perhaps vegetables and nuts, are the best diet. They are cleanest, the most wholesome, and the most nutritious.

4. If a person has some heart palpitation after exercise, should the exercise be persisted in?

Ans.— Exercise naturally increases the action of the heart, and a little increase will do no harm, indeed it is to be expected; but if one gets out of breath, and his heart beats very rapidly, he should be more moderate in his exercise. Palpitation of the heart is almost always caused by indigestion or stomach disorder. The tenth cranial nerve supplies both the heart and the stomach, and an

*Stenographically reported by B. E. Crawford.

irritation in the stomach is conducted to the nerve-center by this tenth cranial nerve from the stomach, and is reflected to the heart, causing irregularity in the heart's action. The best treatment for irregularity and palpitation of the heart in most cases is to treat the stomach.

5. How early in the winter does it snow at Boulder?

Ans.— We have very little snow here in the winter, and when it does come, it quickly disappears under the warm rays of the sun, which shines nearly every day in the winter. What little snow there is usually comes during the months of February and March; and even in these months there is not enough to be in any way disagreeable. Last winter our guests and patients were able to sit in the sun on the verandas without wraps the greater part of the winter, and with the greatest comfort. The winters here are just cool enough to be bracing, but not cold enough to be objectionable. The atmosphere is dry, sunny, and invigorating, and to my mind affords the best possible conditions for the proper care and treatment of those who are suffering with any form of lung trouble.

6. Is exercise good for those who have lung trouble?

Ans.— That depends upon the case. Exercise for those who are suffering with lung trouble is one of the most valuable remedies, if properly taken, but it is one that needs to be used with the greatest caution. A person that has had a hemorrhage should be kept quiet for some time afterward, and in cases where there is much fever, I would not advise much exercise.

There is another class, and a very large class, who do not take exercise enough. After the temperature has reached the normal, more exercise can be taken, if taken moderately, than should be taken before this time.

Exercise increases the lung capacity. More than that, exercise always increases oxidation in the body. As a matter of fact, oxidation is the result of exercise. The energy liberated and used in our various exercises, such as walking, using the arms, etc., causes oxidation, a chemical union between the oxygen breathed and the food eaten. The muscles in the body are sort of machines for getting this energy out of the food and transforming it into mechanical work. Exercise is very valuable for those cases of lung trouble in which there is but little or no rise of temperature. I verily believe that if one who has reached that condition will take a proper amount of exercise, and persist in it, meanwhile exercising proper care, it may be the means of restoring his health. At least it is a strong barrier against disease.

Mountain-climbing is one of the best forms of exercise. Merely walking along on level ground does not afford much exercise. In fact, in order to exercise, we must work. We must overcome a resistance of some kind. When we walk along on the level ground, we simply move our body through the resistance in the atmosphere. We do slightly raise the body from the ground, it is true, but very little. On the other hand, in climbing mountains we raise the weight of the body from the place where we start to the place where we stop. The energy liberated, or the work done, may be measured in foot-pounds by multiplying the weight of the body by the number of feet the body has been elevated in climbing to a certain height.

7. What are some of the causes of indigestion?

Ans.— There are many. Indigestion in most cases is the result of some error in the habits of the individual. Of course some people are born with weak stomachs and consequent indigestion; but a greater number bring it on themselves as the

result of wrong diet, hasty eating, and other errors in living. Drinking large quantities of fluids with meals is often a cause of indigestion. Many business men bolt their food, and then drink large quantities of water to wash it down. The food is not properly disintegrated and mixed with saliva, and the gastric juice cannot get at it as well as it could if it were properly masticated, and thus the food is imperfectly digested. Digestion is carried on best when there is a normal amount of fluidity in the stomach. When this is increased to any extent, the digestive process is stopped, or at least retarded for a time, and the food is apt to ferment and undergo decomposition. The products of decomposition irritate the stomach, causing indigestion, and doing harm in a variety of ways.

The eating of irritating articles, such as pickles, spices, peppers, and condiments of all kinds, is another cause. These all irritate the mucous membrane of the stomach, besides containing no nutriment.

(*To be continued.*)

The Treatment of Sprains.

That well-known authority, the *Medical Record*, gives the following sensible advice as to the treatment of sprains : —

Sprains are sometimes fully as painful and disabling as fractures, and like fractures they should not be made the object of unnecessary meddling. No injury is more frequent with the summer tourist than the sprain, particularly of the ankle. The mode of vacation life, with its admixture of athletic sports and unaccustomed exercise, particularly predisposes to this accident. The laity should learn to avoid arnica, turpentine, and other abominations in favor of immediate immersion in hot water for a considerable period, followed by elevation of the limb and gentle retention of the parts by a bandage, the material for which may well consist of elastic flannel.

General Sherman was once a patient of the late Dr. Bliss. The doctor had been treating him for some time, when one day the general said, "Doctor, I don't seem to be getting any better, for all your medicine."

"Well, general," replied the doctor, jocosely, "perhaps you would better take Shakespeare's advice, and throw physic to the dogs."

"I would, doctor," replied the sick man, as he turned his head on the pillow —"I would, but there are a number of valuable dogs in the neighborhood."— *Home Journal.*

She Did What She Could.

A plain woman in Glasgow, one summer day, was walking along a street in which some poorly clad children were running barefooted at their play. A policeman saw this woman stoop down again and again as she went on, each time picking up something which she put in her apron. The officer supposed she was finding and appropriating something she should not take away, and hurrying after her, demanded in a threatening manner that she let him see what she had in her apron. The trembling woman complied, and showed the guardian of the city's safety some pieces of broken glass which she had gathered up out of the street. "I thought I could take them out of the way of the bairns' feet," she said.

If you want peace, bear a cross.

Seasonable Bills of Fare.

BREAKFAST

Apples
Baked Sweet Apples
Breakfast Food with Cream and
Toasted Whole-Wheat Wafers
Poached Eggs with Granose Flakes
Currant Puffs Stewed Grapes

BREAKFAST

Apples
Baked Quince
Toasted Granose Biscuit
with Hot Cream
Tomato Toast
Corn Puffs with Sterilized Nut Butter

BREAKFAST

(Without Milk or Cream)
Granose Flakes
with Grape Sauce or Maltol
Nuttose Hash
Celery
Rice with Lentil Dressing
Graham Gems

DINNER

Cream Pea Soup
Browned Potato Escalloped Tomato
Chopped Turnip
Wheatose with Cream and
Toasted Whole-Wheat Wafers
Whole-Wheat Puffs
Cranberry Sauce
Rice Cream Pudding

DINNER

Fruit Soup
Lentils with Nut Butter
Macaroni with Tomato
Graham Gems with Nut Butter
Canned Fruit
Apple Pie with Nut Crust*

DINNER

(Without Milk or Cream)
Corn and Tomato Soup
Baked Sweet Potato with
Nut Sauce
Mashed Peas Chopped Cabbage
Pearled Barley with Lemon Sauce
Nut Crisps Citron Apples

*See recipe in April number.

RECIPES.

Currant Puffs.— Make a batter by beating together until perfectly smooth the yolk of one egg, one and one-half cups of new or unskimmed milk, and one pint of whole-wheat flour. Whip the white of the egg to a stiff froth, and stir it in lightly and evenly. Add one cup of Zante currants which have been well washed, dried, and floured. Then turn into iron gem-cups and bake. The batter may be prepared and left on the ice or in some cold place over night, if desired for breakfast. When ready to bake the puffs, after vigorously beating the batter for five or ten minutes, stir in lightly the well-beaten white of the egg; turn at once into the irons, and bake.

Baked Quince.— Pare and remove the cores. Fill the cavities with sugar, put in a shallow earthen dish, and add water to cover the bottom; bake till soft, basting often with the sirup. If the sirup dries out before the fruit is perfectly tender, add a little more hot water.

Cream Pea Soup.— Soak three fourths of a pint of dried Scotch peas overnight in a quart of water. In the morning put to cook in boiling water, cover closely, and let them simmer gently four or five hours, or until the peas are very tender

and well disintegrated; then rub through a colander to remove the skins. If the peas are very dry, add a little water or milk occasionally, to moisten them and facilitate the sifting. Just before the peas are done, prepare potatoes enough to make a pint and a half after being cut in thin slices. Cook the potatoes until tender in a small amount of water, and rub them through a colander. Add the potatoes thus prepared to the sifted peas, and milk enough to make three and one-half pints in all. Return to the fire and add a small head of celery cut in finger lengths; let the whole simmer together ten or fifteen minutes, until flavored. Remove the celery, add salt and a cup of thin cream. This should make about two quarts of soup. If preferred, the peas may be cooked without soaking. It will, however, require a little longer time.

Chopped Turnips.— Chop well-boiled white turnips very fine, add salt to taste, and sufficient lemon-juice to moisten. Turn into a saucepan and heat till hot, gently lifting and stirring constantly. Cold boiled turnip may be advantageously used in this way.

Rice Cream Pudding.— Take one cup of good well-washed rice, a scant cup of sugar, and eight cups of new milk, with a little grated lemon rind for flavoring. Put all into an earthen pudding-dish, and place on the top of the range. Heat very slowly until the milk is boiling, stirring frequently, so that the rice shall not adhere to the bottom of the dish. Then put into a moderately hot oven, and bake without stirring, till the rice is perfectly tender, which can be ascertained by dipping a spoon in one side and taking out a few grains. It should be, when cold, of a rich, creamy consistency, with each grain of rice whole. Serve cold. It is best if made the day before it is needed. If preferred, the milk may be first flavored with cocoanut.

Fruit Soup.— Into one cup of warm water put one rounding tablespoonful of sago, and cook in a double boiler one-half hour. Then add two or three whole cooked prunes, one-fourth cup stewed raisins, two tablespoonfuls stewed cranberries, one teaspoonful lemon-juice, and sugar to suit the taste. Allow it to heat until the fruit is hot, and serve.

Vermicelli or pearled barley may be substituted for sago, and dried cherries, with strawberry and lemon-juice, used in place of the fruits mentioned.

Bread Made Directly from Wheat.

A Frenchman has invented a machine which takes the wheat, after being soaked, and crushes and disintegrates the paste, passing it on to the kneading-machine at the other end of the apparatus, where it is aerated and kneaded into dough, which may be preserved indefinitely without injury. The nutritive qualities of the grain, bran included, are thus preserved.

In spite of the very long time during which man has been subjected to an animal diet, he retains in preponderance his original and natural taste for an innocent diet, derived from the first-fruits of the earth. If under this head we put fruit in the first place, and include grain under the same head, we may say that the evidence is, decisively, on the side of the vegetarian argument, and may declare with the distinguished French physiologist Flourens — who of all men was free from bias — *that man is a fruit-eating animal.* — *Sir B. W. Richardson, F. R. S.*

Who will remember that skies are gray,
If he carries a happy heart all day?

— *St. Nicholas.*

TRAINING IN TRUTHFULNESS.

BY MRS. E. E. KELLOGG.

(Concluded.)

PARENTS must seek to be just in all their dealings with their children, putting themselves in full sympathy with them, if they would foster in them that moral courage that will deliver them from the temptation of untruthfulness. When accidents happen, as they often will, as when the child breaks a dish or injures some valuable possession, let not the matter be treated as though a grievous sin had been committed. If correction seems merited, let it be some natural outcome of the deed, and make it clear to him that it is not because the injury done was in itself a sin, but to teach him to be more careful. A well-known writer says, "Many children are forced into the habits of untruthfulness by want of judiciousness on the part of parents. Nothing is more common when a child has committed a fault and is under punishment than to require it to say that it is sorry or that it will do so no more. Now as we are very well aware, a child while being punished is very often not only not sorry, but frequently in a state of bitter rebellion against the one by whom the punishment is inflicted, and when forced by pain to yield, it sacrifices truth to escape further suffering."

Later along in years many children, from a desire to be thought as well of as their companions, or to be considered the possessor of traits or possessions which they admire in others, tell what may be styled falsehoods of egotism. The best measure of preventing, as also of overcoming, this tendency, as well as other exhibitions of self-love and self-importance, is to draw the child outside of himself, lead him into the "joy of service." Give him something to do for others, incite in him a desire to minister unto those around him. Do not spend time and effort in trying to set him right by controversy or punishments. Ignore his statements as much as possible, and endeavor to bring him into sympathy with others and forgetfulness of self in doing for them. Indolence will frequently lead a child to make false statements. He is told to get something from another room, and because he finds it too much trouble to make the necessary effort to find it, he returns and says it is not there. Many times, motives of convenience and desire lead to untruthfulness. Many unintentional misstatements made by children are adjudged untruths by their elders, who measure the child's veracity by a "grown up" standard. We must unravel the child's motive if we are to judge correctly concerning the results. We must learn to distinguish between falsehoods having their origin in excessive imagination, indolence, fear, or egotism, and wilful, premeditated lies. It is only by a deep and careful study of the child, his nature and disposition, and the causes which lead him to falsify that we shall be enabled to do this. We must study the disease and its causes, remove these causes, apply the remedy; there is no other way.

The generality of the world seem to believe that the proper corrective measure for untruthfulness is punishment; thus an arbitrary punishment is commonly employed, and the several kinds of falsehood are treated in the same manner. Such a plan is scarcely less unwise than would be that of selecting a single remedy and applying it to all diseases. Manifestly the true way to deal with the child

addicted to falsehood is to search out the cause which lies back of the evil and banish from him as far as we can every possible temptation to untruth. Try to fathom his motives and learn his weaknesses; then direct your efforts toward strengthening his character at the points where it is weakest. Foster his courage, cultivate his self-respect, notice with indications of approval his first feeble efforts to reform, commend him when he speaks the truth under difficult circumstances, not forgetting that the "highest in the child is aroused only by example," and make his environments as regards his caretakers and companions such as it will be safe for him to pattern after.

In your talk and teaching try to impress him with the nobility of truth; hold before him high ideals; and as far as possible manifest confidence in his veracity. It is better to appear to believe his word, even though what he says may seem very improbable, than to assume that he has told a falsehood, without positive proof. And do not institute a court of inquiry in his presence, calling upon one and another of his companions to certify to his veracity. The child whose word is questioned, who feels that an atmosphere of doubt surrounds him, very soon comes to feel that it matters little whether he speaks the truth or not, since his word is not considered valid. Show a child that you trust him and believe him, and there are few who will not make an effort to be worthy of your confidence.

Accuse a child of falsehood only on positive proof. In suspicious cases do not seek for evidence by urging the child to confess. Such a procedure is apt to offer a child, if guilty, an occasion to repeat his falsehood; while many an innocent child, weak in moral courage, has under such pressure been led to plead guilty. It is better to allow cases where proof is not positive to pass unnoticed, at the same time keeping the child under closer vigilance, and making more strenuous efforts to aid him to desire to be truthful. Even when evidence is positive that the child has told a lie, be very guarded that through your lack of tact or judgment no incentive to denial is offered him.

If it seems necessary to question him, do so at some other time than at the moment of terror and discovery, and give him time to think before requiring of him an answer. It is a very delicate matter to secure from a child a penitent confession of a lie, and in most cases it is wiser for the parent to let it appear that he already knows than to question the offender, lest he be tempted to additional falsehoods. The discerning parent who has carefully studied the child can read in the child's attitude, manner, or expression whether he is speaking truthfully. The face is a wonderful index to the heart, and the child who understands this fact will often be led courageously to acknowledge his faults because he realizes that it would be impossible to hide the truth. I have found their study of expression of greatest value. At first the children could not understand how it was that I was enabled to fathom their motives and know what they had been doing, and one little one confided to her teacher that it was her belief that the Lord spoke to her mama, and told her when the children did wrong, as he used to speak to the prophets in ancient days. Her teacher replied that every one's face tells more or less of what is in his heart, and that God does give to many parents and teachers the power thus to discern much of the inward workings of the heart, because he has such deep love for all little children that he wants to help the fathers and mothers and teachers to lead their children in the right path and help them to avoid the wrong.

The study of expression, of manner, and bearing is, I think, most helpful in the correction of children's faults. One thought further leads us to the point which we reach in the consideration of almost every subject connected with child training; namely, that parents must know their children, that they must be in the fullest and most complete sense in sympathy with them; in other words they must live with their children if they expect to prevent or correct their faults. I am often reminded of what a friend of mine once wrote respecting her own conviction of duty. She was endeavoring to carry out a plan of writing a daily record of the child's conduct as an aid to herself in the training of her boy; or, she said, "As I write the record each day, I have to think carefully and judiciously of what has happened, and I often see that I might have averted small troubles if I had been more watchful. I find very much depends upon me, and that I must not be contented with writing in my record, 'Good as far as mother knows.' The book reminds me that I must be with the boy if I am to judge of his conduct; that I must study him, and learn to know him, must make this study a veritable part of my life."

It must not be expected that the untruthful child will suddenly be transformed into a truthful one. The force of habit is strong; and the change, if it occurs at all, is likely to be very gradual. If we see advancement, we should recognize it as an encouragement, and fail not by prayer and vigilance to do all in our power to help him. Encourage him to believe that victory is within his reach, and that with the help of God he may overcome.

TRAINING THE CHILD.

PERHAPS no one has ever spoken in mothers' meetings and emphasized the importance of right beginnings in the training of the child, who has not afterward met those who said to her: —

"Ah, that is all very well. But if you have not begun right, what then? My children are all growing up; and when they were little, I did not know these things. What shall I do now?"

It is a more than difficult question to answer; it is an impossible one. What attempt at reply may be made must necessarily take a very general form. The mother must, of course, continue in her effort to teach, and in order to do this, she must not despair. I know of only one reflection which has power to save a mother from despair when confronted with this hard problem — and sometime or other every mother is confronted with it, for who has laid the foundations perfectly true? The reflection is that every child, like everything that lives, has an inherent tendency to go right, and there is a power greater than the mother which is continually strengthening this inherent tendency.

The plants that occupy the wayside and waste places have no other warrant for life than this; the beasts that perish live an orderly life under no other guidance than this. Is the young human animal alone bereft, orphaned in the world of nature? He has not less than the animals, but more. Because he lies long in his mother's arms in helpless infancy, he is not therefore weaker than the colt, who stands promptly upon his long legs the first day of his life; for he has a greater love to lean upon, and in his weakness is wrapped a greater possibility of strength.

So, too, with the spiritual part of man's nature. It is not less well cared for than the physical. It lies longer in infancy and apparent weakness, but it has a greater love to lean upon, and a greater possibility of strength.

The world is full of examples of persons fearfully marred physically who have nevertheless survived. Any one who has noticed the vast number of halt and maimed upon our streets, in our hospitals and asylums, and the still greater number tenderly cared for in homes, must be impressed with something very like awe for the physical strength and endurance of the human being. It takes a tremendous deal to stamp out the life of a man.

From some such glimpse of the majesty and vitality of man one may turn and face facts with a serener vision. Not this sin nor that will destroy your child, O mother, neither your own weakness and shortcomings. For every one of them you and he must pay, and pay dear; but after all the price is merciful. It is only the means of bringing home to you and to him the nature of the sin, and teaching you to shun and hate it. For this is the life of the man — to hate sin and to love righteousness. It is not merely to do right things or refrain from wrong ones; for this a man may do while yet wishing that he were free to do the opposite. In such right-doing there is no righteousness at all, neither for the child nor the adult. But to love to do right, freely to choose it, this is life. All else merely simulates it. And to lead the child to love the right is the problem of the mother. It is a problem so mighty that if she had to face it alone, she could never hope to solve it.

But she has not to face it alone. To this end was the universe built. Its every particle shows the beauty and joy of obedience to the laws of order. The sermons that are in stones preach from this one text, that to obey the law is life eternal; the books in the running brooks are poems on the joy of such obedience, and the good in everything is the proof of the proposition. She who works to establish the love of right in her child, works with the mighty powers that have built the world, and in her using of them is guided by the delicate and subtle wisdom which fits them as perfectly to the tender flower as to the mighty ocean. More, the personal love which yearns in her over her own special child more than over another has its source in a higher love, which reaches out to help her with the same personal consciousness, the same definiteness and exclusiveness. Love, like law, is not only universal, it is also particular. To every question there is an answer that exactly fits, which does not need to be sought for so much as waited for.

Did you ever make an appointment to meet a friend at a certain time and place, and then, not meeting him at once, go wandering off in search of him in other places, imagining the mistakes that you or he might have made, when, all the time, if you had stayed quietly still, he would have found you? In somewhat the same way do we go flying frantically about, seeking for the truth that is all the time seeking us, when if we would stay quietly in our appointed place, making our needs ever clearer to our consciousness, it would be revealed to us.

What, then, must you do to stop John's smoking or Mary's tendency to flippancy and fibs? First, make yourself fit for the task by admitting your unfitness. Empty yourself of self-sufficiency, of pride, and even of fear of giving pain. Ask of the Source of the universe for patience, and long-sighted wisdom, and then, having done these things, abide your time. Whatever happens, do not waste your force on little fretful naggings and weak tears. If you must weep, lock your door

and stifle your sobs. You do not want your children to grow virtuous merely to spare your feelings. That is too shifty a foundation for any noble house of character to stand upon. You want them to love righteousness; and in order to bring that about, it must not be associated in their minds with reproaches and tears or anything disagreeable, but with a mother whose poise and serenity they admire, with noble ideals, with all things lofty and beautiful.

Many a good woman has fearful things to answer for at the last day, because of the persistency with which she has made virtue unattractive to the members of her household. Because of this, many a man has grown up with an image of virtue as an unpleasant old beldam by the fireside, while vice has appeared decked in the bright colors and artificial charms of the airy creatures of the spectacle play.

The way to make vice hideous is to make virtue attractive. Make it vividly so, first in your own person, then through whatsoever strong and beautiful companionships you can bring around your child.

The mother who first begins to think earnestly about her child's home training when she finds faults ripening thick upon him, has indeed a difficult task, but she has also powerful helpers. The period of adolescence is a period of fermentation; and this fermentation, as in wine, purifies and makes clear. At this time all the foundations laid in childhood are tested; and if they are weak, they fail. And this is well, for there is yet time to lay another. Stanley Hall says that the youth and maiden are reborn in the years between twelve and eighteen, and can be helped then, as in the first infancy, to a right conception of life. — *Marion Foster Washburne.*

THOUGHTS THAT MOLD THE FEATURES.

THE molding of our features by our thoughts is a never-ceasing process, whether we are conscious of it or not. If we persistently continue in one line of thought for a given time, the special features upon which this thought has acted become accentuated accordingly. It is the thought behind every act, behind every breath, which vitalizes and finally shapes the lineaments of our faces; and any attempt to frustrate thought in its effort to express itself through our countenances, results in a confusion of expression and an uncertainty which is superior to and detracts from otherwise well-formed features.

Nor may we impose upon each other by mere muscular imitation of a feeling or a sympathy which is not genuine; for our thoughts, endeavoring to conceal themselves from our associates for some reason born of the moment or surroundings, mean one thing and try to make the features express another. In this way, the intangible thought, true at its birth, but afraid to show itself naked to the beholder, for fear of loss of emolument, of praise, it may be, or friendship, or favor, attempts to dissemble, and at once loses its force, and mars the truth or true action of eyes, lips, and brows.

So it follows that the first rule to be observed by the seeker after physical perfection is that brief one, "Be true." As a tree is known by its fruit, so is a mind known by its expression upon the face. A pure trend of thought, seen through the reacting muscles of the physiognomy, can and must reflect a pure beauty. It is simply a matter of cause and effect.

The most beautiful face is the perfectly happy one; for happiness brings a shining to the eyes, a new curving to the lips, a rounding of and an uplifting to the cheek. In all the happier and loftier emotions, the muscles leap upward. It seems a sacrilege to analyze a smile and make it a mere matter of muscular energy; but perhaps if it is looked at in another way, seeing in the muscles of the face the ready handmaids of the soul or thought, we may at once recognize the importance of the relations existing between the servant muscles and the master mind.

If we make cheerful thoughts our constant companions, the mask of each individual will grow to his fullest perfection.

This may not be apparent during youth or early womanhood; for the features then are only forming, and except in cases of abnormally developed tendencies, are not cast into an unalterable form. But after a woman has reached middle life, has lost much of the freshness of youth, and must depend mainly on expression for her beauty and attractiveness, then it is the lines of the face that tell the story of her life. They are beautiful if her thoughts have been exalted, unattractive if they have been unworthy.

All along the outposts of time has this truth been cried out by the various sentries. Marcus Aurelius emphasized it; men of brawn and brain have echoed it; famous beauties have profited by it. But the search for the best in ourselves, for the perfecting of our bodies, must not be made languishingly. It must be carried on with wide-open eyes and minds; by doing "noble deeds, not dreaming all day long." One need not look upon the doing of kind things as a sacrifice or foolish self-repression, for that is seeing it in a false light. In reality, it is true self-protection, and we ourselves are the truest beneficiaries of our cultivated "good nature."

Every smile given is like money put out at usury, and rarely returns a poor interest. Every depressed thought, every angry one, every bitter one, leaves a trail behind it as vile as the poisonous footprints of the tarantula. "If the hive is disturbed by rash and foolish hands, instead of honey it will yield us bees," may certainly be paraphrased to read, "If the features are stirred into action by bitter or harsh thoughts, instead of beauty they will yield us ugliness." — *Demorest's Magazine.*

BEGGARS.

CHILD with the hungry eyes,
The pallid mouth and brow,
And the lifted, asking hands,
I am more starved than thou.

I beg not on the street;
But where the sinner stands,
In secret place, I beg
Of God, with outstretched hands.

As thou hast asked of me,
Raising thy downcast head,
So have I asked of Him,
So, trembling, have I plead.

Take this and go thy way;
Thy hunger shall soon cease.
Thou prayest but for bread,
And I, alas! for peace.

— *Ella Higginson, in Lippincott's.*

HATH thy heart sunshine? shed it wide;
The wearied world hath need of thee.
Doth bitterness within abide?
Shut fast thy door, and hold the key.

— *Priscilla Leonard.*

TRODDEN UNDERFOOT BY FASHION.

BY MARY HENRY.

CARLYLE, in his famous "Sartor Resartus," says that, "In all speculations, thinkers have tacitly figured man as a clothed animal; whereas he is by nature a naked animal." People in general seem to have gone even further than the thinkers. They figure upon the animal man as an object to go into certain clothes. The question is not, "Will the clothes fit him?" but, "Will he fit the clothes?" And if he does not fit the clothes, he must be made to.

This is particularly true of women. They are determined to fit the clothes that fashion prescribes. Conventional dress, their cherished idol, is allowed to trample under foot the most important organs of the body.

Such is the influence of custom and tradition, that women, even in these days, are delighted to have a "naturally slender" waist so that they "don't need to wear a corset." Almost any woman would be horrified were she afflicted with a figure at all resembling that of Venus or Juno.

Probably it has never occurred to most women that there is no such thing as a "naturally slender" waist; that a slender waist is really a deformity. One proof of this is that in sculpture or painting, never is an undraped woman's form portrayed with a tapering, small waist. Woman as a "naked" and "natural animal" is not formed that way. The doctors tell us that it is next to impossible to find a woman who has a reasonably natural figure.

It is not necessary to wear a corset in order to injure the form. Clothing that closely fits the form and skirts that hang from the hips are enough to produce deformity and disease. Now this is a fact, and not a theory. Too many women are in the habit of looking upon health reform, and dress reform in particular, as a subject for amusement; but when they are laid low by "nervous prostration," "chronic dyspepsia," or some kindred evil, they cease to laugh, and go to blaming Providence, or to repeating, with resignation, "It 's just what we expected, it 's the penalty of living."

It is not the penalty of living, but of living wrong.

What is the body for? Is it designed for decoration, or for use? It is an aboriginal idea that the body was meant for ornamentation. The savages tattooed their bodies before they invented clothes. It is a Christian and humanitarian principle that the body was intended to serve man's mind and soul. It is reasonable to suppose that the Creator knew how to make the body so that it could best serve this design. God put the stomach between the ribs. Women have crowded it down among the lower abdominal viscera.

There is hardly a civilized woman to be found whose stomach is in its proper place. This is the result of wearing conventional dress. It is very rare to find a man with a prolapsed stomach. This is because the conventional dress of man pays more attention to his natural form.

Perhaps the term "prolapsed stomach" does not sound very formidable. The names "scarlet fever," "smallpox," "cancer," have a definite and terrifying significance because we know what they mean. But when you really think what "prolapsus of the stomach" involves, you will be convinced that it is a condition at least dangerous enough to be avoided. We will suppose that the stomach is prolapsed four inches,— that it is four inches

below its proper position. This is simply an average case. Of course, the stomach cannot change places with the organs below it, so if it is crowded down into the lower abdominal region, the other organs are crowded down also. The liver and kidneys are displaced. The colon is often so pushed out of its natural place, sometimes so bent over upon itself as to form a practical stricture, producing severe constipation. Then the owner of this deformed body will take pills or drink mineral water to remedy a condition that cannot be cured till the stomach is restored to its normal position, and the other organs allowed to resume theirs.

This is by no means the only evil result of the conventional waist. When the stomach is prolapsed, the nerves that are supplied to it by the sympathetic system are dragged down with it. Thus is produced a constant stretching and tension upon these nerves resulting in backache, irritability, hysteria. You can form a faint idea of the effect of this constant drawing upon the nerves, by stretching and pulling your little finger till you feel the pain. You can, however, let go your little finger the minute you become uncomfortable, and the pain will disappear. But you cannot, at will, stop the stomach from tugging and straining at these sympathetic nerves.

Most women have an occasional dim idea that they do injure themselves by wearing fashionable clothes, but very few have any conception of the nature or extent of the injury. They do not think about it. They have been educated into certain false principles of beauty and propriety.

Dr. Kellogg tells the story of a prominent lady, who, while visiting the Sanitarium at Battle Creek, observed with surprise the natural waists of the nurses. "Are not the nurses allowed to wear corsets?" she inquired of one of the matrons. "They do not wish to," was the answer. Then in a stage whisper she exclaimed, "But how in the world do they keep their stomachs down?" And the doctor made the pertinent comment, "That's just what women are doing, keeping their stomachs down — down several inches below where they ought to be." An inch in the abdomen, like the proverbial "inch on a man's nose," may mean a great deal.

Women of the present generation would find it very difficult to get back to nature's model. Yet a young and determined woman can approximate the ideal if she will be diligent and patient in the right line of treatment. First, she must wear clothing that gives the body free action and that does not weigh upon the hips. Second, she must wear an abdominal support until the muscles of the abdomen become strong enough to hold up the organs themselves. Some women imagine that if they wear the abdominal support to keep the organs in place, they may still wear close-fitting dresses, but this is like grinding the poor organ between "the upper and the nether millstone." Third, she must have special, daily massage to replace the organs and strengthen the muscles. Fourth, electricity should be applied to strengthen the muscles by forced contraction. Fifth, she must have rational and regular exercise in the open air. If a woman is properly dressed, bicycle riding is an excellent means of strengthening these muscles.

GOD will heal his children when they know
The vanity of idle wish and empty show;
That his strict laws of life are love and truth
And simplicity's the fount of endless youth.
—*William Allen Wood.*

THE CARE OF THE WARDROBE.

It is not half as hard to care for one's clothes as it is to get them in the first place. Yet, strangely enough, those who have the fewest garments take least pains to preserve their freshness. Rich women with French maids have their gowns and bonnets looked after with a jealous skill that the women who neglect their clothes would never dream of.

It is not wear that makes a drabbled mass of your best gown in a couple of months. It is lack of care when it is off your back. If you fold it up or hang it, ten to one you do it badly. Hang all your dress waists and skirts, but suspend them on "coat-hangers," not on hooks or nails. The way shopkeepers care for ready-made garments is an excellent object-lesson. A large supply of coat-hangers can be purchased for a dollar; or if you are out of reach of the ready-made article, manufacture them. Half a barrel-hoop, with a loop of string in the middle, makes a satisfactory substitute. Hanging only serves for heavy fabrics — not when they are of thin goods, which are apt to become stringy. Light materials must be folded, sleeves and bows stuffed out with tissue paper, and all given plenty of room.

Skirt-bags are a luxury, even a necessity for handsome garments. They are large, square sacks of white cotton, longer than the skirt, into which it can be slipped without crushing. Skirts should not only be brushed when taken off, but the lining ought to be well wiped with a dry cloth. This should be done at once, and the skirt then put away properly. It is tumbling about on chairs, waiting to be put away, that ruins quantities of clothes.

A few pairs of boot-trees are invaluable; the cost of them is more than compensated for in an actual saving of money. They not only preserve the shape of the shoes, but the leather is far less apt to crack and break. It is a measure of economy to keep several pairs of shoes in use. When worn steadily, they do not have time to dry out thoroughly while off the feet, and the constant dampness rots them. Water should never be put on shoes, and any soil should be removed with oil. They may be kept stuffed with paper when not in use.

Gloves must be pulled into shape as soon as they are taken off, and not put away until they are dried. They should always be removed from the hand by turning them wrong side out from the wrist up, not by tugging at the fingers.

The best way to preserve the crispness of veils is to roll them up in long, narrow sachets made for the purpose. The tulle is straightened out, folded, laid on the sachet and rolled up with it, and the whole tied with a ribbon fastened to the outside of the veil-case.

All closets and clothes-presses need frequent sunnings and airings. Clothing, too, should be exposed now and again, just as you would sun your bedding. That is one of the most sweetening measures in the world. Dress-waist linings can be kept wonderfully nice by occasionally wiping them off with a cloth dampened with very weak ammonia-water. Of course the shields should be frequently changed. — *Farm and Fireside.*

A New Movement in Dress Reform.

During the years in which the dress-reform movement has been in progress, many experiments have been tried, some of them expensive and all more or less disappointing to one class or another. Some of the costumes evolved have commended themselves to the good taste of

the community at large, but by far the greater part have been grossly at variance with the ideas of the larger share of both men and women, and nearly all have failed to secure permanent recognition from our womanly women — the only women whose opinion is worth the seeking or the keeping.

A recent movement, however, the direct result of the announcement from Paris that street gowns are again to be made with trailing skirts, has been inaugurated by the members of the Kenwood Correct Dress Association, Chicago, who, realizing from experience the horrors of long skirts for street wear, have raised their voices in defiance of Paris modistes, and declare that they will have their street gowns made with skirts at least three inches from the floor. These gowns are not to be made over from old dresses, nor to be simply amputated skirts, but are to be of the best material, tailor made, and to be the handsomest street gowns of those who wear them. It is thought that this fact will have great influence in making the movement popular with the general public. Heretofore the garments which have been modeled according to reform ideas have too often been made in such a way as to be unbecoming to the wearer or undesirable in some way, so that women generally have been repelled rather than attracted by them.

With this decision these Chicago women place themselves at the head of the movement for sensible dress, and we shall watch with interest the results of their example.

Grandmothers Wanted.

"Are there no grandmothers nowadays?" asked a discouraged teacher of a church sewing-class the other day. "My girls are from ten to twelve years of age and belong to respectable families; but such hemming! and such seaming! They can all crochet, however," added she, disdainfully.

The speaker had, in her youth, been carefully trained by her own grandmother in all the arts of dainty stitchery, and could only account for the awkward use of the needle by girls of to-day by supposing the race of grandmothers extinct.

Those daily "stents" set for the little girls of long ago produced good results; and home, with the stent system, and the direction of a judicious and skilful elder, seems the fitting place for instruction in such a womanly art as needlework.

It is not a kindness to allow a girl to grow up unfamiliar with her needle. With this tiny weapon a woman may drive away either want or ennui, if she be well trained in its use.

"A queen," says Hawthorne, "plies it on occasions; the woman's eye that has discovered a new star, turns from its glory to send the polished little instrument gleaming along the hem of her kerchief, or to darn a casual fray in her dress. It is a token of healthy and gentle characteristics when women of accomplishment and high thought love to sew, especially as they are never more at home with their own hearts than when so occupied."

Speaking of one whose exquisite embroidery commanded both admiration and high prices at decorative art rooms, a friend remarked, "But Mary, you know, had the advantage of her grandmother's training, and she was a needle-woman of the old school." The grandmother again!

The daily stent may be a daily trial till the pleasure of a skilful handling of the needle can be felt; but may not the training of character also be going on while little fingers patiently work at "over

and over" that will not look even, or hemming that seems so endless?

Those poor little fingers will be often pierced; tears, perhaps, will be shed when imperfect work is picked out; but if with the effort such qualities as attention and accuracy are developed, together with those good old virtues of lifelong need, patience and perseverance, is not the result well worth the daily discipline? In due time there will come, too, the joy which work well done brings to the worker, as a reward for our painstaking little needlewomen.— *The Housewife.*

Gossiping Children.

"There, that will do; not a word! I don't want to hear anything about it."

"But, mama, I only just want to tell you that Jennie's ma said something disagreeable about Mrs. Smith."

"Well, suppose she did. You should not listen to such things, nor are you to repeat them when you come home. There is nothing so ill-bred and rude as to tell things that you hear when you are visiting with other children."

This bit of conversation occurred in a well-bred family, and is the key-note to the management of that household.

It was in striking contrast to the methods of the establishment that the child had just left. "Jennie's ma" is much given to curiosity about the affairs of her neighbors, and rarely fails to elicit from her numerous family even the most minute details of conversations that are indulged in in their presence. She knows almost every article in the houses where her children visit, what they have for dinner, how they serve it, and the personal habits of each one of the family. Her little ones have been trained from their cradles to repeat to her everything that happens wherever they may be. They have already become the dread of the neighborhood, and, if anything unusual occurs in a family in their vicinity, the strictest vigilance is required to keep them out of the midst of it. They have respect neither for bolts, bars, nor prohibition, and are growing up scandal-mongers of the most dangerous sort. If they cannot find out the rights of things, they jump at conclusions, so as to make out a "good story to tell ma when they get home." If they have been in any mischief whatever, a well-constructed recital of something that has happened or that they can imagine may have happened among their numerous acquaintances, means freedom from punishment, and possibly the getting off with nothing more than a mild reproof.

The world would be a great deal happier and better if children could be taught to curb their curiosity and mind their own business; but this they never can or will do as long as their families catechize and quiz them as to everything that happens when they go out.— *Sel.*

Electricity in the Household.

In the October *Chautauquan* Mr. George H. Guy speaks of many new devices which the imponderable fluid could be put to in furnishing our homes; he announces that soon stairs will be looked upon as barbarism, and that all houses will have an electric elevator worked automatically. Already many private laundries are equipped with electric irons, and the clothes are also washed and dried electrically. In the kitchen there is the electric cooking outfit, and the knives are cleaned and the dishes washed by an electric motor. But of course the chief household good to be derived from this source is still in the matter of lighting and heating. Mr. Guy speaks in

favor of the electric radiator as a heater. "It is both ornamental and handy, and can be shifted about to heat a corner of the room, or placed near the piano to give just the necessary degree of warmth to keep the fingers of the music student from stiffening during a winter morning's practise. In bed-rooms it is invaluable, as it can be regulated to take the chill off the air without raising the room to an unwholesome heat." These are not one tenth of the uses which Mr. Guy suggests, including such matters as curling-tongs for the ladies, and traps for the annihilation of moths, flies, and mosquitos. For the last-named purpose an incandescent lamp is used. It is placed inside a large globe, which is coated externally with a mixture of honey and wine or any other viscous mass. When the blinds are drawn down, the entire insect life of the room is attracted to the glare, and is soon attached to the sticky glass.

Childhood Environments.

An individual in his heredity and environment may be compared to a field of corn; it may be sweet corn, white or red-eared field corn, that depends upon the corn's ancestry; but the kind of a crop raised depends upon the corn's environment. Its surroundings must be of the right sort to bring it to the highest state of perfection. There must be the right amount of rain and sunshine, and a favorable temperature, and the ground must be cultivated in the proper manner. If it be not, originally, the best variety of corn, — if there is some defect of heredity, — the best environment may not prove sufficient to produce the highest type of corn, yet it cannot fail to be a better crop than if left alone, or to bad management.

So it is with the human crop. There are different species of humanity and many varieties of inherited tendencies; but much depends upon childhood's environment whether the embryo excellences be made to grow and expand and attain a beautiful maturity, or be early checked in growth and smothered by poisonous weeds of wrong through mistreatment.

The good that is inherent in a child, like a crop of corn, needs to be rightly cultivated, if the highest worth and usefulness is to be attained; and the sproutings of evil, like rank weeds, are easier eradicated in their beginnings. — *Sel.*

Training-Schools for Domestic Servants.

The New York Household Economic Association is an organization for the purpose of opening and conducting training-schools for domestic servants similar to those for nurses. The graduates will receive diplomas at the end of the course, and happy will be the household which can boast a cook or housekeeper whose diploma hangs on the wall.

A New Use for Tissue-Paper.

A subscriber sends us a bit of personal experience with sheets of white tissue-paper folded several thicknesses and used inside of oiled muslin for the baby's napkins. It is said to save much inconvenience and annoyance while traveling, and a deal of washing at any time. The idea may be worth trying at any rate.

ONE "do" is worth a thousand "don'ts" in the destruction of evil or the production of good. — *Hughes.*

LOSE no chance of giving pleasure, for that is the ceaseless and anonymous triumph of a loving spirit. — *Sel.*

EDITORIAL.

A STARTLING TRUTH.

The fact to which the writer called attention in a recent paper read before the Civic, Hygienic, and Philanthropic Conference held at Battle Creek, Mich., that we are a dying race, seems to have stirred up quite a tempest among the newspapers of the country, hundreds of which have printed the paper or copious extracts from it, with or without comments.

With very few exceptions, the comments made have indicated a recognition of the startling truth to which we have undertaken to call attention; viz., that in spite of our boasted advantages, and the marvelous progress which has been made in sanitary science along many different lines, we are going down both physically and mentally.

One of the most conclusive evidences of the degeneration of the race is to be found in the astonishing rate at which insanity and imbecility have increased within the last forty or fifty years. According to Dr. Wines, the number of insane per million persons in the United States increased between 1850 and 1890 from 673 to 1,700. The number of feeble-minded persons or imbeciles per million increased between 1850 and 1890 from 681 to 1,527. In other words, the number of feeble-minded per thousand or million at the present time is about three times as great as fifty years ago, and the same is true with reference to the insane. In Great Britain and Ireland, older countries, and in which certain causes of degeneracy have been even more active than in this country, the number of insane per million has increased in thirty years — that is, between 1862 and 1891 — from 1,810 to 3,070. From these facts it appears that the process of degeneracy going on in this country is likewise proceeding at a similar rate in other countries, and that the older the country, the farther the process has advanced. In 1890 this country had reached the stage reached in Great Britain in 1862.

That this great increase in individuals who are morally deficient is largely owing to the influence of heredity is not questioned, since it has been shown by careful observations made by Dr. H. M. Hurd of the Eastern Michigan Hospital for the Insane, that the evil effects of intemperance are to be recognized most clearly in the frequency of insanity and mental deficiency in the children of drunkards.

In the face of facts like the above, it seems impossible that any intelligent man could pen the following lines, which we find in the editorial department of a Michigan paper: —

"Dr. Kellogg is right in part, but quite wrong in his conclusion that the human race is degenerating. Thoughtful men who have had occasion to observe the criminal and imbecile classes are agreed that they should not be allowed to propagate more of their classes, and that the humanitarianism of the age has swung to the extreme of foolish license. Nevertheless, the race as a whole is improving, both morally and physically, at a rate unprecedented in any previous era, causing diminution of sickness, disease, and crime, and increasing length of life. The world moves forward in this age, — not backward."

Certainly no one could make the statements in the above paragraph who is cognizant of the facts. That we are not improving physically is shown by the increase of diseases of degeneracy, such as Bright's disease, chronic nervous disorders, insanity, imbecility, and epilepsy, as well as by the patent fact that the capacity for great age is rapidly disappearing, as shown by the rapidly decreasing proportion of individuals who attain the age of one hundred years and upwards.

That we are not improving mentally is clearly shown by the increase of crime, which statistics show to be going on at a most appalling rate. Confirmation of this statement may be found in the police court

records of any large city. The proportion of city population is steadily increasing. The number of murders committed every year per thousand inhabitants is far greater than a hundred years ago, the number of inebriates many times greater.

The increasing frequency of lynchings, not only in the more recently settled and unorganized portions of the country, but in our older communities, in which it would seem that civilization had had an opportunity to accomplish in the most thorough manner its work of physical and moral improvement, is a matter which is coming to be a cause of grave concern to thousands of serious-minded people. Whether this growing frequency in the application of mob law is due to the increasing frequency of crime and the boldness of criminals or to an increase of general lawlessness on the part of the people does not matter much, since the indication is clear in either case that morality is, on the whole, not increasing.

It is doubtless the case that there is a class of intelligent men and women who, recognizing the moral obligation to obey the laws of health, are seeking to lead physiological lives, and are thereby improving physically. But this class is very small compared with the great mass of the whole community.

The same may be said with reference to morals. There are doubtless a considerable number of good people who are growing better. At the same time there is a vast multitude of evil persons who are becoming worse.

It is perfectly true that the world is moving forward in the way of discovery, invention, and various other lines of progress; and it would be very delightful indeed to believe that in physical and moral improvement we are keeping pace with intellectual and material advancement; but unfortunately the facts do not conform to this view. Attention has been called to the increasing death-rate and decreasing birth-rate in our oldest settled and most densely populated communities. This has come to be as true of Massachusetts and other portions of New England at the present time as it has been of some portions of the Old World for the last half century.

The only thing that can stay the downward progress of the race is the practical recognition of our obligation to obey all the precepts of the great decalogue which God has established for the physical, mental, and moral well-being of man. The only way in which men and women can be led to do this is by the wide dissemination of the true principles of normal and healthful living. Schools of health ought to be established in every community, to give instruction in healthful cookery, healthful dress, physical training, domestic sanitation, and all that pertains to the physical well-being of the home and the individual, and the principles of right living

THE BODY A TEMPLE.

God dwells in all nature. Every tree, every flower, as well as every shining orb and every circling world, is an expression of the great master mind, the intelligence which upholds, controls, dwells in the universe, and "inhabiteth eternity."

Man is but the expression of a divine thought. God dwells in man, and makes him, as the most perfect expression of himself, his witness in the world. Every beautiful face is the token of a beautiful character, somewhere, sometime, and every graceful form the result of a pure and noble thought.

The laws that govern man, that determine his weal or woe, are one with the laws which control the mighty suns which move in space, which rule the sea in storm or calm, which lift the rocks into gigantic mountain chains, which shake the pillars of the world in the earthquake. We bow with reverence before these mighty manifestations of the divine power and intelligence, forgetful that these same forces are ever in operation all about us, and not only around us, but within us.

The mighty forces which we see in the storm, in the cyclone, in the lightning's flash, in the thunder's roar, in earthquake,

cataract, and tidal wave, are identical with those which, ever active in our bodily frames, propel the life-blood in our veins, maintain the breath, perform the subtle alchemy of digestion, plant roses on the lips and jewels in the eyes, attune to harmony that harp of a million strings, the brain and nerves, maintain with critical exactness the tension of every muscle and tendon, and sustain in hidden furnaces the never-ceasing flame of vital heat. What delicate care we bestow upon a pet canary or a favorite dog. With what deep solicitude the florist nurses and feeds his hot-house pets. We gaze with awe and love upon the giant forest oak, and cry, "O woodman, spare that tree!" when utilitarianism seeks its life. We bind up the wounds of trees and plants, so that the vital fluid which has for its mission the development of unfolding buds and flowers, shall not escape; we turn aside if likely to tread upon some humble flower raising its head above the sod, because we see in its sweet innocence and loveliness an expression of divine power and beauty, and are shocked at the thought of crushing it. But how do we treat ourselves? With what sacred fidelity should we preserve the integrity of that marvelously constructed mechanism, that never-ceasing miracle of wisdom and power, the human form divine. When we remember that God dwells in this house not made with hands, will we not make it the object of our deepest solicitude to preserve, to nourish, to develop, to protect, in harmony with God's wise and beneficent laws, these wondrous bodies of ours? or will we carelessly and heedlessly exhaust by sensuous indulgence our vital forces, or taint by the gratification of our gross appetites the crystal streams of life which flow out and in among the cells and fibers, structures, tissues, organs, brains, bones, and muscles which feed the secret springs of thought and character, thus choking the stream of life which bears upon its current eternal possibilities of bliss or woe, through yielding to the clamors of untamed or perverted tastes?

THANKSGIVING BARBARITIES.

STRANGELY enough, the one day in the year which men set apart for the publication of the presidential and gubernatorial proclamations by announcements in the newspapers and in the churches of every denomination, for the recognition of human dependence upon a divine power and an expression of gratitude for protection, prosperity, and peace, is also the day which is most of all devoted to barbarities such as are seldom exceeded, even in savage lands, and which, in such semi-civilized countries as India, China, and Japan, would be regarded with positive horror and disgust.

During many months prior to Thanksgiving day negotiations are in progress between the fighting men (usually called "football teams") of various universities and colleges. On Thanksgiving day these mighty men who have for months been training in all the technics whereby points may be won, meet together, not for the purpose of exchanging civilities and congratulating one another upon the blessings and successes of the year, but rather, like gladiators of the olden time, with a surgeon or two close at hand and a temporary hospital erected. They are evidently prepared for a duel, which means war on a small scale, or a duel on a large scale. The way in which these men behave when they come together is thus described in an old book which gives an account of the interdiction of the game by the Scottish Parliament in the days of James I:—

"The ball in this play may be compared to an infernal spirit; for whosoever catcheth it, fareth straightways like a madman, struggling and fighting with those that go about to hold him. It is accompanied with many dangers, some of which do even fall to the player's share; for proof thereof, when the hurling is ended, you shall see them returning home as from a pitched battle, with bloody pates, bones broken and out of joint,

and such bruises as serve to shorten their days; and yet all is in good play, and never attorney nor coroner troubled for the matter."

Nearly a century later, Sir Thomas Elyot, in his book called "The Govenour," published in 1531, declared that "foote balle" should be "utterly abjected of all noble men," since there is in the game "nothynge but beastly furie and extreme violence; whereof proceedeth hurte, and consequently rancour and malice do remaine with them that be wounded; whereof it is to be put in perpetuall silence."

From the above description and from what generally happens in our day, it is evident that an "evil spirit" gets into the players as well as into the ball, and there is strong ground for the supposition that the evil spirit is in the players before it gets into the ball; and it is this spirit which brings men together in this way rather than any spirit at all akin to the spirit which ought to prevail on Thanksgiving Day.

The result of this method of spending Thanksgiving in a single instance is thus described in a report of the results of a football fight between the respective teams of two great universities on Thanksgiving Day two or three years ago:—

"Harvard has started out her football team in fine style. Summing up 'the easy practise' last week, it is stated that Gray, a most valuable man on the 'gridiron,' has had his leg broken; the 'backs,' Brewer, Wrightington, and Brown, are laid up with ankles; and Connor, who had a good chance for 'fighting tackle,' had his collar-bone broken.

"The game was a good one. J. was ruled off for slugging, W. taking his place. Capt. D., of the ——— team, had a bad scalp wound, and ten minutes were lost while it was sewed up, after which he pluckily continued the play. S. sprained his ankle severely, and had to be helped from the field, C. succeeding him; and B. was stunned in a wedge rush, and L. took his place. Such minor matters as bleeding noses and flesh cuts were not counted, and both teams were like Comanche Indians in their war paint when the game was over.

"There has not been a game played in this neighborhood within a year of any importance, where there have not been from one to half a dozen men injured.

"In spite of the new rules, the time consumed this year was greater than last, owing chiefly to the examination of numerous injuries received by the players. Wrightington's collar-bone was broken; Hallowell was carried off the field disabled; Murphy lay bleeding and insensible on the ground, the result of a hard punch in the stomach; Brewer was hurt in the first half, but was able to resume play, though subsequently retired by the physician's order.

"Just before the game began, George Gray, the Harvard half-back who broke his leg in a practise game, hobbled down the line on crutches, and received an ovation.

"The only Butterworth was more severely injured this afternoon than ever before in his football career. His right eye was almost gouged out in the first half, and he cannot see out of it at all. Besides, the great full-back has a badly wrenched knee and ankle. Murphy, who was insensible for several hours, has improved."

It is safe to say that at least quite a number of the young men referred to in the above paragraphs live to curse the day instead of blessing it, and during many years to come will, on each Thanksgiving anniversary, look back with only bitter regrets and unhappy reminiscences.

A FEAST OF FLESH.

It is a singular and an ominous fact that from the time of our Puritan forefathers to the present, it has been the almost universal custom of Americans to celebrate a day of thanksgiving by religious exercises and prayers for the extension of life and its comforts and blessings, *by taking other lives* which are as much God-given as our own, and

which, to the possessors, are as dear, as sacred, and as necessary, as ours. It is safe to say that every year, in the preparation for Thanksgiving, several millions of turkeys lose their heads,—not figuratively, but in fact, — and when the thanksgivers gather around the festal board, the most conspicuous figure upon the table is a turkey *corpse*. Yes, that is just the word we want,— CORPSE! Does the awful word make you, gentle reader, feel just a little pale? And do the ghostly pictures which cluster around it send a little twitch of horror through your nerves? That is right; that is just the way we should like to have you to feel.

The man or woman who makes a cemetery of his stomach to bury dead turkeys in on Thanksgiving day, thereby professing to express his gratitude to God that he himself is not buried in the cold damp earth, or in the bowels of some ocean leviathan, may be sincerely glad that the turkey or some other beast has not swallowed him,—in other words, that he is outside of the turkey instead of inside; but he certainly is laboring under a gross misconception of the fitness of things.

An old heathen philosopher, Pythagoras, seems to have had a far better conception of man's relation to these lower creatures who enjoy, in common with him, the blessings of life, and who ought to be allowed on Thanksgiving day to join with him in lifting up to the common God and Creator of all, each in his own way, a prayer of thanksgiving and praise. Listen to a few words from the lips of this grand old teacher, who lived and taught five centuries before Christ:—

Oh, impious use! to nature's laws opposed,
Where bowels are in other bowels closed;

'T is then for naught that mother earth provides
The stores of all she shows and all she hides,

If men with fleshy morsels must be fed,
And chaw with bloody teeth the breathing bread;

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

Where will he stop who feeds with household bread,
Then eats the poultry which before he fed?

To kill man-killers, man has lawful power,
But not the extended license to devour.

O mortals, from your fellows' blood abstain,
Nor taint your bodies with a food profane.

While earth not only can your needs supply,
But, lavish of her store, provides for luxury;

A guiltless feast administers with ease,
And without blood is prodigal to please.

Such slaughter of the innocents, as a preparation for a feast of thanksgiving, is certainly one of the most extraordinary and incongruous of proceedings, and must be the outgrowth of the fact that our forefathers were cannibals, and "the savage still leaps and yells in our hearts." Nevertheless, it is noteworthy that the innocent unperverted mind of childhood quickly recognizes the inconsistency connected with the consumption of the flesh of animals for food. A story is told of the famous Dr. Carpenter, professor of comparative anatomy in Cornell University. Having been raised a vegetarian, he had never seen upon a table the flesh of a dead animal, until at one time, when about six years of age, he was dining away from home. In the center of the table was a large roasted chicken. The boy eyed this new article of diet with much curiosity, when suddenly the truth dawned upon him, and he exclaimed aloud to his mother, "Say, mama, that looks like a dead hen." He recognized a dead animal as a corpse rather than as food, which is the normal way of looking at it. The story does not relate to what extent the demand for "dead hen" as an article of diet was diminished in the case referred to, but we imagine it must have been disturbed, to some degree at least, though possibly not so much as on another occasion when the ubiquitous small boy shouted out, to the consternation of the host and hostess and a large company of friends gathered about a Thanksgiving table, smacking their lips as the carving of a huge roasted turkey was just beginning,— "Say, father! is n't that the old sore-headed turkey?"

HOW TO STOP THE USE OF ALCOHOL.

THIS is a question which thousands of the vast numbers of men who have unwittingly enslaved themselves to the fascinating vice of liquor-drinking are daily asking themselves. It is a recognized fact that notwithstanding the heroic efforts made by the Woman's Christian Temperance Union and other temperance organizations, the liquor habit is rapidly on the increase not only in the large towns and cities, but in most of the smaller ones, in this as well as in other countries. Few, however, would ever become addicted to the use of alcohol if they really appreciated the suffering which they must endure from the galling chain which the habit will sooner or later bind about them.

Alcohol is wholly merciless to its victims. It promises felicity, but gives misery; it promises strength, but gives weakness; it promises vigor, but gives only disease; it promises new life, but gives death in a most horrible form.

It is by no means easy to escape from the tyranny of a drug habit of any sort; and alcohol is one of the most difficult to overcome. Some of the following brief suggestions may be helpful to one who is really in earnest in his desire to escape from this body- and soul-destroying poison:—

1. Resolve to stop and to stop at once. Determine to be free or to die in the attempt; but have no fears of death. The most abject slave to alcohol may stop immediately without any danger to health or life. The idea that one must leave off gradually, or that the system becomes so accustomed to the drug that it is a necessity, is entirely an error. Alcohol is a poison, and the sooner one is rid of it the better. The suffering which results is far less if one stops at once and altogether than if an attempt is made to do so by degrees; and, besides, those who pursue the latter course seldom get entirely rid of it, as they are all the time relapsing, and the old desire is thus kept alive.

One point must be emphasized: a person who has once been addicted to the use of alcohol in any form must discontinue its use in every form. He cannot use even light wine or beer, cider, or any other alcoholic drink even in the smallest quantity. He must shun alcohol as he would a venomous reptile, or any other deadly poison.

2. If alcohol has been used to an extreme degree, and especially if several attempts at reform have been made without success, the victim should be placed under circumstances which will protect him so far as possible from temptation. Removal for a time to some secluded country place, away from old associates, and where liquor will not be offered him, is advisable in some cases, or even confinement in a house or room.

Not infrequently the nervous disorders are so great that it is impossible for the individual to continue his regular work or duties, in which case he should go to bed and remain there a week, or even longer if necessary. He should receive daily treatment, such as fomentations to the spine followed by sponging with cold water, and rubbing with oil. The nervousness may be wonderfully relieved by applications of this sort. A cool shower bath, following a short hot bath of some kind, is an excellent tonic in such cases.

3. Great care should be exercised respecting diet. Buttermilk is an exceedingly wholesome food for such cases. Milk of all kinds is usually well tolerated, also gruels. Avoid altogether meats, spices, confectionery, tea and coffee, and all kinds of hot and irritating foods.

4. The inebriate suffers most of all from the weakness of will, the loss of resolution and decision of character, which is the natural result of long yielding to the clamors of appetite. But the restoration of the will, while the most essential for a complete and permanent recovery, cannot be accomplished by the individual himself, nor by any mode of treatment which can be applied to him. It is only by divine power acting in co-operation with the human will that mental and moral restoration can be accomplished; but this miracle of grace, the divine Being who created man and who dwells in him is ever ready to accomplish for him who seeks deliverance from the thralldom of vice. Ps. 107:17–21.

COLD COMFORT FOR CHEESE EATERS.

THE newspapers are just now heralding with large head-lines the reputed discovery by two Wisconsin physicians of the fact that the ripening process in cheese-making is not due to bacteria, as has been heretofore claimed by the most eminent bacteriologists, but that it is due to ferments of some sort in the milk itself.

There are many facts which have long been known to science that seem to contradict these views decisively. These are:—

1. That the number of germs present in cheese is found to increase enormously as the ripening process proceeds.

2. That the peculiar flavors characteristic of old cheese are known to be due to the product of bacterial action and growth.

3. That milk, when received direct from the animal in such a manner as to prevent infection with germs, remains sweet and fluid, no matter how long it is kept, so long as infection does not occur.

4. That cheese cannot be made from sterilized milk, if rennet free from germs is also used. Other facts of similar character might be adduced.

It should be mentioned, also, that ether is not a good germicide, and that when in the spore or rest state, numerous microbes readily resist exposure to the influence of chloroform, unless the latter is very much concentrated.

The public will require a detailed and precise account of the experiments made before it will believe that cheese can be made without germs. It is said that the annual consumption of cheese amounts to about three pounds per capita in this country. Every pound of this cheese may contain many hundreds of millions of microbes, each capable of producing more or less mischief in the human body. There is no escape from the fact that cheese is simply decomposing casein. That it is a fit food for scavengers is evinced by the fact that it not infrequently contains so-called skippers, or small maggots, the larvæ of flies, which by instinct deposit their eggs in decomposing animal matter.

Water-Brash.

This is a symptom which commonly occurs when the stomach is empty of food, or nearly so; often before breakfast. A quantity of clear fluid, either slightly acid, alkaline, or neutral in taste, is thrown into the mouth from the stomach, varying in amount from less than a mouthful to half a pint or more. It is usually supposed to be caused by the accumulation of saliva in the stomach, which fails to absorb its fluid contents on account of inactivity. The expulsion of fluid may be accompanied by pain, or may be quite free from unpleasant sensations of any kind. It is a symptom said to be almost universal among the Lapps and New Zealanders, and is also exceedingly prevalent in Scotland, where it seems to be due to the use of insufficiently cooked oatmeal.

Recent observations seem to show that the fluid expelled in water-brash is not raised from the stomach, but comes from the mouth only, being due to a sudden and profuse secretion of saliva by the salivary glands.

This symptom indicates an irritable condition of the sympathetic nervous system. It may be produced by prolapse of the stomach, a floating kidney, pressure of waistbands, and similar causes, as well as by errors in diet; hence attention should be given to the removal of all these causes, as well as to the correction of the dietary. All foods difficult of digestion should be avoided when there is fulness, eructations of gas, or acidity. All foods which promote fermentation should be carefully avoided. A fomentation should be applied over the stomach and abdomen at night, followed by a wet girdle to be worn during the night, and the dry abdominal bandage during the day, with electricity, Swedish movements, and subcarbonate or subnitrate of bismuth. In cases of prolapsed kidney, or in extreme cases in which acidity occurs within an hour or two after eating, especially when there is a suspicion of ulcer of the stomach, bicarbonate of soda may be used in ten- to fifteen-grain doses before each meal.

ANSWERS TO CORRESPONDENTS.

SPASM OF THE STOMACH.— Mrs. M. T. S., Oregon, writes to know the cause of spasm of the stomach, and how to treat it.

Ans.— An irritable condition of the motor nerves of the stomach. The stomach requires rest and an unirritating dietary, consisting generally of liquid food, and, if necessary, abstinence from food for a day or two, nutritive enemata being employed, if necessary, for the purpose of restoring strength. Heat applied over the stomach and a moist abdominal bandage worn at night are helpful.

NUMBNESS — CATARRH.— E. G., Kansas, wishes to know: 1. The remedy for numbness of the hands and arms, accompanied by pain. 2. A cure for catarrh of the throat.

Ans.— 1. The numbness referred to may be the beginning of chronic disturbances of the spine, or it may be only indicative of a disturbed condition of the sympathetic nerve, arising, probably, from indigestion. The case should be thoroughly investigated.

2. Catarrh of the throat requires special local treatment, combined with general treatment for increasing the vigor and activity of the skin. As a noted German physician once said, "A person suffering from catarrh requires a new skin before he can be well." The Magic Pocket Inhaler and the Perfection Vaporizer are useful in such cases. The pocket inhaler is especially to be recommended, as it renders possible the almost continuous use of remedial agents. A throat pack may be advantageously used; it should be applied cold, and should be worn overnight. The throat should be bathed in cold water on rising in the morning, and this should be followed by vigorous rubbing, and exercise in the open air or a gymnasium.

PINWORMS.— M. L., Washington, wishes to know the cause of the presence of pinworms in the rectum. The patient is young, but not very strong. He is regular in his habits of eating, sleeping, and bathing; uses no meat or butter, and but little milk. The bowel discharges are very abundant and offensive. Canker sores appear in the mouth at times.

Ans.— If the colon is infected, the coloclyster or a large enema should be used daily. After emptying the bowels, inject a two-quart solution of quassia made by boiling four ounces of quassia chips in a gallon of water for an hour. Retain the quassia solution fifteen minutes if possible. This remedy should be used every other day for two weeks.

FALLING HAIR.— T. L. S., Indiana, wishes a remedy to keep hair from falling out. The hair seems alive and oily, but is falling out quite badly.

Ans.— There is evidently a diseased scalp. Have the hair cut short; shampoo the scalp daily, first with a little castile soap and water, and then with cold water only. There is probably indigestion, and the condition of the stomach should be corrected by proper diet and treatment.

RED SPOT ON THE FACE — FADING HAIR — SEA AIR. — A. E. P. writes that there is a bright red spot on his face and nose, which is sometimes smooth, and again is covered with dandruff, like the scalp. He thinks it may be attributed to tea-drinking, as this spot has disappeared upon the discarding of that drink. He asks: "1. What is your opinion of it? 2. Does fading of the hair indicate a debilitated condition of the system? 3. Is there a work published on the science of the hair? 4. Why is sea air considered more beneficial to a debilitated person than the air inland?"

Ans.— 1. The disorder has probably been produced by germs which have obtained a foothold upon some point of low resistance. It is probably the result of indigestion produced by tea-drinking.

2. Yes.

3. We know of no thoroughly reliable work which we can recommend.

4. Sea air is probably beneficial because of its purity and freshness, but it is not more beneficial than inland air. Mountain air is often to be preferred. When the ground is covered with snow in the winter, inland air is as pure and refreshing as sea air, and is generally found more highly tonic.

MUSHROOMS AS FOOD.— Mrs. K., Tennessee, wishes the editor's opinion of the value of mushrooms as food. She says : "I understand that Tennessee furnishes over forty edible varieties to the market. It is claimed that they provide exactly the same elements as we find in meats. When they are decomposing, they have somewhat of the odor of meat under similar conditions. Would this militate against their suitability as food ?"

Ans.— Mushrooms are certainly not easy of digestion, and the great danger of poisoning by the use of the non-edible varieties renders their employment as food very questionable.

DILATATION AND PROLAPSE OF THE STOMACH.— H. W., California, asks : "1. What are the symptoms of dilatation of the stomach ? 2. What is prolapse of the stomach ? 3. What are its symptoms ? 4. Would you recommend drinking a cup of hot water before retiring at night, and also on rising in the morning ? 5. Does acidity of the stomach cause a person to have a warm feeling in the stomach after meals ? 6. Will antiseptic charcoal tablets cure it, or only relieve it for the time ?"

Ans.— 1. The only possible indication of dilatation of the stomach is to be obtained by an examination of the stomach and the determination of its size, which can be done by a skilled physician. The following symptoms, however, indicate the probable existence of dilatation of the stomach : Chronic disorder of many years' standing, distention of the stomach after meals, flatulence of the stomach, slow digestion, long retention of food in the stomach. More than half the number of chronic dyspeptics are suffering from either moderate or extreme dilatation of the stomach.

2. The stomach is said to be prolapsed when its lower border is found to be two or more inches below its normal position without evidence of dilatation.

3. The symptoms of prolapse somewhat resemble those of dilatation, but the evidences of distention are not present.

4. Yes, in cases of hypopepsia.

5. Sometimes ; there is generally pain in the digestive organs.

6. Yes, if used in connection with proper regulations of diet.

SEDIMENT IN THE URINE — UNSANITARY SURROUNDINGS — HEALTH FOODS, ETC.— Mrs. F. A. W. writes: "1. In the urine of a boy ten years old is a white, chalky sediment, a drop of which, drying on anything, leaves a white mark. There is frequent micturition, small in quantity. What attention does his case require, or will he outgrow it ? 2. What can a woman do to preserve her health who is obliged to work within a few rods of an old lake or marsh where the stagnant water is covered with a green scum and emits a sickening odor ? She has remonstrated in vain, and wishes to know what she can do to preserve her own health. 3. Can you recommend a food containing a predigested albumin ? 4. In the table of combined foods published in the "Home Hand-Book," which is meant, weight before cooking, or after ? If after, what proportion of water should be used in cooking cereals, peas, etc.? 5. Are almonds ever cooked ? and how ? 6. Will you please give a table showing the nutritive value of different nuts, *i. e.*, showing the percentage of albumin, starch, fats, etc.?"

Ans. — 1. The sediment is doubtless due to urates, the presence of which indicates perhaps indigestion, certainly a disordered condition of the general system and imperfect performance of its work by the liver. We suggest a diet consisting largely of fruit; grains and nuts may be added. Meats must be carefully avoided. Special attention must be given to the regulation of the dietary, so as to secure good digestion.

2. The proper thing to do is to move away. It is impossible to be well under such circumstances. Pure air is one of the first conditions essential to life and health. It is a sin for any individual to live in such an unhealthy place as that described.

3. We would not recommend the use of predigested albumin. Such foods are all very unpleasant in flavor, as the digestion of albumin develops a bitter substance. The most of these foods, also, are nauseating, and some are poisonous.

4. In the table referred to, the quantities given represent water-free foods ; that is, allowance is made for the amount of water shown by analysis to be present in the food substance, only the actual solid nutriment being considered.

5. Almonds may be cooked either by roasting or by stewing.

6. We quote the following table showing the nutritive value of nuts, from the last edition of the "Home Hand-Book:" —

	Per cent.
Chestnut	89.3
Walnut	88.2
Hazelnut	89.7
Sweet Almond	87.3
Peanut	79.6
Cocoanut	50.5

ABDOMINAL SUPPORTER — CORRECT SITTING — MANUAL MASSAGE. — A subscriber inquires: "1. Is the wearing of an abdominal bandage supporter indispensable in cases of badly prolapsed stomach of many years' standing, and accompanied by hyperpepsia? 2. If the health of such a patient is improving steadily under a course of proper diet and exercise (especially of the abdominal muscles), would you advise him to use the supporter in addition to other means? 3. If the supporter is indispensable, how long should it be worn? 4. If worn too long, would not its use tend to weaken the muscles by giving too much support? 5. Is the habit of resolutely sitting erect of any special value in tightening the muscles of the abdomen? 6. If by that and other exercises these muscles are rendered strong and tense, do they gradually push the stomach up into its proper place? 7. Is manual massage indispensable in the treatment of prolapsed stomach? 8. If this cannot be had, will other treatment alone accomplish much in restoring the displaced organ?"

Ans.— 1. Yes.

2. Yes, so that he may secure the greatest amount of improvement possible.

3. Until the abdominal muscles become strong enough to support the viscera without the aid of the bandage. This may be accomplished in a few months by massage, exercises, manual Swedish movements, and the application of the sinusoidal electrical current.

4. No, for the reason that the muscles are not constricted or in any way interfered with in their action. They are simply supported in such a manner that they can act with efficiency.

5. Yes. This is one of the best means of strengthening the abdominal muscles. When sitting, the position which we have designated as forcible sitting should be constantly maintained, with the chest lifted and the abdominal muscles drawn in.

6. Yes, but in addition the stomach must be returned to its proper place daily or even oftener, by means of massage.

7. Yes.

8. Yes. Careful regulation of the diet is of immense value in cases of this sort. Applications of electricity and gymnastics properly applied are also valuable.

DYSPEPSIA. — F. D. S., of Ohio, asks if there are not some rules which would tell him how to live, or other reading-matter on health subjects aside from GOOD HEALTH.

Ans.— We recommend the "Home Hand-Book," "The Stomach," and other works published by the Modern Medicine Pub. Co., Battle Creek, Mich.

WEAK DIGESTION — CONSTIPATION — DIET. — W. E. L. writes of a case of long-standing stomach trouble in which the symptoms are as follows: Chronic catarrh of stomach and bowels; constipation; reduced strength; nervousness; irritable spine, from which broken and diseased bones have been removed; lack of assimilation of food; headache; dizziness. The patient is by preference a vegetarian, but has been forced to use a lean-meat diet because no starch, sweets, acids, fats, milk, eggs, butter, or whole-meals could be digested Cereals ferment at once, and only one or two green vegetables can be used. She craves fruit, but cannot use it. Granose and granola have been tried, but gave trouble. Nut foods are the same as other fats. Hot water is taken freely. A few fruits (snow apples, stewed prunes, watermelon, cantelopes), taken without sugar, may be used to a limited extent. She asks: "1. What can be taken to build up the general strength? 2. How can a more vegetarian diet be attained? 3. Do you consider bovinine of any real value?"

Ans.— 1. A cool sponge or shower bath taken every morning, followed by vigorous rubbing, is one of the best means which can be employed. In addition to this, the diet should be in the highest degree nourishing. Proper exercise should be taken out of doors daily.

2. By the use of nuts and nut products in various forms. Milk and all other animal preparations can be dispensed with.

3. No. It is nothing more nor less than flavored and slightly diluted ox blood.

GRAPES.— C. G., Indiana, wants to know if it is injurious to eat grapes that have been sprayed with a solution of blue vitriol (6 lbs. to 21 gals. water and 4 lbs. lime) when they were beginning to turn red or before.

Ans.— Blue vitriol is an irritating poison, and unless it is very clear that the solution has been entirely removed, the grapes should be soaked in water for an hour or two, and should then be thoroughly washed before eating.

BROMOSE.— A physician has asked if bromose is a proper article of diet for patients afflicted with chronic diarrhea.

Ans.— Yes, bromose, malted nuts, ambrosia, and maltol are all foods which are closely allied in character, and are an excellent means for aiding in the removal of septic conditions of the alimentary canal. Kumyss, buttermilk, and a fruit diet properly managed, also are of great service in these cases.

HOT FOOT.— K. A. asks for the cause of a condition in which it seems as though a hot blast of air were blowing on her left foot several times a day. Is it dangerous? What can be done for it?

Ans.— This is doubtless a vasomotor disturbance. It is not in itself dangerous, but it may indicate a serious condition elsewhere. The hot and cold foot bath may be of service. The difficulty may be due to indigestion. Try also the application of a moist bandage about the foot, to be worn during the night.

TEA AND COFFEE — NERVOUS EXHAUSTION — CATARRH — TORPID LIVER.— A correspondent in New York inquires: "1. What are the injurious effects of tea and coffee upon the human system? 2. Do the Chinese, as reported, pack their dead bodies in tea preparatory to their being sent from America to China, and then return the tea to America to be sold and used as a beverage? 3. Please outline the treatment for nervous exhaustion. 4. What remedy can be adopted for the internal ear where small scales loosen and drop off? 5. Please give a remedy for catarrh in the head. 6. Also for torpid liver and drowsiness."

Ans.— 1. Tea and coffee interfere seriously with digestion. They prevent the digestion of starch and albumin; they irritate the stomach, produce gastric catarrh, and when absorbed into the system, induce nervousness.

2. We know nothing of this matter except what has been reported. Several years ago a gentleman who claimed to have positive and reliable information upon this subject stated that the practise referred to is in common vogue among the Chinese of our large cities.

3. The treatment of nervous exhaustion must depend upon the cause of the disorder, and the particular phase which it assumes. In the great majority of cases, the stomach is prolapsed or dilated, or both, and must receive the proper amount of attention. Washing the stomach when it is infected with germs, a cool morning sponge bath, a germ-free dietary, and an out-of-door life are among the most important measures.

4. Apply a little oil with a feather daily.

5. Nasal catarrh is not always easily curable. It is a disease which is much mistreated. Patients are often submitted to painful surgical operations unnecessarily. The important thing is to build up the resistance of the body. The subject of nasal catarrh requires a new skin, which can be best secured by exercise, rubbing, and daily cold bathing. The nasal cavities should be thoroughly cleansed by means of the Perfection or the Pocket Vaporizer. We prefer the last mentioned, for the reason that it can be used more continuously. It should be applied five or ten minutes every hour.

6. The liver is seldom torpid, but it is often overworked. Drowsiness is often an indication of overeating. When it occurs soon after eating, it is an indication of indigestion in the majority of cases. The conditions which are generally attributed to torpid liver are really due to indigestion. The stomach is dilated or prolapsed in the majority of such cases. Washing the stomach is advantageous in some cases. Antiseptic charcoal tablets are useful in preventing the fermentations which are always present in these cases, and give rise to poisonous substances

which, when absorbed, stupefy the brain and nerves, and produce a general malaise and so-called biliousness. A fruit diet for a few days is an excellent remedy for torpid liver. Milk should be avoided. The regular diet should consist of fruit, grains, and nuts. Water drinking should be practised freely. Two or three pints a day is not too much.

Acid Stomach.— C. Z., Montana, is anxious to obtain help for his stomach trouble, which he thinks is hyperpepsia. He has been troubled for two years with inaction of the bowels, bloating, etc., can use no acid fruit or coarse foods, the teeth becoming very sore when acid is used. 1. What seems to be the trouble? 2. What foods would you recommend? 3. Is there any nut preparation that you could recommend? 4. Is horseback riding beneficial in such cases? 5. Would you advise entire rest for a while, or light work? 6. How long should a person rest after meals?

Ans.— 1. It is probable that hypopepsia is present. Doubtless, also, acid fermentation, through inability to digest starch.

2. Such cereals as granose, zwieback, browned rice, nuts, and sweet fruits.

3. All the nut preparations are to be recommended, especially nuttose, maltol, and malted nuts.

4. Yes.

5. Light exercise out of doors will doubtless be beneficial.

6. Half an hour to an hour's rest after eating is no more than is usually required.

Acne.— Constipation.— Mrs. B. asks for remedies for acne and for constipation.

Ans.— The two conditions named are not merely coincident. There is probably a definite relation of cause and effect between them, or both may be due to the same cause. Correction of the disordered digestion and of the condition of the bowels will doubtless cause the acne to disappear. We recommend especially granose for the bowels and the stomach, and antiseptic charcoal tablets for the skin. Many cases of obstinate acne have been cured by the use of charcoal tablets.

Oxydonor.— A new subscriber wishes an opinion of this remedy.

Ans.— It is one of the most unblushing shams with which we are acquainted. It is as utterly incapable of exercising any effect whatever upon the human body as a piece of wood or a lump of coal.

Scorpion Sting — Rattlesnake Bite.— W. O B., Mexico, asks for a remedy for rattlesnake bite and for scorpion sting.

Ans.— Scorpion sting and rattlesnake bite require essentially the same treatment. We recommend the following as most effective: —

The first thing to be done is to ligate the bitten limb above the bite. In case of a finger, a rubber band such as is kept by all stationers is excellent for the purpose, or a string may be used instead. This will prevent the poison from being carried into the system by absorption. The part should not be kept ligated too long, else the ligated parts may slough. Care should be taken to keep the ligated limb thoroughly warm. When the part becomes dark in color, the band should be loosened for a little while, to allow the circulation to be restored, and may then be reapplied. By this means any poison in the tissues will be slowly absorbed, and there will be opportunity for its distribution and elimination. When death occurs from snake bite, it is because of the sudden introduction of so large an amount of poison that the vital forces succumb to its influence.

In addition to the ligation of the limb, effort should be made immediately to remove the poison. If there is no abrasion of the mucous membrane of the mouth, the poison may be withdrawn by sucking, care being taken not to swallow any portion of the poison, and to rinse the mouth with water. The application of carbolic acid is also useful. The best remedy, however, is chlorid of lime, or ordinary bleaching-powder, a saturated solution of this injected into the wound and applied to the tissues around, serving as an excellent antidote. The patient should be kept warm. He should be given an abundance of water to stimulate the action of the skin and kidneys; and in case of colapse, hot and cold applications should be made to the spine, and the circulation maintained by vigorous rubbing.

LITERARY NOTICES.

STUDIES IN HOME AND CHILD LIFE.— By Mrs. S. M. I. Henry. Fleming H. Revell Company, Chicago.

The key-note of this beautiful book is struck in the preface, from which we take the liberty to quote the following paragraphs : —

"Every crop has its enemy. Cultivation means war. Peace is impossible to any producer until it has been earned by conflict and victory. The vigor with which this war is prosecuted determines two things — the value at which the harvest is estimated, and the sincerity of the husbandman. There is never any doubt as to the earnestness of the potato bug ; the value of the harvest in *its* estimation never fluctuates. The farmer may possibly find a reason for leaving the enemy in undisputed possession of the field ; but if he must have that crop of potatoes or lose his farm, if not starve, those bugs will be routed, although every individual must be picked off with the fingers.

"Before any one can arise to such an emergency as is involved in the protection of any great interest, he must first feel the burden of it in the very quick of his life ; then superhuman efforts become comparatively easy, and results sure.

"There is a field in which a harvest is maturing which seems to be left to the bugs, — a field that stretches away toward the eternities, where is growing that one crop for which all others are planted. Is it valueless ? or is the army of the enemy so strong that the case is hopeless ? or is it that no one owns an interest in it which is large enough to warrant the expense of protection ?"

It is needless to say where or what the field is ; the following list of chapter heads presents a most enticing array of subjects which are treated in a thoroughly rational and a most fascinatingly interesting and instructive manner : —

Home Work ; The Father's Office ; The Mother's Office ; The Generation of the Righteous ; Heredity and Environment ; The Young Child ; The Little Body ; Circumcision ; Atmospheres ; Government in the Home ; Authority ; The Rod ; Miscellaneous Questions and Answers ; Culture ; Making Something of the Child ; Truth Telling ; Thieving ; Training the Appetite ; Youth the Target of the Press ; Companionship ; Dress ; Leisure, Recreation, Amusements ; The Home Church ; The Bible and the Child.

Any one who reads the preface or the first chapter of this book will be sure to read the whole of it, and he cannot read it without great profit, both to himself and the little ones with whom he may come in contact. We have no hesitancy in saying that this book is, with the exception of the Bible, the best one ever written on the subject of child culture, and we sincerely hope it may rapidly find its way into our American homes, where there is a grand mission of helpfulness before it.

HEALTH OF BODY AND MIND.—By T. W. Tapham, M. D., Brooklyn Borough, New York City.

This little volume is an excellent treatise on the subject of its title, the interdependence of the health of both body and mind being clearly shown. The style is simple but concise, and reveals a versatile mind on the part of the author. Considerable space is devoted to the relations existing between obedience to natural law and health and happiness. On the other hand, sickness is shown to be the result of wrong habits of life, such as errors of diet, of dress, and the habit of yielding

to the emotions. Chapter five suggests that the real happiness of the man is not to be obtained by seeking, but by doing. Special stress is laid on breathing as a means of health, and in the next chapter a series of breathing movements for the purpose of developing the lungs is given. Too much emphasis cannot be laid upon this important subject. Exercises for every part of the body are given with illustrations. The general hygiene of the body is considered, how "to get rid of superfluous fat," "concentration of thought," the "function of pain," "success in life," etc. In all there are twenty-nine chapters. The book cannot but prove helpful to those who are seeking to improve mind and body, and who desire to become familiar with simple exercises for developing strength.

TRUE MANLINESS.— By C. E. Walker, D. D., with an Introduction by Rev. I. N. Cain, A. M. Published by the National Purity Association, 79–81 Fifth Ave., Chicago, Ill.

This little book of 109 pages is but a brief consideration of this great subject. Many good things have been left unsaid that should have been said, and some things said that might wisely have been left out. The author evidently has the entire field before him, for he considers there is no other "proper book of instructions" on the subject. The book begins with a general consideration of the body, its care and needs, which of course is the basis of all manliness or womanliness. Then the influence of mind, purity of life, associations, books, education, etc., upon the character are briefly considered, the volume concluding with a "private letter" to parents, physicians, and principals of schools.

WALTER A. WYCKOFF, the college man who became a day-laborer, concludes the first part of "The Workers" in the Christmas *Scribner's*, with a description of life in a logging camp in the mountains of Pennsylvania. During the year 1898 there will appear in *Scribner's* Mr. Wyckoff's narrative of his experiences in the congested labor-market of Chicago. He was there in the World's Fair year.

MR. JOHN MUIR will contribute to early numbers of the *Atlantic Monthly* a series of articles which are likely to become the classic descriptions of, first, "Great Government Reservations;" second, "The Yellowstone Park;" third, "The Yosemite Park;" and fourth, "The Sequoia Parks."

HARPER AND BROTHERS have added another to their already long list of excellent publications. The new magazine is called *Literature*, and is designed to answer the demand for a weekly gazette of criticism. The first number was issued November 5. Price, $4 a year.

Harper's Round Table, a magazine for young people, has been changed from a weekly to a monthly, and the price reduced to $1 a year, 10 cts. a copy.

PUBLISHERS' DEPARTMENT.

Do not forget that now is the time to subscribe for GOOD HEALTH for 1898. The January number will contain the first instalment of the Battle Creek Sanitarium Question Box. At the Battle Creek Sanitarium, Dr. Kellogg gives a Question Box lecture every Monday evening. The Question Box has always been brimful of questions from the hundreds of patients who assemble at these lectures. The answers are taken down by a stenographer, and those which are the most helpful, practical, and interesting in character will be selected and condensed for publication in GOOD HEALTH by a skilled editorial hand. Numerous other excellent features, mentioned elsewhere, will also be added during the year 1898.

THE interest of the public in this journal is clearly evidenced by the rapid rate at which its circulation is climbing up. Thanks to the efforts of the enterprising circulation manager, Mr. W. O. Palmer, and the co-operation of an appreciative public, the circulation of the journal within the last few months has been nearly trebled; and the rate at which it is growing at present indicates a still more rapid gain within the next few months. This fact is exceedingly encouraging to the editors as well as the managers, as there is a certain inspiration in the mere fact of a large audience which draws out of a speaker or writer the best that is in him. The spirit of appreciation and helpfulness manifested toward this journal wherever it is presented, is gratefully recognized by all connected with it.

THE publishers are pleased to announce that the editorial force of GOOD HEALTH has recently been reinforced by the addition of an experienced writer and editor, Miss Mary Henry, of Chicago, late assistant editor of the *Chautauquan*, and former press agent of the N. W. C. T. U. Miss Henry has already won distinction as a newspaper correspondent and writer in prose and verse, and has, besides, occupied many high and responsible position as a teacher, and in other fields. Though offered numerous more lucrative and, from a worldly standpoint, more profitable and elevated positions, Miss Henry has accepted the position offered her by the publishers of GOOD HEALTH purely through a love for the principles advocated by this journal and the mission which it represents. Those who receive the journal during 1898 will have the pleasure of reading each month, various contributions from Miss Henry's able pen.

THE editor recently had the pleasure of spending three days in the city of Louisville, Ky. Ten addresses were given to nine different audiences, which included the Girls' High School, at which six hundred bright Kentucky girls were present; a men's meeting in the Temple Theater with between four and five hundred men present; an address in the new gymnasium of the Young Men's Christian Association on the occasion of the dedication of the building; an afternoon meeting of the alumnæ of the Girls' High School, the audience consisting of several hundred young ladies, the élite of Louisville, who were apparently deeply interested in the principles of hygiene and in the health ideas presented; an afternoon address before the members of the Louisville School of Health, organized by Mr. Vreeland in connection with his GOOD HEALTH canvass; an afternoon talk before the students of one of the leading medical colleges of Louisville; an evening address before the students of the Baptist Theological Seminary; and several other miscellaneous addresses, all of which were received in a manner which indicated a profound interest in the principles of healthful living. The demand for instruction upon these subjects is rapidly growing everywhere.

SANITARIUM GUESTS.

WE find the following names among the arrivals at the Battle Creek Sanitarium during the last month: —

T. A. Green, a prominent furniture dealer and undertaker, Gadsden, Ala.

Henry Strelitz, clothier, Marion, O.

Wm. D. Rees, president Republic Iron Co., Cleveland, O.

W. K. Bowen, manager various street railways, Chicago, Ill.

John Mogenson, president Citizens' State Bank, Sheboygan, Wis.

Hon. C. L. Granger, mayor, Ft. Dodge, Ia.

G. W. Meade, attorney-at-law, Detroit, Mich.

Henry Bowe, fancy stock raiser, Schoolcraft, Mich.

J. F. Henry, prominent merchant of Gadsden Ala.

Dr. B. F. Holmes, Hillsboro, O.

Benjamin L. Mc Fadden, bookkeeper, Havana, Ill.

Dr. Wm. H. H. King, railroad surgeon, and in charge of Jacksonville hospital, Jacksonville, Ill.

F. M. Youngblood, prominent attorney, Carbondale, Ill.

C. H. Llyod, bank cashier, Brighton, Ia.

W. H. Ketzeback, cashier German-American State Bank, and president Ketzeback Milling Co., Wells, Minn.

Wallace Boon, Hixville, O., leading merchant.

Wm. Peet, manager Kansas City Soap Manufacturing Co., Kansas City, Mo.

A. Goodholm, miller, Oklahoma City, Oklahoma.

E. A. Simpson, well-known attorney, Spartanburg, S. C.

Mrs. Noyes, wife of W. H. Noyes, who has lately returned to this country after serving eight years as a missionary in Japan.

Miss L. F. Randolph, teacher, Mt. Holyoke, Mass.

Dr. G. B. Gregory, well-known physician of South Haven, Mich.

J. O. Dewees, owner of large stock ranch, San Antonio, Tex.

I. Jacobs, dry-goods merchant, Albion, Mich.

Hon. W. B. Wells, attorney-at-law and ex-judge, Vancouver, Wash.

M. T. Barteau, general commissioner, Appleton, Wis.

Sherman S. Gere, Pullman car conductor, Cincinnati, O.

Frank Baker, tourist agent, New York City.

John W. Davis, clothier, Hastings, Neb.

Stanley G. Wight, well-known business man of Detroit, Mich.

D. K. Cornwall, Chicago merchant and manufacturer.

S. P. Peabody, ex-president B. & O. R. R.

Mrs. Anna S. Kramer, wife of H. L. Kramer, proprietor of the Indiana Mineral Springs, Chicago, Ill.

G. N. Yale, wholesale merchant, South Haven, Mich.

Mrs. W. I. Hayes, wife of ex-Senator Hayes, Clinton, Ia.

A. J. Wilson, time-keeper for the North Chicago Street Railway Co., Chicago.

F. L. Gray, insurance agent, Minneapolis, Minn.

C. H. Murray, hardware merchant, Webb City, Mo. Also Mrs. Murray.

Mrs. William Penn Nixon, of the *Inter Ocean*, is taking a few days' rest at the Sanitarium.

Robert A. Orr, of the firm Orr & Robinson, brokers and bankers, Pittsburg, Pa., is visiting his brother, C. E. Orr, who is a patient at the Sanitarium.

THE MEDICAL MISSIONARY TRAINING-SCHOOL FOR NURSES.

THERE is no greater need in the world to-day than the preaching of the gospel of health, especially among the poor. The gospel of physical and that of spiritual health are so closely related that they are practically one. The demand for work that will reach the body as well as the soul, the soul as well as the body, is shown in a remarkable way by the growth of the Medical Missionary Nurses' Training-School at Battle Creek, which has just closed its tenth year by graduating a class of forty-four nurses. As the several hundred bright-faced young people who are studying in this school filed into the Tabernacle Wednesday evening, November 10, the young women in uniform, with their fresh blue-and-white striped dresses, generous white aprons, spotless white cuffs and collars, and dainty caps with a tiny bow at the side, it seemed to one who had known their gentle ministrations that this was the most beautiful costume in the world. The young men were so outnumbered by the young women that it seemed a sorry outlook for the sick men of the country, in view of the fact that one of the principles of the Sanitarium is, "Men nurses for men, women for women."

As several of the graduating class were not present to receive their diplomas, it was explained that so great is the demand for just this kind of skilled labor that several of the class had already been called to work, not to work for $25 a week in some wealthy home, although people with money are glad to get such nurses, but to work in large cities and in foreign lands, for the poor and sin sick of the great lower masses. One of these trained nurses is doing rescue work in New York. Another is in South Africa, two are at Nice, France. A man and his wife, both members of the class, are doing self-supporting missionary work in Nashville, Tenn.

In everything that was said or done that evening one thought was made prominent, "You nurses are now to go forth into all the world, not to help save men's bodies only, but their souls as well, in the strength of God."

Witness to this, Dr. Winegar's opening remarks: "When I look into the faces of this army of young nurses who are about to begin a great work, my heart would sink if I felt that you were going out in your own strength. No equipment is complete until we are filled with the Spirit of God."

Dr. Winegar said that the nurse needs a more thorough training than the artist or sculptor. "We cannot compare the fashioning of cold, dead marble with the training of the living body."

THE BATTLE CREEK SANITARIUM AND FAMILY.

She told the story of a Swiss pastor who was writing a letter, taking the greatest of pains with every word. A bystander said to him, "Don't be so particular; your friend is illiterate. He will never know the difference." But the pastor answered, "The Lord Jesus is looking over my shoulder; I am writing for him."

Dr. David Paulson followed Dr. Winegar with a stirring address. He said that the educating nurse, as well as the educated nurse, is needed in these days more than ever before. More than one half of the population die before the age of five years. Children are educated into sin against the body and into death before they have a chance for themselves. We have yellow-fever scares, and cholera scares; but what are the ravages of these diseases compared with the ignorance of parents that send multitudes to their grave before their time? Dr. Paulson emphasized the fact that it is God that heals every disease, that it is our work to study what God is trying to do in the human body, and to co-operate with him.

Dr. Kellogg then spoke as follows: Some of you have been coming here year after year for the last ten years, and you have seen this company of nurses growing from half a dozen a few years ago, to the small army which you see before you at the present time. And these represent really but a small part of those who have actually been trained in this school, and who have gone out into different parts of the world, and are now actively engaged in the work to which all these nurses have dedicated their lives.

A few statistics may be of interest. At the present time there are in training here at the Sanitarium in the various classes, including a few who have been graduated and are still here, 428. In addition to these there are 147 persons in the preparatory class, who have not yet entered the regular nurses' class. Besides these, there are 201 nurses who have already entered the mission field and are employed in the various missions in different parts of the world. Some of these are in very distant countries. Of the total number, nearly one third are in foreign lands,—some in the islands of the sea—in the South Sea Islands, and in the south Atlantic Ocean,—some in South Africa, in Central Africa, in different parts of Europe, quite a number in Asia, in Calcutta, in Northern Europe, in Scandinavia, in Switzerland, in England,—I think that in every civilized portion of the globe our nurses are to be found. There are at the Sanitarium at the present time about 20 physicians who have been trained, many of them, first as nurses, and then in medical schools,—the best schools in the country. In addition to these there are thirty other physicians employed in connection with the twelve branch sanitariums which are located in different parts of the world, and in the various medical missions which have been established during the last few years. Fifteen of these physicians are in foreign fields. In addition to this there are 89 medical students, making the total number of persons taking a course in medical training in connection with the Sanitarium at the present time, 664. There are also, nearly 100 persons employed in the sanitarium at Chicago, who, with those employed in other departments of the institutions, make a total of 1,010 persons employed at the Sanitarium here and in the branch sanitarium at Chicago. In addition to this there are employed in other branches of the Sanitarium under the same general management and supervision, more than 500 persons, making a little army of more than 1,500 persons, whose lives are entirely devoted to the promulgation of the principles which are represented here to-night.

These dry statistics represent in a very feeble way the work which is actually done from day to day by these nurses. The work of the nurse or the work of the physician is by no means a simple task. The nurse as well as the physician is likely to be called on by day or by night. We often find them working until the early morning hours, sometimes without rest for twenty-four hours, sometimes not having had time for food for many hours. I feel very proud, as I look around me, to see that notwithstanding this arduous work, there are no pale faces here; in looking over this little army I do not see any who look as if they were invalids, and yet I shall not be going wide of the truth when I say that many of these came here as semi-invalids,—about twenty-five per cent. They came here because this institution is devoted to health and the fact that it was a health institution attracted them; they came hoping to find health for themselves, and a way in which to help others to health.

The demand for work of this kind is increasing at a wonderful rate. Just before I came to this meeting to-night, I had a conversation with a gentleman at my office in the Sanitarium, in which he made a very earnest appeal for two nurses to go to the Klondike region. He promised transportation free. He is building a steamer for the purpose, and expects to take a large company to Dawson City next spring. Here is an opportunity for two young men to go into a splendid missionary field.

Appeals are coming from all parts of the world. Help is called for in Calcutta, in South America, also in Raratonga. There is also an island waiting for a missionary nurse, and she can have the whole island to herself. She can be doctor and nurse all in one.

There are fields in the South waiting for active, earnest workers. There is a vast multitude in the South waiting for help. There are seven or eight millions of poor whites who are almost entirely without medical assistance. There are eight to ten millions of colored people who are in a most deplorable condition. Besides that, there are many more millions in different parts of the United States, including the South, of people who are rich, but who need to be taught missionary principles,—how to eat, how to cook, how to dress, and how to ventilate their homes. So there is an unbounded opportunity for all who wish to go into the work in this line.

Before presenting the diplomas Dr. Kellogg gave this charge: "We all remember that, after that wonderful event in the history of our Lord which is termed the Transfiguration, when the cloud, and the voice, and the glory had vanished, the disciples found themselves alone with Jesus, and as they looked about, they saw no man, save Jesus only. Now I hope the thought is already thoroughly impressed in the minds of each one of these nurses that God dwells in every living man and every living woman; that Christ and God being one, Christ must also dwell in every man and every woman, so that wherever we come in contact with a suffering mortal, it is Christ we see there,—it is Christ we see in all creation about us. So that wherever we may be, if our hearts are right, and our thoughts are right, and our minds are enlightened, we will always see Jesus only."

The closing of the graduating exercises was a most impressive scene. While the lines of nurses, the young men in black, the young women in uniform, each with a dark red rose against the blue and white of her dress, stood to receive their diplomas, each one publicly renewed the following medical missionary declaration and nurses' pledge:—

"I hereby express my intention and determination to devote my life to medical missionary work, having made the matter a subject of careful consideration and earnest prayer, and believing that it is the will of God that I shall thus do.

"I also hereby place myself under the supervision of the International Medical Missionary and Benevolent Association for the purpose of receiving such training and other preparation for the work of the medical missionary as may in the judgment of the executive board of the Medical Missionary and Benevolent Association be deemed proper and necessary to fit me to perform successfully such medical missionary work as may be assigned to me, and for direction and supervision in the work when I shall be prepared to enter upon it, at such a time and place as Providence may indicate to be duty, and the board shall advise."

MISSIONARY NURSES' PLEDGE.

"Realizing the serious nature of the duties and the grave character of the responsibilities of the professional nurse, and especially appreciating the solemn obligations of the missionary nurse, I hereby solemnly pledge myself, by the help of God, to faithfully perform the duties of my calling, to sacredly regard its obligations and responsibilities, conscientiously to teach and practise the principles taught me by my instructors, to keep inviolate the professional confidences which may be reposed in me by those under my care, and to labor earnestly and truly for the relief of human suffering and the ameliorating of human woe, and especially for the moral and physical uplifting of those of my fellow mortals who may be in need of my assistance, wherever duty may call me to labor."

DR. RILEY reports that the Colorado Sanitarium is well filled with patients, nearly all of whom are making rapid progress toward health. This institution, without question, affords the best opportunity offered in the whole world for recovery from that dread disease, consumption. There is no other place on earth where a patient may receive the inestimable benefits of the climate of a region situated a mile above the sea level, while at the same time he has placed at his command all the resources of rational medicine, proper regulation of diet, systematic exercise, manual Swedish movements, massage, hydrotherapy, Swedish gymnastics,—in fact, every resource known to modern medical science, whereby the progress of a disease practically incurable under ordinary conditions may be stayed and the patient brought to recovery. The Colorado Sanitarium does not confine itself to the treatment of consumptives, but has almost equally good advantages for persons suffering from chronic malarial poisoning, the results of a sedentary life, general nervous exhaustion, and most other chronic ailments. The climate of Colorado is one of the most delightful in the world. While an occasional blizzard brings the temperature down to zero, these occasions are so few and far between that they only serve to emphasize the delightful sunshine and balmy breezes which prevail during almost every day of the week in the winter season as well as during the summer months. Persons who desire to enter the Colorado Sanitarium should address the institution at Boulder, Colo. The accommodations at the present time are so crowded that it would be well to address a line to the superintend-

ent, Dr. W. H. Riley, a week or two in advance, to make sure of admittance.

MR. D. T. JONES writes us from Guadalajara, state of Jalisco, Old Mexico, that the Sanitarium which has been conducted under his superintendency is highly prosperous. Work on the new building is being rapidly pushed along. Most of the building is already occupied. Guadalajara is one of the most delightful spots on earth. Perpetual summer reigns; frosts are all but unknown. Snow and ice are something which the inhabitants have never seen. Pulmonary tuberculosis, or consumption, is practically a malady unknown to the native inhabitant. The writer knows of no more delightful spot in which to spend the winter, — or in fact any season of the year,— than Guadalajara. The summers are cooler than in most portions of the United States. The winters are a delightful summer, an overcoat being never required except in the early morning or evening.

DR. HUBBARD reports the work of fitting up the additions to the building occupied as a sanitarium in Portland, Ore., as nearly completed. The main building is full of patients, and the work is rapidly growing.

DR. SANDERSON reports from the Rural Health Retreat, St. Helena, Cal., a steady growth in interest and patronage. Next to Battle Creek, this is the oldest of the thirteen sanitarium enterprises which have been the outgrowth of the institution planted at Battle Creek thirty-one years ago. This institution has experienced many vicissitudes, but we are glad to know that at the present time the management are making vigorous and successful efforts to place it still further in advance of all institutions of like character west of the Rocky Mountains. With the addition of the improvements which are being made, especially in its health food department, and with the persistent following out of its present policy, we feel that its work will rapidly grow in magnitude and success.

DR. LOPER reports the Sanitarium at College View, a suburb of Lincoln, Neb., as being over-run with patients. Many hired rooms in the town are also occupied, and it is evident that it will soon be necessary to provide a commodious addition to the building or to establish a large branch in the immediate vicinity. This work is a noteworthy example of what may be accomplished by faithful and honest work along the right line.

THE Portable Shower Bath, described in the article on "Practical Hydrotherapy" in this issue, is for sale by the Sanitary Supply Co., Battle Creek, Mich. Write them for descriptive circular and prices.

THE Health Food Department of the Battle Creek Sanitarium represents the pioneers in the effort to place before the American people a wholesome and acceptable cereal substitute for coffee. This preparation, which has at various times been known under the different names of "Cereal Coffee," "Grain Coffee," "Caramel Coffee," and now in its latest and most improved form as "Caramel-Cereal," has been manufactured at the Battle Creek Sanitarium for more than thirty years, and has not only supplanted tea and coffee in many thousands of homes, but has proved so great a success that numerous companies have been organized in different parts of the United States, which are manufacturing more or less successful imitations of the products of the Battle Creek Sanitarium Health Food Company. The most successful of these coffee substitute manufacturers have obtained their prestige by the representation that they were manufacturing the Battle Creek Sanitarium's substitute for coffee. This is but a trade trick which can scarcely be considered righteous, but righteousness is hardly to be expected as a dominant factor in the commercial methods of the present day. Some have been discouraged from the use of the cereal coffee substitutes by the fact that through the methods of manufacture employed by many of the firms referred to, deleterious properties are developed which give rise to nausea and other unpleasant symptoms. Nevertheless, on the whole, all these enterprises are really doing a missionary work in behalf of the anti-tea-and-coffee movement inaugurated at the Battle Creek Sanitarium more than thirty years ago. We wish them one and all success in their efforts.

IT is interesting to note the fact that the people of the United States are being converted by thousands from the error of their ways in reference to the use of tea and coffee. The manufacturers of cereal coffees are carrying on a regular propaganda against the use of tea and coffee, not, perhaps, from the purest motives in every case, but since the result is so good, we will say nothing about the motive, but congratulate ourselves that the time has come when a reform idea which thirty years ago was scoffed at has become so popular that it has a commercial value. When a reform principle has reached that stage in the development of popular sentiment in its favor that men seize upon it as a means of money-

getting, it is evident that real and permanent success has been attained.

TO THE WOMEN OF MICHIGAN.— Ten thousand dollars is wanted to complete the Woman's building connected with the University of Michigan at Ann Arbor. From funds donated for this purpose enough has been collected to enclose the building and equip the gymnasium and bath-rooms so that they can be used; but the sum named is needed for the finishing and furnishing of the entire building.

The building itself is two stories high, and will contain parlors, reading-rooms, offices, committee-rooms, lounging-rooms, a kitchen, a well-equipped gymnasium, under which is a well-lighted basement for bath-rooms, lavatories, swimming-bath, etc., and a large assembly hall on the second floor for lectures, exhibitions, social purposes, etc.

Dr. Eliza M. Mosher, Woman's Dean of the University, has the funds for this purpose in charge, and is making a vigorous effort to get the matter of raising this ten thousand dollars before the women of the State, believing that as soon as their attention is called to it, their pride in our great university will cause them to devise ways to secure this last donation needed for the student girls of our State. The women's clubs all over the State are taking it up, and will do their part; but it has been thought that those who are not connected with any club will also feel it a privilege to contribute to this fund. Therefore it has been decided to bring this matter before the general public in the public prints, and we trust that all will feel that they can answer to the call.

It is greatly desired that half this sum, viz., $5,000, may be received immediately, in which case the large hall will be completed so it can be used by the next semester. This will enable the students to give lectures and entertainments whereby to help themselves. Shall not this worthy enterprise meet a hearty response from every daughter of Michigan?

DEPEW ON A GREAT RAILROAD.— "Talking about great railroads," said Chauncey Depew, "the Chicago & Northwestern with its 8,000 miles of track is about the liveliest railroad on this continent.

"The Northwestern trains run to St. Paul, and, in fact, over the Union Pacific to California. It is the only road that you can ride fifty miles an hour on from Chicago to Ogden and Portland, Oregon, without changing cars."

"Where else does the 'Northwest' run to?" I asked.

"Why, everywhere. It is an all-over creation railroad. It spreads out like a great fan from Chicago. It runs straight through to Milwaukee, Madison, St. Paul, Duluth, Superior, Ashland, and the copper and iron mines of North Michigan. It runs straight through Wisconsin, Minnesota, and South Dakota to Pierre on the Missouri, and Oakes on the Northern Pacific. It shoots a train straight through Cedar Rapids, Iowa; Omaha, Nebraska; to the Black Hills, in South Dakota; and to the Asphalt lakes beyond Fort Casper, in Montana. It draws the tin from Harney's Peak, and corn from Lincoln, Hastings, and Superior, Nebraska."

"And makes time on all these roads?"

"Its engines are the best in the world, and its cars the newest. Makes time? Why, Eli, they tell me that when their great overland twelve-car train shoots into Omaha, you will see the Union Pacific officials standing at the end of the bridge, watches in hand, waiting to set them by the train!"— *Eli Perkins's Railroad Letter.*

A FINE view of Pikes Peak and of Mounts Harvard, Yale, and Princeton in the Rocky Mountains can be had from the tourist car of the Midland Tourist Route which leaves Chicago for California at 10 o'clock every Saturday night from the Chicago, Milwaukee & St. Paul Railway passenger station. For illustrated descriptive circular apply to the nearest coupon ticket agent, or address Harry Mercer, Michigan Passenger Agent, C. M. & St. P. Ry., 7 Fort street, W., Detroit, Mich.

FROM THE GREAT LAKES TO COLORADO.— 1,069 miles in less than 33 hours in an electric-lighted sleeping-car, from Chicago to Denver, over the Omaha Short Line of the Chicago, Milwaukee & St. Paul Railway and the Rock Island Route, via Lincoln, Nebraska. Time annihilates space, and it is "mighty easy ridin'" on the cars.

Ticket Offices, 95 Adams street and at Union Passenger Station, Canal and Adams streets, Chicago. Train starts every night at 10 o'clock. Don't get left.

Do you love music? If so, secure one of the latest and prettiest two-steps of the day, by mailing ten cents (silver or stamps) to cover mailing and postage, to the undersigned for a copy of the "Big Four Two-Step." (Mark envelope "Two-Step.") We are giving this music, which is regular *fifty-cent* sheet-music, at this exceedingly low rate for the purpose of advertising, and testing the value of the different papers as advertising mediums.

E. O. Mc Cormick, Passenger Traffic Manager, "Big Four Route," Cincinnati, O.

Mention this paper when you write.

SCHOOLS OF HEALTH.

REALIZING the urgent need of a better understanding of the principles of healthful living, and to meet a growing demand for instruction along these principles, the managers of GOOD HEALTH have made extensive arrangements for the establishment and conducting of Schools of Health. The persons sent out to conduct these schools are well qualified by education and experience to carry forward the work according to the most approved principles and methods. The tuition is made practically free so as to debar none who should attend. A membership, or scholarship, is included with each subscription to this journal taken in the community where the school is to be held.

When a call for such a school is received, it is noted, and as soon thereafter as practicable, a well-equipped company of workers is sent out to supply the call. The community is awakened upon the subject by judicious house-to-house visiting. Health principles are talked over, an interest is aroused, subscriptions for GOOD HEALTH are taken, and subscribers are invited to attend the school which follows. The course of instruction extends over one week or more, two classes daily, upon such topics as Cookery, Physical Culture, Simple Remedies for Home Use, etc. Supplementary studies may be added at the option of those interested.

This work has now been in progress for some weeks, and has already passed the experimental stage. So far, the results have been very encouraging in every respect. Those who have engaged in the schools report good interest and an extensive desire to learn how to live. Among the places where these schools have already been held are two in Cleveland, and two in Toledo. Others have been held in various cities of Ohio, and still others are arranged for the near future. The work is in progress in St. Louis, and at different points in Illinois.

In addition to the good that is being done in the dissemination of right principles of living through these schools directly, an even greater amount is being accomplished by the wide-spread extension of GOOD HEALTH. Through this and other means the merits of this journal are being brought to the attention of thoughtful people; and in their homes it is bearing the beneficent fruits of better living. From grateful and appreciative readers we receive many words of approval. A few excerpts are subjoined.

A prominent railway official in the West writes: —

"It affords me great pleasure to recommend that our company carry an ad. in GOOD HEALTH. It is not only one of the best publications of its kind in this country, but it represents an institution that, in my judgment, has no equal in this or any other country. I do not mean by this to say that no other institution affords the facilities for patients that your institution does (and even in this respect I feel none are superior to yours), but the point where you do excel is in the delightful moral atmosphere that pervades every department of the institution. It is always a real pleasure for me to say a good word for every one connected with the Sanitarium, from the highest to the lowest, and you need not hesitate to write me at any time for anything that you think I may be able to do for you personally, or for the institution."

A prominent business man from a Connecticut city says: —

"I wish to thank you for sending me the October number of GOOD HEALTH. I regard the magazine as a necessity in my home, and will do what I can toward disseminating the principles it contends for. When I subscribed for it, it was several months before my family would even read it, as they believed it to be an outgrowth of fanaticism, but now it is read with avidity, and quoted almost daily in discussions of hygienic questions.

"With best wishes for the success of GOOD HEALTH I am, Respectfully yours."

From other letters received recently we give the following extracts: —

"We have had an interesting time this week. We have all enjoyed our work. I have talked myself into greater faith and confidence in the health principles than I ever had before. Faith, as well as muscle, grows by exercise.

"As for myself, in all probability I would have been in my grave years ago, only for the principles which GOOD HEALTH has taught me. Wishing the journal the greatest success, I remain,

"Yours very truly."

"I wish to speak a word in behalf of your most excellent journal, GOOD HEALTH. It has been the means of leading me out of darkness into the marvelous light of hygienic living. It 's the best journal I ever read. None can compete with it. May its editor and contributors live long, and continue a blessing to their fellow men by giving them light in regard to this important subject — health."

"I received the September number of GOOD HEALTH, and it is very good. Every number seems better than the preceding one, or else I am growing to appreciate them more. The yearly

subscribers I have taken are delighted with it, and those who buy it each month, speak very highly of it. I am only sorry that I have so little time to devote to the work."

"I wish to extend to you my thanks for GOOD HEALTH. I can hardly do without the magazine, as it divests these important subjects of the technical terms of text-books, and puts everything in interesting, readable form. The magazine furnishes a complete course in physiology."

The following letter is from one who is engaged in conducting Schools of Health: —

"Thus far we have been busy walking into the openings that come to us. We have got the school work started among the upper classes; some of the ladies have promised to work up schools among their friends. The daughter of a United States Senator, who lives in a swell part of the city, has taken the matter in her own hands, and wants to work up a school to be conducted before the holidays. Some of the doctors are lending us all their influence by letters and personal efforts. They are also sending us patients, and have promised to give us all the work we can do. We are fitting up one of our rooms for a treatment room. Several business men have asked to come to our rooms and take treatment. I am now treating a lawyer, and it is almost time for me to go and see him. One prominent insurance man is receiving treatment, and the girls are soon to commence treating several ladies."

It is the purpose of the publishers to carry on the system of health schools extensively. We shall be glad to hear from those who desire to have such schools conducted in their neighborhood, and who can give reasonable assurance of prospective success. In all our communities are suffering people, perishing for lack of knowledge. It is the work of the Christian to live for others, to give to his fellows of that which he has so freely received. These schools of health afford an excellent opportunity for communicating to others that knowledge of practical things that will bring health and happiness to homes where suffering and misery now reign.

THE PEARL OF THE PACIFIC.

It is surprising how few Americans are acquainted with that charming country which is our nearest neighbor on the south, Old Mexico. For picturesqueness, quaintness, and originality, Mexico is far ahead of any European country, yet it is probable that not one traveler visits Mexico to one hundred who visit Europe at a vastly greater expense. By degrees, however, the people of the United States are beginning to find out what a gem of unparalleled interest and beauty lies close to our doors, and the tide of travel toward Mexico is steadily growing. Of all portions of this ancient country, with its pyramids which vie with those of Egypt, its mammoth Egyptian stone gods, its antique civilization, and its quick-witted, warm-hearted people, the state of Jalisco, with its capital, Guadalajara, is without doubt the center of interest. The readers of this magazine are all somewhat familiar with the fact that within the last three years a sanitarium and medical mission connected with it have been established in the ancient city of Guadalajara, which lies at an elevation of one mile above the sea, almost exactly the same as that of the city of Denver, Colo. Both the mission and the sanitarium have steadily grown in activity, proportions, and reputation, and are at the present time attracting great attention.

We quote the following description of the state of Jalisco and the sanitarium enterprise from the *Two Republics*, the leading English paper published in the city of Mexico : —

The topography of this state is of such a varied nature that it admits all the climatic conditions incident to a tropical, semitropical, and temperate country.

Lying wholly within the torrid zone, but extending from about the middle of the peninsula to the Pacific, its irregular boundary embraces some of the mountainous portion as well as the high plateau and low tropical parts of Mexico.

The state line of Jalisco touches that of Zacatecas, Aguas Calientes, Durango, and the Territorio de Tepic on the north; Guanajuato and Michoacan on the east; Michoacan and Colima on the south; and is bounded on the west by the Pacific Ocean and the Territorio de Tepic.

The Rio Grande de Santiago has its source at Lake Chapala, and empties into the Pacific near the port of San Blas, while the Ameca drains the valley country around the city of the same name, emptying its waters into Banderas Bay.

Part of the beautiful valley of the Lerma lies within this state. This river rises just east of Toluca, and, counting Lake Chapala and Rio de Santiago, which is really a continuation of the same stream, has a course of about four hundred and fifty miles before emptying its waters into the Pacific.

The state is traversed by the Guadalajara branch of the Mexican Central railway, leaving the main line at Irapuato and running through the lake country to Ameca,— a trip that will never be regretted by those seeking change of scenery and delightful climate at any time of the year. The whole division is passed over by daylight, but one could not afford to go through without a stop-over at a few of the notable points along the line.

Ocotlan, the port through which most of the trade to Lake Chapala goes, is situated on the little river Sula, near its junction with the Lerma. The station is connected with the town by a street-car line, which runs to the bridge just above the Chapula steamboat landing. One has to go some distance down the channel of the Lerma before entering the lake, but the view is worth the whole trip.

This lake is higher than Mount Washington and larger than several of the celebrated European bodies of water, being about fifty miles long by eighteen wide — the largest in Mexico. On entering the lake, one sees to the left the great green lagunas extending for miles; directly ahead is the broken range of hills forming the southern shore, and to the right the bold Cerro Chiquiluitillo. Behind is the plain reaching away to the distant hills on the north, and from this plain rise the graceful towers of the Ocotlan church.

With such scenery and a combination of delightful climate, hot springs, mountain-climbing, boating, bathing, and fishing, as recreations for visitors, Lake Chapala will one day rank among the foremost of health and pleasure resorts.

El Castillo must not be passed without a visit to the falls of Juanacatlan. The river here is about five hundred feet wide, and falls sixty-five feet in a single leap to the lower level. The power is utilized by mills for handling the products of the fertile country around, and also in the electric-light plant for the benefit of the state capital, which is the picturesque city of Guadalajara.

This city is about the third largest in the republic. It is noted for cleanliness, beautiful parks, and ancient churches, healthy location, and commercial importance. A volume might be written concerning it, but as it is pretty well known, a few of the chief features of the place, with a brief mention of some of the citizens who have added to its welfare, will suffice for this article.

SANITARIUM AT GUADALAJARA.

The sanitarium is important among the new enterprises of this city. The institution is a branch of the famous Battle Creek Sanitarium in the State of Michigan.

Nothing is more important for a medical institution than a salubrious location, pure air, pure water, and a porous, well-drained soil. A happy combination of these essential elements found at Guadalajara and at the particular point selected for this institution was what led the founders of the establishment to plant it here at the inception of the enterprise, after a considerable time spent in looking about for the most eligible and advantageous site.

The main building, 126 x 156 ft., well on the way to completion, contains a full complement of sitz, full vapor, and electrical baths for both men and women; doctors' offices, operating-rooms, parlors, reading-room, etc., and private apartments for fifty guests. All the latter rooms have outside windows with doors opening on the corridor surrounding a large, beautiful inside garden, or patio, which forms an ideal promenade on days when it is desirable to keep under cover. The top of the main building is also being arranged for an evening promenade, from which a delightful view is obtained of the city and whole surrounding valley, with a background of mountains on every side, a sight in itself sufficient to arouse the hypochondriacal invalid from his delusions, and bring his mind to the healthy conviction that, while nature's God made everything else so perfect, it was not in his purpose to have man otherwise than in a condition to enjoy the blessings provided for him.

Modern kitchens, serving- and dining-rooms are attached to this building; all the apartments have open fire grates and every convenience to bring good cheer as well as comfort to the guest fortunate enough to choose this for a holiday or health resort.

On the east is the main exercise and pleasure garden, surrounded by a wall, on the inside of which a fine bicycle

track makes the entire circuit of the garden, the center being laid out in walks, flower beds, shrubbery, croquet lawns, etc., watered from a large fountain, near which a music-stand is to be built; the whole shaded by ash, zapote, white cherry, chirimolla, and cypress trees.

Mr. D. T. Jones, the designer and also the superintendent of the institution, proposes to introduce all the known trees, flowers, and shrubs, etc., that will grow, into this garden, thus enabling the guests to study the flora of the country without the necessity of a special tour for that purpose.

The location is southwest from the center of the city, and is all that could be desired. On one side is the governor's garden, on the other the equally beautiful grounds belonging to Mr. Paulsen. Close at hand is building the Conservatory of Music and the new School of Art, while on the southwest, the prevailing direction of the winds, lies the free, open country, across which the mountain breezes can blow, tempered and sweetened on their passage over the green, fertile valley lying between this portion of the city and the blue hills beyond.

The physicians connected with the institution are all regularly educated in scientific medical schools, and their professional work is done strictly in harmony with ethical principles.

While all medical appliances will be at hand, no specific system or routine method will be employed in the establishment. In all the branches of the Battle Creek Sanitarium the treatment of each patient is based on the careful examination of the particular case in hand, the specific wants of which are considered and met by suitable medicinal and other treatment.

Mental and moral means are not forgotten. The neurasthenic must be taught how to conserve nervous energy, and how to cultivate nerve tone. The hysterical and hypochondriacal must be convinced of the dangers arising from self-inspection and self-centering of the mind. The chronic pill swallower must be weaned from his doses, and the peripatetic valetudinarian must be inspired with an ambition to become something better than a traveling museum of maladies.

It is proposed to have the new building open for guests by the first of the coming year.

Mr. Jones, the manager, is a native of Missouri, and has used all the experience gathered from a ten-years' connection with the Battle Creek Sanitarium, in the effort to make the Guadalajara branch as nearly perfect as possible. The beautiful buildings and grounds on Tequesquite St. have been leased until the new plant is thoroughly equipped.

DIRECTORY OF SANITARIUMS.

THE following institutions are conducted under the same general management as the Sanitarium at Battle Creek, Mich., which has long been known as the most thoroughly equipped sanitary establishment in the United States. The same rational and physiological principles relative to the treatment of disease are recognized at these institutions as at the Battle Creek Sanitarium, and they are conducted on the same general plan. Both medical and surgical cases are received at all of them. Each one possesses special advantages due to locality or other characteristic features.

ST. HELENA SANITARIUM, OR RURAL HEALTH RETREAT,

ST. HELENA, CAL.

A. J. SANDERSON, M. D., Superintendent.

THIS institution is beautifully located at the head of the Napa Valley. It is a fine large building, with excellent appointments, and all facilities required for the treatment of chronic invalids of all classes. It has also a record for a large amount of successful surgical work. There are several able physicians connected with the institution. The scenery is delightful, the climate salubrious; the water supply, which is furnished by mountain springs, is pure and abundant. Hundreds of cases of diseases generally considered incurable, have been successfully treated at this excellent institution during the twenty years of its existence.

CHICAGO SANITARIUM,

28 COLLEGE PLACE, CHICAGO, ILL.

THIS institution is a branch of the Battle Creek (Mich.) Sanitarium. It is favorably located near Lake Michigan, in the southern portion of the city, close to Cottage Grove avenue, and facing the old Baptist University grounds. A few patients are accommodated. Facilities are afforded for hydrotherapy, and the application of massage, electricity, Swedish movements, and other rational measures of treatment.

NEBRASKA SANITARIUM,

COLLEGE VIEW (LINCOLN), NEB.

A. R. HENRY, President.
A. N. LOPER, M. D., Superintendent.

COLLEGE VIEW is a thriving village located in the suburbs of Lincoln, with which it is connected by an electric railway. College View is the seat of Union College, one of the leading educational institutions of the West. The Sanitarium has a beautiful location, facing the spacious college grounds, and gives its guests the advantages of a quiet, homelike place, combined with appropriate and thoroughly rational treatment. It has a full equipment of excellent nurses, and has already won for itself an enviable reputation in the West.

PORTLAND SANITARIUM,

PORTLAND, ORE.

W. F. HUBBARD, M. D., Superintendent.

THIS institution is beautifully located in the center of the city, in a fine building, with spacious grounds; and although it has been in operation scarcely more than a year, it already has a good patronage, and has evidently entered upon a successful career. Facilities are provided for the dietetic and medical treatment of chronic ailments of all kinds. The advantages for treatment include, in addition to various forms of hydrotherapy, electric-light baths, apparatus for the application of electricity in its various useful forms, manual Swedish movements, and massage.

COLORADO SANITARIUM,

BOULDER, COLO.

W. H. RILEY, M. D., Superintendent.

THIS institution is located on a beautiful site of one hundred acres, including a fine mountain peak, and commanding extensive landscape views, which, for variety and beauty, can hardly be equaled. The site adjoins the thriving city of Boulder, and is about one hour's ride by rail from Denver, the streets and principal buildings of which are easily discernible from the peaks around Boulder. The equipment consists of a large building especially erected for the purpose, two fine cottages, and every appliance for the application of hydrotherapy, and for the special treatment of pulmonary ailments, to be found in the best establishments of like character. Particular attention is given to the dietetic treatment of patients, and to systematic exercise, in addition to the special treatment for specific ailments. The altitude is between five and six thousand feet, just that which has been determined to be the best for pulmonary troubles. Though but a few months have elapsed since the work of this institution was fairly begun, a large number of persons suffering from pulmonary tuberculosis have already been cured, and are now rejoicing in sound health. The rational hygienic treatment, with the climatic advantages, has proved effective in the cure of cases which, without the combined advantages of these superior measures, must certainly have succumbed to the disease.

GUADALAJARA SANITARIUM,

STATE OF JALISCO, MEXICO.

D. T. JONES, Superintendent.
J. H. NEALL, M. D., W. S. SWAYZE, M. D., ALICE SWAYZE, M. D., } Physicians.

THIS institution, established in 1894, is the first and still the only one of the kind in Mexico. It affords, in addition to the unsurpassed climatic advantages of the region in which it is located, facilities for the employment of hydrotherapy, electricity, massage, manual Swedish movements, and dietetics, in the treatment of all forms of chronic disease. The altitude is the same as that of Denver,—from five to six thousand feet. Guadalajara has the advantage of a climate more nearly uniform than any other with which we are acquainted. Located in the tropics, it enjoys almost perpetual sunshine, while its altitude is such as to prevent excessive heat. There is probably no better place on earth for a pulmonary invalid. It is only necessary that the advantages of this institution should become known to secure for it extensive patronage.

INSTITUT SANITAIRE,

BASEL, SWITZERLAND.

THIS institution affords the only place in Europe where patients can receive the advantages of a thoroughly hygienic diet, baths, Swedish movements, massage, and various other methods of treatment, applied after the manner and in accordance with the same principles which govern the Battle Creek Sanitarium and its several branches. The physician in charge has received a thorough training in the institution at Battle Creek. Terms are moderate. No better place for sick persons or semi-invalids abroad than the Institut Sanitaire.

Address, 48 Weiherweg.