GOOD HEALTH

A Journal of Hygiene.

VOL. XXXII. OCTOBER, 1897. NO. 10.

THE HYGIENE OF DRESS.

BY J. H. KELLOGG, M. D.

THERE is certainly no question of hygiene more important than that of dress, when we consider the fact that it affects the health of fifty or sixty millions of people — physically, mentally, and morally. It is encouraging to be able to note that intelligent men and women everywhere are becoming more and more interested in this question. During the past few years physical culture clubs and dress clubs have been formed in different parts of the country, and magazines wholly devoted to reform in dress have been started; and thousands of American women have thus had their attention called to this vital subject.

The universal ill health of civilized women suggests that there has been and is something wrong in their manner of life. The comforts and advantages of civilization should bring added strength and power instead of increasing weakness. It is necessary to trace this weakness back to its origin in order to prescribe a remedy.

Among lower animals, the females are no more subject to disease than are the males, the female being often the larger and stronger animal; and all investigations among savage tribes and primitive peoples show the strength and endurance of woman to be equal to that of man. Usually the drudgery and hard work come mainly upon her. The Mexican woman cultivates the ground, cares for the household, cooks the meals, makes the clothing of the family, rears the children; and when moving-day comes, trudges off with the household goods on her shoulders, and the younger members of her family perched on top of all. In Germany the peasant woman toils beside her husband in laborious employments, and appears to be as healthy as he. In France I found it a common thing to see a line of men digging a trench for a waterpipe, and a woman at the head of the line breaking ground.

From these facts it appears that if women are physically inferior to men, it is not so much on account of their natural organization as because their mode of life such as to beget physical degeneration. I see no reason why a healthy woman should not be equal in endurance to a man of the same size and development. One writer has termed "women's weaknesses" "women's follies;" and certainly at the present time more than half the business of the medical profession consists in efforts to repair the damages which women have ignorantly inflicted upon themselves.

The chief cause of woman's ill health

is found in the disease and displacement of the pelvic organs, and those who have had most experience in treating these conditions concur in the opinion that her mode of dress is mainly responsible for them. Probably ninety per cent. of the so-called female diseases have their origin in corsets and heavy skirts. If all women would at once adopt a healthful mode of dress, half our profession would be obliged to seek some other calling.

Neither a proper knowledge of the requirements of the body nor a just consideration of the principles of beauty, justifies the popular mode of dress. The idea that a small waist or a round waist is beautiful, is a mischievous and dangerous notion, which should be eradicated from the public mind. Nature never made a waist round, slight, or tapering, as though it were chiseled out of wood.

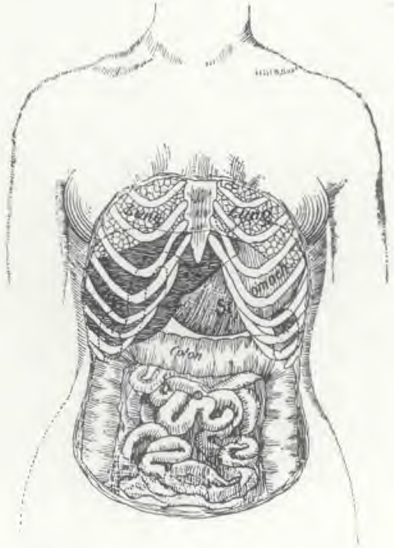
The corset is not a modern institution, although supposed to be so by many; for Galen, in a medical work written in the first century, declaims against its use. Greek physicians also found fault with their women for binding so many bands and girdles about the waist. This was not in the palmy days of Lycurgus, when the regimen of diet, exercise, and dress of every man, woman, and child was prescribed by law, but in later times. The idea, still so popular, that the human female figure was not made right, then began to prevail; and so the mothers took to shaping their daughters' forms by means of bands and girdles, much as Chinese girls have their feet shaped to useless deformity.

It is impossible to talk to women too much on this subject, for none of them are overdoing the work of reform, while the great majority have no proper appreciation of the damage their bodies sustain from corsets and bands. It is safe to say that ninety-nine women out of every hundred who wear corsets and bands — no need to say *tight* corsets and *tight* bands, for they are always tight unless supported from the shoulders — have displacements, to a greater or less degree, of various internal organs. Not everything must be laid to the corset, for more harm comes from heavy skirts dragging down upon tight bands than from the corset, which serves to distribute the pressure over a large surface.

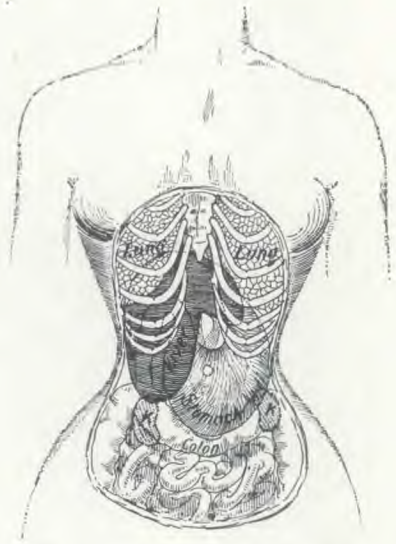
I have made careful physical examination of more than twenty thousand women and about ten thousand men, and in only a few instances have I found a man with displacement of the kidneys, unless from abscess or something of the kind, a small number with displacements of the stomach, and but two or three instances of displaced liver. In these cases I invariably found that the man had, at some period of his life, worn a tight belt instead of suspenders. But these displacements are exceedingly common among women. Is there any anatomical reason why women should not hold together as well as men? The organs constituting the internal viscera in both men and women are largely held in place by continuity — the cavities are so filled that while each organ has abundance of room, there are no vacant spaces. Additionally, each is amply supported and fastened in place by ligaments and bands, it being very important that they stay precisely where nature put them. Further support is afforded by the abdominal walls, which are made up of numerous strong muscles; but by compression, which prevents their being naturally exercised, these become atrophied, and useless as supports. In consequence, the stomach becomes prolapsed, and this in turn prolapses the colon; then the kidneys, liver, spleen, small intestines, and other organs are displaced in various strange fashions, until not an internal organ is in its true place, and all sorts of functional disorders naturally follow.

BUSHMAN'S CAVE WITH A LARGE ALOE TREE IN THE FOREGROUND.

THE ELIZABETH GOWN.— Designed at the Battle Creek Sanitarium Dress Department.



Position of the Internal Organs in the Normal Figure.



Position of the Internal Organs in a Corset-Deformed Figure.

And not only are the internal organs deranged, but their derangement distorts the outward contour of the body, and throws it out of balance. The chest is flattened, or else unnaturally full; there is a hollow where the stomach should be were it not fallen down, and then an unsightly protrusion below, caused by the general prolapsus and the flabby condition of the abdominal muscles. Nature has packed the body full, and there is no way of making the waist smaller than it is naturally without displacing some vital organ.

Even a slight pressure, long continued, causes the tissues to waste away and the muscles to atrophy. Thus, bands and corsets, whether very tight or not, cause an atrophy of the muscles of the waist. There are lamentably few mature women to be found with perfect figures. Nature always makes her lines in beautiful curves, and the human body is no exception when allowed to develop naturally; but when a woman puts on a corset, and crowds a mass of flesh above it and another below it, the figure is entirely out of shape, and inartistic.

Woman's dress should be just as loose as man's; for she needs just as much breathing space. The average woman, who thinks she is not lacing, and perhaps has laid aside her corset, still has her clothing so tight as to cut off a portion of the necessary air supply. It is the same as if she should put a constriction around her neck, not tight enough to choke her to death, and yet sufficient to keep her from taking in a full supply of fresh air.

Nowadays, women do not have their dresses fitted to their figure, but to a "beautiful corset," with its difference of ten inches between the waist measure and the chest measure; while the average difference in a form which has been untrammeled with torturing instruments of fashion is but two and a half to four inches.

If women would forget fashion for awhile, and make their garments in accordance with the principles of sound common sense, they would encounter no difficulty in deciding what to wear, and would soon be delighted to find themselves emancipated from the numerous ills which afflict them in consequence of their present mode of dress. It may be that circumstances will not always allow of the adoption of a dress which shall be wholly physiological in every respect. Custom has so long ruled that we are forced to yield a little to its mandates, though reluctantly. But it is quite possible for a woman to adopt a dress which shall be, in all essential particulars, free from serious defects, and that without sacrificing an iota of her native grace and modesty, or making a martyr of herself or her friends.

In the first place, the corset and all its substitutes and subterfuges, tight belts, and every other device for compressing the waist or any other part of the body, may be at once discarded without drawing the attention of any one to the fact, unless it be by the more elastic and graceful step, the brighter color of the face, and the improvement of the health in all respects. Suppose the waist does expand a little, or a good deal even — is it any disgrace? If required, a suitable garment may be made to support the bust, which will fit the form neatly without compressing any part.

The next important step should be to regulate the clothing properly. The whole body should be clad in soft flannel from neck to wrists and ankles nearly the year round. It is best to have the underclothing for the upper part of the body and that of the limbs combined in one garment. If arranged in two garments, they should only meet, and not overlap, as this gives too much additional heat over the abdominal organs. A woman's

limbs require as many thicknesses as a man's; and a garment which fits the limb closely will afford four times the protection given by a loose skirt. Thick shoes, or boots with high tops, and warm wool stockings which are drawn up outside the undergarments clothing the limbs, complete the provision for warmth. Leggings should be worn in cold weather.

The proper length of the skirt is a question of interest in this connection. If physiology alone were consulted, the answer would be that women do not need skirts any more than men, and that they are really an impediment to locomotion, and often very inconvenient; but custom says that women *must* wear skirts, and fashion says that she must wear *long* skirts. Custom and fashion have prevailed so long that they have created an artificial modesty which seems to demand that woman's dress must differ from man's by the addition of a skirt, at least, even if they are alike in all other particulars. This being the case, the best we can do is to modify the skirt so that it shall be as free from objections as possible. The great evils of long skirts are, unnecessary weight, the accumulation of moisture which is transferred to the feet and ankles, and sundry inconveniences to the wearer in passing over rough places, up- and down-stairs, etc. The obvious remedy for these defects is to curtail the length of the dress.

Having removed all pressure and weight from the waist, and secured a proper dress, the next thing in the way of reform is to go to work to strengthen the long-abused muscles. Massage and electricity skilfully applied, and a thorough course in physical training are among the best means to this end. Deep breathing must be regularly practised. Sometimes, as a temporary aid in overcoming a bad prolapsus of the stomach and intestines, a well-adjusted abdominal bandage is advisable. This will give the overstretched muscles a chance to shorten; but when they are restored to their former tone, there will be no need of mechanical appliances.

NOTES ON NATAL.

BY BRANSCOMBE ASHLEY, M. D., F. R. S.

THIS British South African Colony is such a good customer of the United States, that some description of it may not be uninteresting. Our exports to the colony, exclusive of the large amount that reaches it through English merchants via London and Liverpool, are chiefly finished lumber in the form of sashes, doors, and dwellings in sections, ready for erection, and agricultural implements of all kinds, but especially American steel plows, which are greatly preferred to those of English manufacture.

The chief port is D'Urban (commonly written Durban), but the harbor, in spite of the large sums expended upon it, is still dangerous and difficult of access. The country back of Port Natal, or Durban, is strongly reminiscent of the South American littoral, being low at the coast line and gradually rising beyond the initial bluff to an elevation on the west and southwest of some four thousand feet.

The colony is of an irregular diamond-shape. It contains 17,000 square miles, or about one third the area of England. It is bounded by Zululand and part of the Transvaal on the northeast; on the southeast by the Indian Ocean; on the

PRODUCTS OF A HUNT FOR SPRING BOK IN AFRICA.

northwest by the Orange Free State and the Transvaal; and on the southwest by Basutoland, Ququaland East, and the country of the Pondas.

In the wet season the plains, which are about forty miles from the coast, much resemble our prairies, being without special tropical characteristics. They are refreshingly verdant; the soil being very fertile, they are clothed with an almost endless variety of rich, succulent grasses. Further in the interior, however, this pastoral appearance changes to a more tropical one; the country becomes more rolling; clumps of magnificent forest trees, including the palm, mimosa, and euphorbia, and groups of fragrant flowering shrubs, render the landscape one of great beauty. Still pushing on into the interior, the traveler sees great grassy plains entirely denuded of bush or wood except along the watercourses. Here are dense clumps of virgin forest, the trees completely netted over and hidden by ferns. The western boundary, the Drakenburg range, where the Bushman dwells, is now seen, the intermediate hills having that flat, table-topped appearance peculiar to South African scenery.

The hot season sets in early in October, and lasts until March, the six remaining months being the cold or winter season. It is, however, very rarely necessary to have a fire in dwellings during this period. The highest temperature is 97.5° F., the lowest 31.9°.

The great herds of elephants have disappeared from the uplands, and the roar of the lion is no longer heard. Hippopotami are scarce, and nearly all the buffalo and quagga have crossed over into Zululand. Leopards, tigers, and tiger-cats, however, abound in the jungles and forest clumps. On some estates the eland is preserved. There are at least ten different varieties of antelope, the most abundant being the springbok (*guzella euchore*). The horns are simple and annulated, and

NEST OF THE SOCIABLE GROSBEAK.

are curved so as to form a lyre-shaped figure. They possess extraordinary leaping powers, and congregate in vast herds on the grassy plains, where they are ruthlessly slaughtered for their skins and horns. The illustration opposite page 596 shows one of these grand battues.

Ant-eaters, porcupines, huge baboons, and monkeys of every kind inhabit the kloofs (valleys) and timber-lands. Crocodiles infest the mouths of all the rivers and creeks, and even go some distance out to sea. Deadly snakes and puff-adders are common all over the country, the most deadly of the snakes being a hooded variety which spits or ejects its poison a considerable distance. Besides these are monster pythons which seize and crush the unwary native or the too-venturesome white man. Every house is infested with the fish-moth, an insect which devours all it can find in the way of clothing and books. The birds of

Natal are much the same as those found in other tropical and sub-tropical countries. The grosbeak is so called from the size of its bill; and is found (especially the grosbeak of the illustration) in the foot-hills, its food being mainly the nuts of coniferous trees. The birds dwell in communities, often numbering many hundreds, building a gigantic nest, in which all live and rear their young. The plumage of the male is bright crimson, green, and gold, the hens being almost as dazzling in color.

The ostrich was at one time very abundant, but is now only found in those remote and almost inaccessible solitudes which the bird loves. Though sometimes assembling in flocks of thirty to fifty, and then in association with herds of zebra or large antelopes, they in the breeding season live in camps of not more than four or five, one of which is a male, and the others hens. One and the same nest contains all the eggs. It is a shallow pit which they scrape out with their feet, the earth heaped around, forming a kind of wall against which the outermost circle of eggs rests. As soon as ten or twelve eggs are laid, the male begins to brood, always taking his place on them at night, surrounded by his wives, while by day all the birds take their turn at sitting, reliev-

Ostrich Nest and Young.

A Natal Hut.

ing each other at regular intervals, more it would seem to guard from jackals and other small beasts of prey, than to forward the hatching, which is mainly done by the heat of the sun. Some thirty eggs are laid in the nest, and round it are scattered as many more. These latter are broken by the old birds, to serve as food for the newly hatched chicks, whose tender stomachs cannot yet bear the hard food on which their parents thrive. The greatest care is taken by them to place the nest where it cannot be seen, and to avoid being seen when going to and from it. So great is their solicitude for their young that the father of a family will often fling himself to the ground, pretending to be wounded, in order to distract attention from the young ones.

The Bosjemans, or Bushmen, of Natal are an aboriginal race allied in some respects to the Hottentots, but differing in several important points from them; and, with them, having nothing whatever in common with the Kaffir or with the negro. They are rapidly becoming extinct, but may yet be found in considerable numbers in the caves of the Drakenburg range. With the savages of Australia they rank as the very lowest existing type of man, humanity being nowhere seen in a more degraded or destitute condition. They are very small in stature, the tallest female being not over four feet four inches; and the tallest male four feet nine inches in height. In color they are of a dirty yellow, and of a most repulsive aspect. The cheek bones are very prominent, eyes deeply set and crafty in expression, the nose small and depressed; the hair is in small, detached woolly patches. But many of them, though such pigmies, are well proportioned. They are wonderfully clever hunters, the senses of smell, sight, and hearing being to a stranger almost miraculously keen. They are shamefully treated by the Boers, who at one time attempted their extermination; but this cruel hunting of them has ceased, although the children are still captured by the Boers and brought up by them to be slaves. When justly and kindly used, they display great affection

and untiring fidelity. They have a keen ear for music, and unlike other savage races, learn tunes readily. Their dancing, though bizarre, is very attractive, on account of its perfect, graceful rhythm. The picture used as a frontispiece this month shows a small group of these unfortunate people sitting in front of a cave. In the foreground is a large aloe, or "koker boom," situated on the windward side of the cave, to shelter it, instead of the usual hanging mats.

The natives of Natal, who number 330,000, out of a total population (including white men and coolies) of 380,000, are of Kaffir stock. Naturally fierce and warlike, they are averse to continued work of any kind, and it is very difficult to teach them the mechanical arts. They have, however, become fairly peaceable and law-abiding. Their huts are made of wattles, neatly thatched, as shown in the illustration. The costume of the women and their mode of carrying their children are shown in the above picture, which is copied from a photograph.

NATIVE NATAL WOMEN AND CHILDREN.

SELF is the only prison that can ever bind the soul;
Love is the only angel who can bid the gates unroll;
And when He comes to call thee, arise and follow fast —
His way may lie through darkness, but it leads to light at last. — *Henry Van Dyke.*

PRACTICAL HYDROTHERAPY.

Chest Pack — Throat Pack — Abdominal Bandage.

BY J. H. KELLOGG, M. D.

THE compress is a wet cloth or bandage applied to any part of the body, and its object may be either to cool the part under treatment, or to retain the heat, being equally successful for both purposes. When the part is to be cooled, a compress composed of several folds should be wet in cool, cold, or iced water, as required, and placed upon the part after being wrung so it will not drip. It should be changed as often as every five minutes. This is often neglected, to the injury of the patient. A very cold compress may be prepared by placing snow or pounded ice between the folds of the compress. This will not need renewal so frequently; but its effects must be carefully watched, as injury may be done by neglect. In applying cold to such delicate parts as the eye, a very thin compress is better. It should be renewed once in five minutes, at least.

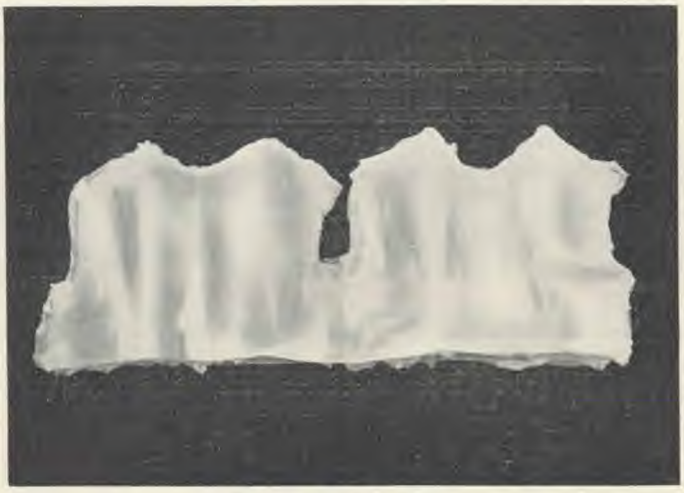


FIG. 1.—THE CHEST PACK.

FIG. 2.—THE CHEST PACK IN PLACE.

When moist warmth is required, a thick compress is applied, being wrung dry out of cold water, and covered with a dry cloth to exclude the air. Soft, dry flannel is an excellent covering. Rubber or oiled silk may be employed when the compress is not to be retained more than a few hours; but if it is to be worn continuously, they will be injurious, as they are impervious to air and thus interfere with the function of the skin. The effects of a compress thus applied are identical with those of the poultice, and the application is a much more cleanly one.

Heating compresses are applicable in all cases in which poultices are used. They may also replace plasters with benefit and comfort to the wearer. The

wet-sheet pack, chest pack, and wet girdle are all modifications of the compress.

When applied continuously in the same place for a long time, the compress occasions a considerable eruption of the skin, and sometimes boils and carbuncles. These eruptions are no doubt due to debility of the skin, produced by a too long continuance of the very abnormal conditions supplied by the compress. There is no particular advantage in these eruptions, and they sometimes do much harm by producing a great degree of general irritation. The notion that they purify the system, though a very popular one, has really very slight foundation. The discharge is largely made up of elements which would be of great utility if retained in the system, and the amount of foul matter eliminated in this way is certainly infinitesimal compared with that thrown off by a few inches of healthy skin. The skin can always do more and better work when healthy than when diseased.

The Chest Pack.—The chest pack is cut in the shape of a jacket, and reaches from the neck to a little below the navel, and covers both the chest and shoulders. (Fig. 1.) If desired, only one half of this may be used, as the condition of the case indicates, applied to either the chest or the shoulders. It consists of two layers of cotton batting, between which is a layer of oiled muslin or silk. The pack is covered with cheese-cloth, or some other thin cotton cloth. The whole may be tacked loosely together to hold it in place. The pack is fastened by safety-pins over the shoulders and under the arms. Fig. 2 shows the pack applied to the patient.

FIG. 4.—ABDOMINAL BANDAGE AND THROAT PACK IN PLACE.

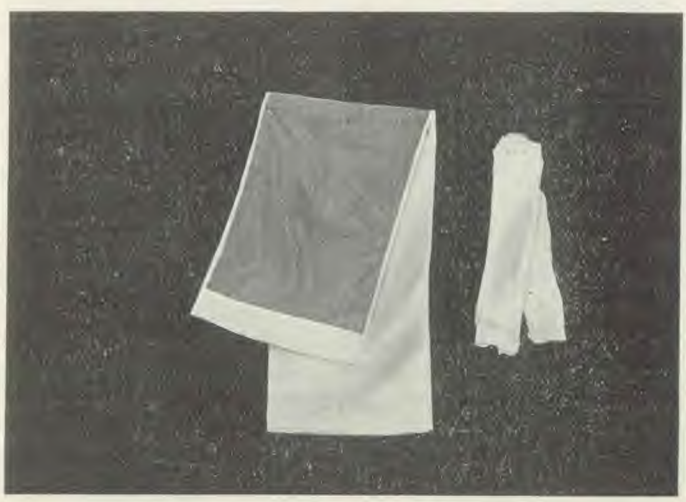


FIG. 3.—ABDOMINAL BANDAGE AND THROAT PACK.

This pack may be used either wet or dry. The dry pack is usually employed in cases in which it is desired to make continuous application for several days or weeks, and as a protection to the chest in cold weather or after a hot application, as in treating a cold on the lungs. In cases in which it is to

be worn for several months, it is better to wear it only at night, or to allow interruptions in its use.

In applying the moist pack, wet a soft cotton cloth in tepid water, and lay it on the chest. Then lay the pack over this, pinning it up snugly around the neck and under the arms. The pack should never be allowed to remain on if the patient becomes chilly. When removed, the surface of the skin should be washed or sponged with cool or tepid water. When the moist pack is worn at night, it is advisable to wear a dry pack during the daytime.

A solution of menthol, one part to three of water, is sometimes used as a counter-irritant in cases of chronic cold on the lungs or of pain in the chest. Witch-hazel is also used in the same way, in cases of nervousness, it being very soothing in its effects. In either case, a thin cotton cloth is wet in the solution, and spread on the chest, then covered by the dry pack.

The principal use of the chest pack is to afford protection in cold weather and for pain in the chest, chronic bronchitis, emphysema, pleurisy, pleurodynia, asthma, and in the early stages of consumption.

The Throat Pack.— This consists of simply a layer or two of cotton batting with a piece of cheese-cloth a little larger than the batting wrapped around it, and a straight band of cotton cloth, unhemmed, as a lining. This pack is well shown in Fig. 3.

In application, the cotton lining is wet in whatever solution it is designed to use, and the whole fastened around the throat with safety-pins. See Fig. 4.

The Abdominal Bandage, or Wet Girdle. —This was a favorite remedy with the early German hydropathists, and it is a very useful appliance when properly employed, though it has been much abused by excessive use. To apply it well, a coarse towel about three yards long is the most convenient. Turkish toweling, split down the center, making it one half the usual width, or about thirteen inches, is used at the Sanitarium. The raw edge is overcast.

Wet one half of this towel in cold water, wring it until it will not drip, and apply it to the abdomen, placing one end at the side and bringing it across the front first, so that two thicknesses of the wet portion will cover the abdomen. After winding the whole tightly around the body, cover with several folds of flannel, or with the bandage shown in Fig. 3, which is made of canton flannel covered on one side with rubber gossamer cloth and bound with tape, and is about one and one third yards long. When intended for a particular person, it can be made just to fit. It should be a little wider than the towel to be worn under it. Fig. 4 shows the bandage in place, and the manner of fastening it with safety-pins. If necessary to make it fit, two darts may be taken in the bandage over the hips, to make it as snug as is comfortable to the wearer. This will prevent evaporation and chilling, especially in cold weather. If such a covering for the bandage as described cannot be obtained, a strip of oiled muslin covered with flannel may be used instead.

The moist abdominal bandage is a very efficient remedy for constipation, chronic diarrhea, and most other intestinal disorders. It is equally valuable in dyspepsia, torpid liver, enlarged spleen, and uterine derangements, and is very satisfactory as a soothing application in nervousness, sleeplessness, etc. There is no remedy of so great value in insomnia. It is much used by the modern Germans under the name of *umschlag*, as it was by the ancient Romans under the name of *epithem*.

THE PHYSIOLOGY OF OLD AGE.

BY F. MAGEE ROSSITER, M. D.

MAN has very aptly been called a microcosm,— a little world in himself,— because he is a partaker and representative of everything in the inferior creation. In him are combined the material and the spiritual; the animal and the rational. He is allied to the animal creation by his instincts, propensities, desires, and passions; and to God and the higher intelligencies by reason, conscience, and free-will. Being thus endowed, man is able to adapt himself to his environments. He is capable of making progress, and of utilizing the things of creation to minister to his happiness; hence man may be said to be the architect of his own character, and the sole keeper of the house in which he dwells — the body.

Intellectually, no limit has been placed to the development of the mind except that made by the individual; and physically man may attain to a perfect physique and the enjoyment of perfect health. The only reason why one individual stands head and shoulders above his fellows in the intellectual world is because he has used his brain,— he has developed mental muscle, and is able to grapple with intricate problems. He has learned to concentrate his power of mind, and to avoid a needless expenditure of energy.

The same principle applies to the physical nature. The life that is brought into harmony with natural law, making a conservative use of all its forces, has the promise of health, and the prospect of a continuance of at least one hundred years, terminating in a physiological death. Birth is a natural physiological phenomenon, when nature is not interfered with; death should be just as natural a process. A premature birth results disastrously to the life that otherwise might have been useful; a premature death is a loss that can never be compensated for. Cicero, speaking of the termination of life, says: "The happiest ending is when, with intellect unimpaired and the other senses uninjured, the same Nature which put together the several parts of the machine takes her own to pieces. The same Nature which glued together the human machine, takes it asunder most skilfully."

Old age is the product of conformity or nonconformity to natural law. It is only a relative term, with wide variations. It has been said that a woman is as old as she looks; and Oliver Wendell Holmes says that "a man is as old as he feels;" but the assertion of the eminent French physiologist, "A man is as old as his arteries," is more correct. Youthfulness or age, then, is expressed in the condition of the blood-vessels that form the channels of communication in the body, through which circulates the blood, — the medium of exchange to every cell of the organism,— and in their elasticity, or their ability to dilate and contract.

Some time ago the writer was in a large hospital where there were between four and five thousand inmates. These were all classified and located according to their diseases; in one room were over fifty who had some disturbance of the circulatory system, and side by side were several patients whose arteries were as hard and almost as brittle as pipe-stems. Yet none of these had passed the twoscore-and-ten mark; in every case the cause could be traced to excesses of some kind. These individuals were prematurely

old — older at forty-five than they should be at seventy; their age was not measured by years, but by the manner in which they had spent their lives.

A very able temperance lecturer, in addressing a company of young people, during the course of his remarks gave this advice: "Start right, keep right, and you will end right." A large number of those now advanced in years may not have started right, but if they would have their lives terminate in a golden sunset, they should make an effort to "keep right," and to pursue such a course of life as is most disposed to retard the appearance of the symptoms of old age.

There is continually going on in the body a work of disintegration, or a tearing-down and a building-up process, which varies somewhat in the three different periods into which life is naturally divided. First, there is the period of growth, when the repair is greater than the waste; hence the need of a larger amount of food proportionately for a growing child than for an adult. Second, is the stationary period, when the waste and repair have established a condition of equilibrium, both being equal. This period continues until the age of about forty-five or perhaps fifty years, varying with the individual and the manner of life. Third, comes the period of decline, when the waste is in excess of the repair and building-up process. It is to this period that attention is called in this paper.

Scientific research has made it more and more evident that most of the diseases of advanced life are due to interruptions in the processes of waste and repair. Most of these diseases are of a gouty or rheumatic nature, a condition in which the poisonous waste material of the body, not being properly eliminated, is retained in the system, and reabsorbed and deposited in the tissues and joints, giving rise to innumerable ills. This retention may be very slight at first; but if it were only one grain a day, it would amount to nearly one ounce in a year, and in the course of years a sufficient accumulation would have taken place to produce serious results. It is the retention of these poisons that affects the lining membrane of the heart and arteries, producing the condition of hardening already mentioned. There is abundant evidence to show that many cases of cancer, Bright's disease, organic heart disease, and distressing diseases of the stomach are directly due to the accumulation of these poisons in the body. Neurasthenia, or loss of nerve power, — a convenient term sometimes used to cover a multitude of sins on the part of the patient as well as a multitude of errors in diagnosis on the part of the physician, — is a condition of nerve poisoning due to the generation and retention of poisonous materials within the body. In order to obviate this danger, attention should be given to the diet, general hygiene, and exercise both of body and mind. Health depends upon perfect circulation of the blood; and wholesome food must be furnished to the system before pure, healthy blood can be made. Then sufficient exercise of some kind is necessary to enable the blood to perform its functions.

Diet. — The best diet is one that will furnish the most nutrition, favor elimination, and at the same time not overburden the digestive organs nor act as a stimulant. Such a diet nature has abundantly furnished us in the large variety of delicious and most delicately flavored fruits, many of which are perennial in their supply; while a large number of others may be obtained at different times of the year. These fruits are toothsome, aperient, and cooling, acting favorably on the eliminative organs, besides being easily and quickly digested, — a condition most neces-

sary to advanced life. An entire fruit diet for a day or so is one of the best means of relieving the attacks of indigestion so common with those of advanced years.

Nuts, when thoroughly masticated or crushed, are a most wholesome article of food. They contain all the nitrogenous properties required by the body and the proper proportion of fat in the form of nut oil, both of which are easily assimilated, and supply the necessary material for the production of heat.

In addition to the abundant supply of fruits and nuts with which nature has furnished us, there are a score or more varieties of cereals that may be prepared in as many different ways, and which, of themselves, constitute almost a perfect diet. These foods form the natural diet of man, and one that meets every requirement of his nature.

Those advanced in years should avoid any excess in the pleasures of the table if they desire to prolong their lives; for the digestive system is easily overburdened, and the least digression may result disastrously. Thomas Parr, familiarly known as "old Parr," a native of Scotland, lived a healthy and uneventful life up to the age of one hundred and fifty-two, when he was discovered by the Count of Surrey, who, because of his great age, took him to London in a cab. Charles the First, wishing to see this subject so remarkable for his age, sent for him to come to court, and sumptuously regaled him with the viands of the king. As a result, "old Parr" died from an attack of indigestion, and not from old age, as a subsequent post-mortem examination showed, there being no signs of physical degeneration present.

Seneca said: "Man does not die; he kills himself." It is true that man rarely attains the full limit of his life, it being abridged by his doing violence to the laws of his organization. To be temperate in eating and drinking is to live well, and to live in health. Professor Hufeland says: "The more slowly man grows, the later he attains to maturity; and the longer his powers are in expanding, so much the longer will be the duration of his life. If you would live long, live moderately, and avoid a stimulating, heating diet, such as a good deal of fish, flesh, eggs, chocolate, wine, and spices." Shakespeare said with a great deal of truth: "Dainty bits make rich the ribs, but bankrupt the wits;" and again, "Fat paunches make lean pates." William Cullen Bryant, who enjoyed most excellent health and vigor up to eighty years of age, when asked the secret of his years, replied, "It is all summed up in one word — moderation."

Many of the early Christian Fathers, who limited themselves to a most frugal diet, consisting mainly of bread and water, attained to remarkable ages. St. Anthony lived 105 years; James the Hermit, 104; Arsenius, the tutor of the Emperor Arcadius, 120; St. Epiphanius, 115; Simeon Stylites, 112; and Romanul, 120. Cornaro, the famous Italian writer on dietetics, was given up to die at forty, but adopted an abstemious diet, and lived to be 100 years old.

Tea, coffee, cocoa, and all forms of alcoholic drinks should be carefully avoided, for all are inimical to natural vigor and longevity. Copious draughts of water should be taken daily to flush out the kidneys and keep the tissues free from impurities.

General Hygiene.— Frequent bathing is necessary to keep the skin cleansed and in an active condition. The temperature of the bath should be near that of the body. As the heat production in old age is not as great as in youth or middle life, careful attention should be given to the proper clothing of the body, it being necessary to maintain an equable

temperature. Extremes of temperature should be avoided as far as possible.

Exercise.— The next important thing to be considered as conducive to longevity, is exercise. The changes incident to advanced years make this most necessary. Aside from the performance of domestic duties and gardening, walking is the best form of exercise for the aged.

Sir James Crichton-Browne, speaking of the advantages of exercise, says: "It seems a physiological law that the functions of the body must be kept in exercise in order to maintain its efficacy; and it is as true of the body as of the mill, or of any other machine, that it will rust out from disuse sooner than wear out from employment. The fact is constantly observed in persons engaged in commercial pursuits who retire at the age of sixty, and then fall into rapid decay, while professional men remaining at work preserve their vigor often for another twenty years.

"It is a sad thing to see the nerve centers decay, with a corresponding weakness of body and mind; but it is still sadder to witness with a wrinkling of the skin, a corresponding shrinking of the brain, allowing vanity, and some of the weaker passions which had been kept in suppression, to come again to the fore. How different is the spectacle when the organ is kept in its integrity by constant use, and the mental faculties preserved in all their pristine force. We have only to look around and see our poets, bishops, judges, ministers of state, and medical men, long-lived and still in mental vigor while working at their respective avocations. . . . It is clear that hard work does not kill. The toil, however, must be genial and diversified."

Mr. Bryant, at the age of eighty, maintained regular systematic physical exercise, and was noted for his long walks. John Wesley was as firm a believer in the religion of good exercise as in the doctrine of salvation by faith, and his long and useful life was no doubt due in a great degree to the firm physical basis which he laid in his school days, and which he never neglected in after life.

Mr. Gladstone is noted for his outdoor life, and has gained considerable notoriety because of his enjoyment in felling trees in Hawarden Park. When asked the secret of his vigorous health at eighty-three, he replied: "There was once a road leading out of London on which more horses died than on any other, and an inquiry revealed the fact that it was perfectly level. Consequently the animals, in traveling over it, used only one set of muscles. Continuous employment of the same physical powers on the same lines results in physical exhaustion. It is varied and symmetrical exercise of all the muscles that lies at the base of any sound system of physical training."

In many instances farmers, after laboring early and late for half a century, retire and move into the city with a view of spending the remainder of their days in ease, enjoying the fruits of their labors. Having been accustomed to hard work al their lives, they have been blessed with health; but their inactive lives, in connection with their new environments, soon make them susceptible victims of disease and death. These results are often hastened by overeating, as they usually continue to eat just as heartily as they did when working in the fields. They, however, have no idea of the cause of their trouble, as they do not realize that it was their hard work that formerly kept them in good health.

Decrepitude is not necessarily an accompaniment of longevity; it is the result of physical digressions which in later life produce general decay and wasting. The adage, "Old men for counsel and young men for war," is still intact, and it may be more appropriately applied to

the physical, mental, and moral battles of life than to the strife on the veritable field of battle. The aged should not be considered by themselves or others as superannuated members of society, nor should the last decade of their lives be spent in solemn meditation upon death. They have a work to do; and should so order their lives as to be in condition for it.

(To be continued.)

HEREDITY FROM THE PARENTS' STANDPOINT.

"FIND out a child's talent, and develop it," is the advice usually given, followed perhaps by the counsel, "Don't spend your time in trying to make of him something for which his natural capacity does not fit him."

There is good sense in the advice, but it does not cover the whole ground. The inherited talents of the child are in his blood, and they will, in all probability, assert themselves, and compel him to seek their development; but latent faculties will sleep unless aroused and stimulated. As an individual, the child needs to have an education along other lines than that of his special life-work, in order to make him rounded and symmetrical; therefore he will need to be urged to study the things for which he does not show special inherited ability. If parents are musical, for example, the child will not need urging to sing; he sings as the birds do, spontaneously. But supposing he has no musical inheritance, shall he be left without a musical education? He will never make a musical genius; shall he then not learn to sing at all? But perhaps he has no ear, can scarcely tell one note from another, cannot keep to the tune. Then he has all the more need of patient, persistent drill in music; not to undertake to make him a professional, or even a fair musician, but in order to develop his latent artistic sense, to open up to him avenues of the soul that are otherwise closed. Does he need to know how to speak? Then he certainly needs to know how to sing.

A late writer says, "Vocal training develops the powers of the voice, and makes it master of its own resources; it perfects and strengthens the instrument and makes it capable of greater execution, more capable of sustaining fatigue, better fitted to resist wear and tear. It is chiefly untrained singers and speakers who suffer from 'clergyman's sore throat.' The effect of training on the voice is like that of physical culture on the body. The latter changes the narrow-chested, awkward youth into one of manly proportions and graceful movements. Singing masters often work similar miracles. In the domain of speech we are told that the voice of Cicero was by nature weak and unmusical, and remained so in spite of several teachers; but at Athens he found a master who made it equal to the greatest oratorical effect. This vocal discipline had the happiest effect on his health. Most people who have thought on this subject agree that universal training of the speaking voice is desirable. Every child should be taught to sing. Even when the musical sense is absolutely deficient, the vocal organs thus receive a certain amount of drilling which must conduce to their proper use in speaking."

Does the child lack in mathematical ability? Then he needs special mathematical training — not to fit him for bookkeeping or other business wherein figures play a large part, but to develop the logical faculties, which are deficient. The study of mathematics should be made of special interest to him in his childhood,

so that he may not grow to adult life lacking the qualities which mathematics develop.

The parent who knows his own mental defects should study in advance how to overcome the same probable defects in his children, so as to build up a rounded, symmetrical individual mentally, morally, and physically. It will need judgment and tact not to make disagreeable to the child the studies to which he does not naturally incline, and to create in him a perseverance along lines not instinctively to his liking, but it will be a good life-lesson, as so much of the work we have to do is that to which duty, not inclination, calls us.

While holding the child to the culture of those talents which he possesses in smallest degree, the parent will also allow scope for those in whose activity the child delights. Indeed the one can be made a stimulus to the other.— *The New Crusade.*

Simplicity Brings Life's Best Pleasures.

"For poor and rich alike the highest pleasure and utility in life will come from simplifying it," says a writer in the August *Ladies' Home Journal.* "The contentment that can only be had from nerves that are not overstrained is to be found by reducing your daily life to its simplest terms. This applies with equal force to the hard-working man or woman with small income, or to the rich who are cumbered with many cares. Poverty has been made just as complex as riches by the many things that ill-advised teachers have taught poverty to expect that it ought to accomplish. What both must learn, for the best results in their own lives, is not how little can be had for a great deal of money, but how much of real and permanent value can be secured for a little money. That is the highest economy, and it cannot be taught — it must be learned by experience."

One Reason Why Sleep Is Recuperating.

Nature takes the time when one is lying down to give the heart rest, and that organ consequently makes ten strokes less a minute than when one is in the upright posture. This multiplied by sixty gives six hundred strokes. Thus in eight hours spent in lying down the heart is saved nearly five thousand strokes; and as the heart pumps six ounces of blood with each stroke, it lifts thirty thousand ounces less of blood in a night of eight hours spent in bed than when one is in the upright position. As the blood flows so much more slowly through the veins when one is lying down, extra covering is needed to supply the body with the warmth usually furnished by the circulation.—*Sel.*

Painless Dental Surgery.

Electricity is now employed successfully as an agent in painless dental surgery. "If a cavity in the tooth is filled with a pledget of cotton saturated with a solution of cocaine, and to this pledget is applied a piece of platinum wire connected to the positive pole of the ordinary galvanic battery, and a very small current is allowed to flow, in a period varying from six to thirty minutes, the cocaine will be conveyed by the electric current down the tubules to the nerve itself, and the tooth can be excavated, filled, or even extracted, without the infliction of the slightest suffering."

MUSIC AS A THERAPEUTIC AGENT.

THE *Charlotte Medical Journal* has faith in the curative effects of music in certain conditions and on certain temperaments. It says : —

The introduction of music into the field of clinical medicine will no doubt be accounted a fleeting fancy and a fad by many ; but in the end it will find and fill a generous field of usefulness. In Munich music is now regularly used in the treatment of certain diseases, such treatment having been no doubt advanced by the fact that the empress of Austria was but recently treated for her neuralgic ailments of long standing and really relieved by certain strains of music repeated at frequent intervals. Dr. Paul Rivierer, who introduced this treatment there, and who probably applied it or directed its application in the case of the empress, states that it is not a delusion, and that a "music-cure hospital is now under way of erection and will soon be in full sway."

We are not prepared to explain fully the theory of this music cure. The effect will doubtless be exerted upon and through the nervous system, and will be proportional to the character of its source, also upon the tone and frequency of repetition, while its dosage will be regulated by the character and standing of the ailment. Perhaps much will depend upon the temperament and susceptibility of the patient.

We have all noted in our own experience the power and good effects of music,— how the soft, tender melody of song calms our perturbed natures, and how it will even quiet and lull to sleep, and the soft, sweet strains of melody, either from song or attuned instrument, lull to rest, assuaging even grief and pain. Even the gentle soughing of the wind among the trees and the soft rippling music of a gentle rain have power to soothe and quiet tired, overstrained nerves. To the patriot of all climes the national pæon has a strengthening and invigorating influence, while the martial strains of band and fife encourage and steady the soldier in battle.

Thus we can see that music not alone soothes, calms, and restores to health, strength, and positive vigor, but is capable of producing excitement, even overexcitation of the nervous and circulatory systems, so that men under its sway will forget fear and fatigue, pain and weariness, and not only be enabled to undergo hardships and physical strain, but even commit physiological excesses with much less detriment than without its aid. We can realize, then, how the music that lulls to rest, quieting pain and overexcited nerves, can by frequent repetition become curative of certain ills or restore to the normal a disordered function ; and how that music, by arousing and energizing the fatigued nerves, exhilarating the lethargic and dilatory circulation day after day, will bring renewed strength, vigor, and vitality.

It seems surprising that this power of music, with its varied and wondrous effects upon our natures in so many physiological relations, functions, and conditions, should not have received earlier scientific recognition, and that effort should not have been made clinically to apply it to the therapeutical management and relief of bodily ills and diseased conditions. If this be freighted with no real good, it can be fraught with no great evil, nor can it be incompatible with any purely medicinal line of treatment ; while its esthetic and brighter phases will recommend it to our favor. Any one who has seen the child, even when in pain, quieted by the tender song of the mother, cannot doubt the important rôle of music, at least in allied therapeusis.

Money the Chariot of Disease.

The proposition that "money is a medium of exchange of values" is quite thoroughly understood; but how few have ever stopped to think of money's being — as it certainly is — one of the greatest mediums of exchange of disease virus. Our common currency is one of the most frequent and effectual carriers of disease germs and deadly virus from two causes: First, because of its varied, constant, and unrestricted circulation. It goes everywhere, from the palace to the pest-house, from purity to pollution; it is carried and handled in such a way as to be most thoroughly exposed, and to give every opportunity for spreading its deadly virus. Second, the great majority of persons habitually place money in their mouths, just as they do a pencil or a pen. Ladies will almost invariably, in making change, take one piece from the purse, place it between the lips for convenience and hold it there while they fumble over divers coins, buttons, pins, bangles, street-car checks, and receipts in search for a coin of the proper denomination to make the required change. The lips, more than any other portion of the anatomy, are apt to be chapped or blistered, making them most susceptible to inoculation. It would be difficult to conceive of a more effectual means of transferring disease than is thus afforded. The coin is passed from mouth to mouth, and is given every opportunity to take on and give off virus of all kinds.

Watch a twenty-five cent piece for four days. Wednesday it is taken from the bank bright and clean, and carried for a few hours in a satin-lined, perfumed alligator purse. It pays a cab fare and goes into a dirty old pocket with questionable associates. It buys a plug of tobacco, goes into a till, but in less than an hour is given out in change to an old consumptive, who ties it up in the corner of a handkerchief that is completely loaded with tuberculosis germs, where it remains over night. Thursday morning it is given to the servant girl to buy milk. She holds it between her lips while she ties her shawl over her head, rushes out to the milk-wagon and passes it on to the dairyman, who for convenience holds it in his mouth while he gets out his purse to find the required change. An hour later it is passed in change, and goes into a house where there is diphtheria, scarlatina, or typhoid fever. Here it remains over night, and is used for a tooth-cutter by a feverish child. Friday morning it is spent for bread. At noon it is given to a business man on his way home to lunch; on his arrival he finds his little boy wants a quarter to go to the circus. Papa takes out his purse, gets out the quarter, puts it in his mouth while he puts his pocket-book away, and gives Willie the money. Mama takes the quarter, and holds it between her lips while she adjusts the little urchin's cravat, places the money in his hand, cautions him not to lose it, kisses him good-by, and he is gone with a bound. The first occasion he has to use his hands he will put the quarter in his mouth. It is spent at the circus; it stays in a bawdy house over night; passes through hands and is held between lips that are reeking with the most deadly virus of the most loathsome disease. Saturday morning it finds its way from a saloon to a bank. At three o'clock Saturday afternoon the banker's daughter may be seen with that same polluted, virus-loaded quarter between her fair lips, waiting to buy a ticket for the matinee. . . .

Every physician of extensive practise meets with case after case of diphtheria, scarlatina, typhoid fever, tuberculosis, syphilis, smallpox, or cholera, the origin of which cannot be traced to any of the usual causes, modes of infection, or inoculation. . . .

Paper money, while not so frequently placed in the mouth, becomes far more filthy than coin, and is doubtless quite as often the chariot of deadly virus when viewed from a health point of view.

The vulgar term "filthy lucre" is a very significant, suggestive, and appropriate name for our paper currency. The public mind should be awakened on this question; health officers should devise some means of purifying money, and a government office should be established in connection with the post-office or national banks, where all circulating currency would be frequently fumigated and the coin chemically cleaned. Until some precautionary measure is adopted, it is well for one who values life and health to keep money out of the mouth. — *Health Culture.*

What Is a Nuisance?

A legal definition of a sanitary nuisance is occasionally sought for, and the following comprehensive definitions may serve as an answer to the question. They are quoted from The Public Health Act of Scotland.

"(*a*) Any insufficiency of size, defect of structure, defect of ventilation, want of repair, or proper drainage, or suitable water-closet or privy accommodation, or cesspool, and any other matter or circumstance rendering any inhabited house, building, premises, or part thereof injurious to the health of the inmates or unfit for human habitation or use.

"(*b*) Any pool, water-course, ditch, gutter, drain, sewer, privy, urinal, cesspool, or ash-pit, so foul as to be injurious to health, or any well or other water-supply used as a beverage, or in the preparation of human food, the nature of which is so tainted with impurities or otherwise unwholesome as to be injurious to the health of persons using it or calculated to promote or aggravate epidemic disease.

"(*c*) Any stable, pig-sty, or other building, in which any animal or animals are kept in such a manner as to be injurious to the health.

"(*d*) Any accumulation or deposit of manure or other offensive matter within fifty yards of any dwelling-house within the limits of any town, or wherever situated, if injurious to health, or any accumulation of police manure within a quarter of a mile of the municipal boundaries of any city (except the city of Glasgow), or any accumulation of deposits from ash-pits or manure from town or village laid nearer than fifty yards to a public road or dwelling-house.

"(*e*) Any work, manufactory, trade, or business injurious to the health of the neighborhood, or so conducted as to be offensive or injurious to health, or any collection of bones or rags injurious to health.

"(*f*) Any house, or part of a house, so overcrowded as to be dangerous, or injurious to the health of the inmates.

"(*g*) Any factory, workshop, or workplace, not under the operation of any general Act for the regulation of factories or bakehouses, and not kept in a cleanly state, or not ventilated in such a manner as to render harmless, as far as practicable, any gases, vapors, dust, or other impurities generated in the course of the work carried on therein, and injurious or dangerous to the health of persons employed therein, or any such factory, workshop, or workplace as is so overcrowded while work is carried on therein as to be dangerous or injurious to the health of those employed therein.

"(*h*) Any fireplace or furnace which does not as far as practicable consume the smoke arising from the combustible matter used in such fireplace or furnace, and is used within any town, for working engines by steam, or in any mill, factory, dye-house, brewery, bakehouse, or gas-

works, or in any manufactory or trade process whatsoever.

"(*i*) Any chimney (not being the chimney of a private dwelling-house) sending forth smoke so as to be injurious to health.

"Provided that in places where, at the time of the passing of this Act, no enactment is in force compelling fireplaces or furnaces to consume their own smoke, the foregoing enactment as to fireplaces and furnaces consuming their own smoke shall not come into operation until the expiration of one year from the date of the passing of this Act.

"(*j*) Any churchyard, cemetery, or place of sepulture so situated or so crowded with bodies or otherwise so conducted as to be offensive or injurious to health."

Extracting a Broken Needle with a Magnet.

An interesting case of this kind is reported in the *Cosmos* and thus translated for the *Literary Digest*:—

A young laundress thrust a broken needle into her right hand while washing clothes. The needle having disappeared in the flesh, the surgeon, who was consulted several days after the accident, refused to perform an operation, fearing lest he should be obliged to make a large number of incisions amid the ligaments of the articulation. Two months afterward the girl lost the use of her right hand, and the least movement of the fingers caused her exquisite pain. Drs. Gorinewski and Cerestin then determined to extract the needle with the aid of a magnet, drawing it into a fleshy region where an incision could be made without danger. To cause this movement they chose a very feeble electro-magnet. But a difficulty arose; the needle having entered point first, it would have to be drawn out backward, the broken part in advance. The first trial lasted two hours, with short intervals for rest, without appreciable result. Before the third trial, the girl said that she felt a pricking in the palm of the hand near the place where the magnet had been applied, and where the needle ought to appear. At the ninth sitting, finally, the needle appeared beneath the skin and came out whole, broken end first, without pain and without loss of blood. It fixed itself to the pole of the electro-magnet, and the young laundress was cured. This result is very remarkable. In twenty hours after the first trial this needle was extracted from the inside of the hand, after lying there more than two months.

Picric Acid for Burns and Scalds.

Thompson (*St. Louis Medical Review*) contributes a practical paper on this subject, referring to the work done by French surgeons, who recommend picric acid as the best treatment for burns. He cites sixty cases that have occurred in his own experience. Burns and scalds from explosions of gasoline, gas reservoirs, lamps, electric wires, hot water, hot tar, steam, molten metals, fires, etc., were all successfully treated with picric acid, and it was found to be most agreeable to the patient. It acts as a local anesthetic, coagulates albumin, is an astringent and antiseptic; and no toxic effects result, even when the drug is absorbed in excess.

It may be used as a powder or in solution, the latter being preferable, in which case it should be applied in the form of a saturated gauze compress, if the burn is local, and this repeated every few hours to alleviate the pain.

Two drams of the acid will saturate a quart of water, and it is rendered more soluble if one ounce of alcohol is added. In emergency any quantity of the acid

may be used by adding it to the water and stirring, and it will be found to afford almost instant relief, even if the epidermis has pealed off. Experience has shown that if the acid is used at once, blistering will not occur, because of its decided astringent effect on the superficial vessels, checking the escape of serum. If blisters form, do not incise them, thus exposing the papillæ to the air with the possibility of infection, but simply puncture the bleb. It is also best not to remove any shreds of clothing which have been burned into the skin. These can be removed later, after the application of the dressing a few times.

In handling a solution of picric acid the hands are stained a deep yellow color. To prevent this, apply vaseline to the hands before using the acid, and wash with soap and boric acid afterward.

Danger in Standing Water.

The editor of the *Sanitarian* points out the danger in standing water; that is, water that is left standing in the kitchen or bedroom, and, above all in the sick-room, over night. It is liable to contamination by the absorption of impurities afloat in the air of such rooms, and is thus rendered wholly unfit for use. No matter that the water is cold, even to near freezing, it is so much the more liable to absorb and hold in solution the foul gases and organic particles to which it has been exposed. It is dangerous to use such water. Freshly drawn water only should be used for culinary purposes, as well as for drinking, whenever practicable. Moreover, faucets over sinks and wash-basins are always more or less liable to contamination, hence the first water that flows on opening them after they have been left over night without use should always be let to flow away— it is dangerous to drink and unfit for the teakettle or for cooking water; even boiled disease germs are unwholesome. — *The Charlotte Medical Journal.*

Sunshine as a Disinfectant.

A late medical journal has this to say : —

The scientists appear to be finding out that the order of nature is about as nearly perfect as is necessary for the health and comfort of man. So much is said regarding microbes that one may think that poison and death lurk in every nook and by-path, to say nothing of the vast air ocean that surrounds us. Now it is being discovered that light and free air are sanitary agents of the most powerful kind known. Sunlight is potent to destroy poisonous gases and pernicious bacilli, so that no better method for disinfection exists than exposure to the sun's rays. How far such disinfection might go has been shown by experiments.

Arloing has proved that anthrax bacilli are destroyed by the solar rays. Koch has shown that tubercle bacilli cannot be exposed to the same for very long and survive. Fermi and Celli, in a series of experiments, demonstrated that germs in aqueous suspension are likewise killed, and Raspe asserts that the sun is able to hinder the development and even destroy bacilli lying on the surface of the soil or submerged in water.

Taking the Air without Going Out.

Elderly people and others who may be temporarily house-bound and prevented from enjoying regular daily exercise out of doors, may devise a fair substitute as follows : Bundle up as for the usual constitutional, select a large, sunny room, preferably at the top of the house, open wide the windows, shut off the heat, and move around briskly, going to the window and inhaling the fresh air deeply through the nostrils.

We have often called attention to the fact that house air, with its many impurities, overheated condition, and general lifelessness, is one of the principal predisposing causes of colds and catarrhal affections.

Where a patient or invalid is confined to the bed, if the shoulders are kept well covered and the head lightly protected, the windows may be opened and the room flushed with fresh air without any special risk, providing the current does not strike the patient too directly. The danger from want of proper ventilation is decidedly greater. Deep inhalations of air at the open window, taken gently through the nose, impart an enlivening and tonic influence to the whole nervous system, which can soon be demonstrated by a personal experience.— *The Health Magazine.*

Diagnosis of Measles.

There is one sign of measles almost entirely ignored which is found in the mouth, and precedes the skin eruption. This is an eruption on the mucous membrane lining the lips and cheeks, consisting of small irregular spots of bright red color. In the center of each spot is a minute bluish-white speck. These red spots, with accompanying specks of bluish-white color, are absolutely pathognomonic of beginning measles, and when seen, can be relied upon as the forerunner of the skin eruption. Sometimes there are only a few of these red spots with central bluish point, but in marked cases they may cover the whole inside of the buccal mucous membrane. — *Public Health Journal.*

Tuberculosis Contracted from Cattle.

The board of regents of the Kansas State Agricultural College have discovered that the cattle, sheep, and hogs on the college farm are affected with tuberculosis. The men who have been employed in the stables are seriously ill, and the one who had direct charge of the cattle is not expected to live, having been suffering with the disease for several months. The wife of one of the professors is also ill, and it is reported that she became infected by using milk from the diseased cows.

A thorough investigation is to be made by government experts in October, when the suspected cattle will be slaughtered, and post-mortem examinations made.

The Expression of the Face in Disease.

The face is a good index to the state of one's physical being, and from it symptoms of disease can be detected almost before the patient is aware that anything serious is the matter with him. For instance, incomplete closure of the eyelids, rendering the whites of the eyes visible during sleep, is a symptom in all acute and chronic diseases of a severe type; it is also to be observed when rest is unsound from pain, wherever seated.

Twitching of the eyelids, associated with the oscillation of the eyeballs, or squinting, heralds the visit of a convulsion.

Widening of the orifices of the nose, with movements of the nostrils to and fro, point to embarrassed breathing from disease of the lungs or their pleural investment.

Contraction of the brows indicates pain in the chest; and a drawn upper lip, pain in the abdomen.

To make a general rule, it may be stated that the upper third of the face is altered in expression in affections of the brain; the middle third, in diseases of the organs contained in the abdominal cavity; and the lower third, in diseases of the pelvic organs.— *The Charlotte Medical Journal.*

How to Punish Adulteration.

Much good would result if a plan recently put in operation in French cities were adopted in this country. In Paris, any citizen who is doubtful as to the purity and genuineness of any article of food or drink purchased from a tradesman, may take it to the municipal laboratory and have it tested free of cost. If it is found to be adulterated, the laboratory takes the responsibility of prosecuting and punishing the offender without any further trouble or expense to the purchaser. The vender is liable to a heavy fine, as well as imprisonment, and may be compelled to exhibit in a conspicuous place in his window, or over the door, a large placard bearing the words, "Convicted of Adulteration."

Deadly Bacilli in Inks.

Experiments have recently been completed at Guy's Hospital, London, and at Berlin and Leipsic, by eminent German bacteriologists, which show that all the ordinary writing fluids teem with bacilli of a very dangerous character. In one London school, an inkstand was found to be filled with ink which swarmed with the bacilli of tuberculosis, another with those of cholera. In some of the German inks, the bacilli of typhus, diphtheria, and smallpox were found.

In view of the habit some persons have of removing ink spots with the finger and tongue, or both, this discovery is alarming. Children especially are in great danger from the use of infectious writing fluids.

Every Man His Own Physician.

A man's own observation, what he finds good of and what he finds hurt of, is the best physic to preserve health. To be free-minded and cheerfully disposed at hours of meat and of sleep and of exercise is one of the best precepts of long lasting. I commend rather some diet for certain seasons than frequent use of physic, for those diets alter the body more and trouble it less.— *Lord Bacon.*

Movable Kidney.

Some interesting facts are being noted with reference to the condition known as movable kidney. This abnormality of the body was known and described as far back as the year 1561. In some instances the condition is congenital, but more often it results from injuries, such as heavy labor, great exertion, or even contusions. The injurious effects of tight lacing may also sometimes lead to this abnormality. Eighty per cent. to ninety per cent. of all cases of movable kidney occur in women; in seventy-six per cent. the right kidney is involved, and in twelve per cent. both kidneys have been found movable — the greater prevalence of the right movable kidney being accounted for by the pressure of the liver from above in each inspiration or violent effort.— *The Health Magazine.*

In treating fractures, Dr. W. L. Estes says, that unless a fragment of bone is threatening to break through the skin, the fracture should never be reduced except by a physician, and then only when apparatus is at hand to keep the parts in permanent apposition; and that men carrying an injured person should not keep step, as the jar to the wounded part is much greater when they do.

When you get into a tight place, and everything goes against you till it seems as if you could not hold on a minute longer, never give up then, for that is just the place and time when the tide will turn.— *Harriet Beecher Stowe.*

NICOTINE POISONING.

THE following interesting facts and experiments are presented in "The Tobacco Problem," by Meta Lander: —

W. E. A. Axon asserts in the *Popular Science Monthly* that the nicotine in one cigar, if extracted, and administered in a pure state, would suffice to kill two men.

The Indians used to poison their arrows by dipping them into nicotine, convulsions and even death being the result of these arrow wounds.

In a paper on "Tobacco" read before a sanitary convention in Michigan in 1883, Lemuel Clute, Esq., a lawyer, quotes freely from a work on poisons by Dr. Taylor, in which many diseases are attributed to the use of the weed. He says: "I have cited thus fully from Taylor on poisons, because he is a recognized authority in the courts, and no one can charge him with being a temperance fanatic. The principles he has gathered and discussed in his book are constantly referred to, and are largely the guide of our judges in passing upon the questions of the liberty, life, and death of our citizens."

Brodie, Queen Victoria's physician, made several experiments with nicotine, applying it to the tongue of a mouse, a squirrel, and a dog, death being produced in every instance. A frog placed in a receiver containing a drop of nicotine in a little water will die in a few hours. Franklin found that if the oil floating on the surface of water, when a stream of tobacco smoke has passed through it, be applied to the tongue of a cat, it shortly causes death. Put on a cat's tongue one drop of nicotine, and in spite of its nine lives, it instantly writhes in convulsions, and dies.

Set an open bottle containing a small quantity of this oil under an inverted jar. Place a mouse or a rat under the jar, taking care that the fresh air is not excluded. Death presently follows, simply from the animal's breathing the poisoned atmosphere. And this same poison-ladened atmosphere is that which we find everywhere, and from which there is no escape.

Put a tobacco victim into a hot bath; let him remain there till a free perspiration takes place; then drop a fly into the water, and instant death will ensue.

Hold white paper over tobacco smoke; and when the cigar is consumed, scrape the condensed smoke from the paper and put a very small amount on the tongue of a cat; in a few minutes it will die of paralysis.

Pack a tobacco votary in a wet sheet, and when he is taken out, the whole room will be filled with the odor. No wonder that wolves, buzzards, and cannibals retreat in disgust from the flesh of such a man!

Among the animals denominated irrational it is asserted that none can use the weed except the loathsome tobacco-worm and the rock-goat of Africa. Of the latter, the smell is so offensive that every other animal instinctively shuns it.

At Dartmouth Park, England, an old wooden pipe was given to a three-year-old to blow soap-bubbles with, the pipe being first carefully washed out. The boy was taken ill, and died in three days, his death, according to medical evidence, being caused by the nicotine which he had sucked in while blowing bubbles.

The daughter of a tobacco merchant, from simply sleeping in a chamber where a large quantity of the weed had been rasped, died soon after in convulsions.

A child picked up a quid that had been thrown on the floor, and, taking it for a raisin, put it into her mouth, dying of the poison that same day.

Bocarme, of Belgium, was murdered in two minutes and a half by a little nicotine. A very moderate quantity introduced into the system, or even applying the moistened leaves over the stomach, has suddenly extinguished life. Indeed, so thoroughly does tobacco poison the blood that, according to the testimony of a physician in St. Giles, leeches are instantly killed by the blood of smokers; so suddenly that they drop off dead immediately when they are applied.

We cannot wonder that it is pronounced perilous for a delicate person to sleep in the chamber with a habitual smoker. Medical journals report the poisoning of babes from sharing the bed of a tobacco father, and even from being in the room where he smoked; and infant deaths have occurred from no other cause. Says Dr. Trall: "Many an infant has been killed outright in its cradle by the tobacco smoke with which a thoughtless father filled an unventilated room."

Not a few physicians regard much of the invalidism, and also the positive ill-health of women, as due to the poisoned atmosphere created around them by the smoking members of their household.

A gentleman in a Saratoga hotel said to a doctor: "See that portly man yonder smoking like a volcano; he stands the racket; smoking don't kill him." "No, but he is killing his wife. See her by his side, pale, shriveled, tremulous, sinking into the grave. So far as health is concerned, she might about as well have wedded a cask of tobacco."

A French journal reports the case of a farmer, who, with two companions, smoked one evening in a chamber where a young man was asleep. When, at midnight, the visitors withdrew, the farmer found the youth insensible. A doctor was summoned, but all efforts for his restoration were fruitless. At the post-mortem it was pronounced that he had died of congestion of the brain, caused by the respiration of tobacco smoke during sleep.

Tobacco commences its dreadful work in the factories, the operatives inhaling its dust and absorbing its poison, so that, according to the doctors, it takes only four years to kill off the worker. Dr. Kostral, physician to the royal tobacco factory in Moravia, reports that, of a hundred boys entering the works, seventy-two fell sick during the first six months, while deaths frequently occur there from the nicotine poisoning.

Three or four women, after drinking fresh coffee, were seriously affected with faintness, vertigo, nausea, convulsions, and loss of consciousness. It was discovered that the coffee-beans had been picked out from the store-sweepings, consisting principally of tobacco leaves, among which the coffee had got mixed and lay for a time exposed to the rain.

A squadron of hussars hid tobacco in their breasts for smuggling purposes. Every man of them was seized with headache, vertigo, and vomiting. Soldiers have sometimes purposely disabled themselves for service by applying these leaves to the pit of the arm, thus inducing alarming symptoms.

A Frenchman living near Paris, having cleaned his pipe with a knife, but neglected to wipe it, subsequently happened to cut one of his fingers. The wound was so slight that he thought nothing of it. A few hours later, however, the finger grew painful and swelled, the inflammation spreading rapidly through the arm. Doctors were summoned, but the case remained a mystery till, in answer to inquiries, the enigma was explained. All remedies proved ineffectual, and the man's condition grew so alarming that he was taken to the hospital, where the arm was amputated as the only chance of saving his life.

Insanity and Inebriety.

The following is from the editorial columns of the *Quarterly Journal of Inebriety:*—

"The fact is startling that insanity has increased in proportion to the population over one hundred per cent. from 1870 to 1890. The feeble-minded, idiots, and epileptics have also increased. Inebriety as a disease has come into more and more prominence during the last quarter of a century, but whether inebriety has increased in anything like the same ratio as insanity is not certain. The opinion is sustained by strong evidence that inebriety in modern times is obscure insanity. It is certain that many cases of inebriety become insane, and an equal number are classed with the insane in statistics. A certain number of cases of insanity have an early stage of excessive drinking, and a number of insane persons will turn to spirits for relief, and become inebriates. A number of cases become insane when the alcohol is withdrawn, and a number alternate between excessive use of spirits, and strange erratic conduct, for which the term insane is the best description.

"The intimacy of these two so-called diseases suggests that the increase of insanity is due largely to inebriety, the latter being unrecognized as a distinct disease.

"The statistics of all insane asylums recognize alcohol as a cause of insanity, varying from five to twenty per cent. A study of cases indicates a much larger number whose first sign of mental defect was the use of alcohol. After a period of excess some form of well-marked insanity appears, and the use of spirits is not regarded of interest in the history. The recognition and treatment are surrounded with great difficulties. Most cases are not treated in the early curable stage, and, on the subsidence of the acute symptoms, they are often discharged as cured. The inebriate is never recognized as requiring physical treatment until the case has reached incurable stages, and then the treatment is largely moral and empirical.

"Heredity is not recognized, and the evils of both insanity and inebriety are permitted to go on unrestrained to succeeding generations.

"The mere housing of an army of incurable insane is a very small part of the prevention and cure of insanity. In like manner forcing total abstinence on inebriates by law in jails and asylums or by pledges and prayers is not curative, nor preventive. The cure of these disorders, of which insanity and inebriety are only names of general symptoms, must reach farther back, and begin earlier. The increase of both means inability and failure to recognize the causes and provide for their prevention."

Tobacco and the Eyesight.

Professor Craddock says that tobacco has a bad effect upon the sight, and a distinct disease of the eye is attributed to its immoderate use. Many cases in which complete loss of sight has occurred, and which were formerly regarded as hopeless, are now known to be curable by making the patient abstain from tobacco. These patients almost invariably have color blindness, taking red to be brown or black, and green to be light blue or orange. In nearly every case, the pupils are much contracted, in some to such an extent that the patient is unable to move about without assistance. One such man admitted that he had usually smoked from twenty to thirty cigars a day. He consented to give up smoking altogether, and his sight was fully restored in three and a half months. It has been found that chewing is much worse than smoking in its effects upon the eyesight, probably for the simple reason that more of the poison is thereby absorbed. The condi-

tion found in the eye in the early stages is that of extreme congestion only; but this, unless remedied at once, leads to gradually increasing disease of the optic nerve, and then, of course, blindness is absolute and beyond remedy. It is, therefore, evident that, to be of any value, the treatment of disease of the eye due to excessive smoking must be immediate, or it will probably be useless.— *Charlotte Medical Journal.*

Testimony from a Noted Athlete.

The veteran pedestrian, E. Payson Weston, who at one time performed the remarkable feat of walking one hundred and twelve miles in twenty-four consecutive hours, said recently: —

"When I was walking, my purpose was to demonstrate that the greatest physical endurance is possible without the use of alcoholic or other artificial stimulation. On a strictly temperance diet I repeatedly accomplished feats of endurance which no athlete using stimulants has ever equaled."

THERE is no doubt that tobacco predisposes to neuralgia, vertigo, indigestion, and other affections of the nervous, circulatory, and digestive organs.— *W. H. Hammond, M. D., Surgeon General U. S. A. (retired list).*

OF all the organs or important structures of the body, none are more directly and uniformly influenced by alcohol than the nervous. Carried in the arterial blood in contact with all the delicate nerve cells and fibers of the body, its immediate effect is that of an anesthetic, diminishing the sensibility and impairing the natural functions, both sensory and motor. That it produces these effects when given in liberal quantities all concede; or if the dose is large enough or frequently repeated, it suspends all sensibility and action, and life is ended.— *N. S. Davis, A. M., M. D.*

"COCAINE is now used in many catarrh powders and catarrh snuffs and also in many patent wines and cordials advertised and sold at drug-stores," remarked a prominent Chicago physician recently. "I know several women who have become confirmed cocaine fiends by using catarrh remedies, and a large proportion of the cordials and patent wines advertised to build up the worn-out nervous system contain the drug in dangerous proportions."

THE report of the United States Commissioner of Internal Revenue shows that during the last fiscal year there was a decrease of nearly a quarter of a million dollars in the revenue receipts from the liquor and tobacco business as compared with the year before. This outlook is very encouraging, for it indicates a corresponding decrease in the consumption of these products.

WHEN some one remonstrated with an old saloon-keeper for enticing the boys into his saloon, he replied, "O, it is beezness, beezness. The old drinkers will soon be dead, and where will my beezness be if I don't get the boys?"

WORD comes through the London papers that no wine or beer was served at the dinners given to the poor in that city in honor of the queen's Jubilee.

NO wines are served at President Mc Kinley's state dinners.

The Benefits of Bicycling.

Dr. Sarah Hackett Stevenson, a well-known Chicago physician, thus expresses her views of bicycling in a late *Times-Herald*: —

"Nature is more beautiful in its physical perfection than art could ever be, and cycling certainly tends toward physical development. It is not injurious to any part of the anatomy, as it improves the general health. I have been conscientiously recommending bicycling for the last five years, although I realize that the popularity of the sport has greatly reduced doctors' incomes. However, it is the best thing possible for weak women, and I may say that the lost beauty of so many delicate women may be recovered if they will ride, since this loss is largely caused by the softening of the muscles. Fresh air and good circulation are the best possible cosmetics. The judicious use of a wheel is extremely beneficial.

"The painfully anxious facial expression is seen only among beginners, and is due to the uncertainty of amateurs. As soon as a rider becomes proficient, can gauge her muscular strength, and acquires perfect confidence in her ability to balance herself and in her power of locomotion, this look passes away. It is not a new expression and not one generated by wheeling; the same look dominates the faces of persons learning anything that involves their bodily danger. Have you ever watched any one learning to swim? You will see the exaggeration of the so-called 'bicycle face.'

"But the physical improvement of a rider depends considerably on the position used. Unless the position is correct, the effect of the exercise is apt to be harmful rather than salutary. This is a fact entirely overlooked by the majority of riding teachers. The seat should be placed directly above the pedals, and not far back. In this way the propelling will be accomplished partially by the weight of the body, and not, as is the case when the seat is set back, entirely by muscular effort. The handle-bars should be moderately low. Long rides on the city roads of course are hard on the eyes, which, unless properly protected, will soon be surrounded by tiny wrinkles due to constant blinking. Hats that shade the face should be worn; and if the eyes are weak, smoked glasses might be used. This road glare cannot, however, be argued against cycling, as you are dazzled with the same reflection when walking or driving. . . . My opinion on the subject of wheeling in general is that women look both younger and handsomer since they have learned to ride."

The Educational Value of Manual Training.

Mr. Thomas M. Balliet, in an address before the Massachusetts Teachers' Association, contributes a very forcible plea in favor of the value of manual training as an educational factor. He says there is a time in the maturing of the brain when it is most susceptible to given influences, and can be most effectively modified by certain kinds of training. These opportune periods have been called "nascent periods"— the periods when given aptitudes are born and blossom out. The determining of these nascent periods is one of the pressing educational problems of the day. Such a nascent period is approximately known for the development of manual skill. We all know that if a child is to learn to play on an instrument, it must begin young; and that if a boy is to learn a trade, he must likewise begin early.

The nascent period for developing the various forms of manual skill is roughly estimated to extend from the age of about four to the age of about fourteen. Dur-

ing this period the brain-centers which preside over the muscular movements of the hand develop into functional activity and can attain a degree of efficiency, if properly trained, which it is impossible for them to reach at any later period in life. In this fact is found the weightiest reason for connecting manual training not only with high schools, but also with the grades below the high school. If a boy cannot receive such training in school, he must either miss his opportunity for getting it during the period when he can develop the highest degree of skill, or must leave school before the age of fourteen, and neglect the education which comes from books.

There will, no doubt, be a judgment-day after death. Many people seem to dread it. But few realize that life is full of judgment-days — days after which it will be forever "too late" to do certain things. Every one of these "nascent periods" in the life of the maturing human being is a judgment-day which forever determines certain things vital to its character and life. A lost opportunity in early education is not merely a loss of time, — a loss which can afterward be made up, — it is a loss as irrevocable as youth itself. — *The Health Magazine.*

How To Stand Erect.

A gymnasium director of long experience disapproves shoulder-braces. They weaken, so he thinks, the muscles whose function it is to keep the shoulders in their normal position. This they do in two ways — by relieving the muscles of their work, and by putting a constraint upon them and so depriving them of a normal supply of blood.

Instead of artificial shoulder-braces, the director recommends the frequent and persistent use of exercises specially adapted to promote an erect carriage.

It is not enough, he says, to work an hour or so daily in a gymnasium. The proper exercises should be taken many times a day, and therefore should be of a sort that can be practised anywhere and without special apparatus. Some of the habits and exercises on which he lays stress are as follows: —

1. Make it a rule to keep the back of the neck close to the back of the collar.
2. Roll the shoulders backward and downward.
3. Try to squeeze the shoulder-blades together many times a day.
4. Stand erect at short intervals during the day — "head up, chin in, chest out, shoulders back."
5. Walk or stand with the hands clasped behind the head and the elbows wide apart.
6. Walk about, or even run up-stairs, with from ten to forty pounds on the top of the head.
7. Try to look at the top of your high-cut vest or your necktie.
8. Practise the arm movements of breast-stroke swimming while standing or walking.
9. Hold the arms behind the back.
10. Carry a cane or umbrella behind the small part of the back or behind the neck.
11. Put the hands on the hips, with elbows back and fingers forward.
12. Walk with the thumbs in the arm-holes of the vest.
13. When walking, swing the arms and shoulders strongly backward.
14. Stand now and then during the day with all the posterior parts of the body, so far as possible, touching a vertical wall.
15. Look upward as you walk on the sunny side of the street.

The foregoing exercises, it will be seen, are happily varied, and are, many of them, such as can be practised by any-

body in almost any occupation. If he cannot use one, he can another.

The director goes on to say that even in a gymnasium a man must be on his guard against forms of exercise that tend to induce a stooping posture. "As round-shouldered as a gymnast," he says, has almost passed into a proverb.

He recommends also what he calls a "lie-abed exercise." "Lie on the back of the head and the heels by arching the back," and repeat the operation a dozen times or so. — *Public Health Journal.*

Exercise of the Waist.

Between the pelvis and the ribs, the only bones are those of the spine. The waist depends for its strength and vigor upon the broad muscles which make up the walls of the trunk at this place ; hence the need of that condition of these muscles which only exercise will produce.

Here comes in one of the great evils of any device in dress which by any degree of rigidity gives *support* to the body. To the extent of the support given, the muscles are relieved of their proper function. They accommodate themselves to the demand made upon them. The less the demand, the weaker do they become. The tight or boned waist becomes a splint. A splinted muscle loses power. Strong abdominal muscles are a great essential to easy and safe delivery of children, since the abdominal muscles are the secondary force of childbirth. Weak and useless abdominal muscles have prolonged many a confinement, and led to many a laceration by instruments when the trouble might have been avoided had the mother possessed strong abdominal muscles. For want of strength in these muscles, prolonged labor, an exhausted uterus, and an after-hemorrhage have carried away the mother and ofttimes the child.

So we emphasize abdominal exercise for all women ; to secure a better figure, more vigor of body, and above all, greater safety in child-bearing. — *Dr. A. T. Halsted, in Physical Education.*

Heart Strain in Bicycling.

It is to be regretted that bicyclists are often seen riding with open mouth. The evils of mouth-breathing are accentuated under such conditions, and it is well to note the cause. With some, this pernicious habit was fixed in childhood. But when it is observed only after exercise, such as bicycling, it indicates that the heart and lungs have been subjected to undue strain, which should not be repeated. Medical experience affirms that so long as the cyclist can breathe freely with the mouth closed, he is safe, at least so far as heart strain is concerned. — *Mind and Body.*

IT is said that women are taller than they were a generation ago, as the effect of the physical exercise they have taken in bicycle riding, gymnasiums, and class drills.

WORK is one of the best educators of practical character. Work is the law of our being — the living principle that carries men and nations onward. — *Smile.*

HOUGHTON, of Dublin, says that two hours of severe mental labor abstract as much vital strength from the system as a whole day of physical labor.

DAILY deed and daily thought
Slowly into habit wrought
Raise that temple, base or fair,
Which men call our character.
Build it nobly ; build it well,
In that temple God may dwell.
— *The Bishop of Ripon.*

THE SYMPTOMS AND CAUSE OF MEASLES.

BY KATE LINDSAY, M. D.

MEASLES is both a contagious and an infectious disease. It is characterized at the onset by severe catarrhal symptoms of the respiratory passages, and on the third or fourth day by a rapidly spreading, livid eruption. Measles is a germ disease, although it has not yet been definitely settled just what the germ is. The disease is most contagious during the catarrhal stage. At that time the infection is given off in the air by the breath, and may infect all who chance to inhale the contaminated air. It is for this reason that measles spreads so much more readily than scarlet fever, which is not very infectious until after the scaling begins. The measles infection is also found in the blood and in the secretions of the nose and air passages, as well as in all the excretions of the body.

The mortality from measles varies very much. More than half the fatal cases occur under two years of age; after five years of age the mortality is not much in excess of that from the same disease among adults. The most common cause of death is some complication, especially capillary bronchitis. Croup and pneumonia are other frequent complications, and the patient is very likely to be predisposed to tuberculosis by an attack of measles. The ears and eyes are also very likely to become affected.

There is great variation in the length of the period of incubation in measles. Sometimes the catarrhal symptoms occur in four or five days after exposure, while in others they are delayed until the twenty-first day. The average time from infection until the first symptoms of the disease appear is from ten to fourteen days. The earliest symptoms of the disease are those of a common cold,— sneezing, running at the nose, and redness of the eyes, with an irritating cough, which is at first dry, and afterward may become loose. At the same time there is a rise of temperature, the thermometer marking higher and higher every day, until in many cases it reaches 103° or 104° F., or even higher. Sometimes a few hours before the rash comes out the temperature subsides a few degrees, to rise again when the eruption is at its height.

The rash usually begins to show on the face the third or fourth day after the catarrhal symptoms appear, though it may be delayed until the fifth or sixth day. The flesh sometimes has a shotty feeling which resembles the rash of smallpox in the first stage. It soon extends from the face to the chest, limbs, and other parts of the body, and takes the form of raised patches, which are sometimes crescentic in form. In some cases the face is very much inflamed and swollen at the height of the rash, while in other cases the fever and other symptoms are very mild.

The rash usually begins to subside the third or fourth day after its first appearance. In favorable cases the fever then also begins to decline, and all the symptoms to abate rapidly, though the eyes and mucous surfaces of the respiratory passages often remain very susceptible for some time longer, and the cough frequently continues. It is at this time of convalescence that complications are most likely to develop, as inflammation of the eyes and middle ear, bronchitis, pneumonia, pleurisy or, tuberculosis.

There is often an eruption on the mucous linings of the body as well as the skin. If the mouth and throat are examined, even before the rash has appeared on the skin, the mucous surfaces will be

found red and swollen, and the glands of the neck near the angle of the jaw and just under the ears more or less inflamed and enlarged. The mucous surface of the bowels and the intestinal glands are also likely to be more or less congested and inflamed, and sometimes in fatal cases Peyer's patches have been found very much enlarged.

There is often a profuse diarrhea, but, if kept within bounds, this is not an unfavorable condition at the beginning of the attack, as it serves to eliminate the poisons from the bowels. The nausea and vomiting which are also frequently present, often do good by freeing the stomach from the load of undigested food and mucus.

As the eruption subsides, a fine, branny scaling begins, and there is often a good deal of itching, with heat and irritation of the skin. This is of short duration, however; and if there are no complications, the patient is supposed to be convalescent at the end of fifteen days. One attack of the disease usually, but not always, protects the patient from another.

As already stated, the exciting cause of measles is a specific germ gotten from some other case; but while an attack of this disease never occurs without the germ, the mortality is much influenced by the patient's physical condition, age, and surroundings. In England the death-rate has varied in the same epidemic from one or two per cent. in the country and in healthy houses in the city, to thirty per cent. in the unhealthy, crowded tenements and city foundlings' homes and orphanages. Serious results are much less likely to follow measles in a healthy family, and among healthy surroundings.

The great mortality occurring among children under five years, and especially among those under two, is due to capillary bronchitis. The smaller bronchial tubes in infants are very easily obstructed, and soon become entirely closed from the intense bronchial and catarrhal discharges. This shuts off sections of the lung cells from air, and they soon collapse, and become unfit for functional work; inflammation follows, and sometimes abscesses occur. In this way large sections of lung tissue are destroyed. In such cases, instead of the fever's subsiding at the ninth or tenth day, it keeps up day after day, the cough continues, and at last the little patient dies, either from exhaustion or blood poisoning. Sometimes there seems to be partial recovery, but the fever never entirely subsides; the cough becomes chronic, and the patient, instead of convalescing normally, continues to lose strength and flesh; and gradually the symptoms of tuberculosis are developed.

If the patient is overfed, or subjected to undue exposure during the catarrhal stage of the disease, or if he lives in a city tenement or other place where there is overcrowding and bad ventilation, the poisoning may be so intense as to destroy the life of the tissue cells; and the circulation on the surface ceasing, the skin becomes black and dusky like a bruised surface, and we have what is known as black measles. These cases usually prove fatal, and fortunately are very rare.

Measles is likely to prove especially severe after whooping-cough, scarlet fever, or any other blood-poison disease, by reason of the system's being already exhausted in dealing with the invading army of germs during the previous disease. Rickety, illy nourished children also suffer more from this disorder than the healthy and well developed. In fact there is no disease in which there is a greater variation in the mildness or severity of the symptoms and also in the

mortality. Many well-nourished children scarcely sicken at all from the disease, especially if it occurs in warm weather, when they can get plenty of fresh air without taking cold. On the other hand, in the crowded city slums one case in every three may prove fatal. In the temperate zones the disease is most common and the fatality much greater in the winter than in the summer season ; but in the tropics, it is said, the extreme summer heat so debilitates the body that it is poorly prepared to resist disease ; thus in southern countries the severest epidemics occur during the hot season.

It is well in all cases to be very careful to avoid exposure of any kind for some weeks after convalescence, especially if the attack occurs at the beginning of winter, as the disease is apt to leave the patient with a chronic cough, which is aggravated by every cold, and may end in tuberculosis. A cold is also very apt to settle in the eyes or the ears, and as a result of this many cases of permanent deafness and defective eyesight occur after measles. The sight may also be seriously injured by too early use of the eyes in reading or other close work, especially by artificial light.

Measles is apt to be a grave disease to the lying-in woman, though the mortality is not so great in these cases as from scarlet fever.

The next paper will deal with the prevention and treatment of measles.

Fresh Air for the Sick-room.

"As all the world knows, there is no more perfect means of ventilation than an open fire," writes Mrs. Burton Kingsland, telling how to nurse the sick, in the *Ladies' Home Journal.* "It is continuous, and attended with no danger of draught. A more equable temperature is obtained with wood than with coal, and the thermometer should be frequently consulted in a sick-room. As fresh air is the best tonic, it is said that a window may be opened at the top on a sunny day, no matter how ill the patient be, if in the opening a wooden frame covered with flannel is fitted. The air strained through the woolen material is deprived of all power to harm. An umbrella covered with a shawl makes a good screen when the windows are open, the patient being sheltered under it as if in a tent. A folding clothes-horse may also be utilized as a screen frame. As a person lying on his back is deprived of the protection of his eyelids from the light, the blinds and curtains should be adjusted with regard to that fact. A room a little shaded is more restful to a person in illness, but if a patch of sunshine can be let in somewhere in the room, it makes a cheery spot for him to turn to if so minded. The Italian proverb says, 'Where the sun does not enter the doctor does.'"

Danger from Alimentary Poisoning in Acute Disorders.

At the beginning of every acute disorder all the functions of the body are more or less disturbed. The digestive function is sometimes almost or entirely suspended, there being no secretion of the digestive fluids to prepare the food for absorption. This is doubtless a wise provision of nature to prevent the clogging of the tissues with food elements which they cannot appropriate while engaged in a warfare with disease. It is for this reason that a surfeit of food often increases the severity of the disease so much. The vomiting which it is so often sought to check in these cases is another provision of nature for ridding the body of poisonous matter. The best way to arrest it is

to wash the stomach out, and then let it rest for twenty-four or forty-eight hours. After that, let the food be of the simplest. There is no danger from starvation at this stage of the disease, but there is great danger of poisoning from a foul alimentary canal. K. L.

THE Empress Fusaka, wife of the mikado of Japan, is a patroness of the Woman's Hospital, established by her husband in Tokijo. This institution has free wards for the poor, pay wards for the wealthy, and is conducted on the best scientific methods.

HYGIENE OF THE NURSERY.

BY J. H. KELLOGG, M. D.

The Care of the Nursery.— Every home where there are young children should have a nursery, or children's living-room — not a room to which, for the convenience of their elders, the little ones may be banished and kept out of the way, but a room planned for and adapted to their needs, and supplied with the very best conditions for their health and growth, into which the mother and nurse may go to "live with the children." This room should be the brightest, sunniest one in the whole house, preferably a corner room with large windows on two sides, the south and east; since light and sun are as necessary for the baby's growth as any other of nature's tender buds. Such a room should not be less than twelve feet wide by sixteen feet long, and should be so thoroughly ventilated that without occasioning any perceptible draught, at least three thousand cubic feet of fresh air shall pass through it every hour.

The most desirable finish for the walls and ceiling is paint of some neutral tint. A light olive is a restful color for the eyes. The painted walls make it easy not only to wash off the finger marks but frequently to remove with a dampened cloth the dust and germs which naturally accumulate upon a wall in an occupied room. If paint is too expensive, a coat of alabastine is far preferable to paper.

A hard-wood floor with boards closely joined, either oiled or waxed, or a painted floor, with rugs that can be easily taken up and shaken, is essential to a well-ordered nursery. An open fire-place protected by a wire screen offers the greatest pleasure and comfort combined in the way of heating the nursery, and also aids in its ventilation. If this is impracticable, steam-heat, or that of a fresh-air furnace is superior to that of a stove.

Plumbing and drainage are undesirable in a nursery; but if any are considered necessary, the fixtures should all be of the most approved sort. It is better, when possible, that these be in some other room adjacent. It is better also, when it can be so arranged, not to use the day nursery for a sleeping-room at night. A room that has been used all day is generally too warm for good sleeping, while a room cooled sufficiently for good repose is in cold weather seldom sufficiently warm in the morning for the children to begin their exercise; and if the room is not a particularly well-ventilated one, the air is likely to become vitiated through its constant occupancy. If it is necessary, however, to use the same room day and night, the children should be removed to some other quarters for an hour or more in the morning

and evening, and the room thoroughly aired, and in cold weather, warmed in the morning before occupancy. In the evening it may be left cool.

Dr. Small recently stated before the Royal Asiatic Association of Japan, that the mortality of Japanese babies is very small as compared with that of American babies. He attributes this fact to the good ventilation secured by the loose construction of Japanese dwellings. These structures are generally made so light, and with so many openings for the air, that although carbon fires are often used, the ventilation is very much better than that usually found in air-tight brick or stone houses.

The temperature of the nursery in cold weather should be carefully regulated and kept as nearly at an equable standard as possible; it should not be allowed to rise above 70° F. during the day (68° is still better), nor above 60° at night. One or two thermometers hung in different parts of the room should form a portion of the furnishing of every nursery.

All heavy curtains and upholstered furniture should be banished from the children's apartment. Let the furnishing be as simple as possible,— muslin window hangings that can easily and often be laundered; a few bright, cheery pictures upon the walls, hung low enough to come within proper range of the little one's vision; plenty of broad-seated chairs without rockers, of various heights from the floor, to properly accommodate each child; low tables in keeping with the heights of the children and the chairs; a nursery chair, with a light screen about it; the mother's chair, and her sewing basket and table. A few choice plants, a canary, or a globe of gold fish will aid in making the room cheery; while a hanging wall cabinet, a sort of emergency cupboard, in which may be kept an alcohol lamp with matches and dish, atomizers, a supply of court-plaster, bandages for cut fingers, a fever thermometer, and other simple appliances, often needed but not always at hand, is a most valuable addition to the nursery furnishings.

The sanitary choice for the bed is an iron frame with woven-wire springs, without draperies, and of such height from the floor that the occupant shall not lie in a draft, nor in an atmosphere which in illy ventilated rooms is usually more impure near the floor.

The bed furnishings are preferably a mattress and pillows of hair or moss, with blankets of wool. For several reasons it is undesirable to add wardrobes to the furnishings of the nursery; they are large and cumbersome, and it is so difficult to move them that they become excellent hiding-places for dust and germs, and in case of any contagious or germ disease their entire contents must be subject to disinfection. A light chiffonier, or chest of drawers, in the day nursery, will afford ample space for storing the clean clothing needed for each day, and can easily be refilled when empty. The lower drawers offer also a desirable receptacle for the children's playthings.

All furniture should be light and movable, and once each day, at some time when the children are out of the room, the rugs should be taken from the floor and shaken out of doors; the floor thoroughly swept with a broom covered with cloth (canton flannel is excellent for this purpose) which will take up all the dirt; the corners carefully swept with a small broom, and the walls and furniture wiped with a square of soft cheese-cloth to free them from all dust.

If it is necessary to use a carpet on the floor, let it be gone over each day with a carpet-sweeper to remove dust and dirt, and at least once a week be swept thoroughly and wiped all over with a damp cloth which has been wrung out of clean

water to which a tablespoonful of ammonia has been added.

In the sleeping-room the windows should be raised and each bed stripped and laid open to the air, while the room itself should be as carefully cleansed and dusted as the day nursery.

Soiled clothing should not be left in the children's apartment. The baby's napkins should not be hung about in either room to dry ; indeed they should not be used the second time without washing. Two covered tin or earthen receptacles partially filled with disinfecting solution — one for the napkins soiled with fecal discharges, the other for those soiled with urine — should be kept in some anteroom near the nursery. These and their contents should be thoroughly washed at least once each day. A solution of chlorid of lime, one-fourth pound to the gallon, is excellent for this purpose. No receptacles containing urine or discharges from the bowels should be allowed to remain in the nursery.

At least once a week the furniture and woodwork should be thoroughly wiped with a damp cloth, and the walls and ceilings carefully dusted. If the night nursery is separated from the day apartment, it should be daily warmed as well as thoroughly aired either by the sun or by artificial heat ; and in cold weather, an hour before bedtime, each bed should be thrown open and the sheets and covering well dried and warmed for the reception of its little occupant.

The Care of the Baby's Feet.

Crying so pitifully that every one in the car was distressed, a fine baby, apparently about four months old, was traveling with its young mother. The ladies in the car, married and single, all tried their skill in vain. Just as the embarrassed mother was about ready to cry herself, an old gentleman sitting opposite observed a peculiar twitching of the little feet, and leaning across the aisle, said : "Baby's shoes hurt him, see how they pinch the fat little ankles. If you will unbutton them, he will stop crying." This was immediately done, the wail ended, and baby was soon laughing and crowing.

This is not an unusual case. The first shoes, however soft, are often instruments of torture for the tiny feet. If the shoe fits snugly, the hard bottoms press into the sensitive flesh ; and there are still greater evils to ensue. If the foot is compressed at this early and formative period, painful deformities are liable to result. The flesh is so yielding that sometimes the nurse or mother does not observe that it is being crowded too much until impeded circulation betrays the situation.

When buying the little stockings, great care should be taken not to have them too short in the foot, or the baby's feet will be permanently injured. Always procure a full size larger than you think your baby needs, and the same rule should apply to all children until they have ceased growing. The ugly, ungraceful walk of many young women is due in many cases to the non-observance of this important rule.

THERE is no little and there is much :
We weigh and measure and define in vain.
A look, a word, a light responsive touch
Can be the ministers of joy to pain.
A man can die of hunger walled in gold.
A crumb may quicken hope to stronger breath,
And every day we give or we withhold
Some little thing which tells for life or death.

— *Susan Coolidge.*

Seasonable Bills of Fare.

BREAKFAST.

Melon.
Granose Grits with Grape Sauce.
Graham Puffs Tomato Toast.
Sliced Nuttose. Baked Apples.

DINNER.

Granose. Corn Soup.
Potato stewed with Celery.
Lentils with Nut Butter. Graham Bread.
Sliced Tomato. Cocoanut Crisps.
Assorted Nuts.

BREAKFAST.

Pears.
Granose Flakes with Cream or Nut Cream.
Nut Sticks. Grape Toast.
Malted Nuts. Zwieback.

DINNER.

Split Pea Soup.
Escalloped Tomato. Corn Pulp.
Browned Wheat. Nut Sticks.
Sliced Peaches. Fruit and Ambrosia.

BREAKFAST.

Sliced Peaches.
Baked Apples. Browned Rice.
Pease Cakes with Tomato Sauce.
Graham Bread. Nut Butter.

DINNER.

Tomato and Vermicelli Soup.
Mashed Peas. Green Corn. Celery.
Pearled Wheat. Whole-Wheat Puffs.
Stewed Apples. Apple Granose Dessert.

Recipes.

POTATOES STEWED WITH CELERY.— Pare and slice the potatoes, and put them into a stew-pan with two or three tablespoonfuls of minced celery. Use only the white part of the celery, and mince it fine. Cover the whole with milk sufficient to cook and prevent burning, and stew until tender. Season with cream and salt.

LENTILS WITH NUT BUTTER.— Use three pints of strained cooked lentils, and one pint of stewed tomato; season to taste with nut butter and salt, and bake. If desired, the lentils may first be cooked with onion to flavor.

GREEN CORN SOUP.— Take six well-filled ears of tender green corn. Run a sharp knife down the rows and split each grain; then with the back of a knife, scraping from the large to the small end of the ear, press out the pulp, leaving the hulls on the cob. Break the cobs if long, put them in cold water sufficient to cover, and boil half an hour. Strain off the water, of which there should be at least one pint. Put the corn water on again, and when boiling, add the corn pulp, and cook fifteen minutes, or until the raw taste is destroyed. Rub through a rather coarse colander, add salt and a pint of hot unskimmed milk; if too thin, thicken with a little corn-starch or flour, boil up, and serve. If preferred, a teaspoonful of sugar may be added to the soup. A small quantity of cooked macaroni, cut in rings, makes a pretty and palatable addition to the soup. The soup is also excellent flavored with celery.

MASHED PEAS.— Soak and cook a quart of peas as for peas purée. When well done, if the Scotch peas, rub through a colander to remove the skins. If the split peas are used, mash perfectly smooth with a potato masher. Season with a teaspoonful of salt and a half cup of sweet cream, or a tablespoonful of nut meal, if desired. Beat well together, turn into an earthen or granite-ware pudding-dish, smooth the top, and bake in a moderate oven until dry and mealy throughout, and nicely browned on top. One-third or one-half toasted bread crumbs may be used with the sifted peas when preferred. Serve hot like mashed potato, or with a tomato sauce prepared as follows: Heat a pint of strained, stewed tomato, season slightly with salt, and when boiling, thicken with a tablespoonful of flour rubbed smooth in a little water.

THE MOTHER'S RESPONSIBILITY IN REGARD TO THE PURITY OF HER CHILDREN.

BY MRS. E. E. KELLOGG.

THE engineer who would attempt to run a train filled with human beings over a road beset with danger, without a thorough knowledge of the perilous points and a full understanding of how he must guide his engine, either to avoid or to pass over them in safety, would be condemned at once by every one, not only as utterly unworthy the trust reposed in him, but as guilty of inexcusable sin in thus jeopardizing human lives,—inexcusable, because if he takes upon himself such a trust, he has no right to remain in ignorance of anything which it is in his power to learn respecting the precautions necessary to insure a safe journey.

If a knowledge of the dangers which surround his way is so necessary to the engineer into whose care is entrusted simply the bodily safety of human beings for only a few short hours, how much greater importance attaches to a knowledge of the pitfalls and dangers which beset life's pathway, for all mothers to whose care and guidance is entrusted not only the physical, but the mental and moral, welfare of children for a score of years.

The evils which influence our children for vice are everywhere prevalent. There are hundreds of different avenues by which they may reach even the most sheltered homes of our land. Mothers cannot afford to ignore these perils. It is blindness to danger that invites moral disasters.

Many mothers are apt to look upon the subject of impurity as one which in no way concerns their children of tender years, and so neglect to guard them in this particular until the weeds of impurity are firmly rooted in their young hearts. It is easy to see the weeds when they have grown and are putting forth leaves and branches; but then it is too late; the roots are firmly grounded; and labor with what zeal we will to tear them out, there is always danger that some rootlet will remain to spring up again where least expected. The only sure way is to prevent the mischief-making seeds from germinating. The susceptible years of childhood furnish a fertile soil for the reception of evil. Impressions received by a child before its seventh year have more to do with the formation of its character than those received at any other period of its existence. Then watch with the greatest vigilance the dear little ones, lest while we are asleep to duty, feeling they are safe because so young, the enemy shall come and sow tares and weeds in their hearts.

There can be no question that impure personal habits begun during early childhood are often the one great influence that draws our children into the vortex of social impurity in after years. It is difficult for mothers to believe that children of such tender age could possibly become addicted to vile habits; but those who have had experience in the matter tell us that sometimes accidentally, often through the viciousness of nurses, frequently through the example of corrupt companions, very small children acquire impure habits which the work of years cannot overcome.

The only sure remedy is prevention. Never entrust your child to the care or companionship of those whom you do

not know to be pure. Instantly correct a child for any act, however innocent in itself, which might result in evil, just as you would if it insisted upon playing upon the railroad track in the presence of an on-coming train.

As a safeguard against vice, teach the little one, from earliest infancy, correct physical habits, especially in regard to sleeping and eating. "The hand-maid of chastity is nature's great restorer, peaceful, unbroken slumber for childhood and youth." Any source of indigestion, too much or too little exercise, cold feet, or other exciting cause of sleeplessness, should be zealously guarded against. The diet of children should be most rigidly looked after. Children allowed to eat at all hours, to partake of rich and highly seasoned foods, sweetmeats, and dainties, to use tea and coffee and strong condiments, to overeat, are thus taught self-gratification rather than self-control, and are almost hopelessly placed under the dominion of their lower natures.

Abundant exercise is an especially important aid to purity, and the value of wholesome occupation at all times can hardly be overestimated. The mind will be occupied with something, and the old adage that "Satan finds some mischief for idle hands to do," is an ever true one. Herein lies one of the greatest secrets for the prevention of evil,— the keeping of the little ones properly occupied in both mind and body. To do this will require much outlay of time and thought, and much sacrifice of ease and pleasure, on the part of mothers ; but nothing should be allowed to weigh in the balance against the purity of one's children. Remember that they are like wax to receive impressions, and like marble to retain them. Have something fresh and interesting always ready with which to satisfy the keen appetites of their unfolding intellects. Teach them about stones and flowers, about insects and birds, and read to them about great and useful men and women. Strive to interest them in whatever will create in them aspirations for that which is good and pure. If the circumstances which surround them are such that there is any likelihood of their being led into evil through the example of others, fortify them against it by warning them of its inevitable consequences.

Guard the associations of your little ones even more carefully than those of children of older growth. Never allow them in their play to wander out of your sight and hearing in company with some neighbor's child ; and do not, to get rid of their noise, banish them to some room or corner by themselves, where they, unobserved, will feel at liberty to carry out any impulse for evil which may spring up in their minds. If little friends come to visit them, superintend their plays, show them new games, and help them to keep their minds so full of enjoyable thoughts that they will have no time to think of anything wrong. Let them see that you enjoy their guests, and they will soon come to feel that a visit from a friend without mama to share it will be a great loss of pleasure.

Surround the child continually during its tender years with an eternal vigilance of watchfulness, and be assured that the labor will be amply repaid in witnessing the noble manhood and true womanhood which will develop upon the foundations thus carefully and securely laid.

SCORN no man's love, though of a mean degree,
Much less make any one thine enemy.

— *Herbert.*

A WOMAN'S PRAYER.

O LORD, who knowest every need of mine,
Help me to bear each cross, and not repine;
Grant me fresh courage every day,
Help me to do my work alway
Without complaint!

O Lord, thou knowest well how dark the way,
Guide thou my footsteps, lest they stray;
Give me fresh faith for every hour,
Lest I should ever doubt thy power,
And make complaint!

Give me a heart, O Lord, strong to endure;
Help me to keep it simple, pure;
Make me unselfish, helpful, true
In every act, whate'er I do,
And keep content!

Help me to do my woman's share,
Make me courageous, strong to bear
Sunshine or shadow in my life;
Sustain me in the daily strife
To keep content!

—*Anna B. Baldwin, in Ladies' Home Journal.*

THE SALVATION OF MR. CRANDON.

BY MRS. S. M. I. HENRY.

VII.

"I HAVE seen a literal fulfilment of the scripture: 'When the unclean spirit is gone out of a man, he walketh through dry places, seeking rest, and findeth none. Then he saith, I will return unto my house from whence I came out; and when he is come, he findeth it empty, swept, and garnished. Then goeth he and taketh with him seven other spirits more wicked than himself, and they enter in and dwell there: and the last state of that man is worse than the first.'"

This was Dr. Grant's reply to Katherine's anxious inquiry the next morning, as he returned from a night call to the parsonage.

"It was really as bad as that, John?"

"It *was* as bad as that. Of course I would not leave him until he was relieved, but he suffered as he has not at any time since this illness. They have all learned a lesson that they will not forget very soon. It was rather amusing to hear Stella when she came down this morning, after she had heard that we had been up with her father all night. She said: 'Did n't I tell you, papa, you 'd get germs again? You better let chicken alone after this.'"

"Chicken! did he eat chicken?"

"A late chicken dinner last night. He began to feel it almost immediately, but was ashamed to let even Mrs. Crandon know. He thought he would endure it in silence until it passed off; so he suffered until he found out that he had to have help, then he called her. When she discovered what the trouble was, she was determined to get him out of it herself, so as to hide her own share in the imprudence. She practised with fomentations and the spine-bag, but he became so ill that she was alarmed, and telephoned to Dr. Green. It was he who sent for me; I doubt if she would have done it. She owned up this morning that she felt as if she never wanted to see us again. I told her she better not feel that way, and comforted her pride by telling her that it was perfectly natural and consistent that she should do just as she did, since she was not convinced that our principles were right, and her position all wrong. The first thing to be done for Brother Crandon was to get his stomach empty. I thought at first I would simply give him a lavage, but concluded that for the good of all concerned,

I would make it a test for germs. If I could prove that Stella, to say nothing about you and me, had been a true prophet, I had gained a point of vantage that I could not afford to lose. So I gave him the test breakfast, and Dr. Green will take the result to the laboratory. He wants to watch it himself. He is intensely interested."

"Is he really interested in the principles, or only curious?"

"Interested, deeply,— under conviction."

"Would n't it be grand if he and the Crandons should be converted to health reform?"

"Indeed, yes; and they are coming to it. Stella has been a regular little missionary. I had no idea how much one child could do for another. She and Margaret have discussed the whole question, I should think, from the things which Stella lets drop every little while. It is surprising how wise the child is in this truth, how much of it she has absorbed, and is able to communicate; and what she says does have weight, even with her mother.

"That makes me think — Mrs. Crandon wanted to know how you make bread. She said Stella was all the time telling about your bread. I told her I would ask you to go over for the day and look after Brother Crandon; and that you could show her how to fix all the different dishes, to make the breads, and anything she would care to know. You will need to teach her how to prepare his food. She ought to find ample scope for her inventive genius in combining the health materials. Teach her not only how to make the breads, but the advantage of making her yeast bread into zwieback."

So it came to pass that the parsonage kitchen became almost like a chapel, where was dispensed a gospel entirely new to this experienced helpmeet of a successful minister, although it was necessary to that minister's salvation. Dressed in her long white apron, with cuffs turned back, the bread-board for her pulpit, and her batter and dough for a text, Katherine Grant preached practical sermons in her bread-making. She taught how the principles of truth and error, of life and death, of Christ and Satan, are brought into active warfare all through the process, and how much depends on which wins.

"Everything in bread-making turns at the fermentation point," said Mrs. Grant. "This is the place where stands the truth which, like a danger-signal, means on the one side life, and on the other death — or as Christ says of himself, separated the one from the other — the good from the evil.

"There is a principle involved in this which seems perhaps small and unimportant, but no principle can be unimportant, for every principle lays hold of eternal things. Fermented bread is necessarily evil, because the process of fermentation anywhere produces that deadly poison, alcohol; and to make an ordinary pound loaf of bread light enough for the oven, there must have been at least a teaspoonful of alcohol produced. Of course a proportion of this escapes in the baking, but not all, for the crust which is formed by the first heat of the oven seals the loaf so that nothing more can escape.

"When we were studying this subject, our instructor placed a formula on the blackboard which I will give you;" and she took a pencil and paper from her belt and wrote, "One part of grape-sugar equals two parts of alcohol and two parts of carbon dioxide, the chemical formula of which is $C_6H_{12}O_6 = 2C_2H_6O + 2CO_2$.* The action of the yeast on starch is prac-

* For this formula and other most important chemical data in this article I am indebted to Dr. W. A. George, professor of chemistry in the American Medical Missionary College.

tically the same as it is on grape-sugar. Now," she continued, while Mrs. Crandon, Stella, and Jennie all looked on, the two girls with awe at anything so scientific expressed in their faces, "I do not like the looks of that when it demonstrates the presence of the enemy of God and man in every loaf of what is called light bread. Our instructor (and he was a man who knows what he talks about) said that more alcohol is formed in the bread-making of this nation than in all the distilleries and breweries. Of course it is not all consumed, for, as I said before, a portion of it escapes in baking, but enough remains to make the subject important to all temperance women, at least."

From this point Mrs. Grant went on to explain the advantages of aerated over yeast breads, both as to the principles involved and their comparative value as foods. She stated positively and clearly the dangers resulting from fermentation; but as Mrs. Crandon was not yet convinced of the importance of the truth as Katherine Grant saw it, and insisted that yeast bread was a necessity, she gave her what she considered the best method of making it as well as the principles involved. She said, "Yeast is a plant, and like other plants, grows by what it feeds upon; its nutriment is the flour from which the bread is made. It is rapid in growth. In three hours, at a temperature of seventy degrees, it will become ripe, and if allowed to continue to grow or ferment, will begin to fall into decay, taking the food elements to ruin with it; so that instead of real bread, digestible and nutritious, you give your household something which will be like a stone in the stomach.

"If you will have fermented bread, use plenty of yeast — a whole cake to a quart of water is not too much to secure sufficient lightness without letting it stand so long that disease germs must develop. The process of fermentation should be rapid, and arrested in time to prevent acidity, and the bread should be so baked and twice baked (made into zwieback) as to prevent the possibility of disease germs being produced either before the bread is eaten or afterward, during assimilation.

"The unpleasant flavor that is supposed to come from too much yeast is from actual decay; yeast, before it has begun to decay, does not communicate an unpleasant flavor or odor. If the dough stands until the process of decay begins, you may get a bread which some perverted appetites prefer, but it will have been at the sacrifice of the living principle of nutrition, and the bread will be filled with disease germs. No fermented bread can symbolize the bread of life, in which Christ can be represented. The sacramental principle which is God manifest in truth will be wanting; and no bread that is not fit for the church sacrament can be the *best* food. No food but the *best* should ever be used for building up that structure which is to be inhabited by the Spirit of God, as his own temple and used for his own service. A loaf of bread which represents a low standard of purity as to material, or a false combination as to principles, which embodies error and untruth, should never be used, especially by those who are on the earth as the representatives of Christ and his gospel."

"That is what you mean when you talk about the gospel of the kitchen, Mrs. Grant?" asked Mrs. Crandon.

"Yes, a part of it. That is what we mean when we accept the statement that bread is the staff of life. This could never be true of any bread in the making of which the life principle had been destroyed. Christ said that man does not live by bread alone, but by every word

that proceedeth out of the mouth of God; and bread can by no means be the staff of life unless it is made according to that Word which is life."

"I believe you; and it is a beautiful and wonderful lesson which you have taught us," said Mrs. Crandon, although not yet quite ready fully to accept it in her home practise.

Jennie, the servant, was very much impressed by the teaching; and Stella was so happy that she could scarcely keep as quiet as her close proximity to the sick-room required. The weakened digestion of the child had been comforted by the simple health foods by which she had been supplied, of late, from the Grant storeroom; and she was hopefully looking forward to the time when no more greasy things would have to be washed, as washing dishes was a part of her household service.

The harvest of germs which came from the bacteriological garden in due time, served to enforce the lessons which had been taught by the stern master, experience; and when Dr. Green announced his thorough conversion to the health principles and methods, there was nothing for Mrs. Crandon to do but surrender, especially since Mr. Crandon positively refused in the future to take any of the old risks of losing his soul, as, he insisted, he had come so near doing in the past. He was a man with ambition to serve both God and humanity with the best he could get or be; and since he had come to understand that a weak digestion meant a slow brain, he felt that neither he nor his work could afford anything that would produce it.

"I know now," he said one day, while the convictions of his wife were still in the balance, "how a man may commit suicide. A little more of the same sort would have made me so desperate and reckless that I should have stopped at nothing."

"You surely acknowledge yourself to have been insane, then," was Mrs. Crandon's remark.

"No, I think not, no more so than any one is insane whose brain comes under the influence of such a legion of bacteria, or in other words, devils, as mine did. I believe mine to have been a clear case of possession by the devil, who is the author of all our ills, great and small, and, more especially, of the modern menu."

Five months after that Sunday morning with which our story opened, when the pastor reappeared in his pulpit, after his vacation and trip to his old home in the country, looking better in every way than his people had ever seen him before, he began by saying: —

"Just before I dropped out of this pulpit, five months ago, I preached on 'The Salvation of Saul;' my theme to-day is, 'The Salvation of Crandon.' My text will be found in the fifty-fifth chapter of Isaiah, and the second verse. 'Wherefore do ye spend money for that which is not bread? and your labor for that which satisfieth not? hearken diligently unto me, and eat ye that which is good.' I propose to give the gospel straight, not only to-day, but as long as God allows me to live, from this time on, instead of trying to interpret and explain it until its practical application to our every-day needs is lost. This text says 'bread' and 'eat,' and we will consider it from the standpoint of every-day experiences in the process of eating the bread, which should be such as can help build us up into strength for the service of God. God is manifest in that by which we are sustained in the flesh and made submissive to his Spirit; for a man who is tormented with indigestion cannot well be an obedient follower of Christ."

From this introduction he proceeded to preach that truth of Christ who is all and in all, by which he had been made free from the law of sin and death as represented in the ordinary practises of kitchen and dining-room.

THE END.

A LITTLE SONG OF HOPE.

BY LEILA R. PEABODY.

SOMEWHERE the weary spirit
Shall reach a haven calm.
Somewhere the heart that's broken
Shall find a healing balm.
Somewhere what men call failure
May be success most true
Somewhere the crown and laurel
Shall replace the cross and rue.

Sometime the sky shall brighten,
And shadows flee away.
Sometime we shall be happy
Forever and a day.
Sometime faint hearts shall strengthen,
And dead hopes live again.
Sometime we'll meet our loved ones —
To part no more. Amen.

HOW TO CURE JEALOUSY IN A CHILD.

A QUESTION often asked, is, "What shall I do with my two children who persist in teasing and annoying each other?" Perhaps no disappointment is more keenly felt by the mother than the failure of the dream of her early maternity that her children would dearly love each other and dwell together in peace and amity. The second baby was desired largely as a companion for the first, but the first resents the intrusion of the second, and makes life a burden to him.

A terrible story to this effect is told by Harriet Martineau in her "Household Education." A little girl came into the room where the nurse was ironing some of the clothes of the new baby, asleep in the cradle beside her.

"O, ho, miss," jeered the nurse, "now baby has come, your mother won't love you any longer."

In a paroxysm of fury and despair the little girl picked up one of the flat-irons and threw it at the baby, killing it instantly. The mother also died from the shock, and the poor little girl, from the moment that she was old enough to realize her deed, was never known to smile again.

Fortunately, jealousy seldom goes to such extremes as this, but it is always an unmixed evil, in whatever degree it may show itself.

There are two measures to be taken against it. One is to prepare the older child for the advent of the other, and to interest him in preparations for its comfort and well-being. In this way a soft nest in the little heart will be ready for baby, and jealousy will be warded off by the constant reflection on the child's part that he shares an important secret with mother, and that mother trusts him, and counts on his help. Then, when the baby is here, let the older child hold him two or three times a day, even at some risk to the tiny one's immediate comfort. Every pang he suffers at the awkward handling of his brother will be blessed to him in later life. Above all things, let the older brother help with the bath, — that fascinating combination of water, soap, and pink baby flesh. Every little office of love performed with good in-

tentions, though ever so clumsily, will bring to the surface the right feeling of elder brotherliness; and where the right feeling is, the wrong cannot find place.

The second measure is to pet, not the baby, as instinct teaches, but the older child. I think it is Marion Harland who tells of the mother of a large and particularly harmonious family who said that she always made it a rule to pet the next to the youngest a little extra. It is sound policy. The next to the youngest is the one who has just been the baby and has been ousted from the inevitable privileges of babyhood by the latest addition to the flock. Mother's lap is no longer his by a right not to be gainsaid; he no longer sleeps beside her bed; he is not nearly so often carried up stairs and smothered with kisses on the way.

Even with the recognized rule in the household that he shall be the specially favored one, he will not have as much as he had before in the way of concrete expressions of affection, and without some such rule the transition from the hothouse atmosphere of petted infancy to the comparatively cold one of free childhood is apt to be much too abrupt, and in his rebellion against it all sorts of evil feelings may be generated.

But supposing that this period of preventive measures has passed by, and that by some neglect or mismanagement, or inherited tendency or natural inharmony of natures, the older children of a household continually clash, what then? Must one give up all hope of eradicating the evil because one failed to recognize it in its earlier stages?—By no means. And if the task is harder at this later stage, at least one may be able to get the assistance of a powerful ally impossible to the earlier stages; namely, the conscious co-operation of the children themselves. It is true that most mothers depend upon this alone, and add to the sum of bickerings in the already unrestful household by continual remonstrances. The mistake is in treating these reserve forces as if they were the whole army, and wearing them out with overwork. Whatever a mother can accomplish without appealing directly to the child's consciousness she ought to do, for nothing is truer than the fact that the longer a child remains in unconscious conformity to law, the greater will be his power of consciously conforming later on. The pull of the law upon him will then be gripped in the inmost recesses of his nature, like the love of home, of home ways, and even of certain familiar faults.

One great cause of disagreement among children is lack of recognition of property rights. Each child ought to have his own things, and to have them absolutely, free from the dictation of mother or nurse. "Now, Johnny, let the baby take your wagon for a while. Shame on you for a selfish boy," ought never to be heard. It is good for the baby, domestic tyrant as he is, to know that there are some things he cannot get by crying or pulling. Usually a child whose rights are respected is markedly generous with his belongings. What he dimly resents is the imputation in nurse's voice and manner that he has no right to keep that wagon if he wants to, and keep it, too, without being subject to reproach.

Ideals of generosity may be held up before the groping mind in the form of story or straightforward talk, but this should not be done at the moment that the generous act is expected. The story is then too much like a sugar coated demand, and the brighter a child is the more he will resent it.

Even when the bickering which comes of infantile rights and privileges is removed by making these rights and privileges definite, a very objectionable spirit among the children sometimes still remains. Often this comes from the ugly

habit of teasing, and in that case is almost always the fault of the older child. No greater mistake could be made in this instance than the one so very common, of blaming both children at once for the quarreling. It is too much to expect of the meekest younger child to endure both his brother's ill treatment and his mother's blame. Such indiscriminate fault-finding leads, not to a conviction of sin and the resolve to try to be better next time, but to a fit of the sulks and a feeling of injury, which weakens the mother's influence.

First, then, find out by careful observation which is to blame. If the older boy teases, remove him from his sister for a period, until he has had time to overcome the bad habit; and if possible, in the interim rouse his tenderness for her by giving him something to make for her as a surprise when they shall be reunited. It is at such periods as these that a grandmother or aunt living at a little distance, whom the badgered and almost certainly nervous child can visit for a week or two, is a real blessing. If, however, this is out of the question, then let the mother hold with her eldest some such conversation as this: —

"You know as well as I do that you are not kind to your sister. You are larger and stronger than she is, but instead of using your strength to protect her, you use it to torment her. She has a right in her home to kindness and consideration. If you cannot give it to her, I can. Therefore, from now on, until you show yourself kind and gentle, I shall keep your sister with me. When we think that your manners are courteous and pleasant, we will invite you to join us."

Then make your society conspicuously agreeable to the little sister. Take her down-town with you and on various little expeditions. My word for it, the elder brother will soon long for the same privilege, and will begin to cultivate the necessary virtues.

In the meantime the victim must not be allowed to feel too victimized and self-righteous. She must be shown that to endure ill-treatment bravely and nobly is one of the most necessary things in life, and that to be betrayed into ill-temper and fretfulness by her brother's teasing is to make herself as bad as he, only in a different way. And if she can be induced to prepare some little surprise for her brother, as he prepares one for her, their reunion ought to be a joyous one, and the appalling peace of their first few days together to settle down finally into a comfortably affectionate relationship. Probably shorter separations of half a day or so will have to be brought about occasionally for a time when the old habit threatens to reassert itself, but this should be done so naturally as to excite no comment. Otherwise it will have the effect of an anti-climax. — *Marion Foster Washburne.*

A MAN SOME DAY.

O, FOR a glimpse of a natural boy,
A boy with freckled face;
With forehead white 'neath the tangled hair,
And limbs devoid of grace.

It 's true he 'll sit in the easiest chair,
With his hat on his tangled head;
That his hands and feet are everywhere —
For youth must have room to spread.

But he does n't call his dad "old man,"
Nor fail his mother's call,
Nor ridicule his elders' talk,
And think he knows it all.

Only a rough and wholesome boy,
Of good old-fashioned clay,
God bless him! if he 's still on earth,
He 'll make a man some day. — *Sel.*

CHILD-STUDY IN THE HOME.

It is beginning to dawn upon the intelligence of the men and women of to-day that to teach a child is almost as complex a business as to construct a complicated machine or to build a cantilever bridge. Who would think of attempting the latter without a knowledge of the principles of mechanics?

Advanced educators are consistent believers in the need of special psychological study for teachers and educators, and their belief is filtering down through educational ranks. The time is coming when no person will receive a position as teacher without a thorough knowledge of the laws of the mind and of the best methods for developing the child's faculties in harmony with these laws.

But how about the parents? They have charge of the child from the moment of his birth until he is ready to live his own individual life in the world. How much greater must their influence upon the child be than that of the teacher, who has him under control for only twelve or fourteen years, and only a few hours a week during that time! Would you not say, then, that the parent has as great a need to understand the child and its development as the teacher?

Men and women must study for the profession or business by which they are to sustain their physical life, and perchance, as many of them hope, gain a renown that shall live after them. And yet, with startling assurance, they go forth without a word of instruction or a moment's serious contemplation or study, to meet the exigencies and problems of a life which shall leave a living monument to their wisdom or their foolishness.

Who would allow a man completely ignorant of the laws of medication, even though he were a skilled mechanic, to prescribe for an invalid? It would be criminal, we say, to allow him to tamper with the body of any person in such a way as to endanger his life; and yet how few there are, skilled or unskilled, who hesitate to take charge of a soul! Tampering with that may mean spiritual death, as much more terrible than physical death as eternity is more awe-inspiring than time.

The study of the real child is of greater practical value than any amount of theory. The opportunity for this study is offered to parents in the home. They will not need to go to colleges or universities; their material is right at hand. The thing most needed is that they shall be wisely guided in their investigations, that they shall see that child-*study* alone is theory, but practically applied becomes child-*training*, without which the theory is valueless.

Child-study in the home involves an understanding of possible inheritances. The ancestry should be studied, that the possible tendencies and capabilities of the child may be in a degree comprehended and his training conducted accordingly.

If the parents are wise enough to connect the physical and mental attributes of the children with those of the ancestors whom they resemble, they will have a guide for their training. — *Dr. Mary Wood-Allen, in North Western Monthly.*

By all means use some time to be alone;
Salute thyself, see what thy soul doth wear;
Dare to look in thy chest, for 't is thine own,
And tumble up and down what thou findest there. — *George Herbert.*

HEALTH AND WOMAN'S DRESS.

In a recent number of *Harper's Magazine*, Dr. William Blaikie, an expert in physical culture, demonstrates that we are not maintaining the standard of physical development which belonged to our forefathers and mothers. The American brain is stimulated to the last degree; but a visit to any one of our public schools will convince any intelligent person that the bodies of American boys and girls are sadly neglected. Attenuated figures, narrow and sunken chests, stooping forms, tiny legs, and imperfect eyes are the rule, while sinewy bodies, full of glowing vitality, are the exception. Dr. Blaikie's investigations have convinced him that the physical stamina of the American people is declining, and that the bodily education of the young is vastly behind what is demanded. He finds that the gymnasiums of American schools and colleges, except in a few of the best, are not used to advance physical culture; and he declares that the American brawn is not kept up to the demands of the American brain. These statements are well backed up by proof, are fairly accurate, and cannot be easily refuted.

I have long maintained that the young women of the present day are not behind the men of their age in bodily vigor. For while young women damage their health by unhygienic dress and bad habits of life, young men deteriorate physically, very early, through the use of tobacco and alcoholic drinks, and other pernicious practises. Experience and extensive observation long since convinced me that many of our girls are made victims of disease and weakness for life through the evils of the dress they wear from birth. The invalidism of young girls is usually attributed to every cause but the right one; to hard study — co-education — which, it is said, compels overwork that the girl student may keep up with the young men of her class; too much exercise, or lack of rest and quiet at certain periods when nature demands it. All the while the physician is silent concerning the glove-fitting, steel-clasped corset, the heavy, dragging skirts, the bands engirdling the body, the pinching, deforming boot, and the ruinous social dissipation of fashionable society. These will account for much of the feebleness of young women and girls. For they exhaust nervous force, make freedom of movement a painful impossibility, and frequently shipwreck the young girl before she is out of port.

We have a theory, generally accepted in civilized society, which we never formulate in speech, but to which we are very loyal in practical life. This theory, put in plain language, is as follows: God knows how to make boys; and when he sends a boy into the world, it is safe to allow him to grow to manhood as God made him. He may be too tall or too short for our notions, too stout or too thin, too light or too dark. Nevertheless it is right, for God knows how to make boys. But when God sends a girl into the world, it is not safe to allow her to grow to womanhood as he has made her. Some one must take her and improve her figure, and give her the shape in which it is proper for her to grow.

Accordingly, the young girl comes some day from the dressmaker with this demand: "Mme. —— [the dressmaker] says that I am getting into horrid shape, and must have a pair of corsets immediately." The corsets are bought and worn, and physical deterioration begins.

"It does not require the foresight of a seer," says Dr. Mary Safford, "to diagnose a chronic case of tight lacing and of heavy skirts. When the abdominal mus-

cular walls become inert, almost wasted, one of the most important daily functions of the body is rarely, if ever, normally carried on. We might enumerate the ills that follow. But these are only links in the long chain of disorders that have won the disgraceful appellation of 'women's diseases,' when they should be termed women's follies."

"Medical students have learned to call the livers of the female subjects that go to the dissecting-room the 'corset-liver,'" says Dr. Mary Studley. "It is the rule, rather than the exception, for these livers to be so deeply indented, where the ribs have been crowded against them by improperly worn clothing, that the wrist may be easily laid in the groove. And this is an organ which is a mass of blood-vessels, through which every particle of blood ought to circulate freely on its way to the heart. Of course it cannot get through the squeezed portions. And the inevitable result of the half-done work of the liver is an unclean condition of the blood, which utters its cry by means of aching nerves."

"The Greeks," says Canon Kingsley, "whose figures remain everlasting and unapproachable models of human beauty, wore no stays [corsets]. The first mention of stays that I have ever found," he continues, "is in the letters of Synesius, Bishop of Cyrene, on the Greek coast of Africa, 400 A. D. He tells us how, when he was shipwrecked on a remote part of the coast, and he and the rest of the passengers were starving on cockles and limpets, there was among them a slave girl out of the far East, who had a pinched wasp-waist, such as you may see on the old Hindu sculptures, and such as you may see on any street in any British town. And when the Greek ladies of the neighborhood found her out, they sent for her from house to house, to behold, with astonishment and laughter, this new and prodigious waist, with which it seemed to them impossible for a human being to breathe or live!"

He goes on to tell us, this plain-speaking Canon Kingsley, that "in future years, when mankind has learned to obey more strictly those laws of nature and science which are the laws of God, the present fashion of tight lacing will be looked back upon as a contemptible and barbarous superstition, denoting a very low level of civilization in the people who have practised it."

If an artist with a commission to cut in immortal marble a statue of the Goddess of Liberty, of Justice, or Peace, an Aurora, the Muses or the Graces, should copy the figure of the fashionable woman, made over by the modiste and the corsets, he would lose caste, not only with artists, but with the civilized world. His statue would be greeted everywhere with laughter and derision. He would seek instead, as a model, one of the matchless living forms on which no corset had begun its deforming work, and thus add another to "those glorious statues which we pretend to admire, but refuse to imitate."

No young growing girl should be allowed to wear corsets. The educated medical women, who are gaining in numbers, influence, and practise, denounce them unqualifiedly, lay to their charge no small amount of he dire diseases on which the gynecologists grow rich, and declare that they enhance the perils of maternity and inflict on the world inferior children. The modern corset presses in upon the body, the muscular walls, the floating ribs, the stomach, the hips, and the abdomen, compelling them to take the form the corset-maker has devised, in lieu of that God has given. Stiff whalebones behind, and "finely tempered steel fronts" pressing into the stomach and curving

over the abdomen, keep the figure of the girl erect and unbending, while nature has made the spine supple with joints.

The American girl is usually lithe and slender, and requires no artificial intensifying of her slightness. The corset gives her only stiffness of appearance, and interferes with that grace of motion which is one of the charms of young girls; while the stout woman who wears a corset to diminish her proportions only distorts her figure. Her pinched waist causes her broad shoulders and hips to look the broader by contrast, while the pressure upon the heart and blood-vessels gives to her face that permanent blowzy flush that suggests apoplexy. "Who can forgive the unhealthy cheek and red nose induced by such a practise?" asks Mrs. Haweis in her "Art of Beauty." And who can forget the disease which has come or is coming? — *Mrs. Mary A. Livermore.*

BLACK CLOTHING INJURIOUS TO THE HEALTH.

BY M. ASHLEY, M. D.

An eminent physician said recently to one of his patients, a woman of great wealth, that if she continued to wear black, he should refuse to treat her further. It was not, however, until a discussion ensued that he found out how much he was asking. Not only were her gowns black, but her underwear throughout was of the same color. The doctor remarked that he had well considered the alternative he offered her, and that while it might seem an extreme measure, it was justified by her peculiarly nervous and neurotic state; and upon learning that she wore nothing but black upon her person, he became still more insistent. "The peculiarly nervous and neurotic state," he continued, "I consider largely explained by this dress alone." He succeeded in effecting a change in his patient's dress throughout, insisting on all white underclothes, and as much use of white in the outer garments as was practicable.

There are hundreds of women similarly in ill health, and dressed as this lady was, who have no idea that anything except a question of taste is involved in the color of their garments. They would not expect a plant to flourish covered up from the rays of the sun by successive layers of black cloth; but they do not seem to know that light and sunshine are equally necessary for their bodies. Especially do these agents act upon the nervous system, and with particular force in cases of sleeplessness, nervous headache, and general prostration.

It may be impracticable always to govern the outward dress with an eye single to this one consideration, but the underclothing can and should be always white.

Waterproof Serge.

Women can now defy rain without the aid of a mackintosh that has undergone the vulcanizing process. It is quite possible to be dressed in a waterproof garment that cannot be distinguished from any dress goods, and cut and fitted in the most approved fashion. Serge is the fabric generally chosen for this purpose, and is treated chemically in the dyeing and finishing process. This process, while adding ten or twelve cents a yard

to the cost, does not, as far as the eye or hand can tell, alter the cloth in any way, except that sometimes it makes a slight improvement, according to a writer in the New York *Times*, who gives the following information: —

This process originated in England a few years ago, and the cloth was imported under the name of "cravanette." The process was a secret one, but a finisher from one of the mills came to America, bringing the secret with him, and entered the employ of one of our mills. To-day there are many brands made in America under the various names of "pluette," "rainproof," "showerproof," etc. These are practically treated in the same way, and are all serges. The test that one mill gives its cloth to see if a new lot is all right is to have a bag made of it, fill it with water and let it remain over night. When the cloth is perfect, the outside of the bag is dry in the morning; and when the bag is turned inside out and shaken, it throws off the moisture, and is practically dry on that side also. The chemicals with which it is treated repel water like oil or wax.

Women are adopting this fabric more and more for general street wear, for it is so easily cleaned of dirt, and no one knows they are in any way prepared for rain. It is an ideal fabric for bicycling and all outing costumes. It comes in many beautiful shades besides blue and black.

Washable Waists and Dresses.

When a cotton waist is to be frequently washed, if it is not lined with a piece of the same goods or with white lawn, it should have a yoke, inside or out, of the same fabric, and a facing around and under the arm-scyes, this being where most of the wear comes. Round waists worn beneath the skirt should extend three inches below. The waist and sleeves should have the French or bag seams, which have the raw edges put together on the right side and a narrow seam taken; then they are turned to the wrong side and another tiny seam taken, thus hiding all raw edges. If cotton plaids are made upon the bias, they are apt to pull askew in the ironing. In buying embroidery to trim such gowns, remember that patterns having small holes wear the best. Such dresses should be washed out quickly and dried in the shade; do not use strong soap on them. Piqué, linen, crash, etc., should be well shrunk before they are made up into waists or dresses, allowance should be made, as they are apt to shrink.

Always turn down an inch and a half at the top of wash skirts, which can be let down when necessary. Use two threads half an inch apart in gathering the backs of skirts. Run a worsted braid along the under side of wash dresses, letting the edge barely show, and shrink the braid in boiling water before using it. In sewing on braid or velveteen, hold it, not the skirt, next to you. — *Emma M. Hooper, in Ladies' Home Journal.*

The First Element of Good Reading.

If we can get our boys and girls into the habit of reading with their minds as alert and active as their bodies are when they play tennis or base ball, that alone is worth a four years' course of study; for it is the prime element in reading right, and other benefits follow naturally. It is because so few people do read thus vigorously, but instead, look upon reading as a mere idle pastime, that the volumes on most book-shelves are so little worn, and the treasures they hold hardly conceived of by their owners.

EDITORIAL.

THE DIET CURE OF HEADACHE AND MENTAL DEPRESSION.

Dr. Alexander Haig, of London, as the result of an exhaustive study of the influence of uric acid upon the bodily functions, has arrived at the conclusion that headache, epilepsy, and mental depression are generally due to the presence in the blood of an excessive quantity of unoxidized waste substances. In a recent article this eminent investigator makes the following remarks respecting the maladies named:—

"It follows from this that uric acid is the cause of all these troubles, in so far, at least, as they are not due to other obvious mechanical causes, which I need not mention; and the treatment by diet aims at clearing the blood of uric acid, and keeping it clear. Now as uric acid, or xanthin and its compounds, which are equivalent to it, are found in all kinds of fish, meat, fowl, game, their extracts and decoctions; also in eggs; and in tea, coffee, and cocoa, and similar vegetable alkaloid-containing substances, all these things must be cut out of the diet. But as nitrogen is a matter of life, these foods must be replaced by other foods of about the same nitrogen values, such as cheeses and pulses; also by milk, cereal foods, and fruit, which contain little or no uric acid or xanthin.

"The quantities required are not difficult to calculate, if we allow, in accordance with physiology, for an adult leading an active life 3½ grains of urea per pound, and for one who is sedentary 3 grains of urea per pound of body weight per day. Thus an adult weighing 140 pounds will require, if he is sedentary, 420 grains of urea per day, and if he is active, 490 grains per day. Then, roughly speaking, urea, multiplied by 3, will give the albumen required to produce it; so that 1,260 grains of albumen would be required in the one case, and 1,470 grains in the other. And as the percentages of albumen in the above foods are given in most works on food and hygiene, there is not much difficulty in calculating, with quite sufficient accuracy, how much cheese, pulses, milk, and cereal foods a given patient should have.

"These preliminaries being settled, it is only necessary to add that nutrition, strength, and power of endurance should be quite as good on the one diet as on the other (as soon as the initial difficulties of taste and habit have been adjusted); and that, speaking generally, the diet does good in very many directions, and, as far as my experience goes, harm in none.

"As regards the uric acid headache, properly diagnosed and carefully treated by the above diet, my results have been most satisfactory. The headaches may improve at once, and, as the stores of uric acid previously in the body are eliminated, the attacks fall to one eighth or one tenth of their original frequency within twelve to eighteen months; the attacks also become at the same time much shorter and less severe. This improvement may set in at once almost from the day the diet is altered, or, on the other hand, the attacks may be decidedly more frequent during the first few weeks of the altered diet. It is necessary to be on one's guard against this, and to tell the patient beforehand that it is liable to occur; as, with those who do not understand its causation, it may have a most disheartening effect, and lead to the treatment's being abandoned.

"Its causation is simply as follows: The excretion of uric acid in the urine is, other things equal, dependent upon its solubility in the blood, and its solubility is dependent on the akalinity of the blood. With high urea and good nutrition, the blood is less alkaline than with low urea and feeble nutrition. It follows from this that in conditions of low nutrition the blood will be

flooded with uric acid from all the places of deposit in the body in which it has been previously stored. Therefore the blood will be flooded with uric acid if, in changing diet, the patient, either from habit as to the old diet, or positive dislike of the new diet, or simply want of appetite, takes it badly, and lets the nutrition down.

"Then, again, many vegetable foods introduce more alkali and less acid into the body than did the animal foods left off, and this is another cause for increased alkalinity of the blood and its consequent flooding with uric acid. From one of these causes, or both combined, the headaches may be decidedly worse during the first few weeks of treatment; but this is by no means an unfavorable sign as regards ultimate results; and is only one more proof, if any is needed, that the functional trouble is absolutely dependent on uric acid."

The writer is glad to be able to testify from his own experience to the value of the regimen outlined by Professor Haig for the treatment of nervous headache, mental depression, and epilepsy. The latter disease, while not entirely cured, is always wonderfully helped; while headache and mental depression uniformly yield to the employment of a properly arranged vegetarian diet in connection with baths, properly regulated exercises, massage, and other rational measures.

Of cereal foods we have found none superior to granose and granola, and we have found great advantage in substituting caramel-cereal for tea and coffee, which must always be discarded for the reason that the thein and caffein which they contain are practically identical with the poisons referred to by Dr. Haig. Fruit must be used freely, and we find great advantage in using properly prepared nut products, particularly malted nuts, which may be freely substituted for eggs and milk.

EMINENT NONSENSE ABOUT ALCOHOL.

Of all forms of bondage, that in which thousands of human minds are held by the authority of those who are presumed to know, or who assume to know, and who are recognized as experts, is perhaps the most productive of mischief, and there is possibly no more pernicious form of idolatry than the abject homage paid to men of science. If some physician says alcohol is a good food or a means of sustaining strength in sickness, a thousand other physicians who happen to pin their medical faith upon him accept the proposition as gospel truth, without taking the trouble to investigate or observe for themselves. Thousands of the most mischievous errors and most harmful practises have come into vogue in this way.

We are sorry to note that some of our medical contemporaries are commending Professor Pellew, of Columbia University, for his recent utterances in the daily press of New York in favor of alcohol. The professor is evidently not a physiologist, or he would not make some of the sweeping, and, from a physiological standpoint, utterly astounding statements which are credited to him. He is reported as saying that "in diseased conditions where nutrition is impaired, alcohol may be given in greatly increased amounts without intoxicating effects," from which he argues that alcohol must be, in these conditions, of the highest value, adding the assertion that "an ounce of alcohol will give as much heat as seven or eight times the same amount of beef."

According to Danilewski, as quoted by Landois and Sterling, the number of heat units contained in one gram of alcohol is 6,980, and in a gram of ox-flesh, 5,724; also, according to this accepted authority, alcohol, if utilized as a food in the body, is capable of producing only twenty-two per cent. more heat than ox-flesh or beef instead of seven or eight times the amount, as claimed by this new champion for alcohol as a food. Mr. Pellew seems not to be acquainted with the fact that "in diseased conditions where nutrition is impaired," opium also "can be given in

greatly increased quantities without intoxicating effects." Every physician is aware that under certain conditions the quantity of opium which may be given without producing narcotic effects may be four or five times as great as in normal conditions, but it cannot be argued from this that opium is of value as a food; even though the opium burned in the colorimeter would produce a certain number of heat units, this fact would not prove that when taken into the body, it could be of any service as a heat-producer.

Chemists, as a class, are not good teachers upon dietetic subjects. The chemical expert seems to forget the fact that the human body is the domain of vitality, and that its functions are not governed by the laws of chemistry. Here are a few questions which we should like to propound to Professor Pellew and all others who, like him, insist upon the food value of alcohol: —

1. Is not alcohol a product of the growth of micro-organisms? and does it not belong to a general class of substances produced by bacteria, micrococci, yeasts, and other microbes as excretory products?

2. Does not ethylic alcohol belong to a class or family of alcohols all the members of which have some alcohol in their chemical composition, and all of which possess some of the general properties of alcohol, such as avidity for water, and the power to produce anesthesia, or narcotism, the power to intoxicate, and the power to kill if taken in sufficiently large doses?

3. Does Professor Pellew know of any other substances belonging to a class of toxins or produced by bacteria which he would recommend as food?

4. Can Professor Pellew give us any reason why, if alcohol is so superior in food value, the other members of the alcohol family may not rightfully lay claim to the same high distinction?

5. Can Professor Pellew cite a single instance in which the life of a man or an animal can be clearly shown to have been prolonged by the use of alcohol as a food in the absence of other food-substances capable of prolonging life?

Until Professor Pellew and his associates can give us satisfactory answers to the above questions, we shall hardly be prepared to admit the justice of his criticism upon the modern school of text-books on physiology, which point out the harmful properties of alcohol, and denounce its use as a sin and a crime, both against the user's own body and against society.

It would be well if scientific medical journals, before giving their endorsement to such wild assertions as those made by Professor Pellew, would take the pains to consult some of the standard authorities upon the subject of the heat value of foods, if they do not happen to have the facts in mind.

AN ATTEMPTED REVIVAL OF THE COLD WATER CURE OF PRIESSNITZ.

Something more than three quarters of a century ago, an Austrian peasant named Priessnitz began the use of cold water as an exclusive remedy in the province of Silesia. Within a quarter of a century his fame became world-wide, and hundreds flocked to the mountain village where he resided, to place themselves under his care. His methods were rude and by no means free from danger, yet so many were cured that cold water cures soon sprang up in all parts of the civilized world, and for twenty-five years or more the cold water cure was vaunted as a panacea, chiefly by empirics, although educated physicians gave it some countenance. After a time scientific physicians became interested in the subject, and made a careful study of the physiological and medical properties of water, in the same way that other remedies have been studied, and with the re-

sult that the use of water has been placed upon a scientific basis, and is now known as hydrotherapy. There are, at the present time, few physicians who do not make more or less use of water in their regular practise, but for many years little has been heard of the old-fashioned water-cure.

It is amusing to note the prodigious efforts which are just now being made to boom the so-called "Kneipp cure" in this country. The cure, as practised at Woerishofen, in Bavaria, is nothing more nor less than the empirical hydropathy of Priessnitz, from whom Kneipp acquired what little knowledge of water he possessed, with the addition of some thirty or forty common roots and herbs as medicaments. That there is value in water as a therapeutic agent is no longer a matter of question with scientific physicians or intelligent people; but empirical hydropathy is a thing of the past. Water-cure has had its day as a panacea, and in its place has come scientific hydrotherapy, based upon physiological experimentation and sound medical experience.

Sebastian Kneipp was unquestionably an honest though an ignorant man. He doubtless accomplished some good, especially among the ignorant classes of his countrymen, in the propagation of wholesome ideas of plain living, presented in a simple, paternal style, which the unlearned could easily comprehend, and was well calculated to win their confidence. But to say that Kneipp is the author of a system relating to the use of water, or any other method of treatment, for that matter, is an error, as his methods were copied from Priessnitz, practically without modification. Priessnitz, in turn, copied from older empirics, the history of whose methods was written early in the present century by the eminent Dr. John Bell, in his work on "Baths."

We have recently received a "Prospectus of the American Kneipp-Cure Company," which claims, on its title-page, to be organized with a capital of one million dollars, but, on page 30, under the head of "A People's Trust," it is proposed "to issue two hundred thousand shares of stock at five dollars each," by which it appears that the one million dollars' capital is yet to be obtained by the sale of shares to unsuspecting people who can be made to believe that "the cash receipts from the sale of the State rights by the American Kneipp-Cure Company will realize, even during the first year, more than the originally invested capital," so that the shares of the company "will be worth, in a short time, three or four times the amount of the par value."

The foundation upon which the promoters of this money-making scheme base their expectations is thus stated on the first page of their announcement: "Railroads don't pay; mines don't pay; real estate . . . is at a large discount; capital invested hardly earns one per cent.; factories are closed; business is almost at a standstill." In contrast with this picture of all other lines of business and financial enterprises, it is stated: "All sanitariums and cures, if properly managed and well advertised, do pay; and they pay large profits and fat dividends. The Keeley Cure has netted millions to the originator and his friends. The large Sanitarium in Battle Creek, Mich., known all over the United States, is simply coining money."

Nothing can be more absurd than these assertions, from first to last. Railroads do pay; business is not at a standstill; plenty of mines are paying. On the other hand, sanitariums do not pay; and the large Sanitarium in Battle Creek, Mich., is not coining money, and never did. As regards "cures," there are not very many of this class of concerns in the United States,—and none of these are paying, nor likely to pay, even if well advertised. Such concerns may, by ingenious advertising, be made to pay for a short time, but we have yet to see a single one which has held its head up long enough to pay the original investment. One of the largest enterprises of this sort was saved from bankruptcy by a big fire which consumed it, and thus made the insurance money available.

But the Kneipp-Cure Company has more than one string to its bow; it will keep herbs to sell, also bread, butter, soup, pills, coffee, clothes, shoes, water, soap, and other things.

They claim to have bought a spring in Vermont, to be called "Kneipp Water."

The most unique feature of this business is thus described: "The American Kneipp-Cure Company has a special herb feed with which the cattle on the farms of the company will be fed. This germ-free food enables the cows to produce a pure milk, and there is no doubt but that the pure dairy farm products will be in great demand." This prospectus reads much like an advertisement written up by a patent medicine man; and while it may capture a few persons lacking in worldly wisdom, we do not imagine that it is likely to grow to very mammoth proportions. As Abraham Lincoln said, "You can fool a part of the people all of the time, and you can fool all of the people part of the time, but you can't fool all of the people all the time;" and it is not to be expected that the intelligent American public, at this late day, are likely to be deluded into a cold-water-cure craze such as passed over the country in the days of Priessnitz's popularity.

We are not sure, however, but that some good may come of the agitation of Kneippism in America in arousing the attention of the public to the utility of so simple a remedy as water, and thus indirectly leading to the more extended employment, in a rational manner, of this valuable curative agent.

UNIVERSITY CRIPPLES.

THE ancient Greeks wrote over their temples, "A sound mind in a sound body," and made gymnastics and physical culture obligatory for every citizen, women as well as men. The modern university gives ample attention to the Greek language, but neglects Greek gymnastics, or at most only makes them, like morning prayers, optional with the student. The man whom the university is undertaking to make fit to be a leader in society, an example of cultivated manhood, a governor or a president, is allowed to smoke cigarettes, to drink wine or bad whisky, to dine upon the most indigestible of messes, to spend his nights in dissipation, to become pale or sallow, lank, hollow-eyed, and wizened, "sicklied o'er with a pale cast of thought," — anything he likes, if he is only able by the aid of a coach or a tutor to get through his examinations, and makes the necessary number of appearances in the class-room.

Plato called a man "lame" because he neglected his body while exercising his mind. The annual crop of university cripples turned out upon the country is something appalling, and this multiplying host of one-sided, adumbrated men, the majority of whom never recover from the damage inflicted upon them during their college days, are largely responsible for the numerous social and political muddles which the wisest heads are just now so much perplexed to solve.

When the university finds its mission to be to make men, rather than scholars; to develop rather than to drill; to draw out of the student what God has put into him, rather than to cram into him the accumulated rubbish of the ages, — then we shall begin to hope for the decline and ultimate extinction of the dyspeptic literati who fill our periodicals with pessimistic bosh, and burden society with ne'er-do-wells.

Meat Extracts Not Foods.

Professor Von Voit, of Munich, Germany, has announced the result of recent researches concerning the nutritive value of meat extracts.

The professor asserts that these extracts consist chiefly of excrementitious alkaloids, such as creatin and creatinin, which have been proved to have no nutritive value whatever. They very closely resemble, in composition, thein and caffein, the poisons present in the tannin of tea and coffee, and produce similar effects.

We are not at all surprised at this discov-

ery. The surprising thing is that any one should ever have supposed it to be possible to concentrate the nutritive properties of thirty or forty pounds of beef into one pound of beef extract, as claimed by the manufacturers of Liebig's Extract of Beef and similar preparations. Beef-tea is simply a solution of the excrementitious elements of the meat.

The only portion of the flesh of an animal which is possessed of real nutritive value is that part which has been alive and active before death. These living structures are not soluble; if they were, an animal which happened to fall into the water would dissolve like a lump of sugar. During life there is a small portion of nutritive material in solution in circulation in the body. After death this small amount of soluble food material is rapidly converted into excrementitious matter; and, as the skin, kidneys, and lungs cease their action, these poisonous substances rapidly accumulate within the body, the molecular or cell life of the body continuing some hours after death.

It thus appears that beef-tea, as a French physician recently remarked, is "a veritable solution of poisons." The only portion of the flesh which has any nutritive value is that which is thrown away in making the beef-tea or extract. The popular faith in beef-tea as a concentrated nourishment has, however, become so thoroughly rooted that some time will be required to rid the world of this erroneous idea; but it is highly important that information upon the subject be disseminated as rapidly and widely as possible, for there is no doubt that many lives are annually sacrificed as the result of adherence to it.

ANSWERS TO CORRESPONDENTS.

ROLLED OATS — WATER DRINKING — GOAT'S MILK — BEANS.— Mrs. G. E. R., Michigan, asks: "1. Are dry rolled oats good food? 2. Should a person make a practise of drinking a certain amount of water every day, whether he has a desire for it or not? 3. Is goat's milk purer than cow's milk? 4. Is it good food? 5. Are beans improved by turning off the water twice, or is once sufficient?"

Ans.— 1. Yes, if thoroughly cooked and properly eaten.

2. Yes, unless the food is wholly composed of fluid.

3. No; but it is somewhat less likely to contain the germs of tuberculosis, or consumption.

4. As good as the milk of any animal.

5. If the process of parboiling is carried to an extreme, the nutritive value is diminished.

ACID DYSPEPSIA.— A correspondent, J. S. F., in Tennessee writes: "I have had acid dyspepsia for about six months. By following in part the dietary suggested in your book, 'The Stomach,' I am much improved; but every morning, on awakening, my tongue is covered with a slimy coating, often accompanied by a foul, brassy taste. If I eat no supper, the result is the same, though the coating is not as thick as when I eat a hearty supper. 1. What is the cause of this? and what the cure? 2. How is corn bread regarded as an article of food? 3. Is not Horlick's Malted Milk a good food?"

Ans.— The cause of this condition of the tongue is the growth of germs in the stomach and in the mouth. Discontinue eating supper, eating nothing later than four o'clock. Let the diet consist wholly of fruit for two or three days, and take nothing but fruit for one of the two daily meals for a week or two more. Eat dry foods, such as granose, bromose, zwieback, and similar foods. Cleanse the mouth thoroughly before and after each meal; antiseptic dentifrice is the best cleansing agent. (Sold by the Sanitas Supply Co., Battle Creek, Mich.) Avoid mushes; wear a moist abdominal bandage at night.

2. Corn bread made with water is a very wholesome article of food.

3. We find milk injurious in most cases of indigestion.

NEURALGIA.— H. C. M., of California, writes: "I have attacks of pain in the chest, sometimes in the region of the heart, and again on the right side, lasting from two days to a week. During this time I can take only short inspirations, and cannot lie on the side where the pain is."

Ans.— The patient is probably suffering from intercostal neuralgia. Apply hot fomentations on the affected side three times a day, one half-hour at a time, and keep them hot by frequent changing. The local application of the faradic current is also a most excellent measure in these cases.

BROMOSE — CONSTIPATION — INFANT FOOD — LIME-WATER IN BABIES' MILK.— Mrs. J. M. C., of Michigan, asks: "1. What treatment and diet would you advise for a person greatly troubled with constipation? 2. Is bromose a good food in such a case? 3. What is a good diet for infants when cow's milk disagrees with them? 4. Is lime-water as good as claimed to put in babies' milk?"

Ans.— Eat dry food which requires mastication, as zwieback, granose, etc., and use an abundance of ripe fruit. Do not drink at meals, nor until two hours afterward. Have a definite time for the bowel movement, preferably after breakfast, and persist in the habit. Use abdominal massage, and exercise out of doors. Wear a wet abdominal girdle every night. Use nuts freely; malted nuts, bromose, nuttose, and all nut preparations are conducive to intestinal activity. Constipation is sometimes due to deficiency of fat in the dietary; this lack is supplied in nuts. Drink a glass of cold water half an hour before breakfast. Antiseptic charcoal tablets, two or three after each meal, are helpful in many cases.

2. Yes.

3. Gluten gruel or malted nuts for a child eight or nine months old; also granose moistened in oatmeal water or fruit juice. When cereal foods, such as gluten, granose, oatmeal, barley water, etc., are employed, cream or malted nuts should be added to supply the necessary amount of fat. Many children suffer from a deficiency of fat in their dietary.

4. Lime-water is sometimes very useful, but should not be used very long at a time, as it tends to produce disturbances of the digestion. Barley or oatmeal water is practically as good as lime-water, and is free from disadvantages.

NEURASTHENIA — SMOKING — IRRITABLENESS.— A correspondent from Illinois (A. S.) asks: "1. How long does a patient usually suffer from neurasthenia? 2. Would spitting a great deal from tobacco-smoking cause it? 3. What causes a person to be easily confused, to have a lack of confidence in himself, and to feel cross and irritable?"

Ans.— Just as long as nature's laws are violated, and no effort is made to correct the conditions that lead to the paralysis or loss of nerve energy.

2. Yes, tobacco has a very decided effect upon the respiration, producing short, rapid breathing. The patient probably has what is known as tobacco heart. The sighing following respiration is also a sign of tobacco poisoning.

3. Poisoning due to indigestion; extreme nervous exhaustion.

BALDNESS FROM A SCALD — DREAMING — THE PERFECTION VAPORIZER.— B. B., of North Dakota, writes of a little boy who was burned on the head with hot grease last December. He asks: "1. What can be done to make the hair grow on the spot? 2. What will prevent one from dreaming? 3. Will the Perfection Vaporizer advertised in GOOD HEALTH cure deafness?"

Ans.— 1. Hair cannot be made to grow on a scar involving the deep layers of the skin, which is the condition no doubt existing in this case.

2. Dreaming is often the result of eating shortly before retiring, and sometimes of overexercise, either physical or mental. We would suggest a full bath at 92° F., for thirty minutes just before going to bed.

3. The Perfection Vaporizer properly used will in many cases help deafness caused by catarrh.

LITERARY NOTICES.

STRATEGIC POINTS IN THE WORLD'S CONQUEST.— By John R. Mott. Published by Fleming H. Revell Company, Chicago, Ill.

This attractive volume is full of special interest to those who are acquainted with the different organizations with which Mr. Mott has been closely associated; viz., the World's Student Christian Federation, the Student Volunteer Movement, and the Inter-collegiate Young Men's Christian Association. We met the author at the first great convention of the Student Volunteer Movement, held in Cleveland, O., some years ago, and were then impressed with Mr. Mott's enthusiasm; and the same spirit pervades this book, which is an account of his trip to Europe, Syria, Palestine, Egypt, India, Ceylon, China, Japan, and Australasia in the interest of Christian work. The book is well written and full of interest.

A LIFE FOR A LIFE, AND OTHER ADDRESSES.— By Professor Drummond, with a tribute by D. L. Moody. Fleming H. Revell Company, Publishers, Chicago, Ill.

Anything from the pen of this well-known author and teacher needs little comment. The booklet before us contains three chapters, consisting of the addresses delivered at the Students' Conference held in Northfield, Mass., in 1893.

FIRESIDE READINGS FOR HAPPY HOMES. —By H. L. Hastings. Published by the author, at 47 Cornhill, Boston, Mass. Paper, 50 cents; cloth, $1.50.

This book is well named, for it is certainly intended to brighten home life and to add to its cheerfulness. It is a collection of sketches, incidents, and instructive thoughts which are terse, pithy, brief,— just the book for a few moments' reading at a time. It is well adapted to the young.

CURRENT LITERATURE is a carefully prepared review of the best in poetry and prose by writers of the present time, with compilations and extracts which make up a collection of choice reading. George W. Cable, the author, conducts the publication, which well merits its claim to being indispensable to every public or private library. Current Literature Publishing Co., 52 Lafayette Place, New York.

THE *Christian Educator*, a new monthly recently come to our table, is what its name indicates. It aims to deal with all the branches of education from a Bible standpoint, and is the exponent of the principles of education recently adopted by the Battle Creek College and its sister institutions. The *Educator* is a 16-page journal, neat in appearance, and filled with most excellent thoughts for both teachers and students. We bespeak for the new journal a wide field of usefulness. Subscription price, 40 cents per year. Address, The Christian Educator, Battle Creek, Mich.

THE July number of the *Arena*, containing the much-talked-of article on "Wall Street," by Henry Clews, one of its foremost bankers, millionaires, and leaders, with an answer by the editor, John Clark Ridpath, along with other articles on vital subjects, will be sent (post paid) by the publishers to any one sending them ten cents. The regular price of the magazine is twenty-five cents a copy; $2.50 a year. The Arena Publishing Company, Copley Square, Boston.

PUBLISHERS' DEPARTMENT.

THE Battle Creek Sanitarium has been brimful of patients during the entire summer, and the number of guests is still much larger than ever before at this season of the year. The total family numbers between twelve and thirteen hundred persons, and every nook and corner of the institution have been filled for several weeks past, also the large dormitories connected with the Battle Creek College which were leased for the summer for the purpose of caring for the overflow. Not only has the large dining-room been filled, but a smaller one which has been constructed at the west end of the gymnasium; and tables have also been set upon the porch at the south entrance, and in the waiting-rooms of the offices along the hall. Nevertheless peace and quiet have reigned to a remarkable degree. The surroundings of the institution were never so beautiful as now. The great trees scattered over the lawn afford a delightful shade. The greensward is variegated with beds of beautiful foliage plants and ornamented here and there with magnificent palms, which were purchased many years ago, and are now grown to unusually large proportions. The porches are fringed with a profuse growth of foliage plants, geraniums, and other flowering plants of various sorts, and a quiet beauty reigns which is most refreshing and restful. The family of patients during the present season has included a larger number of distinguished people — governors, senators, financiers, mayors, and other persons of note — than ever before, and the remarkably excellent results which have been obtained in the treatment of difficult cases, which had in a number of instances been pronounced hopeless, has resulted in a great increase in the prestige and reputation of the institution.

THE facilities of the Chicago Sanitarium have recently been materially improved by the addition of a chemical and bacteriological laboratory to be under the charge of Dr. Holden; and most critical analyses of stomach fluids and similar investigation can now be made in Chicago as well as at the Sanitarium in Battle Creek, Mich. These two laboratories are the only ones in the United States at which exhaustive investigations of this kind are now being systematically conducted.

THE BEST WINTER RESORTS.

As the cold season approaches, thousands of persons are casting about to determine upon the most favorable location for the winter's sojourn. We are constantly receiving letters asking for advice as to the best climate for persons suffering from pulmonary and other ailments; and until within the last two or three years we have been greatly embarrassed by such inquiries, for the reason that, although we had no difficulty in recommending a suitable climate, we were obliged to face the fact that the invalid who requires something more than climate is often unable to obtain, even in the most salubrious region, proper living accommodations. Thousands have died in Colorado and other portions of the Rocky Mountain region who might have lived if only proper diet and hygienic care could have been obtained. We are glad now to be able to refer all who require a good winter climate to the two excellent Sanitariums now in operation in the Rocky Mountain region. At Boulder, Colo., will be found the most superior advantages for care and treatment, with the opportunity to enjoy the exhilarating and renovating influence of the rare, dry, sunny atmosphere to be found only at the altitude of a mile or more above sea-level. Under the wise management of Dr. Riley and his associates at Boulder, scores of persons sentenced to die of consumption have made excellent recoveries, and are now in the enjoyment of good health, thus testifying to the merits of the admirable system of treatment employed at the Colorado Sanitarium in connection with the curative climatic influences.

For those who enjoy a cool, bracing atmosphere, we know of no place which can be compared with this well-equipped and admirably conducted institution; while those whose constitutions are so delicate as to make a complete protection from cold weather necessary will find in the Guadalajara Sanitarium, located at Apartado 138, Guadalajara, Jalisco, Mexico, a most delightful retreat from the rigors of our Northern winter; while, at the same time, they may enjoy the benefit of the advice and care of physicians and nurses who have been trained at the Battle Creek Sanitarium, and who are skilled in the regulation of dietary, regimen, exercise, etc. Guadalajara is a most delightful old Mexican town, and still retains the quaint and peculiar customs of the primitive inhabitants of this singularly interesting country. In walking along the streets one continually encounters most interesting and picturesque scenes. The altitude of Guadalajara is almost exactly the same as that of Denver, Colorado, about one mile above the sea-level. The large Sanitarium under construction at this point is not yet fully completed, but the work is being carried on in rented buildings, which are connected with a large and beautiful garden formerly the residence of a wealthy Mexican. The writer knows of no spot on earth to which he would more

delight to resort as a retreat from carking care, and none which offers more advantages from the standpoint of salubrity and climatic equanimity. During the six months of winter, perpetual sunshine reigns; snow and ice are unknown. One or two slight frosts usually occur in December, the barest suggestion of the biting wintry weather which reigns in these Northern regions. Those who may be contemplating a trip to Mexico this winter or who may be interested in the advantages afforded by the Guadalajara Sanitarium, will do well to correspond with Mr. D. T. Jones, the superintendent.

RECENT news from Cape Town, South Africa, informs us that the large Sanitarium erected at Claremont, which opened early in the year, is already full to overflowing. The new institution fitted up in Cape Town to be conducted in connection with this institution has also proved a success from the opening day. All branches of the work are rapidly developing, thanks to the earnest and persevering efforts of those connected with the work and the vitality of the grand principles which are represented by it.

WE are glad to hear from our friend Dr. Ottosen, that the proposed Sanitarium for Copenhagen is at last realized. Only a few miles distant from the beautiful capital of Denmark, sanitarium advantages are now afforded; and that this opportunity for receiving rational treatment and instruction in healthful modes of living is appreciated is shown by the fact that many patients are already flocking in to avail themselves of the superior facilities afforded.

THE editor had the pleasure of addressing a large and unusually intelligent audience in the Methodist church at De Kalb, Ill., on the evening of September 18, his subject being the gospel of health. Professors Gardner and Dunlap, who have been spending several weeks in De Kalb, have enlisted the interest of a large share of the most intelligent people of this wealthy community. One of the most pleasant features of the visit was an informal reception tendered the speaker by the mayor of the city at his own residence, which was well filled with an interesting company of the residents of De Kalb, quite a large number of whom have been former patients at the Battle Creek Sanitarium. Their healthy and vigorous appearance indicates that they are profiting well by the instruction, as well as the treatment, which they received during their stay at the institution.

WE had the pleasure of meeting, a few days ago, our venerable friend, Mr. Ferdinand Schumacher, a pioneer of the oatmeal industry in this country, and one of the foremost promoters of improved processes for the production of healthful cereal foods. Although now seventy-five years of age, Mr. Schumacher is still hale, hearty, and vigorous as ever. Each day finds him at his desk in his office, where he stands at the head of the great American cereal company whose products are known all over the civilized world. Mr. Schumacher has promised us an autobiographical sketch of his life and his efforts for the promotion of food and temperance reform. We shall have the pleasure also of presenting our readers with the portrait of this earnest apostle of temperance in all things, who is himself a living example of the virtues of a temperate and abstemious mode of living.

BY a recent letter from Dr. Loper we learn that a commodious building has been leased in Lincoln by the friends of the enterprise in that vicinity, and that several lines of charitable, relief, and rescue work will be undertaken as soon as the work can be properly organized. We are more than glad to see these evidences of progress along the lines of broad Christian philanthropy.

THE Battle Creek Sanitarium is continually sending out missionaries, trained nurses, and thoroughly educated physicians who go out to propagate the principles of the institution in all parts of the civilized world. Mr. and Mrs. George Shannan and Mrs. Reekie, *née* Hare, recently left the Sanitarium for Australia, leaving America about September 15, by way of the Vancouver line of steamers. Others are soon to follow these to their distant field of labor.

DR. HUBBARD reports that the Sanitarium at Portland, Ore., of which he has charge, is more than full of patients, numerous recent patrons having been obliged to take rooms in adjacent buildings. The owner of the fine property which has been leased for a number of years for the purposes of the Sanitarium is fitting up quite extensive treatment rooms especially for the use of the institution, an improvement which will more than double its present capacity.

SANITARIUM GUESTS.

THE following are among the recent arrivals at the Sanitarium: —

Judge O. N. Carter, an eminent judge in the city of Chicago.

Scott E. Walker, iron manufacturer of Leetonia Ohio.

Spencer Van Petten, well-known business man, and postmaster of Genoa, Ill.

W. E. Skeggs, prominent lawyer in the South, Decatur, Ala.

W. W. Mc Collough, dealer in coal and lumber, Monmouth, Ill.

Dr. A. D. Bellamy, Florence, Ala., formerly of Grand Rapids, Mich.

Wm. Ziock, proprietor of the Ziock Hosiery Factory, Rockford, Ill. Also Mrs. Ziock and daughter.

William Peter, owner of various woolen mills and sawmills, and extensively engaged in the lumber business, Columbiaville, Mich.

Judge J. M. Gould, Moline, Ill., manufacturer and bank president.

Mrs. Anna Prather, president of the W. C. T. U. of Cleveland, O.

Geo. Nelson, son of C. N. Nelson, Esq., leading lumber-merchant of New York City.

Mrs. Helen M. Barker, national treasurer of the W. C. T. U., wife of Rev. Moses Barker, Chicago, Ill.

C. A. Ramsey, prominent banker of St. Mary's, Ontario.

Chas. P. Crumb, son of D. S. Crumb, Esq., real-estate dealer of St. Louis, Mo.

W. M. Drennen, well known merchant of Birmingham, Ala.

L. H. Thullen, electrical engineer, Leetonia, O., also Mrs. Thullen.

J. C. Nielsen, president of the Missouri Malleable Iron Co., St. Louis, Mo.

H. Newhart and W. R. Bagley, senior medics of the University of Michigan, Ann Arbor, Mich.

Miss Jern Cook, sister of Thos. R. Cook, Supt. City Water-works, Toledo, O.

E. N. Miner, editor and proprietor of the *Stenographic World*, New York.

Rev. Hugh Stackhouse, Greenfield, Ind.

SCHOOLS OF HEALTH are now being organized in Cincinnati, Cleveland, Toledo, Columbus, and Springfield, in the State of Ohio; at Peoria, DeKalb, and Chicago, in Illinois; and at sundry other places. The enthusiasm manifested by the organizers is most encouraging, but a still more encouraging feature of the work is the interest shown by the public in this novel educational scheme. Nothing of the sort has ever before been undertaken by any association. The purpose of these organizations is to carry the gospel of health into every community, to large and small, not only by means of books, magazines, and tracts, but by living teachers, who will be able to illustrate practically the principles which they teach.

THE Sanitarium Summer School, after continuing the full ten weeks for which the course was organized, closed on September 13, and as a result of the thorough instruction and training which has been given during the course, sixty-five trained workers have already gone to Chicago to engage in missionary work. The attendance during the course was between three and four hundred. The success of the enterprise has far exceeded the most sanguine expectations of its promoters, and plans have already been made for a similar school next year.

THE ELIZABETH GOWN.

THE gown shown this month is a product of the Dress Department of the Battle Creek (Mich.) Sanitarium. Cloth models of any gown shown in GOOD HEALTH will be sent on receipt of $5 with the following measurements: Bust, waist, hips, under-arm from armhole to waist, down front from hollow in neck to waist, down back from bone at back of neck to waist, around neck, length of sleeve inside seam, around arm below elbow, length of skirt from waist to floor in front. Address,

The Sanitarium Dress Dept., Battle Creek, Mich.

A WORD TO OUR FRIENDS.

THE publication of this magazine is conducted purely as an educational enterprise. No individual has any financial interest in the business conducted by the Good Health Publishing Company, which is simply the commercial name of the educational department of the Battle Creek Sanitarium. The journal is not published in the interests of the Sanitarium, and never has been devoted to the exclusive interests of this institution. Its sole object is the promulgation of the principles of wholesome living; hence we have no hesitancy in asking the friends of dietetic reform, dress reform, physical training, and general health culture everywhere to aid us in the work we have undertaken by bringing this magazine to the notice of their friends, and inducing them to become subscribers.

The editorial corps aim to make every number of the magazine an epitome of hygienic and sanitary progress, and well worth the entire yearly subscription price. Notwithstanding the fact that we have printed large extra editions of recent numbers of the magazine, the increase of circulation has been so rapid that the supply of back numbers is nearly exhausted; we are still able, however, to supply a very limited number of the January, February, March, May, and July issues.

WHAT OUR SUBSCRIBERS THINK OF GOOD HEALTH.

A PROMINENT physician of Peoria, Ill., writes: "I have very carefully examined the journal entitled GOOD HEALTH, edited by Dr. J. H. Kellogg, and consider it a very valuable magazine, full of good points in very entertaining form. Consider me a subscriber."

Elder D. H. Lamson, of Michigan, writes: "We have had GOOD HEALTH in our family since its first issue. We value it very highly, and would not want to be without it."

From A. Vincent: "My father has been a regular subscriber for GOOD HEALTH for twenty-six years. He says that GOOD HEALTH has cost him more than any cow he has, but that he does not know what it has saved him, for we have not had a physician in our family any more than if there were not one upon the earth. So you see we are enthusiastic supporters of these principles."

From a lady in Chicago: "Accept my sincere thanks for your prompt response to my order for GOOD HEALTH. The magazine is beautiful in its new form, and better in reading-matter than ever before. I cannot understand how I have been so long without becoming a constant subscriber.

"I own a whole volume of several years back, left by an outgoing family in the flat, and I cannot tell you how I prize those numbers, and how I have pored over their helpful pages. All the writers, editor, and publishers seem as near to me as personal friends. I often wonder if you know half the good you are doing, and I long to follow in your footsteps, for there is so much need of spreading the good influence, the 'religion of the body.' It is my religion, and has been for years.

"I grow stronger in the faith and practise of glorious good health principles, and will do what I can toward freeing the slaves of fashion and training my own three girls. I cannot thank you enough for the help I find in GOOD HEALTH."

Another says: "I have five to feed, four to clothe, and furniture to buy. My last sack of flour is unpaid for, the rent is behind, and the way dark." But he sends one dollar for GOOD HEALTH.

One man to whom some sample copies were sent sold all but one of them before he reached home, and said he could have sold "a bushel."

Several express appreciation of the untechnical manner in which the magazine is written, the instruction being so plain that any one can understand it.

Many say they consider it the best health journal published.

The *Sanitarian*, a contemporary, has this to say: —

"GOOD HEALTH is in a good deal better health since the beginning of the year, for having dispensed with much surplus tissue. The reduction of its external dimensions is fully compensated by its internal solidarity. It always contains a tempting dietary for the sanitary appetite — excepting oysters, which it holds inexcusable for not running away from man's wicked devices."

A publisher writes us as follows: "Being very much interested in the crusade against the use of tobacco, particularly cigarette-smoking, I have been very glad to see the articles which have recently appeared in your magazine on this subject. I am making a collection of such items, and have found the best material for my collection in GOOD HEALTH."

THE Klondike Country and Colorado are now the two principal gold-mining fields in the world. We can give you information about both, but as the Klondike Country will be impenetrable until next summer, why not go to Colorado this fall and look over the golden opportunities of that State?

It is cheaper and easier to go to Colorado, and we will venture that more net money can be made in Colorado in twelve months, with less capital, than in the outskirts of the Arctic Circle during the same period, at forty times the expense.

Ask the nearest agent for the price of tickets to Denver, Leadville, or Cripple Creek, and tell him to send you via Chicago and Omaha over the Chicago, Milwaukee & St. Paul R'y, in the through sleeping-car from Chicago to Denver.

For further information address Harry Mercer, Michigan Passenger Agent, 7 Fort St., W., Detroit, Mich.

A NEW THROUGH PASSENGER ROUTE FOR COLORADO, UTAH, AND CALIFORNIA.— The Chicago *Times-Herald* of August 27 says that on September 12 the new traffic alliance between the Chicago, Milwaukee & St. Paul Railway and the Chicago, Rock Island & Pacific Railway goes into effect, and on that date the former will send its first Denver sleeper out of Chicago. This will be attached to its regular night train for Omaha, and will be delivered there to the Rock Island. On October 2 the tourist car route over these two lines, the Colorado Midland and Southern Pacific, will be inaugurated. Tourist cars will be run once a week between Chicago and San Francisco. For further details regarding this new route, call on or address Harry Mercer, Michigan Passenger Agent, C. M. & St. P. Ry., 7 Fort street, W., Detroit, Mich.