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Where Should an Invalid Spend the Winter?

THE answer is easily found.

The invalid should spend the winter where he may find greatest profit for his health.

Shall it be a warm or a cold climate?

There are considerations to be thought of.

Warm weather in winter time is an attractive novelty.

Flowers, palms, bananas, and other tropical growths in January are delightfully luxurious and seductive.

But the system needs the stimulus of cold, dry air. There is no other tonic half so valuable.

Heat depresses, enervates, weakens, lowers vital resistance, breeds germs, and invites disease.

The delights of a tropical winter annually allure away from the frost and snow of the north thousands who are quite unconscious that Jack Frost, though a very austere and blustering sort of fellow, is, after all, a good friend, and especially to chronic invalids.

The keen, cool, crisp, oxygen-laden air of December to January is the purest, sweetest, most healthful of the year. There are no germs in it, no dust in it, no poisonous gases of decay from bogs or barnyards in it; only pure, life-imparting oxygen; condensed, vitalizing, stimulating, appetizing. Appetite, as Pawlow, the St. Petersburg savant, has shown, means gastric juice — digestive power.

So cold air purifies the blood, energizes the heart, puts new vim into the muscles, helps the stomach, wakes up the liver, lifts the whole being to a higher plane of life.

The "winter constitution," which all animals put on when cold weather comes, is hardier, tougher, more enduring, more resisting to disease than the feebler "summer constitution" which springtime brings to northern dwellers, and which tropical animals and men have all the year round.

This "winter constitution" is just what the chronic invalid needs.

The consumptive gets it by living out of doors in a tent, sleeping with windows open, and getting close to nature. The "winter constitution" which he cultivates, eats up the germs which are consuming his lungs, and thus cures him. It is the cold air that does the work.

The most successful consumption resort in the world is Davos, a winter resort in the Swiss Alps, near the Engadine, where the snow is six feet deep and the temperature close to zero all winter. Every winter, hundreds of tubercular patients from all parts of the world resort to Davos to take the "cold-air cure."

Cold air cures. There is no doubt about it when it is accompanied by wise and skilful management and careful regulation of diet. Highly nourishing, easily digestible food, massage, electricity, baths and other sanitarium methods are essential for the fullest success.

That which will cure that dreaded disease, consumption, will cure almost every other chronic malady.

The body heals itself. What the sick man needs is a more vigorous body and cleaner blood, for "it is the blood that heals."

There is, perhaps, no place in the United States where an invalid can be so comfortable in the wintry weather of the year — late autumn, winter, and early spring — as at the Battle Creek Sanitarium.

There is no winter inside of the great absolutely fireproof main building of the Battle Creek Sanitarium: an artificial climate (70° F. during the day, and 60° F. at night); perfect ventilation for each room; pure warm air in rich abundance — 9,000 cubic feet per hour for every guest. This is the way that out-of-door purity is maintained. Warm floors; kitchen and dining-room at top; no smells; solid walls, partitions, and floors, — no place for bugs; no harmful drafts, no dust.

There is probably no place in the region of frost and snow where an invalid can find so favorable conditions for wintering as at the Battle Creek Sanitarium. Nowhere else has so successful an effort been made to create an artificial climate, on a scale large enough to meet the needs of several hundred invalids. In the great solid structure summer reigns from October to April more uninterruptedly than from May to September. There are no chilly mornings or evenings; no raw, damp nights; no cold, drizzly days; and on the other hand, no oppressive tropical heats. Seven acres of floor space inclosed by heavy impervious walls through which the cold can not penetrate; thick stone floors which, once warmed by the radiation from heated steam pipes, remain warm the whole winter through, making cold feet from cold floors impossible, — a difference of not more than ten degrees between day and night; air always dry, pure, full of ozone, unmatched by

any natural climate on earth; with palms, flowers, foliage everywhere, to remind one of summer.

Thus perfect protection is offered those who need it, while those who need to be hardened by contact with cold air, are able to secure the benefits of this great invigorating force whenever desired, day or night, and to any desired degree or extent. In the summer season this great healing force is available only in small measure by means of cold baths, ice rubs, and fans; but in the winter season, the keen frosty air is everywhere ready to be put to work as the great uplifting power it is when rightly applied.

Warm air comforts and allures,
But cold air hardens and cures.

A mammoth gymnasium for exercise; two great swimming pools; a grand solarium; ingenious mechanical exercise machines; and a great palm garden in which the patient may easily imagine himself in a tropical clime as he sits cosy and warm under a great palm or a banana tree rising twenty feet above his head, — these are features well calculated to produce an atmosphere of summer in the coldest weather.

One does not realize it is winter until he looks out of doors, except for the buoyancy of his spirits, the elasticity of his step, the keenness of his appetite, and the joy of living, which returning vigor brings.

Under the doctor's prescription, excursions are made into the outer region at the proper hours and with suitable precautions,— sleigh-rides, tobogganing, walks, skating, and skiing for strong folks; "air packs," that is, lying out of doors enveloped in cold proof wrappings, for feeble folks,— from which everybody comes back with a keen appetite for the nourishing, easily digestible food which the Sanitarium menu supplies in rich abundance. Nowhere in the world can an invalid find such a rich and endless variety of wholesome, toothsome, tempting delicacies, easily digestible, even predigested, and so daintily served, as at the table of the Battle Creek Sanitarium.

The winter season, under right conditions, affords the chronic invalid the best possible chance for recovery. All persons suffering from a chronic malady are in need of one and the same thing; namely, more health,— a higher degree of vitality, of resistance, higher nerve tone, higher digestive tone. Hence every chronic sufferer requires tonic treatment — tonic conditions. The winter season alone provides continuous tonic conditions. The dense air, containing from one-eighth to one-fourth more oxygen than midsummer air, stimulates all the vital processes to a higher degree of activity. Air is a curative force, in operation day and night, and steadily lifts the patient up to a higher level until the ebbing tide of life turns backward, and the renovating forces of the body resume their activities with all the old-time vigor.

An outdoor sun bath finds a complete substitute in the electric bath. Powerful arc lights concentrated upon the body by means of highly polished metal reflectors produce effects the most powerful of which light is capable. In three or four minutes the skin may be as red as if exposed to the sun for half an hour, and in seven or eight minutes a veritable sun burn may be produced when this is desirable. An eminent French doctor in prescribing for some puny infants presented to him by a titled lady, horrified her by the command, "Roast them, Madam. Roast them,— in the sun." An electric-light "roast" may be four times as powerful as a sun bath, thus securing the effects of the actinic rays in a very much shorter time. The actinic ray of the arc light is much more powerful in proportion to the amount of light than that of the sunlight.

During the winter season the phototherapy department of the Battle Creek Sanitarium is thronged from morning till night, and is fairly ablaze with the glorious health-imparting rays sent forth from a number of powerful arc lights especially constructed for the purpose.

Life is never dull at the Battle Creek Sanitarium. The patients are kept busy all day getting well. There is no routine treatment. Each patient has a program providing something to be done every hour, which will give him an uplift. With rare exceptions, improvement is experienced with the very first application made, and the healing impulse gathers energy from day to day. The patient soon sees through the philosophy of the Battle Creek Sanitarium System, and learns how to co-operate with the physicians in their work, not of healing,— for doctors can not heal,— but in pointing out the way, removing obstacles, and co-operating with the mighty healing forces of nature, which, divinely implanted, are divinely guided. The same power which created, heals. Healing is re creating.

A school of health is in progress during the entire winter. Afternoon classes and evening lectures give every patient an opportunity to obey the injunction of the great philosopher, "Know thyself," and by acquiring this knowledge he can learn, not only how to get well, but how to keep well.

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Announcement

J. H. KELLOGG, M. D., EDITOR

WITH the January number GOOD HEALTH will enter upon the fortieth year of its advocacy of the principles of natural living. Forty years of effort in the campaign against the evils and abnormalities of our perverted, civilized life have not dampened the ardor of those whose lives have been devoted to the promotion of this movement.

The world is growing sicker every day. The effects of evil habits in eating, drinking, and the general conduct of life are daily becoming more and more evident. The mission of GOOD HEALTH is to point the way back to the old paths.

During 1905 GOOD HEALTH will present in a more attractive and interesting form than ever before the various phases of the numerous questions which relate to the physical welfare of man. The services of a large corps of able writers and collaborators have been secured. These are not mere theorists, but physicians who are in close touch with all the vital problems involved in getting well and keeping well.

Each quarter one number will be devoted to some special subject. The February issue will be a Physical Culture Number. Special attention will be given to the question of physical culture for invalids, sedentary people, growing children, and the gymnastics of ordinary labor.

The May issue will discuss in a practical manner the outdoor life for sick and well of all ages.

The midsummer issue will be a Mothers' Number, and will be brimful of practical information on subjects specially appropriate to the season, particularly respecting the care of infants, infant feeding, etc.

The special autumn number (October) will be packed with fresh, interesting, and practical information upon the subject of food and diet from the natural, physiologic standpoint.

Each number during 1905 will contain new recipes for healthful and tasty dishes.

The Chautauqua School of Health will be continued as during the past year. This department has attracted much attention, and has served as a basis of study for numerous health clubs which have been organized in different parts of the country.

As a new feature a Children's Page, in charge of Miss E. E. Adams, will be added. It is safe to promise that this will be a rare treat for the children.

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A THANKSGIVING DINNER

GOOD HEALTH

A Journal of Hygiene

VOL. XXXIX NOVEMBER, 1904 No. 11

A THANKSGIVING DAY

I THANK Thee, Father, for this sky,
Wherein thy little sparrows fly;
For unseen hands that build and break
The cloud pavilion for my sake,—
This fleeting beauty high and wild
Toward which I wonder as a child;
Thanks for the morning's stir and light,
And for the folding hush of night;

Father of life, I thank Thee, too,
For auld acquaintance, near and true—
For friends who came into my day
And took the loneliness away;
For faith that held on to the last,
For all the fold and surge of bloom,
For leaves gone glorious to their doom.

I thank Thee for the strengthening hills
That give bright spirit to the rills;
For blue peaks soaring up apart,
To send down music to each heart;
For treetops wavering soft and high,
Writing their peace against the sky;
For forest farings that have been,
For this full rain that shuts me in,
Giving to my low little roof
The sense of home, secure, aloof.

For all sweet memories of the past,—
Dear memories of my dead that send
Long thoughts of life and of life's end,
That make me know that light conceals
A deeper world than it reveals.

—*Edwin Markham.*

EXERCISE FOR THE AGED

BY J. H. KELLOGG, M. D.

OLD age is due to changes which take place in the arteries. The most important of these are a general contraction of the blood vessels, a thickening and loss of elasticity of their walls, and especially a shrinking in the size of the pulmonary artery. In consequence of these changes the blood supply of every organ is to some extent diminished. Recent observations have shown, however, that the arteries which convey the blood to the brain retain their natural size, taking on these changes much later than other parts of the body. Hence it is that the brain maintains its integrity to a more advanced age than do most of the organs. This very fact shows the value of exercise in delaying the approach of old age. The average brain does more work as years advance, while the average body does less. It is only the

brain that has been accustomed to constant systematic activity that is exempt from the senile changes that occur in other parts. A habitually inactive brain always gives early evidence of mental decay.

These degenerative arterial changes which take place in old age result in the loss of the transparency of the tissues as well as in the loss of suppleness and elasticity. Live and highly vitalized tissues are transparent, or nearly so. In advanced age the skin has a muddy appearance. The eye loses its natural luster, owing to the dinginess of the sclerotica and the diminished transparency of the humors of the eyeball.

In the museum at Stockholm there is a very interesting collection of eyes taken from human beings at different ages. They are cut across in such a way as to exhibit plainly the internal and the external eye. In these specimens it is easy to observe that the eye of the young child is as transparent as water; that of the youth is a little less so; in the man of thirty the eye begins to be slightly opaque; in the man of fifty or sixty it is decidedly opaque; and in a man of seventy or eighty it is dull and lusterless. This gradual development of opacity is due to the increase of fibrous tissue and the deposit of waste matters in the eye.

The degeneration of the eye is simply illustrative of the change that takes place in the whole body. There is the same loss of transparency in the muscles, the bones, the glands, the brain. It is due to the imperfect action of the eliminative organs, giving rise to the accumulation of débris in all parts of the body. In early life the pulmonary artery is larger than the aorta. This facilitates the circulation of the blood to the lungs, and secures perfect aeration and purification of the blood. With advancing age the pulmonary artery diminishes in size, becoming smaller than the aorta, and thus the blood is less perfectly oxygenated than in youth, and the tissues are less highly vitalized.

The blood vessels have muscular fibers in their walls. When the individual begins to grow old, this muscular tissue begins to disappear, and fibrous tissue to take its place. The fibrous tissue has an important work to do. It holds in place every cell, muscle, and vein. It thickens the walls of the blood vessels so that they lose their elasticity and their power to contract. The channel through which the blood flows becomes smaller. When the heart contracts and the blood current is sent on, the arteries are no longer stretched so as to be able to contract with vigor, but remain rigid. They lose their strength and capacity for resisting pressure. Ultimately the small arteries become withered, until the blood can not get through at all. This withering of the arteries results in the shrinkage of all the organs of the body: the lungs contract; the heart becomes smaller; the kidneys are shriveled; the skin undergoes a sort of fibrous change and loses its bloom; the fibrous tissue becomes calcareous, or chalky.

The right kind of exercise, however, can do much to modify and delay all these changes. It counteracts better than any other agency the tendency of the skin, liver, kidneys, and other eliminative organs to become inactive. It arouses the heart to increased activity, thus pumping the blood vessels full of blood, distending them to their utmost capacity, and thereby antagonizing the process of shrinking.

But the old person's heart being weak, when he undertakes too violent exercise, that organ can not send enough

blood to the muscles, and the latter quickly become fatigued. The lungs and kidneys, not being able to work so vigorously as in early life, are unable to eliminate the ordinary waste products as they are formed in the body; hence an excess of tissue-poison is always present in the body of the old man, so that a smaller quantity of the peculiar poison resulting from muscular overwork is sufficient to produce such a degree of autointoxication, or systemic poisoning, as to cause fatigue and shortness of breath. Therefore the exercise of old people should be of the most moderate character. All straining and violence must be avoided, and all such exercises as produce palpitation of the heart or breathlessness.

It must not be expected that the old man's muscles can be made to grow larger by exercise. All that he can hope to do is to improve their quality and to preserve to some degree their elasticity and strength. Neither can the chest capacity be increased to any great extent. But by a large amount of very moderate exercise the old man can greatly improve the flexibility of joints that have become rigid. If the joints have been neglected until all their articulating surfaces have been diminished, their flexibility can not be greatly increased. But by persistent and sensible treatment some slight flexibility can be secured; and it is very important to preserve the flexibility, especially of the spine, so far as possible, because every gain in the flexibility of the spinal column gives increased vigor and strength to the muscles, and helps to antagonize those changes which are almost universal in old age,— the breaking-down of the abdominal organs, prolapse of the stomach and bowels, and the general relaxation of the abdominal muscles.

For another reason the aged should be careful not to take too vigorous exercise. The lessened sensibility which comes with old age renders the person liable to consecutive or secondary fatigue; that is, he is likely to feel the consequences of excessive exercise twenty-four or forty-eight hours afterward rather than at the time it is taken.

Walking is an excellent exercise for the old, because a large amount can be done without causing immoderate excitement of the heart and lungs.

We are learning more and more to reckon age, not chronologically, but physiologically. By rational exercise, careful diet, and suitable occupations, the man who is chronologically old may preserve a physiological middle age long past the time when he is ordinarily considered superannuated.

THE INFLUENCE OF SCHOOL LIFE ON HEALTH

BY JAY W. SEAVER, M. D.

A SOMEWHAT startling report of the physical condition of the school children in one of our largest American cities has been published recently in the daily press. The statement, founded on statistics, is to the effect that one in three of the children in the public schools is affected with some form of nervous disorder. This shows itself usually in the form of mental sluggishness and depression, melancholic tendency, or some degree of choreic movement.

The cause of this exhibition of abnormal life is multiple. Much of it must be attributed to the constant nervous irritation to which city-reared children

are subjected from the time of birth. City life at present is of necessity beset with constant noise, both day and night; the number of hours devoted to sleep is comparatively small; nutrition is maintained by sugars in altogether too great abundance; and the constant contact with people entails a continued excitement of the nervous system that it can ill afford to endure before its period of maturity. But probably an influence as serious as any one of these mentioned in producing a neurotic race of people is the unhygienic school life that is led from about the fifth to the fifteenth year. These ten years represent the period when, under natural conditions of life, very little burden would be laid upon the maturing animal. No farmer thinks of working his horse until long after puberty is established and physical growth fairly complete. In rearing any healthy animals, due regard is given to the necessity for freedom of activity before a fair degree of maturity is reached. The play instinct is allowed to control both physical and mental activities to a large extent, and thereby the ability to initiate activity and acquire volitional control is matured and established for future control of life.

In the modern educational system the aim has been scholarship instead of health; for even where there is a certain amount of time devoted to gymnastic exercises during the school period, the reason for this diversion from purely mental work is found, not in the improved bodies that result, but in the relief from such mental activities as have wearied attention and the inability to continue the mental strain without some recreation. A few years ago it was proposed seriously in many localities to abolish the recess that had formerly divided the morning and afternoon session into periods of less than two hours of mental application. This limitation on physical activity soon showed such disastrous results on the health of the pupils that recourse was had to former methods, and more recently the general introduction of physical exercises in the midst of the school session has been found to add so greatly to the mental efficiency of the pupils that it is not likely to be given up.

We must face this important physiological fact in all our considerations of the educational problem,— that book work is an entirely abnormal process. If a child is found who will read and study a book in preference to play and personal investigation of natural phenomena, that child is morbid, and should be the source of apprehension on the part of parent and teacher, instead of pride and encouragement in this abnormal form of life.

We must also bear in mind that the best scholars and the best workers in the world to-day do not come from the schools where prolonged hours of book work are required for from thirty-five to forty weeks in the year, but from localities where school privileges are counted small, and where facilities for mental cramming are exceedingly poor, and cover a period that is limited to from twelve to twenty-four weeks out of the year. These facts should teach us the high value of childish liberty in securing mental development and power. The city may well be ashamed of its school product when compared with the output of the country school that is located in some sparsely settled region where the daily journey to and from school would be looked upon as beyond the power of endurance of the city child.

Another physiological fact that must be borne in mind is that the young growing child requires physical activity

not only for its physical, but for its mental growth, and that to restrain such freedom unduly will enfeeble both the mind and the body, and produce such nervous phenomena as are found to exist in a third of our public school population.

An important question, then, is: How can the deteriorating influences of school life be avoided? How can we raise children who are not neurotic, but that stand some chance of being efficient workers in the world? In the first place, we must remember the physical needs of the growing child, and must reduce the number of hours devoted to book work, especially in the lower grades. Second, we must provide for the instinctive play method of natural education. Third, we must give great attention to diversity of occupation, for the attention of the child may not be profitably confined to any one subject for any prolonged period. Fourth, we must provide for the hygiene of the schoolroom, so that children shall be taught how to live as well as how to think. Fifth, we must provide such physical exercise as shall tend to develop the body in symmetry and functional activity. Sixth, we must have teachers who shall correct the schoolroom poise and insist upon such bodily attitudes as shall secure adequate respiratory and circulatory action during the period of confinement in the schoolroom, thereby creating a habitual poise that is favorable to health and activity.

The question will now arise as to what physical exercises may properly be given in the schoolroom. I suggest that any exercises that call into play the fundamental groups of muscles will be valuable, especially such exercises as are performed by the extensor muscles of the spine, the elevators of the chest walls for increased respiratory room, and the large group of muscles in the thighs and hips. These movements are of importance because of the posture characteristic of the schoolroom, that tends to restrict respiratory movements of the chest and flatten its contour, while it confines the large muscles about the hips and thighs in such a manner as to impair the blood circulation therein and produce systemic discomfort that is disastrous to mental application, and that tends to deplete nerve centers. The running exercises that children indulge in when out of school are especially potent in calling into activity the three groups of muscles that I have mentioned above, and we can understand how the child naturally reverts to these types of movements when released from the confinement of the schoolroom.

I believe that with the lower grades filled with children below nine years of age a series of physical movements should be given for five minutes of every half hour during the school period. From nine to thirteen the same length of time may be occupied by taking a longer period for exercise each hour. After thirteen years of age each school session should be interrupted for a period of fifteen or twenty minutes in the middle of the morning and afternoon,— for open-air exercises when the weather permits, and for indoor exercise when the weather is unsuitable for outdoor play. These periods of recess or recreation may properly be supervised by the teachers, and games so systematized as to give each child something to do, and the great lesson of co-operation and organization be thus taught as it is really taught nowhere else in the public school curriculum to-day. To carry out such a program as this would require that every teacher be equipped

by a training in gymnastic and athletic exercises; and this, instead of being a new burden to be added to an already overworked member of society, would prove to be as exhilarating and helpful to the teachers as it is to the pupils. If this plan were carried out, we should have fewer neurotic teachers to harass children and set bad examples for their imitation, for choreic movements are in many cases purely imitative. The teachers could be trained in any of the summer schools that offer special facilities for physical work during the vacations, for it would be accomplished while securing the greatest possible physical upbuilding, since a term in a summer school will not only add more pounds of weight to a tired teacher, but it will give a better mental poise for the work of the coming year than a summer of vacuity spent in a hammock or on a hotel veranda with the intent of resting through vacation. We fit ourselves for future effort, not by idleness, but by activity.

BATHING FROM ANCIENT TIMES

BY E. E. ADAMS

ACCESSORIES OF THE ROMAN BATH

RENEW thyself completely every day; do it again, and again, and for ever again." Characters to this effect are said to have been engraved on the bath-tub of Tching-thang, indicating the renovating properties of the bath.

To man in the state of nature, bathing appears almost as essential as breathing or eating. In this respect modern civilization is far behind the nations that have been looked upon as semibarbarous.

From the earliest times and among all nations, bathing in rivers and streams was a common custom with both sexes. Pharaoh's daughter going with her maidens to bathe in the Nile is an instance of a general practice.

The value of bathing as a means of healing is at least suggested in the directions given to Naaman to bathe seven times in Jordan, and also in Christ's command to the blind man to wash in the pool of Siloam.

As a typical religious ordinance bathing was largely practiced by the Orientals. The Egyptian priests, when special sacrifices were to be offered, washed their bodies three times a day. The ceremonial washings of the Jews, the baptism of Christians, and the frequent ablutions of the Mohammedans, who are expected to wash the face, neck, and hands before each of the five prayers that they offer daily, are well-known instances of the religious significance attached to bathing. Among the Brahmins frequent bathing has ever been a religious duty, and pilgrimages are made from all parts of India for the purpose of bathing in the sacred Ganges.

That the ancients regarded the bath as sacred, and attributed to the favor of the gods the benefits derived from it, is shown by the dedication of the various baths to different deities; as, sea baths to Neptune, the hot springs of Thermopylæ to Hercules, the medical springs of Italy to Æsculapius, etc.

In the East, probably from the ne-

HINDUS BATHING IN THE GANGES

cessity for frequent bathing in hot climates, the practice was first systematized. Methodical bathing seems to have been first practiced in Egypt, where it was regarded as a luxury as well as a hygienic measure. The Greeks, with their national love of pleasure and all forms of physical culture, adopted the custom from their oriental neighbors. Public baths were connected with their gymnasia, and bathing was made an accessory of their athletic sports. But it was reserved for the Romans to surpass all other nations in the luxury and magnificence of their bathing establishments, which with them held the chief place, the gymnasia, etc., being connected with them as adjuncts.

Among the early Romans in the days of the Republic, cold bathing was much practiced, and swimming was one of their chief recreations.

"Hence the limbs
Knit into force; and the same Roman arm
That rose victorious o'er the conquered earth,
First learned, while tender, to subdue the wave."

So essential to a Roman gentleman was this accomplishment that a lack of it was looked upon as a disgrace equal to ignorance of caligraphy among us. "He can neither read nor swim," was an expression used to indicate hopeless dulness.

The Roman youth were accustomed to throw themselves into the Tiber after their martial exercises and athletic

RUINS OF BATHS OF CARACALLA

sports. After the construction of aqueducts for the bringing of water from the country into Rome, large piscinæ, or swimming baths, were introduced. As their conquests extended, their frequent intercourse with the Greeks and Orientals led to the introduction of more luxurious bathing habits. The first *thermæ*, as the warm and hot baths were called, were built by Augustus. Agrippa increased the number to one hundred and seventy, and in the course of two centuries there were more than eight hundred in Imperial Rome.

Some idea of the vastness of the buildings devoted to this purpose, which have been likened without much exaggeration to cities and provinces, may be gathered from the ruins. A single room in the baths of Diocletian became the church of the Carthusians, one of the largest and most magnificent churches of modern Rome. The wall enclosing the baths of Caracalla measured a quarter of a mile on each of the four sides. The baths of Diocletian are said to have contained 3,200 marble seats, and a swimming bath two hundred feet long.

It was not in size alone, but still more in magnificence, that the Roman baths excelled. "To such a pitch of luxury have we reached," says Seneca, "that we are dissatisfied if we do not tread on gems in our baths." The walls were adorned with exquisite mosaics, the halls crowded with magnificent columns and fine statuary, and the swimming baths ornamented with beautiful marbles.

The Roman baths were a combination of swimming, warm baths, hot-air and vapor baths. The principal rooms were: the *Spoliatorium*, where bathers undressed; *Unctuarium*, where oils and ointments were kept and bathers anointed; *Frigidarium*, or cool room, in which was usually the cold bath; *Tepidarium*, a room moderately heated, where bathers rested for a time; *Calidarium*, or heating room, having a warm bath at one end; *Sudatorium* or *Laconicum*, where usually was a large vessel containing water, used by the bathers in rubbing off the perspiration.

BATHS AT POMPEII

The most important of the bathing implements was the strigil, a sickle-shaped concave scraper with which the bathers were groomed much in the same way that a hostler treats his horse when reeking with sweat. The flat vessel shown on the ring with the strigils in the initial cut was used for drinking purposes at the close of the bath.

A large stock of oils and ointments of

all kinds, variously perfumed, was kept in the *Unctuarium*. The anointing was usually performed by an attendant slave. With reference to this practice, an amusing story is told of the Emperor Hadrian, who went to the public baths and bathed with the common people. On one occasion he noticed a veteran whom he had formerly known among the Roman troops, rubbing his body against the marble. On inquiring why he did so, the Emperor learned that he had no slave to rub him. He therefore presented the man with two slaves and the means for their maintenance. The veteran's good fortune enticed several old men on another day to rub themselves on the marble in full view of the Emperor, who, seeing their drift, sent them word that they would better rub one another.

The cost of the bath was about a quarter of a cent, but even this nominal price was at times removed. The time of bathing was from about one or two in the afternoon until dusk. It was customary to bathe before dinner, in order to promote appetite.

Prescriptions of Galen, Celsus, and other medical practitioners, regulating the use of the baths for different diseases, show that bathing was valued by the Romans as a therapeutic measure.

The wealthy Romans had elaborate private bathing facilities connected with their villas. Among other baths used by them Pliny mentions hanging baths, in which luxurious Romans were accustomed to be rocked while enjoying the pleasurable sensations of the bath.

The distinctive feature of the Roman baths was that they were all constructed with a view to the combination of physical exercises and bathing in a certain order of succession. The renovating and strengthening effect of bathing and exercise, judiciously directed, can scarcely be overestimated.

Provision was made for gymnastic and military exercise, and various kinds of healthful and strengthening recreation. There was a stadium for the games of the young men, with seats for the spectators. For the philosophers and literary men there were open colonnades with seats. Here they could discourse, or read their own productions aloud, a practice recommended by Celsus for the dyspeptic, and followed by Pliny, as he tells us, to strengthen, not his voice, but his digestion. Theaters and libraries also formed a part of the largest of the *thermæ*.

As the morals of the Romans became corrupt and their manners more and more luxurious, bathing for pleasure rather than for health became customary. The length and frequency of the bath were increased, and it was taken at an almost boiling temperature. From being used as a legitimate stimulus of a healthy appetite, it was made to serve in the interests of gluttony, as a means of depletion for the purpose of renewing unnatural appetite. One or more baths were taken after dinner, to enable voluptuaries to return to the festive board. "It was time," says one, "for Goths and Vandals to issue out of their northern hive, and scourge such a people."

The removal of the seat of empire to Constantinople, the incursions of barbarians, and especially the cutting off of the aqueducts by the Huns, all contributed to cause the *thermæ* to fall into decay. Because of the corruption and abuse connected with the public baths, the early Christian Fathers forbade their use for pleasure, though they sanctioned bathing for cleanliness. It was probably this that led one writer to affirm that "as Christianity prevailed, the taste for ablution diminished."

But the Roman practice of hot bathing, especially the hot-air and vapor baths, was adopted by the Mohammedans, and spread by the Arabs and Turks. The Turkish bath is so well known, being represented in every large city, that a description of it is unnecessary. A lady of fashion, commenting on the effects of this bath as seen in the women of the East, says that if women only knew the beautifying effects of frequent bathing, a bath would be as indispensable in every house as a looking-glass.

The intensity of life and the mental activity resulting from the physical purity produced by this bath, are thus described by Savary: "If life be nothing but the succession of our ideas, the rapidity with which they then recur to the memory, the vigor with which the mind runs over the extended chain of them, would induce a belief that, in the two hours of that delicious calm that succeeds the bath, one has lived a number of years." This view is worthy of consideration by those who think that "life is too short" to devote time to physical culture.

The Russian vapor bath is also quite well known. The following description of it, as used in Russia and other countries of Northern Europe, is given by a traveler: The bather "finds himself in a room full of vapor which is surrounded by a wooden platform, rising in steps to near the roof of the room. He is made to lie down on one of the lower benches, and gradually to ascend to the higher and hotter ones. The first sensation on entering the room amounts almost to a feeling of suffoca-

A STRENUOUS RUSSIAN BATH

INTERIOR OF BATH HOUSE

1. Wall between Men's and Women's Bath Rooms.

INTERIOR OF ENTRANCE LOOKING DOWN FROM ABOVE
THE WALL SEPARATES THE TWO BATH ROOMS

1. Men Drinking Hot Water. 2. Clothes Basket. 3. Man about to Enter Bath.

tion. After you have been subjected for some time to a temperature which may rise to 145° F., the transpiration reaches its full activity, and the sensation is very pleasant. The bath attendants come and flog you with birchen twigs, cover you with a lather of soap, afterward rub it off, and then hold you over a jet of ice cold water. The shock is great, but is followed by a pleasant feeling of great comfort, and of alleviation of any rheumatic pains you may have had." The Russians often go and roll themselves in the snow after the hot vapor bath, and dress in the open air.

Our illustration represents another and even more strenuous kind of Russian bath, recommended by physicians for some wealthy patients. This ice bath can be taken regularly without injury.

Almost every Finnish peasant, no matter how destitute, has his little bath house, which is used regularly by every member of his family at least once a week. It is heated to a very high degree by means of vapor produced by throwing water on hot stones. They stay in it from half an hour to an hour, sometimes coming out and standing awhile in the cold air. "The Finnish peasants pass thus," says one, "from an atmosphere of 167° F. to 24° below zero, which is the same thing as going out of boiling into freezing water, and what is more astonishing, without the least inconvenience."

The Mexicans and the Indians of this country were found using a similar kind of vapor bath, followed by a plunge in cold water.

A hot bath is part of the daily regimen of the Japanese. It is said that 400,000 hot baths are given daily in Tokyo alone, at a cost of half a cent to a cent each. The bath is taken at the very high temperature of 115°, and sometimes hotter. A bath at this temperature, if it can be borne,

PRIVATE COUNTRY BATH, SHOWING THE FIRE UNDER THE BATH

The Illustrations on this Page are from Drawings by a Japanese Artist.

is found to be stimulating and not enervating. Without undergoing any cooling process after the bath, the natives frequently run through the streets quite nude, and yet do not take cold.

The Crusaders brought home with them from the East a taste for bathing, acquired there, which led to the erection of bathing establishments in different parts of Europe. The hot and mineral springs found in various parts have ever attracted large numbers of bathers in search of health. At some of these resorts it is customary to remain for hours at a time in the water, especially for the treatment of skin diseases. The scene represented in our cut is one that may be observed daily at Leukerbad, a quaint old bathing resort in Switzerland, where bathers, in long gowns, remain in the water from early morning until 1:00 P. M.

BATHING AT LEUKERBAD, SWITZERLAND

The discoveries of Priessnitz, a Silesian peasant, with regard to the marvelous curative properties of cold water, gave a great impetus to the practice of cold bathing. It has been observed that he "inspired many with an affection for water who had before been hydrophobic." The success of his water treatments led to the institution of the many large establishments for the practice of hydropathy.

Public baths at prices which make them accessible to the poorest, are now to be found in all the cities of Great Britain and Continental Europe.

A Cure for Lumbago.

Mr. R —— was discussing home remedies with a number of customers, and finally remarked: "Well, I'm a crank who is always ready with a remedy for everything, and I would like to recommend my cure for lumbago. I had it, and I had it bad. Nothing I had tried would relieve me. Some one told my wife to place a piece of thick flannel on my back and iron over it with a flatiron. Well, that was working all right when somebody suddenly knocked at the door. My wife started to answer the knock, and mechanically set that hot flatiron over on my bare skin just as one would on an ironing-board. I went right straight up in the air, and I've never had lumbago since."— *Good Housekeeping.*

ONE SUMMER-TIME

BY JESSIE ROGERS

(Concluded.)

SUCH an ovation as Maud and May accorded us — I say *us* because from Beth's account it appeared that I had snatched John Butler from the jaws of death, when, as a matter of fact, I had held a wash-bowl and wrung out two towels. But that is the way Beth has. Accordingly, we were feasted and fêted like guests royal. The reaction of anxiety made us rather more than usually noisy that evening. Beth at the piano played the mellow old plantation songs that we all loved; Maud strummed the guitar; the banjo uttered grumbling protests under the manipulation of my unskilful fingers, while May, with her yellow hair swathed in an improvised turban, curveted about in the intricacies of a "cake-walk." May is a Southerner, and will not leave off some of those pranks caught from the darkies "on the old plantation" (though on sundry occasions — immediately after we have been caught in the full enjoyment thereof — we have tried to point out to her this lack of correlation with her position in society). That particular evening she was contributing to the entertainment in double measure, as she drew a wailing accompaniment from the disabled interior of a French harp.

A knock, sharp and imperative, brought our efforts to a sudden terminus. On the veranda, hat in hand and bowing promiscuously, stood a gentleman, who, under less trying conditions, might have been described as "courtly," but who, "because of circumstances over which he had no control," appeared as ill at ease as a plowboy at a banquet.

May collapsed into invisibility after the manner of a folding cup — that device of a disordered brain. Maud was instantly fathoms deep in the pages of "Young's Night Thoughts," — the diary of that worthy being conveniently at hand. Beth rose hurriedly, and gracefully bade our undesired visitor enter, while I, Lou Smith, stood awkwardly folding the tortured banjo in close and tender embrace.

"Pardon the intrusion, but I am told that one of you ladies did the exquisite bandaging that saved John Butler's life to-day, and I wish to meet the nurse who is so skilful that my services are not needed."

His self-possession had had time to adjust itself in the silence that had fallen, and with his remark he presented his card, whereupon Beth gracefully drew me forward and presented me, with all due form, to Dr. Charles Thompson, and enlarged upon my resourcefulness and courage in a way deeply convincing to every one — except Dr. Thompson and myself. That man of medicine turned from bestowing upon me perfunctory compliment of my skill to ask politely of Beth if he might know where she had learned the art, and she walked neatly into the trap by her glowing and grateful account of the methods taught and demonstrated by the School of Health in its training on the subject of "Accidents and Emergencies."

Our social status had been made known to him; therefore it was with philanthropic motive that he desired to know if Beth would be willing to attend an elderly lady an hour each evening. "It is not a case of acute illness, Miss

Henderson, but of despondency and lack of interest in life that keeps the patient in bed, helpless with imaginary disorders. I shall be very grateful if you will consent to this, and if possible comfort and soothe her into more restful nights. She will pay you handsomely." Beth accepted his proposition eagerly, and promised to give an hour each evening to the business of "comforting."

So much suffering, so much sickness, so much ignorance, revealed in one day, even in this one tiny village, left May — laughing, rollicking May — strangely subdued and silent. After we had retired, I knew that she came and sat by Beth for a long time, and I knew, too, that she shed tears on Beth's pillow — remorseful tears — because of her "uselessness." May had these seasons of introspection for three hours at a stretch, sometimes, during which periods we bore patiently the funereal gloom, and looked forward longingly to her sure sunshine. O, God's sunshiny people! And yet they, of all mortals, are least aware how much they are needed.

Whatever it was that Beth said that night, it had the effect of leaving May very sweet and cheerful, and, moreover, it led her across the garden and into the region of wild disorder which is the permanent condition of the house of Aker, the constant additions thereto leaving no time for the business of housekeeping. At noon, having swept, scrubbed, and, so far as might be, garnished the dilapidated home, she came across the garden leading by one hand Paul Thomas Aker, aged two years and eight months, while in the other she carried a little dress, reasonably clean, but "rough dried." He was sticky and grimy and ragged and small, but quite big enough to understand perfectly how entirely Maud and I disapproved of him, as we stood in the kitchen door, our manner as well as our persons barring entrance to our immaculate domain. He cast an appealing glance upon us, and folded his little hands with such an air of self-deprecation that our disgust began to thaw rapidly. Nero, big, loving Nero, got up and licked Paul's little hand. May snatched up the silent baby and fled with him to the bath room, whence there presently came the sound of splashing water, gurgling baby laughter, and little snatches of kindergarten songs. She made sundry trips upstairs, and descended with mysterious parcels, and from one of these we caught the flutter of a blue ribbon, which from our cursory view we judged to be identical with that which presently adorned his person.

The result of all this was that our noonday board was graced by the presence of the small namesake of the great apostle, enthroned (somewhat unsteadily, but none the less serenely) upon a chair, a soapbox, and a cushion, and he graciously accepted dainty morsels proffered by May, while the rest of us looked upon the transformation with amazement.

"The master of the house across the way was sorely distraught by my attack," laughed May, "until I discovered that he feared I might demand remuneration for my services; but I managed to let him know that I was doing it because I have a penchant for scrubbing, indeed, that I can not help scrubbing, just as a rat must perforce go on gnawing. After that he dogged my steps and elaborated upon the privileges of the Christian graces, assuring me that the exercise of these is a privilege within the reach of all — even the very humble."

It was about this time that invitations

to participate in the above-mentioned privileges began to pour in upon us. Beth and May found themselves very much occupied with the various calls, while Maud and I were much in demand by ladies who wished to be taught cooking; and, furthermore, we were honored by a call from the village teacher, a dame correct, severe, and learned, who assured us she would be willing to enter a class in cooking and gymnastic work if we wished to open such, for she was aware, she said, that in these days of social leveling, the cities were offering wonderful privileges, even to the very poor. When she left, Maud and I felt that we should call her back and extend formal thanks for her suggestion. We laid definite plans that evening in full counsel, and opened our class the following Monday. I may as well record here that before the close of that glorious summer we had the satisfaction of knowing that in many homes gross foods had been substituted by clean, and tortured bodies freed from articles of distress and clothed with garments of comfort. One of our theories that had borne demonstration being that change is rest, we put our whole energy into these different lines, when once the social ostracism had lifted a little.

Beth and May were out a great deal, for there was much sickness, but our evenings were seasons of delight. Out under the trees until the dew fell, or comfortably disposed on the wide veranda (with Nero's great head invariably on my knee), we sang and laughed and watched the stars come out, and thanked God for his summer-time.

A queer case had been brought to Beth's sympathetic notice. An elderly spinster, sour and disagreeable, had been "bedridden" for many weeks. The hospitalities of the people had begun to wane, and their sympathies to fail, for petulance wears out solicitude, and the housewife who can patiently abide having her best dainties crossly criticised is an extinct species. Therefore it chanced that the condition of Miss Wade, spinster, was very low about the time Beth and May took seriously to nursing. A great, idle brother, who "never felt quite pert," and herself managed to live on the food which Maud and I warmly pressed upon them, but they felt that we did not fully understand how hard it is to bear privation, especially when one is "bedridden" and "not feeling pert." Other cases had yielded to Beth's skill as unto magic. But here she failed utterly.

"I will attend to Miss Wade this morning," May announced at breakfast one day, and Beth hurried away to William Blake's sick child.

"You need not bring over the basket for Miss Wade to-day," called back May as she left the house. "I'm sure there'll be a turn before noon—and say, Lou, I wish you would run over in about an hour and help me lift her; she's bedridden, you know."

Who can explain the meaning conveyed by a tone! Even with the somber suggestion of a "turn," Maud and I looked at each other, and then laughed guiltily. At ten o'clock I went to the house, re-enforced by Maud, for from past experience I knew the solidity and weight of Miss Wade's frame, as she lay prone and groaning, bitterly protesting against the bath which Beth insisted should be had each day.

May had the tub close beside the bed, and filled with water luxuriously warm. When all things were ready, we lifted. We made May, who is very slight, lift at her head, and Maud and I lifted at each side. I saw the veins stand out on Maud's delicate wrists under the heavy

strain, and a great wave of indignation swept over me. Groaning and complaining, the lady lay back and dabbled comfortably in the pleasant water, much as a fat infant who by constant attention has been taught to love his bath.

After the required period, three pairs of arms lifted the prostrate mass to its feet, and three pairs of hands applied towels as vigorously as their owners were able with one hundred and fifty-four pounds weight to be supported by them. May's solicitude, noticeable all morning, now became pronounced — excessive, I thought. "Was she warm enough?—" "Too warm?—O—" and May's supple hands swung forward and upward a twelve-quart pail of icy water and emptied its contents in one fell swoop upon the broad, steaming shoulders.

A scream, the like of which I never heard before, and hope I never may again, fell upon the trembling air. Then from that tub the bedridden lady leaped with the nimbleness of an acrobat, and rushed wildly toward the blanket-piled bed, screaming lustily.

"Ladies," said May, cheerfully, as she gathered up our bath towels, "I think we would better go home. Miss Wade will be wanting to make her dinner preparations." Later we learned that she had taken steps toward our arrest on the charge of assault with intent to kill, but her efforts were discouraged by a weary public, greatly relieved to see her taking steps of any kind.

The old lady who required an hour's comforting each evening also came under May's direct ministration one night when Beth's presence was imperatively demanded elsewhere.

"Bear with her, dear; do not cross her will in the slightest particular," was Beth's parting injunction. The lady was frank and outspoken as to her sentiments in regard to the change of nurse inflicted upon her. May proceeded sweetly with the treatments Beth had outlined, as if quite unaware of any dissatisfaction, though Maud and I, who were waiting for her on the porch outside, knew how bitterly she resented unjust complaint. "May's a darling," whispered Maud, to which sentiment I gave instant and hearty support.

At last the night's preparations were completed — all but the filling of the water-bags, for the lady's circulatory system was so poor that these were imperative. "Be sure they're boiling, girl," she called out crossly after her. Presently May stood by the bed, slipping the bags into their flannel cases, when Mrs. Hoffman seized one of them petulantly.

"What carelessness," she ejaculated, beginning to unscrew the stopper; "you've got these tops exchanged."

May was about to protest, but remembering Beth's warning, and knowing that she had made no mistake, turned silently to arrange the table beside the bed, sure that her patient would presently satisfy herself — and she did, though in a manner more or less of a surprise to herself and all concerned, for she laid the open bag upon the bed while she exchanged the stoppers.

The boiling water lost no time in permeating the fleecy blankets, causing the lady qualms of astonishment at the sudden and increasing warmth, and when the truth flashed upon her, she dropped the second open bottle, and thereby liberated two gallons of boiling water on that bed. Now everybody knows that water invariably seeks its level, and in this case it was certainly expeditious.

Entangled in a fomentation of alarming proportions, she shook herself free with a degree of energy she would have denied an hour earlier, and emerged

from the steaming mass with meekness and despatch, and submitted with real gratitude to the ministrations of Maud and me, for we hastened in to offer our assistance in remedying her moist condition. Later, clothed and blanketed in a dry bed, she drew May's sweet face down and kissed her, and said, "I've been a cross old woman; to-morrow I'm going to get up." And she did. This confession so touched May that we could never get her to see a funny feature in the incident, though Maud and I screamed with laughter every time we thought of it for days after.

But September drew on apace, and with it came back Miss Phillips, "so pleased and grateful for the care of her home," as she expressed it, while we were overwhelmed with the breadth of her generosity. On our last evening at Woodlea Miss Phillips invited Dr. Thompson to tea, laughingly explaining that she wished to learn the truth of the rumors concerning the young women who for two long months had been sheltered under her roof. Whereupon the Doctor proceeded to detail with easy grace the summer's happenings in things medical, touching delicately upon the efficacy of cold pours and the remedial effect of blanket packs, and cast a wicked glance in May's direction.

That young woman ate with imperturbed diligence. "I'll admit," she said, generously, "that Beth is the genius of our family in many lines of nursing, but I have my strong points — in certain cases." And no one was able to gainsay it.

At the station that evening we were abashed when we learned that the assembly there present was convened for the purpose of giving us expressions of good-will and kindness.

"Please take it, Miss Henderson," pleaded Martin Page, pressing a silver coin in Beth's little palm, "and I wish I had a hundred of 'em to give you. You saved my little Joey." "Please stay," wailed Paul Thomas Aker, as May gently tried to disengage his sturdy arms; and I, standing apart and shedding briny tears on Nero's glossy head, heard the didactic voice of Miss Pedan, the teacher, exclaim: "But why go back to the city at all, young women, when you have found work enough in this more healthful rural district?"

"Because," said Beth sweetly, as she accepted Nero's proffered paw, "we love our children, and they are coming back to school next Monday."

HYGIENE OF OLD AGE*

IN all vertebrates the physiological duration of life is five times as long as the period required to reach maturity. The horse, for example, attains his growth in five years, from which it follows that twenty-five years should be the usual term of his existence; but we all know that horses not infrequently live to the age of thirty and even forty. In the human animal, adult life is not reached until the age of twenty or more years; consequently, man should live at least one hundred years, and extreme old age should be from twenty to fifty years longer. Delicate health by no means precludes the possibility of a long and useful life, and a very large proportion of the work of the world is done by semiinvalids. Dr. Oliver Wendell Holmes says that one of the necessary requisites for attaining lon-

*Taken from *Public Health*.

gevity is to be rejected for life insurance by a first-class company.

The battle is not always to the strong nor the race to the swift. It is not natural that this should be so, and the explanation is not far to seek. The valetudinarian, if he wishes to live in comfort, is compelled to exercise the greatest possible care in his conduct of life. The strong and healthy man, on the contrary, imagines that he can endure anything, and pays no attention to the commencing symptoms of acute disease, or to the first warning signs of breaking down health. The natural result is that when he does give up, it is often too late for his life to be saved.

Congenial employment and sufficient rest have an important bearing on the health of old age. Sleeplessness is, unfortunately, a frequent concomitant of advancing years, but this can usually be relieved by appropriate remedies. Old people, like infants, require a great deal of warmth, and in their efforts to keep cold air out of their apartments and to avoid drafts, they are very likely to neglect ventilation and to breathe an impure atmosphere. It might be remarked in passing that with all our boasted progress the proper and economical ventilation of houses is an art in which but little improvement has been made over the efforts of the ancients.

A young and healthy person with a vigorous digestion can habitually consume more food than is needed to supply the wants of the body. The eliminative processes, being very active in youth, help to rid the system of the excess, and if it can not all be disposed of in this manner, a so-called "bilious attack" occasionally comes to the aid of the overtaxed organs. If one does not learn by experience that it is unsafe to continue taking more food than is necessary to supply the expenditure of force required to carry on the functions of life and to supply the waste of the tissues, the time will come, say about the age of forty or fifty, when, as elimination becomes more sluggish, the surplus material will be partly stored away on the surface or in the cavities of the body in the form of fat. Other portions of it may overstimulate some important organs, as the liver and kidneys, or produce gout, rheumatism, degenerative changes in the blood-vessel system, or in a dozen other ways induce disturbance in the economy, causing unhappiness, suffering, and disease, thereby lessening the power to enjoy the use of body and mind, and necessarily shortening life. When an individual steadily takes on fat, it is a warning that, among other things, the diet must be modified. It is fallacious to believe that increase of girth means increase of health and strength. To be reasonably energetic, bodily and mentally, an old person of eighty or ninety ought to be spare and of light weight. None of the organs can act in a normal manner if burdened with fat.

As a man grows older and less active, he requires a smaller amount of food, because his expenditure of force has decreased. Having no longer the powerful digestion and prompt elimination of former years, any surplus nutriment can not easily be disposed of. The diet should become more simple as age advances, and in quality should approximate that of childhood.

Plain living and high thinking should be the delight of old age. The Apostle Paul says, "Let your moderation be known unto all men," and this is excellent advice to follow at all times.

A beautiful example of hardy old age is furnished by Adam in "As You Like It," who says:—

"Though I look old, yet I am strong and lusty;
For in my youth I never did apply
Hot and rebellious liquors in my blood,
Nor did not with unbashful forehead woo
The means of weakness and debility;
Therefore my age is as a lusty winter,
Frosty, but kindly."

BURNING THE CANDLE

THE spendthrift youth, rejoicing in his store
Of vital force, and confident of more,
In living riotous life's substance wastes,
And gleefully his own consumption hastes.
But when the flame of life is nearly spent,
He hoards the remnant insignificant,
"Husbanding out life's taper at the close,
He keeps the flame from wasting by repose."

E. E. A.

BEDROOM CLIMATE

BY DAVID PAULSON, M. D.

A PERSON at the age of sixty years has spent about twenty years of his life in his bedroom. Have you investigated the average sleeping-room climate? If you were sent as a missionary to some distant pestilential spot the climate of which was as unhealthful as that of the average bedroom, would you not feel that you were risking a great deal for the sake of the heathen?

On the tombstone of tens of thousands of those who have died from tuberculosis might appropriately be inscribed, "Disease and death were invited and encouraged by a death-dealing bedroom climate."

To show that this is no exaggeration, it is only necessary to call attention to the fact that fully half of the tubercular patients placed in outdoor consumptive hospitals make a satisfactory recovery.

If fresh air will cure the disease, it is certainly a wonderful preventive of it. It is not more reasonable deliberately to breathe impure air than it is to drink impure water or to eat unhealthful food or wear infected clothing.

A VEGETARIAN MENU FOR THE THANKSGIVING DINNER

BY GEORGE E. CORNFORTH

EATING is a necessity, but cooking is an art," and especially is it an art to prepare food which will satisfy the perverted modern appetite and, at the same time, be thoroughly wholesome.

The writer, on making the statement, recently, that he used no lard, ammonia, baking-powder, soda, cream of tartar, or spices in cooking, was met by the question, "What do you put into your food in place of what you leave out?"

An answer to this question may be given briefly as follows: —

We consider a vegetarian diet more conducive to health than a meat diet, but when a person attempts to leave meat out of his diet, he must supply foods which contain the same nutritive elements. Legumes contain the same nutrient material that meat does, but the food which especially may take the place of meat is nuts. Nuts may be used raw or may be prepared in various ways. A number of nut foods which are convenient to use are now on the market.

In place of lard for shortening, we use nut meal or dairy cream or some kind of vegetable oil, as nut oil or olive oil.

Instead of using chemicals, as baking-powder, soda, etc., in our breads and cakes, we beat air into batter breads and cakes, and knead air into dough breads. In this way, puffs, gems, rolls, sticks, and crackers may be made which surpass in flavor, as well as wholesomeness, the breads made with chemicals.

The following Thanksgiving menu exemplifies these methods of preparing foods.

Savory Potato Soup
Nut Fish Balls — Chili Sauce
Whole-wheat Rolls
Nut Squab Pie — Nut French Potatoes
Malted Rice
Escalloped Beans and Macaroni
Nut Potato Salad — Cream Sticks
Date Cream Pie
Cocoanut Drops — Health Cocoa
Oranges — Mixed Nuts

Savory Potato Soup.— Dissolve one-fourth pound of nut soup stock in one and one-half quarts of water. Stew in this one carrot and one onion, cut fine, and a stalk of celery until the stock is well flavored with the vegetables. Strain. Heat again to boiling, and grate raw potato into it till well thickened. Boil for three minutes, season with thyme, salt and serve.

Potato added to soup in this way is very delicious.

Nut Fish Balls.— One-half pound of protose, mashed fine, one cup of fresh mashed potatoes, one teaspoonful of shredded cocoanut, a little grated onion, one beaten egg, one-half teaspoonful of salt. Mix well together, form into cakes, and broil a nice brown.

Serve with —

Chili Sauce.— One-half can of tomatoes, one small onion, sliced, one tablespoonful of sugar, one-fourth cup of lemon juice, rind of one-half lemon,

one-fourth teaspoonful of celery-salt, one-fourth teaspoonful of common salt. Cook all together slowly until reduced about one-half, then strain through a fine colander and sieve.

Whole-wheat Rolls.— Dissolve in one pint of lukewarm water one-half cake of compressed yeast. Add a level teaspoonful of salt and a tablespoonful of sugar. Mix in three-fourths of a pound of white flour and three-fourths of a pound of Purina Mills whole-wheat flour. Mix to a smooth dough, then place it in an oiled crock and set it in a warm place (80° F.) to rise for about three hours. When light, press it down, fold it in from the sides, turn it over and allow it to rise again till light (about one hour). When light, press it down and fold it in again, take it out on a floured board, and roll it to the thickness of one-half inch. Cut it in round shapes with a cutter. Fold one-third of each piece over the other two-thirds. Place them in an oiled baking pan and allow them to rise till very light, then bake.

Nut Squab Pie.— Place in the bottom of a baking pan a layer of sliced protose. Over this put a very little thinly sliced onion and a layer of apples prepared as for pies. Sprinkle with a very little salt and sugar. Then put in another layer of protose, then a layer of apples. Add a little hot water. Cover the top with a nut meal pie crust and bake in a moderate oven one hour.

Nut Meal Pie Crust.— Mix together two cups of pastry flour, one and one-half cups of nut meal, and a level teaspoonful of salt. Moisten this with sufficient cream to stick it together. Roll it out without kneading it.

Nut French Potatoes.— Sprinkle the bottom of a baking pan with onions, cut fine, then fill the pan with potatoes cut in strips lengthwise as for "French fried" potatoes. Pour over the potatoes a nut cream made by dissolving a tablespoonful of nut butter and a level teaspoonful of salt in a pint of water. Bake slowly two or three hours.

Malted Rice.— Into one pint of boiling water sprinkle one-half cup of malted nuts. Add one-fourth teaspoonful of salt and one-third cup of well-washed rice. Cook in a double boiler two hours, stirring frequently as the rice begins to swell.

Escalloped Beans and Macaroni.— Cook one cup of hulless beans slowly until tender. Add one-fourth teaspoonful of salt. Cook one-half cup of macaroni, broken into inch-length pieces, in boiling salted water till tender. Put the beans and macaroni in alternate layers in a baking dish. Over the whole pour strained tomatoes which have been salted to taste, and bake one-half hour.

Nut Potato Salad.— Mix together two parts of diced potatoes and one part of diced nuttolene, and use over it the following —

Tomato Salad Dressing.— One cupful of tomato juice, two tablespoonfuls of lemon juice, one-half teaspoonful of sugar, one-fourth teaspoonful of celery-salt, one-half cup of olive oil, one teaspoonful of cornstarch, one-fourth teaspoonful of salt.

Mix the ingredients and heat slowly in a double boiler, stirring till thickened.

Date Cream Pie.— Line a pie tin with nut meal crust, building up a scalloped edge, and bake in it a filling made as follows: Three cups of milk, three-fourths of a pound of dates, and two eggs.

Seed the dates, and stew them till tender and dry, then rub them through a colander. Heat the milk to boiling. Beat the eggs, and add them to the

dates, then add the hot milk and mix thoroughly.

Cocoanut Drops.— Break four eggs into a mixing bowl. Set the bowl into warm water. Beat the eggs with a whip till well mixed together. Add seven ounces of sugar and beat about twenty minutes or until very light. Then fold in seven ounces of pastry flour.

Drop in small cakes on a tin which has been oiled, and sprinkled with gluten. Strew desiccated cocoanut on the top of the cakes and bake.

THANKSGIVING HYMN

O, PAINTER of the fruits and flowers,
We own thy wise design.
Whereby these human hands of ours
May share the work of thine!

Apart from Thee we plant in vain
The root and sow the seed;
Thy early and thy later rain,
Thy sun and dew, we need.

Our toil is sweet with thankfulness,
Our burden is our boon;
The curse of earth's gray morning is
The blessing of its noon.

Its earliest shrines the young world sought
In hill-groves and in bowers;
The fittest offerings thither brought
Were Thy own fruits and flowers.

And still with reverent hands we cull
Thy gifts each year renewed;
The good is always beautiful,
The beautiful is good.

— *Whittier.*

THE PLEASURES OF OLD AGE

WE hear much about "the pleasures of youth," but few perhaps are accustomed to regard the period of old age as a time of peculiar privilege, of blessings and pleasures unattainable at any other season. This period is as necessary to round out and complete the life as is the autumn season to complete the year. It should be looked upon as the ripening season of life rather than as a period of decay; the time when the spirit is sweetened and the character perfected, as crude and acrid saps are changed into delicious juices by autumn sun and even by winter frost. Without this period every life is incomplete.

"Our times are in His hand
Who saith, 'A whole I planned.
Youth shows but half; trust God;
See all; nor be afraid.'"

In old age the season of worry and strife, of ambitions and rivalries which harass and annoy those in the midst of active life, has been left behind. It is a time of peace and serenity,—

"And that which should accompany old age,
As honor, love, obedience, troops of friends."

Free from the distractions of life, the aged are at leisure to observe and admire. "I never knew," said Cornaro, "that the world was beautiful until I reached old age." This period was frequently declared by him to be the most beautiful of his life. Writing at the age of ninety-one, he said that he felt it his duty to make known to the world that man could attain to an earthly paradise after the age of eighty; but only by means of the two virtues, self-restraint and temperance. At that

time he was writing eight hours a day, walking and singing many other hours, enjoying the beauties of nature, and abundant in labors for the good of mankind. (An account of the regular and temperate life which secured these blessings to him appeared in the January and February issues of GOOD HEALTH.)

The experience of this prince of centenarians, as well as that of many others, proves that a moderate amount of physical exercise, and mental activity which may be quite strenuous, are conducive to the happiness and healthfulness of declining years.

The mind reaches maturity much later than the body, and in many cases the mental powers are increasing when the physical are on the wane. Aristotle computed that the body reached its prime at the age of thirty to thirty-five, and the mind about the age of forty-nine. There has been some difference of opinion as to his estimates. "It has been observed," says Sir Alexander Grant, "that university undergraduates are apt to consider these ages as set too high, while senior tutors have been known to complain of them as only applicable to precocious southern races." But it is certain that the mind, ripening later, retains its integrity and vigor when the bodily powers are declining. Hence intellectual pursuits are peculiarly suitable for those advanced in years.

The zestful pursuit of some definite object adds to the length as well as to the happiness of life. Now is the time to take up some occupation, some study, some interest, for which you once regretted lack of time. Scorn the idea that it is too late, for —

"Nothing is too late
Till the tired heart shall cease to palpitate!
Cato learned Greek at eighty; Sophocles
Wrote his grand Œdipus, and Simonides
Bore off the prize of verse from his compeers,
When each had numbered more than four-score years.
And Theophrastus at fourscore and ten
Had but begun his 'Characters of Men.'"

The highest degree of mental activity is compatible with the abstemiousness which is a necessity of old age. The system can not at that period assimilate the quantity of food necessitated by very vigorous physical exercise. But experiments have shown that one performing only mental labor requires little more nutriment than one in a state of absolute rest.

A happy old age of intellectual activity was that of the great woman scientist and mathematician, Mary Somerville. Increasing years seemed to intensify rather than diminish the intellectual ardor of this remarkable woman. "My memory of ordinary events, and especially of the names of people, is failing," she wrote in her ninety-second year, "but not for mathematical and scientific subjects. I am still able to read books on the higher algebra for four or five hours in the morning, and even to solve the problems. Sometimes I find them difficult, but my old obstinacy remains; for, if I do not succeed to-day, I attack them again on the morrow. I also enjoy reading about all the new discoveries and theories in the scientific world, and in all branches of science."

A still more remarkable example is that of the noted French chemist Chevreul, who retained his professorship in the Museum of Natural History until his ninety-eighth year, and continued his scientific work in the laboratory of the Gobelins factory until his death, at the age of one hundred and three.

The beauties and glories of earth, sea, and sky were to Mrs. Somerville, as to

Cornaro, an unfailing source of delight. Expecting soon to enter upon a new state of existence, she made the following confession with reference to it: "We are told of the infinite glories of that state, and I believe in them, though it is incomprehensible to us; but as I do comprehend, in some degree at least, the exquisite loveliness of this visible world, I confess I shall be sorry to leave it. I shall regret the sky, the sea, with all their changes of beautiful coloring, the earth with its verdure and flowers."

This sensibility to the loveliness of nature, which Emerson says "is loved by what is best in us," is a normal characteristic of this period of life. "Heaven lies about us" in our age, no less than "in our infancy." The poet Whittier gives us a beautiful testimony to his own experience and aspirations at this season, which are doubtless those of many others also: —

"Still with every added year
More beautiful Thy works appear.
As thou hast made thy world without,
Make thou more fair my world within;
Shine through its lingering clouds of doubt,
Rebuke its haunting shapes of sin.
Fill, brief or long, my appointed span
Of life with love to God and man;
Strike when thou wilt the hour of rest,
But let my last days be my best!"

E. E. A.

THE "THEN" AND "NOW" FROM THE STANDPOINT OF THE PHYSICIAN*

BY L. M. GIFFIN, M. D.,
Boulder, Colo.

ONLY a few years ago, probably fifteen, trained nurses in Boulder were practically unknown. It is not hard for a physician who practiced at that time to recall the difficulties lying along his pathway.

The best nurse obtainable was some one who had had more or less experience in looking after sick people. These persons were willing to do, but they had but little knowledge, and what knowledge they possessed was likely to be a dangerous thing. They were generally positive as to just how a given case should be handled, not in the nursing only, but also as to just how much of given remedies should be used by the physician. If the self-styled nurse did not agree with the physician as to just the remedy used, or left for use, it was more than likely it would not be given.

Many of the sick were also members of some order or lodge, the order or lodge furnishing the nurse. A different nurse was furnished each night, and if the sickness were serious, two different ones were furnished each twenty-four hours. No records were kept. Guesswork was indulged in as to what and how much the patient had eaten, whether or not he had slept, or, if sleeping, how much. Whether the patient had been restless or quiet depended more upon the particular nervous condition of the lodge-furnished nurse than upon actual conditions existing with the patient.

Under conditions of this kind (and this is mildly drawn) it is not difficult to understand some of the perplexities of the practitioner of those times.

Perhaps, instead of the lodge nurse,

* Address delivered by Dr. Giffin, Dean of the Medical Department of the University of Colorado, at the commencement exercises of the Colorado Sanitarium Training-school for Nurses.

it may have been the anxious mother who was undertaking the nursing. I do not wish to detract from mother love, nor from her willingness and anxiety to do; nor do I wish to gainsay her readiness to do everything for the sick one so far as she knew. I do not wish to be understood as intimating that the mother then and now would not do her best, would not or will not watch the long night through without once allowing her attention to be drawn from the loved one, will not put her whole soul and heart into such work — not at all. What I do wish to be understood as saying is that willingness, carefulness, anxiety, and mother love, all combined, fall far short of making a competent nurse.

We often hear the remark that mother instinct and love tell her just what to do under these trying circumstances, even intimations that from it she is a good diagnostician. Propositions of this kind are disproved too frequently to allow a physician to consider them for a moment as being true.

Is it instinct that spanks the few-hours-old baby, provides the filthy sugar-teat, feeds the little one through the long rubber tubing swarming with poison germs, gives it rancid milk from an unclean bottle, administers the soothing syrup that the mother may busy herself elsewhere, feeds it grapes — skins, seeds, and all — when only a few months old? Are any of these, and a thousand others fully as bad, the result of mother instinct? No, it is mother ignorance.

I believe that every one having the care of children should take a course of training in the principles that should guide in their care. Could this be attained, the mortality among children would show a marked decrease.

Do mothers ever make good nurses without special training? Yes, but not without intelligence and the application of the principles learned from some scientific source. Under these conditions, the mother is the very best of nurses. With only the so-called instinct, she makes the poorest sort of help in the sick room.

Fortunately, nowadays, we do not need to depend entirely on the mother instinct and the so-called natural nurse in cases of great severity. We have the trained nurse, to whom we give our directions with the certainty that all will be carried out to the letter. We know that upon our next appearance in the sick room a record will be handed us giving a clear, concise account of the occurrences during our absence, as clear as pen and ink will make it, data placed upon the record at the time of occurrence; no guesswork, no effort of memory to recall any event of importance, — it is all there in black and white. More than this, we feel that the items upon the sheet may be depended upon, as each event has been observed through trained intellect, and recorded with trained fingers. All these matters are of importance to the physician, but of far greater moment to the patient.

The surgeon's idea of the value of the trained nurse is well illustrated in the remark of one of America's greatest or best-known surgeons. He says: "If two opportunities are given me,— one to perform an operation in the best-appointed hospital in the world, with its table of glass and enameled steel, its floors of the smoothest mosaic, its walls of polished marble, the light perfect, the temperature exactly right, — in a word, with every convenience and necessity known to science except the trained nurse; or, in the farmer's kitchen, with just those conveniences that can there be obtained, and *the* trained nurse, there is no possible opportunity

of questioning the fact that I would do the operation in the farmer's kitchen." These words will be echoed by any one who has been called upon to work in the line of surgery.

In these remarks I am not referrin to *a* trained nurse. I have reference to *the* trained nurse. It requires more than a white cap and apron and a blue-and-white striped dress to make *the* trained nurse. We all respect the uniform in that it is the badge representing one who is devoting her time, energies, talent, maybe her life itself, to the welfare of suffering humanity. Even rogues respect the uniform of the nurse. I am told by nurses who have had experience that the uniform is a perfect protection in the very worst of slums; that a nurse in uniform may pass along the most dangerous parts of a great city at any time, day or night, and be perfectly protected by her uniform. In the sick room we want everything that the uniform represents. We want the intelligent, sympathetic, faithful, energetic, watchful, loyal trained nurse.

What makes the trained nurse? A few words as to the physician's idea of the trained nurse: —

To-night you close Volume II of your existence. Volume I is that portion of your lives and work which preceded your decision to devote your time and lives to the care of the sick. Volume II contains your training work and those things that have occurred during your school life. No one but yourselves may know what is written there. Wisely you have chosen to write those things which have made you masters of your profession. Bind Volume II as you will, on the back of the book I fancy I can see written, in letters of gold, the title, "Comfort for the Prisoners of Pain." Each one of you now begins another volume. No one can write it but yourselves. Let it be a good book,— one that will make good reading in after years. Let it be one that you know will bring comfort to those you love. To write this book, you must cherish the principles of Volume II; and you will find, as others who have trodden the path before you, that thus far you have only touched upon the edge of the mystery of life, and have much yet to learn.

Do not imagine that upon the receipt of the diploma your work is done; it is only commenced. Your diploma means simply that your teachers feel that you have attained sufficient knowledge to enable you to handle the compass yourselves, provided you are careful, studious, painstaking, and earnest. There is no let-up to work. Not one of us can afford to take a stop-off ticket when we have in hand the bouquets of graduation day. To be a worthy worker, one must take a through ticket. You must go out into the world of fevers and rheumatism, delirium and despondency, broken heads and broken bones. It is not a world of pleasure and gaiety into which you are going; not one of vacillation and uncertain moves, but one with steady onward push, and your armor must be buckled firm and strong to meet the emergencies as they arise.

Hence, this evening may be looked upon as an epoch in your lives,— the time when you place behind you that which may be termed your apprenticeship; the time when you step out into the world, having attained a profession that promises you not only a livelihood, but also an opportunity for good not excelled by any other profession; a time when you are looking forward to a career, which, from your present standpoint, is rosy-hued, filled with promises to yourselves to excel in all that is grand and good and noble in your profession; a time when there

is a tendency for you to congratulate yourselves that you can throw books, recitations, and lessons aside; a time when you have achieved something.

It is true that you have accomplished something. It is no small achievement to receive a diploma from an honored institution like the Colorado Sanitarium. But in all these feelings of joy and elation in having reached the point where, by the transfer of a piece of paper, you step out of the ranks of "nurses in training" into the ranks of "trained nurses," I say that, with all this, and the feeling that you have accomplished much, yet, knowing the human heart and its tendencies to these feelings of elation, and agreeing that such feelings are entirely fitting and proper, there is still room for words of warning.

The possession of a diploma does not indicate in any way that your work is completed. You have finished the training, it is true, but your work is only begun. Whether your teachers are graduate nurses or physicians, it is safe to say that had they discontinued work and study upon the receipt of their diplomas, not one of them would ever have been your teacher. You feel that you have spent many hours in study during your course in training, yet I know that not one of you has done as much study or given as much thought to the work as any single one of your teachers. If this is true, and, from long experience as a teacher, I know that it is, it follows that instead of your day of graduation marking the time when you cease your study and work, it means simply that your teachers feel that you have so well applied yourselves that you are competent to continue your work without daily instructions in first principles.

What are a few of the elements to make a good nurse?

I would have you patient; and there is need of this quality. Practically, you may disregard what you have read in the story-books about the patient sufferers, those who give long dissertations upon everything pertaining to morals and life; you may forget their lessons given to you and others in patience, their angelic dispositions, their thankfulness for every little act of kindness or thoughtfulness upon the part of the attendant; I say you may disregard these conditions as applying only very rarely. We occasionally do meet a patient approaching this model, but it is so seldom as to mark an oasis in the desert. The fact is that the average sick person is a long way from being a saint in disposition.

The old Latin quotation, "A sound mind in a sound body," is no doubt true, but the fact is that a sick person is not sound in body, and the converse of the Latin rule usually prevails, — an unsound mind in an unsound body. It is also a fact that sick people are not generally examples of great patience. They may wish little attentions that to a well person seem unreasonable. As a physical fact, a wrinkle in the bedding, a picture hung a little awry, the quiet rocking of the nurse while trying to rest herself a trifle, are not matters that should in any way delay or interfere with recovery, yet at times they are of momentous importance to the patient.

A little change of position, just raising the head a trifle, giving the pillow just one more little pat,— none of these are of very great moment to the well, yet often seem of vital importance to the sick. The patience and fortitude of the nurse will be tried to the limit, and that nurse who comes the nearest to meeting the demands of the sick, is the one, other things being equal, who most truly succeeds.

I would have you cheerful. I know of just one greater abomination than a sour, pessimistic physician, and that is a sour, crochety, and morose nurse. A patient may survive for the short period of a visit from a gloomy and cranky physician, but a sour nurse, who must be with the sick hour after hour and day in and day out, is as unpleasant and unprofitable a dose as can well be administered.

A nurse can always content herself with the thought that no matter how unpleasant the task may be, if she looks for them there are always redeeming features,— bright spots, silver linings to the clouds, — no matter how black and forbidding. A story is told of two Catholic Irishmen tearing down a Baptist church. All through the dusty, dirty job, one of the Irishmen was constantly whistling and singing at his work. "Mike, you seem to be having a happy time, making music all the while." Mike answers, "And why shouldn't I be happy? a tearin' down a Protestant church, and gettin' good money for the job?" While we might not entirely agree with the sentiment indicated, still it illustrates the point that there are always bright spots if we look for them. Hence I say, Be cheerful, not only for the sake of the sick in your charge, but also for yourselves. I have in my mind a pretty strong impression that we get in this world very nearly what we deserve. If we are looking for a dull town, we find it. If we are searching for a disagreeable neighborhood, we always move into it. If we are hunting for disagreeable, meddlesome, and quarrelsome neighbors, they are always forthcoming. If we are inquiring for touchy, querulous, contrary, and trying patients, it is marvelous what a large proportion of them are found. On the contrary, if it is a live town, a pleasant neighborhood, and agreeable neighbors that we are expecting, they will just as surely materialize. It is also true that even a touchy patient is not so far beyond the rules of humanity that many beautiful traits may not be brought out by the right person in the right place; and that person is *the* bright, cheerful, ideal nurse.

I would have you content. You have married your profession. Do not hurry up the divorce proceedings. It is impossible that everything will be pleasant at all times in any work. Every life has its worries and troubles. The profession of nursing is not an exception. Do not borrow troubles. Do not go around with a chip on your shoulder. There is always some one too ready to knock it off. Keep clear of the adage that "the other side of the road may have been better." Remember the tendency in bad roads, that whichever road you may have taken, perhaps the other would have been the better.

You did not enter the training for nurses without thought and consideration. After weighing all that pertained to the profession, you decided that nursing was your work. You are ready for the diploma of proficiency; now use it till some other, much better and more noble work presents itself. Even then, think twice before you discontinue your chosen profession. Look out for the feeling that the green fields just a little beyond are much better. Vacillation never won success. Stick to your profession.

I will say nothing of the nurse who gossips. You have been told of the evils of that.

Be tactful. If you are not naturally tactful, cultivate this trait as you would the rarest flower. Talent without tact never succeeds. Tact with a very mea-

ger amount of talent is constantly forging to the front. We see the necessity of tact in every vocation of life. The tactful person succeeds; the tactless person fails.

Be orderly, neat of person and room. If a nurse applied to me for recommendation with shoe buttons gone, dress untidy, hair awry, these elements alone would prevent me from recommending her. A person disorderly about herself will be disorderly about the sick room.

Be punctual. If you have an appointment at 5:30, remember that this is precisely thirty minutes of six. You have no right to fritter away your own time, and it is manifestly wrong to steal the time of others. If, however, you are orderly, you can not well help being punctual, as the two traits go together.

Be loyal to your institution, your patient, and your physician. Especially would I emphasize the point that you be loyal to your patient, and that you remember that the incidents of the sick room are sacredly private, and when you leave the sick room, you leave it under the solemn obligation to keep inviolably the history of those trying hours. One of the very best recommendations I know of for a nurse is that she may take care of a patient for me, and so far as anything she says, this is the only case she has ever had the opportunity of attending.

We should all remember that our daily work in life, of every sort, whether our place be great or humble, is work whose ends are moral, whatever we ourselves intend they should be. In this view, your work is of a high order. If you have a high moral purpose in your work, what you do will be more cheerfully done and better.

Do not accomplish your work for the sake of money only, but for the sake, and also for the service, of others. I use the word "others" here in the broadest sense. We often hear the expression, "The world owes me a living." Nothing is further from the facts. No one enters this world with a credit slip of any kind. The world owes us nothing except that for which we apply ourselves. We who are living in the world to-day are debtors to others who have preceded us, who, in living honest and self-denying lives, have made our lives possible, and we owe it to society to render, by useful service, something in return for this great inheritance.

BECAUSE OF INDIGESTION

BY MRS. D. A. FITCH

"MY nephew is suffering greatly because of indigestion," said Mrs. A. to her friend, Miss B., who inquired, in surprise, "How can that be? He seems very well, is never sick enough to be hindered from attending school, is growing rapidly, and looks the picture of health."

"You do not catch my true meaning. I did not say he *has* indigestion," said Mrs. A., "but that he is *suffering because of it*. It is his mother's indigestion which is the cause of all his suffering. Her physical ills make her nervous, irritable, and unsympathetic. Venting her feelings upon him is souring her boy's disposition, making him morose and surly. Rather than be a recipient of her frequent scoldings, he hides from her as many of his mistakes as possible, and she is too much blinded to see that she is causing him

to be sly and to withhold from her his confidence. He is being driven from her love and the home where should be naught but harmony and sympathy. Is he not suffering because of indigestion?"

How to Keep Young.

The distinguished octogenarian, Miss Susan B. Anthony, has a notable record for health and strength of mind and body. A sketch of the habits to which she owes the remarkable health that has endured into life's sunset, appeared in the *Woman's Home Companion*.

"In addition to her simple diet, there are two other rules to which Miss Anthony has constantly adhered throughout her lifetime. The breathing of plenty of fresh air and the abundant use of pure water have been cardinal principles with her. She never fails to sleep with a wide-open window, even when the thermometer is at zero. And every morning she starts the day by rising at seven o'clock for a cold sponge bath, followed by a brisk rub. She has never missed this bath, even when on her lecture tours she has been obliged to break the ice in her pitcher at a country hotel to get it.

"Miss Anthony has the highest regard for the virtues of cold water as a remedial measure. Many years ago, when once she was lecturing in Plattsburg, N. Y., she happened to get her feet frost-bitten. She put them under a faucet in the kitchen to thaw out, which was successfully accomplished; but the next morning she awoke with a frightful pain in her back. She could scarcely get out of bed, but she insisted on keeping her lecture engagement that night. The next day, although she had to be carried to the sleigh, she drove seventeen miles with her knees doubled up to her chin, and lectured that night. Rising at four the next morning, she rode ten miles by stage, and then went by train to Watertown. At that city she engaged a room at a hotel, and took her case in hand. She instituted measures, that, to say the least, may be called strenuous. She called for several buckets of ice water, which she had a maid pour deliberately over her back. Then she wrapped up in hot blankets and went to bed. The next morning she awoke a well woman.

"Miss Anthony's regular exercise consists of a daily walk of several blocks in the vicinity of her home. When the snow is on the ground she thoroughly enjoys taking a broom and sweeping the walks about the house just before retiring.

"All her life Miss Anthony has taken but little medicine. She has been a strict teetotaler, disbelieving in the use of alcoholics even for medicine."

An old negro in Carrollton was taken very ill and called in a physician. He did not get any better, and finally another physician was called. Soon after arriving, the doctor felt the pulse for a moment, and then examined the tongue. "Did the other doctor take your temperature?" he asked.

"I don't know, sah," he answered feebly; "I hain't missed anything but my watch as yit, boss."

Experience keeps a dear school, but fools will learn in no other, and scarce in that. — *Franklin.*

People who suffer from sleeplessness should live much in the sunshine.

"AT EVENINGTIME IT SHALL BE LIGHT"

BY MARY MARTIN MORSE

SPRING-time fair in its promise,
Summer with fiercer gleam,
Autumn's perishing pageant,
Seem like a fleeting dream.

Far apart seem the mile-stones
That lead to the golden street;
No more we climb the mountain
With stone-gashed, bleeding feet.

The battle and march are over,
And blood of our hearts lies slain,
But angels of peace now hover
O'er the white-faced starlit plain.

Life with her drooping pinions,
And her sweetest strains unsung,
Shall thrill the blest empyrean,
Where creation's chorus rung.

Sunset in all its splendor,
Enveloping sea and land,
Reaching its arms so tender,—
Welcome of heart and hand.

Sunset—and who should fear it?
Thro' the glory-opened door
Cometh the sweetest music—
"I have passed this way before."

'Tis the voice of the Elder Brother
From the glory-gilded height;
Though the sunset fade to evening,
With him all the way is "light."

To Prolong Life.

The *British Medical Journal* recently devoted eight pages to a discussion of the best means for the prolongation of life. The greater part of this space was occupied by a lecture recently delivered by Sir Herman Weber, M. D., F. R. C. P., before the Royal College of Physicians of London, and the main points of his advice were as follows.

Moderation in eating, drinking, and physical indulgence.

Pure air out of the house and within.

The keeping of every organ of the body as far as possible in constant working order.

Regular exercise every day in all weathers; supplemented in many cases by breathing movements, and by walking and climbing tours.

Going to bed early and rising early, restricting the time of sleep to six or seven hours. [We question the wisdom of this teaching. Most people require eight hours' sleep; some more. —ED.]

Daily baths or ablutions according to individual conditions, cold or warm, or warm followed by cold.

Regular work and mental occupation.

Cultivation of placidity, cheerfulness, and hopefulness of mind.

Employment of the great power of the mind in controlling passions and nervous fear.

Strengthening the will in carrying out whatever is useful, and in checking the craving for stimulants, anodynes, and other injurious agencies.—*Selected.*

MAYOR PATRICK COLLINS, of Boston, tells of a Christian Scientist who, with his little boy, was crossing a lot in which was a vicious-looking goat. As they approached the goat, the boy showed fear, whereat his father told him to think it not possible for the animal to harm them; but the boy, remembering a previous encounter with a goat in which he came out second best, did not grow any braver. "Papa, you're a Christian Scientist all right," he said, "and so am I; but the goat doesn't know it."

Chautauqua School of Health

TOO FREQUENT EATING

HEALTHY digestion requires at least five or six hours, and one or two hours for rest before another meal is taken. This makes six or seven hours necessary for the disposal of each meal. If ordinary food is taken at shorter intervals, the stomach must suffer disturbance sooner or later, since it will be allowed no time for rest. Again, if a meal is taken before the preceding meal has been digested and passed from the stomach, the portion remaining, from its long exposure to the influence of warmth and moisture, is likely to undergo fermentation, in spite of the preserving influence of the gastric juice. Thus the whole mass of food is rendered less fit for the nutrition of the body, and, what is still more serious, the stomach is liable to suffer permanent injury from the acids developed.

Too frequent eating occasions too long contact of the acid contents of the stomach with the gastric juice, which produces catarrh and ultimately ulceration of that organ.

The number of daily meals required depends somewhat upon the age, and especially upon the character and the quantity of the food taken at the meals. There can be no question that in general the practice of eating twice a day is much to be preferred to more frequent meals. This has been a prevalent custom in the world from the most remote ages.

According to Hippocrates, the ancient Greeks ate but two meals a day. The same was true of the ancient Hebrews and Persians. This is also the custom of the natives of India, South America, and of many semi-civilized nations. Among the savage tribes, one meal a day is the prevailing custom. The Eskimo walrus hunter sets out fasting in his *kajak* on a day's hunt at the break of day, but eats nothing until after he returns from his perilous work, just before sunset.

The modern frequency of meals is the outgrowth of the gradual losing sight of the true purpose of the eating of food, the gratification of the palate being too much considered, instead of the nourishment of the body. That the system can be well nourished on two meals a day is beyond controversy, seeing that not only did our vigorous forefathers, many centuries ago, require no more, but that thousands of persons in modern times have adopted the same custom without injury, and with most decided benefit to themselves. Students, teachers, clergymen, lawyers, and other literary and professional men are especially benefited by this plan. The writer has followed this mode in eating for more than thirty years, and with great benefit. The special advantages gained by it are: (1) the stomach is allowed a proper interval for rest; (2) sleep is much more recuperative when the stomach is allowed

to rest with the balance of the body; (3) digestion can not be well performed during sleep.

Dujardin-Beaumetz, an eminent French physician, Bouchard, and other well-known European authorities insist that seven hours is the proper length of time to be allowed for the digestion of each meal. If this plan is followed, and the proper length of time allowed to elapse after the last meal before retiring, it will be found impossible to make any arrangement by which opportunity can be secured for the necessary eight hours' sleep at night. Not more than two meals can be taken when a person complies with all the laws of health.

If more than two meals are suited to any class, it is those who are engaged for twelve or more hours per day in severe muscular labor. Such persons are better prepared to digest a third meal than those whose occupation is mental or sedentary, and they may at least take it with less detriment; though a third meal is not needed, even for such, provided the two meals are taken at suitable hours. For many years the practice at the Battle Creek Sanitarium has been to furnish its guests with two regular meals daily, the first at 8:00 A. M., the second at 3:00 P. M. The doctors, nurses, and other employees, numbering at the present writing something more than eight hundred, are also furnished with but two meals, at 6:00 A. M. and 1:30 P. M. The universal testimony of all who have become accustomed to these hours for eating is that more work and better work can be accomplished than when three meals are taken. In cases requiring more than two meals, as when liquid food or only small quantities of food can be taken at a time, I find it wise to supply in addition two minor meals, at 12:00 M. and 7:00 P. M. These meals consist of fruit juice, fruit purée, some ripe, juicy fruit, or some simple liquid food.

Eating late at night, when the muscular and nervous systems are exhausted by the labors of the day, and retiring to rest soon after, is one of the most positive dyspepsia-producing habits of modern times. A sleeping stomach is a slow one. Secretion must of necessity be deficient in both quantity and quality, owing to the exhausted condition of the system; and with the further obstacle afforded to prompt digestion by the slowing of the heart action and other vital operations during sleep, it is impossible that there should be other than disturbed digestion and restless sleep in consequence. It is under these circumstances that many persons suffer with obstinate insomnia, bad dreams, nightmare, and similar troubles, from which they arise in the morning unrefreshed, the work of assimilation having been hindered by the disturbed condition of the body.

No food should be taken within four hours before retiring. This will allow the stomach time to finish its work and pass the food into the small intestine, where the work of digestion may be carried on to completion without disturbance of the rest of the economy. If an exception is made, only fruit or fruit juice should be taken.

If a third meal is taken, it should be very light, preferably consisting of ripe fruit only. The custom which prevails in many of the larger cities, of making dinner the last meal of the day, eating of foods the most hearty and difficult of digestion as late as 6:00 or even 8:00 P. M., is one which must be most emphatically condemned. It should be tolerated only by those who convert night into day by late hours of work or recreation, not retiring until near midnight. But in such cases a double re-

form is needed, and so there can be no adequate apology offered for this very common but highly injurious practice on any physiologic grounds. J. H. K.

AERATED BATTER BREADS

BY MRS. E. E. KELLOGG

BREAD made light with air is vastly superior to that compounded with soda or baking-powder in point of healthfulness, and, when well prepared, will equal it in lightness and palatableness. The only difficulty lies in catching and holding the air until it has accomplished the desired results. But a thorough understanding of the necessary conditions and a little practice will soon enable one to attain sufficient skill in this direction to secure most satisfactory results.

GEM IRONS

All materials used for making aerated bread should be of the very best quality. Poor flour will not produce good bread by this or any other process.

All breads, whether fermented or unfermented, are lighter if baked in some small form, and this is particularly true of unfermented breads made light with air. For this reason, batter breads are best baked in small iron cups similar to those in the accompanying illustration.

The heat of the oven for baking should be sufficient to form a slight crust over all sides of the bread before the air escapes, but not sufficient to brown it within the first fifteen minutes. To aid in forming the crust on the sides and bottom of batter breads, the iron cups should be heated previously to introducing the batter. The degree of heat required for baking will be about the same as for fermented rolls and biscuit, and the fire should be so arranged as to keep a steady, but not greatly increasing heat.

Air is incorporated into batter breads by brisk and continuous agitating and beating.

Whatever the process by which the air is incorporated, it must be *continuous*. For this reason it is especially essential in making aerated bread that everything be in readiness before commencing to put the bread together. All the materials should be measured out, the utensils to be used in readiness, and the oven properly heated. Success is also dependent upon the dexterity with which the materials when ready are put together. Batter bread often proves a failure although the beating is kept up without cessation, because it is done slowly and carelessly, or interspersed

INITIAL STEPS — EVERYTHING IN READINESS

with stirring, thus permitting the air to escape between the strokes.

If the bread is to be baked at once, the greater the despatch with which it can be gotten into a properly heated oven, the lighter it will be. If for any reason it is necessary to keep such breads for any length of time after being prepared, before baking, set the dish containing them directly on ice.

WHIPPING IN THE FLOUR

The lightness of aerated bread depends not only upon the amount of air incorporated in its preparation, but also upon the expansion of the air during the baking. The colder the air, the greater will be its expansion upon the application of heat. The colder the materials employed, then, for the bread-making, the colder will be the air confined within it, and the lighter will be the bread. For this reason, in making batter bread, it will be found a good plan, when there is time, to put the materials together, and place the dish containing the mixture on ice for an hour or two, or even overnight. When ready to use, beat thoroughly for ten or fifteen minutes to incorporate air, and then turn into heated irons and bake.

Very nice light bread may be made without eggs, but the novice in making aerated breads will, perhaps, find it an advantage first to become perfectly familiar with the processes and conditions involved, by using the recipes with eggs before attempting those without, which are somewhat more dependent for success upon skill and practice.

When egg is used in the bread, less heating of the irons will be necessary, and not so hot an oven as when made without.

If the bread, when baked, appears light, but with large holes in the center, it is probable that either the irons or the oven was too hot at first. If the bread, after baking, seems sticky or dough-like in the interior, it is an indication that either it was insufficiently baked, or that not enough flour in proportion to the liquid was used.

A heavy bread may be the result of the use of poor flour, too much flour, careless or insufficient beating, so that not enough air was incorporated, or an oven not sufficiently hot to form a crust over the bread before the air escaped. Breads made into a dough,

BEATING THE BATTER

if moist and clammy, require more flour or longer baking. Too much flour will make them stiff and hard.

The length of time requisite for baking aerated batter breads made with whole wheat, wheat berry, or other entire wheat or Graham flours, will vary from forty minutes to one hour, according to the kind and form in which the bread is baked, and the heat of the oven.

FILLING THE IRONS

Whole-wheat Puffs. — Make a batter by beating together until perfectly smooth the yolk of one egg, one and one-half cups of new or unskimmed milk, and one pint of whole-wheat flour. Whip the white of the egg to a stiff froth, and, lastly, chop it in lightly and evenly. Then turn the batter into the iron cups, and bake for an hour in a rather hot oven. Remove from the cups to cool.

THE SALT GLOW

In this procedure, salt of medium fineness and slightly moistened is applied to the surface of the body with friction movements, the amount of pressure being adjusted to the patient's sensation. With very thin-skinned persons, abrasion and irritation of the skin may be very easily produced. Persons of dark complexion, whose skins are usually thick, bear more vigorous applications than blondes.

The patient prepares for the treatment by lying down upon a slab or bed covered with a sheet, having previously been divested of his clothing. The sheet is drawn over the patient to prevent chilling. One part after another is then exposed and rubbed with the moistened salt, two or three pounds of which should be conveniently at hand in a basin.

After the application, the salt which adheres to the surface is removed by a cold affusion, shower, or spray. The patient is quickly dried, and rubbed until warm. It will be noticed that the skin is hard and almost as smooth as marble after this application. In cases of feeble patients, a dash of hot water or a warm shower should be given just before the final cold application.

The salt glow is an admirable means of producing circulatory reaction, without thermic reaction, if the temperature employed is not very much below that of the surface of the body. The salt acts as a chemical irritant to the skin, in addition to the mechanical stimulus produced by the rubbing of the sharp crystals in contact with the surface of the body.

The salt glow produces to an intense degree the circulatory stimulation of the brine bath, the sea-water bath, the effervescing bath, and the saline sponge, and with little thermic effect, provided the temperature of the salt when employed is not much below that of the body. By moistening the salt with ice-cold water, it is possible, however, when desirable, to produce most powerful thermic effects in addition to the

circulatory reaction produced by the chemical effect of the salt and the friction.

The salt glow is a tonic measure of high value, and also produces valuable derivative effects; it is especially valuable in feeble patients whose heat-making powers are small, and in whom thermic reaction does not readily occur, or, if it does, the cold bath still has the effect to exhaust the patient and produce loss of heat. The salt glow is valuable in cases in which the skin is very inactive, a condition commonly found present in chronic indigestion. It may be usefully employed in cases of Bright's disease and in diabetes, conditions demanding increase of skin activity, but contraindicating the cold bath.

The salt glow must be avoided in eczema and most other forms of skin disease, and must not in any case be used so frequently as to produce cutaneous irritation. This measure is rarely of use in any acute disease, but is a most useful tonic measure in most chronic disorders. J. H. K.

GIVING A SALT GLOW

Cold Feet.— An excellent and simple remedy for cold feet is the application of cold water. Step into the bathtub, let the cold water run in a little faster than it runs out. Standing in the water, rub one foot with the other, rapidly, ten or twelve times. Then change and treat the other foot in the same manner. Keep up this alternate rubbing for about three minutes. The feet will have become very red, and as you step out of the water you will find them burning and glowing with the warm blood brought into them by this means.

THE INFLUENCE OF EXERCISE ON THE BODY-TEMPERATURE

THERE is more immediate danger in cold air than there is in impure air; but it is dangerous only to those who have not habituated their bodies to it. When a cold wind blows upon a person, a certain amount of heat is taken from the body, and the result is a lowered temperature. Nature is endeavoring to protect us against this lowering of the body temperature, and to maintain it at a proper level. The processes of the body require a certain fixed temperature; in order to keep the fires of the body burning, it must be kept at a temperature of 98.4° in the mouth. In the interior of the body the temperature is much higher; in the stomach it is 103°; in the liver, 106°; and in the heart, 107°. This temperature is necessary for the organs to do their work properly. But on exposure to cold, heat is carried off from the surface of the body, and if the exposure is long-continued, the body temperature is lowered so that the life processes are interfered with.

The blood circulates to the surface, and thus the interior of the body is cooled; it circulates back to the heart, and the surface vessels are cooled; in this manner the heat of the body is continually being carried from within, outward. Heat is dissipated if one is exposed to cold air. When this lowering of the temperature has been going on until it is material and perceptible, one soon begins shivering. This is a sign that the blood temperature has been lowered. Nature sounds the alarm; she rings the bell, so to speak, giving you a general shaking up to let you know it is time to be stirring; and if you do not exercise your muscles, nature does it for you.

A chill is always accompanied with a blanching of the skin; the lips and nails become blue, and there is a mottled appearance of the skin, due to a spasm of the arteries, which causes the blood to remain stagnant in the little veins of the skin for so long that all the oxygen is absorbed from it. As the oxygen disappears, the color changes from red to blue, and the skin is full of venous blood. This contraction of the arteries is very important; it prevents the blood from coming to the surface, keeping it inside so that the body is not injuriously cooled. If the arteries do not contract, and the blood comes freely to the surface, the body heat is quickly lost. This is why it is dangerous for a man to use alcohol in a cold climate or in cold weather. Only teetotalers are enlisted for an Arctic expedition, because they alone can stand the cold of the Arctic regions. Alcohol relaxes the muscles; it dilates the arteries and allows the blood to circulate to the surface; the body becomes quickly cooled, the temperature is lowered, and the man dies. It is a most dangerous thing for a person to use alcohol when exposed to cold. Alcohol makes a man feel warm because it brings the blood to the surface where the cold is. As the warm blood is brought into the skin it lessens the sensation of cold, while at the same time the body-temperature is being rapidly lowered and the danger from chill greatly increased. It is necessary for all to know these fundamental principles in order to understand the influence of the weather upon the body.

When a person has been perspiring, and the skin is warm and relaxed, he takes cold easily on exposure to cold air. This is because the surface vessels are relaxed and there is too much blood

in the skin; the blood temperature is reduced because there is so much blood being quickly cooled. But if a person in this condition exercises, he does not run that risk, because during exercise the muscles are manufacturing heat. With every movement of the muscles there is an increase of heat.

The body makes heat at the rate of about 7½ units per minute. The heat unit is the amount of heat required to raise a pound of water one degree of temperature. So the body is making, every minute, heat enough to raise a pound of water 7½ degrees. In twenty minutes the body would make heat enough to raise a pound of water 150 degrees. The ordinary temperature of well water in the summer time is about 62 degrees. When this is raised 150 degrees, it reaches the boiling point, 212 degrees. So the body makes heat enough in twenty minutes, if it were all concentrated, to boil a pound of water. This gives us an idea of how much heat the body is actually producing. When one exercises vigorously, the amount of heat is increased to two or three times as much as is ordinarily produced.

When the skin is warm, the skin vessels do not contract so quickly on exposure to cold as when the skin is cool. When the body is overheated, the blood is at the surface and the vessels of the skin do not contract quickly enough to protect the body from loss of heat. We often hear people say, "I have been sweating, and the pores are open, and the cold comes in." It is not "the opening of the pores," but the dilation of the vessels, that allows the cold to come in. The blood is in the skin, and the blood vessels are relaxed, so that there is a loss of body heat which is not compensated for. By exercise, heat is manufactured to keep up the body temperature. If one is inactive he does not make heat fast enough to make up the loss, the blood temperature is lowered, and he has a chill. The shivering that accompanies the chill excites the muscles to work to make heat and protect the body from the damage it would suffer from the chill. So the chill is not only the sign that you have taken cold, but it is the means of preventing greater injury, because it is a method by which heat is produced and the temperature of the body is raised.

J. H. K.

Stewed Figs with Nut Cream.—Use the dried whole figs, not the layer figs. Wash them well and cover with cold water until plump and swollen. Then heat gradually and simmer until very tender. Skim them out and boil the syrup down until thick. Strain it over the figs. Cool, and serve with cocoanut or almond cream. If preferred, whipped dairy cream may be used and the syrup flavored with a little vanilla or lemon.

PEOPLE seldom improve when they have no model but themselves to copy after. — *Goldsmith.*

"GROW old along with me:
The best is yet to be,—
The last of life, for which the first was made."

SCHOOL OF HEALTH SEARCH QUESTIONS

TOO FREQUENT EATING

1. What length of time is required for healthy digestion ?
2. What takes place when the meal is eaten before the previous one is digested ?
3. What diseases of the stomach are caused by this practice ?
4. Name the special advantages of eating only two meals a day.
5. What class of persons are best prepared to digest a third meal ?
6. For what reasons should eating in the evening be avoided ?
7. If a third meal is taken, of what should it consist ?

AERATED BATTER BREADS

1. What is the chief difficulty in making aerated breads ?
2. In what form are these breads best baked ?
3. What degree of heat is required for baking ?
4. By what process is air incorporated into the bread ?
5. Name some important points to be kept in mind in this process.
6. Explain how the coldness of the air incorporated contributes to the lightness of the bread.
7. What length of time is requisite for baking ?

THE SALT GLOW

1. How does the patient prepare for this treatment ?
2. In what way is the salt applied to the body ?
3. How is it removed ?
4. In what condition is the skin after the treatment ?
5. What is accomplished by the salt glow ?
6. For what class of patients is it of special value ?
7. In what cases should it be avoided ?

INFLUENCE OF EXERCISE ON BODY-TEMPERATURE

1. What temperature of the body is necessary for the organs to do their work properly ?
2. What are the outward signs of a lowering of temperature ?
3. Of what is shivering an indication ?
4. At what rate does the body make heat ?
5. Explain how exercise prevents chill.

Hundred Year Club

"A CENTURY IS NOT A VERY LONG TIME"

"A CENTURY is not a very long time," said Mr. Noah Bacon, shortly before his death at the age of one hundred and two years. Though the time seemed short in retrospect, the marvelous progress accomplished during the lifetime of this one man caused him to feel that he would like to live another century, if only for the sake of seeing the wonders that would take place in it.

NOAH BACON

Mr. Bacon, of Iowa, had the extremely rare distinction of living in three centuries. Born in the eighteenth, he lived to see the dawn of the twentieth. But one presidential administration expired before his birth, Washington being the only one of the presidents that he might not have seen.

"My boyhood days," said Mr. Bacon, "were rather different from those of the boys of to-day. New York was then a wilderness, and Massachusetts was in the Far East. Iowa was unknown. We hadn't even a cook-stove when I was born, and sewing machines were unheard of. Electricity, gas, railroad trains, steamboats,—all these methods of illumination and communication were not dreamed of."

The life of this centenarian, like that of most, if not all, of the others of whom sketches have appeared in these pages, had been spent mainly in the open air. When fourteen years of age he began to carry mail on horseback, and afterward operated stage routes. The chief occupation of his life was farming. He was of active habits, moderate in diet, and since early manhood a total abstainer from alcoholic liquor. His health was always good.

The picture which we are able to present is made from a photograph taken on his hundredth birthday.

RECORDS OF LONGEVITY

AN English contemporary recently published some records of longevity, from which we extract the following particulars:—

Jonathan Hartop, of the village of Aldborough, Yorkshire, died in 1791, aged 138. He had been married five times, and left seven children, twenty-six grandchildren, seventy-four great-grandchildren, and one hundred and forty great-great-grandchildren. He could to the last see to read and to play at cribbage without spectacles, keeping his own count with the most perfect recollection of numbers. On Christmas day, 1789, when he was 136 years old, he walked nine miles to dine with one of his great-grandchildren. He constantly lived very sparingly, and his only beverage was milk. He was of so cheerful a disposition that he seemed under every circumstance to enjoy an uninterrupted flow of good spirits.

John Benbow, of Northwood, Shropshire, died in 1806, aged 107. His occupation was that of a maker of clocks and watches. His steadiness of hand, clearness of intellect, and complete command of all his faculties were such that, till within a very few years of his decease, he was enabled to execute the most delicate and intricate manipulations connected with his business. He was remarkable for industry, sobriety, early rising, and soon retiring to rest. To the close of his life he was noted for his extreme attention to everything relating to his personal appearance. About three years before his death his tailor brought him home a new coat, which he found to have a cloth collar substituted for the velvet one he was accustomed to wear. Learning that the tailor had not velvet of the necessary quality by him, he took up his walking stick and straightway went off to Whitchurch, a distance of seven miles, to purchase material for the collar, returning home in a few hours, to the astonishment of his family.

William Marshall, of Kirkcudbright, Scotland, died in 1792, aged 120. He was a traveling tinker by trade, and followed his business up to the year before he died, being more active and sprightly in his manners at one hundred than most men are at sixty. In a company by which he was entertained a few weeks before his death he sang a song with great spirit, and expressed his hopes of living twenty years longer.

A Mexican 134 Years Old.

Mexicans have furnished some of the most remarkable instances of longevity in modern times. The oldest Mexican in New Mexico was Juan Chaves, who has just died at the remarkable age of 134 years. He was a native of the Pecos Valley, having been born there when that territory was a portion of Mexico.

THE poet Cowper in the following lines describes the blessings experienced in age by those who through life have been "alert and active:"—

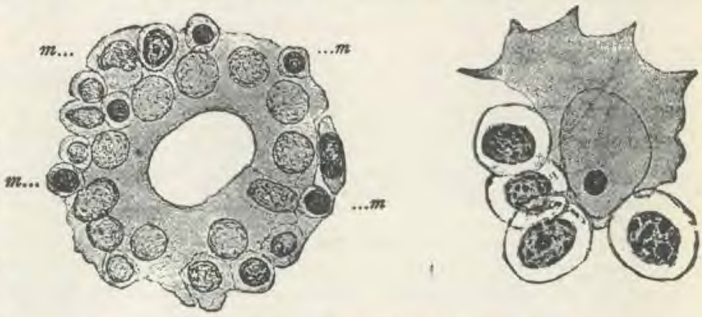
"Good health, and its associate in the most,
Good temper; spirits prompt to undertake,
And not soon spent, though in an arduous task;
The powers of fancy and strong thought are theirs;
Even age itself seems privileged in them
With clear exemption from its own defects.
A sparkling eye beneath a wrinkled front
The veteran shows; and, gracing a gray beard
With youthful smiles, descends toward the grave
Sprightly, and old almost without decay."

. . By the Editor . .

THE CAUSE OF OLD AGE

PROFESSOR METCHNIKOFF, the successor to the famous Pasteur in the directorship of the Pasteur Institute of Paris, where so many marvelous discoveries of great practical interest to human welfare have been made, has announced the discovery of the cause of premature old age. Metchnikoff declares that the proper length of life is not less than one hundred and forty years. He thinks a man should be in his prime at eighty, hale, hearty, and lively; and should be vigorous and active at one hundred and twenty.

Metchnikoff discovered some years ago in microscopic study of the body-fluid the wonderful fact that certain blood cells, the so-called leucocytes, or white cells, have the power of attacking, capturing, and destroying microphags and other inferior cells or organisms which find their way into the blood. In his further studies of these wonderful cells, some of which he calls microphags because of their small size, while others are macrophags because of larger size (see accompanying cut), he found that they are constantly occupied with various kinds of work in the body which requires their peculiar form of activity. Certain of them defend the body against the attack of germs. These are the microphags; while the larger ones are macrophags, and act as general scavengers, eating up and destroying blood clots, dead cells, exudates, the result of inflammation, and any other refuse which may be found among the tissues of the body. These cells do not confine themselves to blood vessels, but, working their way through the vessel walls, wander about through the tissues, and even creep out upon the surface of the body where there is a break in the skin. They sometimes accumulate in great numbers, forming the pus or discharge of abscesses or suppurating sores.



MACROPHAGS DESTROYING LIVING CELLS

Metchnikoff has made a further discovery of very great importance; that is, that these destroying cells, especially the macrophags, do not always wait until the cells of the body are dead before attacking them, but attack cells which have become weakened by disease or through the influence of poisons, such as alcohol or other drugs. He gives pictures in his work, from which the accompanying cuts are reproduced, showing macrophags at work destroying cells of the brain and other tissues.

Metchnikoff considers the capacious colon in man a source of danger, since through the retention of decomposable matters, putrefactive processes are often set up, and by the multitude of germs which are present in the alimentary canal, poisons formed as the result of these decaying processes are absorbed into the blood, weakening the cells of the body and rendering them an easy prey to macrophags, which do not hesitate to invade the tissues; and as the higher cells of the brain, muscles, liver, and other organs become gradually weakened through the action of these poisons, the macrophags become more and more successful in their attacks, until the brain fails from paresis or general paralysis. The walls of the blood vessels become hardened and the same hardening process extends to other vital organs. This, according to Metchnikoff, is the real cause of premature old age and death.

Metchnikoff proceeds to show by comparative study of animals that those animals which have long and capacious colons are the shortest-lived, while those with small colons are longer-lived. He also calls attention to the shrewd observation made by Hufeland, the eminent German physiologist, who, more than one hundred years ago, wrote a wonderfully interesting work on "The Art of Prolonging Life," from which we quote as follows: —

"We should use vegetable rather than animal food, as animal food is more liable to putrefaction, while vegetable substances contain an acid principle that retards our mortal enemy, putrefaction."

Metchnikoff agrees with Hufeland that a flesh diet must necessarily contribute to the shortening of life, for the reason that the indigestible portions of this highly putrefactive material, accumulating in the colon, undergo a process of decay, give rise to most deadly poisons, which, being absorbed into the blood, weaken the tissue cells and thus render them an easy prey to the macrophags.

Here is ample food for thought for those who advocate a flesh diet for man. Metchnikoff is not a faddist nor a food-reform crank, but is recognized as one of the greatest living scientists. He has taken his stand against the use of flesh food, not because of any predilection in favor of a vegetarian diet, but because his scientific observations have called his attention to the foregoing facts, which he considers sufficiently important, even startling, to make it worth while to embody them in a most excellent book which he has recently published, entitled "The Nature of Man."

Metchnikoff very clearly recognizes the fact that man's only hope for a healthy, happy, long life lies in the return to simple habits. It is only in following the divine order of life, which is clearly indicated by the human constitution itself, that man can hope to fulfil his destiny and to perform his part in the great drama of life.

HOW TO BEAT THE BEEF TRUST

THE long-continued strike of the butchers brought the question of meat eating home in a practical manner to many thousands who otherwise would never have given it a thought beyond paying the butcher's bills. The leading dailies contained articles, editorial and contributed, discussing the possibility of dispensing with flesh food at all times; and many of the advantages of so doing have been set forth. Thus the strike has in some respects really been a blessing, and it is to be hoped that many who have *per force* discontinued a flesh diet for a season, will be induced to abandon it permanently of their own accord. As a sample of the good work done in the cause of reform, we copy the following from an arti-

cle by Dr. Ernest Crosby, in the *Chicago American*: —

I am down on all trusts as a rule, but there is just one exception. I admit that I have a warm place in my heart for the beef trust, and I should like to see beef go up to ten dollars a pound, so that no one but millionaires could indulge in it, and then I would pity the millionaires. There is something very amusing to me in the panic of those people who think they can not live without meat, when I know perfectly well, from my own experience and that of hundreds of others, that meat, so far from being necessary to man, is a bad food, and that you can get on much better without it.

Our bodies are always wearing out, and we are continually getting rid of the used-up tissue through the various organs of our body which carry it off, and when we eat meat we take into our stomachs a whole lot of waste tissue of other animals, and we give our kidneys and other organs double work to perform. They can not manage the extra work properly, and sooner or later they give out, and we have various kinds of kidney disease, dyspepsia and the like, as a result.

The number of diseases caused by meat eating is being added to continually. Gout, rheumatism, appendicitis, tapeworm, scurvy, trichinosis, are all ascribed to meat, and tuberculosis and ptomain poisoning come often from the same source. Leprosy is caused by eating fish. We naturally shrink from a corpse; it begins to decay at the moment of death, and it ought to be repulsive to us.

We have overcome our natural repugnance to the eating of dead bodies, but that repugnance still survives beneath the surface. Would you be willing to go into a butcher's shop and cut off a piece of raw meat from a carcass and eat it then and there? I think not. Would you like to eat a piece of roast dog or cat? Probably not, because your natural repugnance to this kind of food has not been overcome by centuries of habit.

We disguise our meat by cooking it; in any other form it is disgusting to us. But you would not shrink from putting a raw vegetable in your mouth or from tasting a new kind of fruit. Why? — Because vegetables and fruits and cereals are our natural food, and flesh and blood are not. We are most like the arboreal apes, of all other animals, and they live on fruit and nuts. Carnivorous animals, like the dog and lion, have very short intestines and no grinding teeth, while we have long intestines and plenty of grinders. And we have no carnivorous teeth, for our teeth are exactly like the ape's, and he is not carnivorous. Besides this, there is a lateral play of our jaws, useful for grinding, which the carnivora do not possess, and which we have in common with the ox, the horse, and the camel, all of them vegetarians.

Meat is, then, a bad and unnatural food even when the animal is healthy, which it rarely is. Almost all domestic animals are unhealthy, and it is well known that commercialism sends the unhealthy ones first to the butcher.

The best herds of cattle are infected with tuberculosis and anthrax and many other diseases. Sheep are always ailing in one way or another, and such a thing as a healthy pig does not exist. Our very word "scrofula" comes from the Latin *scrofa*, "a sow." And yet we eat them, scrofula, tubercles, and all, and think that we are bound to die if we can not get some every day.

I do not dwell upon the cruelty of slaughtering animals for food, because it is so self-evident. Why do we hide our slaughter-houses away as we do, so that we hardly ever see one? — It is because it is inhuman, nasty work, of which we are at the bottom ashamed. Visit the nearest abattoir if you wish to be convinced. Think of bringing up men and boys to pass their whole lives cutting the throats of innocent, terrified animals, doing it like merciless machines, — so many victims in so many minutes.

Our descendants will look upon all this as being as barbarous as the crucifixions and gladiatorial fights of Rome and the tortures of the Inquisition. Nor is this all. The sufferings of the cattle on Western ranges, where five per cent are expected to freeze to death and starve every winter; on cattle trains, where they are scorched or chilled, foodless and waterless for days; on cattle ships, where a fixed percentage perish from broken legs and accidents — their sufferings from birth to death are a fearful account to be settled with the man-animal, who believes that they were created for him to eat. And, strange to say, the very animals which we eat are usually the peaceable vegetarians. The cow, the calf, and the sheep are absolutely harmless, and cause no suffering to others, and yet we select them for our shambles.

But how is it possible to live without eating meat? — It is the easiest thing in

the world. I have not eaten a particle of meat, fowl, or fish for six years or more, and my health has not been affected in the slightest. There are dozens of vegetarians I know of whom the same is true, and some of them have not eaten meat for one-half a century. It is a simple matter of chemistry. You can get the same elements which form the valuable part of meat in other things, and without the objectionable waste tissue.

Oatmeal, whole-wheat bread, peas, beans, cheese, nuts, and peanuts contain all that is good in meat, namely, the proteids, and none of the waste products. Every piece of meat is full of waste products on their way to the various channels of exit from the body, as excrement, urine, perspiration, etc. This is not altogether nice to eat, and the above substitutes for meat contain none of them. There is a tremendous economy in making the change. You can live better than you are accustomed to live, for half the money, if you will only try it. The strongest nations and the strongest animals rarely or never touch meat.

The Japanese are whipping the Russians on a diet consisting chiefly of rice. The ox and horse and camel and elephant and reindeer are much stronger than the lion or the tiger, neither of which can do a day's work. A non-flesh diet is much the best for endurance and to overcome fatigue.

My advice to you, then, who are frightened by the high price of meat, is to stop buying it. Don't try to live on cabbages and potatoes only, but make use of some of the substitutes for meat which I have enumerated, and which contain the necessary proteids, and as you find that your health is just as good or better, and as your weekly food account grows smaller, you will find yourself blessing the beef trust instead of cursing it.

BATTLE CREEK SANITARIUM DAY AT THE WORLD'S FAIR

BATTLE CREEK Sanitarium Day at the World's Fair was a notable occasion. The Battle Creek Sanitarium System never made a more creditable showing, and perhaps never stood on quite so high a pedestal before the public gaze as on this memorable day. Without any action whatever on the part of the Sanitarium authorities, the managers at the World's Fair sent to the Sanitarium management the proposal to designate September 29 as "Battle Creek Sanitarium Day," and to place at the disposal of the institution one of the largest of the congress halls in the Hall of Congresses,— that known as Library Hall,— and to do their part in making the occasion a success.

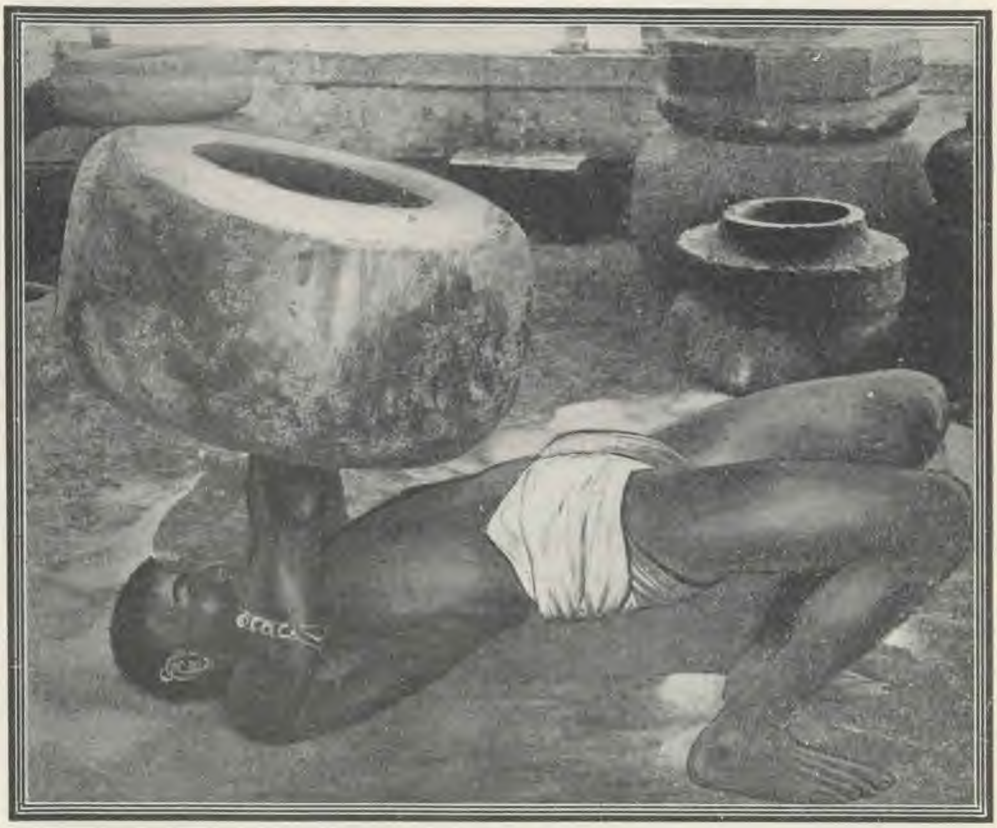
The time was short. Nevertheless, by active efforts the arrangements were effected, and upon the appointed day a veritable multitude of most intelligent and earnest people gathered at the appointed time and place, and a most delightful day was spent in listening to numerous addresses and witnessing various exercises. The proceedings began at eleven in the morning. At one o'clock a short intermission was taken for lunch, which the Sanitarium provided, and which was served to the audience in their places.

At two o'clock Mr. Conrad took the chair, and a continuous session was held for nearly five and one-half hours. According to a careful estimate made by counting at the door, not less than five thousand people attended the proceedings during the day, and a large number were present during the entire day. At seven in the evening the question was asked, "How many present have been here since eleven o'clock?" and a large part of the audience raised their hands. This fact is a sufficient evidence of the interest; and the enthusiasm for Battle Creek Sanitarium principles found expression in frequent bursts of applause which greeted the various speakers when they presented their several themes. The addresses were excellent. Among the speakers was Mr. Horace Fletcher, the apostle of the chewing reform, who gave a most admirable and interesting address. At the close of the exercises two hundred sat down to a health banquet at the Christian

Endeavor Hotel. A shorthand report was made of the entire proceedings, which will appear in abstract in our next and succeeding numbers.

A MAN OF MIGHT WHO NEVER ATE FLESH

THE accompanying illustration represents a native of Benares, India, aged meats of all kinds,— a demonstration that flesh meats are not essential for strength.



From Stereograph, Copyright 1903, by Underwood and Underwood.

forty-six years, putting up a millstone weighing 960 pounds. This man has never in his life tasted flesh food, it being a part of his religion to abstain from There is probably no meat eater living who can match this feat, which is equivalent to holding up at arm's length a medium-sized horse or an ordinary cow.

THE ONLY VEGETARIAN

SOME time ago there appeared in the public prints a statement to the effect that the editor had received a letter from a young man who was the only English-speaking person who had never tasted flesh. Since the publication of this article a number of letters have been received from persons in different parts of the country correcting this statement. The editor wishes to say that he is in no way respon-

sible for this absurd publication. The thing was manufactured out of whole cloth by some newspaper that was short of material out of which to make "copy." There are scores of English-speaking persons in the United States and in England who have never tasted flesh foods; and in India there are thousands of educated Brahmins who speak English with perfect fluency who have never tasted fish, flesh, or fowl.

We are glad to publish the following extracts from letters received, in further evidence of the fact that perfect health can be maintained from infancy to adult life without resorting to the use of flesh: —

"C —— has a son seventeen years old last July, who up to the present time has never eaten any kind of meats, fish, eggs, or oysters, nor has he any taste for them. While a baby, as he did not take to meat as babies generally do, the matter was discussed with the family physician, who advised the parents to have no worry, that the child would be better if he never tasted meat, and I am able to say that the doctor's prediction is true. The boy is sturdy, has never been sick a day in his life, is five feet ten and a half in height, and weighs one hundred and forty-three pounds. He is fond of outdoor sport, and will tramp from morning until night with very little refreshment, this consisting of a little toast and fruit in the morning, and will come in in the evening without having taken any mid-day lunch or meal, apparently as fresh as when he started in the morning."

"Hearing of the case of Hubert Bretz as a 'real vegetarian,' I should like to cite my own case to you. I am now past sixteen years, about five feet three or four inches in height. Never to my knowledge has meat passed my lips. By meat I refer to fish, flesh, and fowl in the full sense of the word, including oysters, eggs, and in short anything that has inhaled the breath of life. I have no desire for such things. The other members of my family, of which I am the third, are, like the Bretz family, great meat eaters. Suffice it to say that I am the most healthy and clearest complexioned of all. I have never been sick more than three or four days in my life."

How Fowls Are Fattened.

A little boy who expressed himself as very fond of chicken, when asked the other day if he would eat a dead hen, very promptly replied, "No, indeed." It had never occurred to him that the savory chicken stew was nothing more or less than dead hen. Most people are so accustomed to making cemeteries of their stomachs that they give little thought to the character of the corpses which they swallow. Nevertheless, the flesh-eating portion of the English public have recently been quite startled by the report of Mr. Andrew Caird, who sent to the *Daily Mail* an account of the barbarities practiced upon hens in forced feeding for the market, and the imposition afterward practiced upon the public in feeding them the diseased carcasses of these unfortunate fowls.

According to Mr. Caird, "After as much natural feeding as can be induced by fair means, the fattening pump is the chickens' portion, and when they even refuse to digest the food that is swallowed for them, a dose of arsenic stimulates their appetites for a final week of flesh production. Great fat fowls blink idiotically at the men as they go about their work. They look more stupid than usual, and one can easily see that they are on the point of collapse, just about to die. In fact, in the last days the fowls are anxiously watched lest they should cheat the knife by dying from 'natural causes.'"

. . . Question Box . . .

10,133. Dry Skin.—I. H. M., Colorado: "Give cause and remedy for dryness of skin, hips, knees, and ankles. I take a cold bath every morning. Have given up flesh food. Eat eggs for breakfast and supper; for dinner, whole-wheat crackers, granose biscuit, nut butter, glass of hot water, and a few almonds. Use dairy butter for breakfast and dinner."

Ans.—You need more outdoor life. Expose the uncovered skin to the sun for half an hour daily. Take at night just before retiring a neutral bath at 92° to 94° for half an hour. Exercise in the open air every day for an hour with sufficient vigor to cause free perspiration. After the exercise take a short cold bath.

10,134. Weak Muscles — Adenoid.—E. W. S.: "1. Why should a healthy man weighing over two hundred have no strength in his muscles? 2. Suggest treatment. 3. What should be done for a child of two who has a growth in its nose?"

Ans.—1. The cause may be deficient exercise or some functional or organic nervous disorder. A careful personal examination should be made of the case by a competent physician.

2. It is not possible to prescribe intelligently in such a case without first examining the patient.

3. The growth should be removed by a competent surgeon.

10,135. Hemorrhoids.—A Maine subscriber suffering from piles or hemorrhoids of three years' standing, also from catarrh, backache, and stomach trouble, asks our advice.

Ans.—Probably a surgical operation for removal of the hemorrhoids may be necessary. A prolonged cold sitz bath at a temperature of 60°, with water two or three inches in depth, will often afford relief. It should be taken daily for about fifteen minutes. As the water is warmed by contact with the body, the temperature should be lowered by the addition of ice water to maintain the temperature at about 60°.

10,136. Fasting—Raw Foods.—B. S., British Columbia: "1. For how long a time is it safe to fast? 2. Please answer the raw food faddists."

Ans.—1. Fasting more than two or three days is rarely beneficial except in cases of acute fevers. Prolonged fasting is risky and even dangerous.

2. See page 480, September number.

10,137. Chronic Diarrhea—Cod-liver Oil.—E. H., Wisconsin: "After a severe attack of chronic diarrhea, I still lack twelve pounds of my original weight; have a good appetite and take only light diet and very little meat. After meals there is pressing pain in the stomach; have coated tongue, weak heart, constipation, insomnia; feel exhausted and am anemic. 1. Is this catarrh of the stomach? 2. Has cod-liver oil any merit? Do you recommend it in my case? 3. Suggest diet."

Ans.—1. It is quite likely that there is dilatation of the stomach; possibly also chronic catarrh of the stomach or of the stomach and bowels.

2. Cod-liver oil is not necessary, but you ought to eat fat in some form.

3. Nuts thoroughly masticated and the yolks of eggs or malted nuts will furnish you fattening material in the best possible form. Well-baked potatoes are also good. Sterilized butter may be taken in moderate quantity. Gluten biscuits are wholesome, also granola, granuto, and cereal flakes of all kinds.

10,138. Nuts.—C. P. S., Florida: "1. What is the best way to cook peanuts? 2. How can hickory nuts and pecans be prepared to render them more easily digestible? 3. How can malted nuts be prepared from these nuts?"

Ans.—1. First, blanch them; then boil them for eight or ten hours.

2. By crushing to a paste, then making a nut butter of them.

3. It can not be done successfully.

LITERARY NOTES

How to Grow Hair on a Bald Head.

"How to Care for the Hair At all Times," by Juliet Marion Lee. Published and for sale by The Juliet M. Lee Company, 27 West 24th St., New York City. Price, $1.00.

The author of this useful work, a specialist with a large practice, is an optimist who assures us that while there is hair, there is hope of a renewed growth of it. The methods by which its restoration may be secured, all simple and natural, are set forth with fine half-tone engravings demonstrating the different processes.

While the writer agrees with all other authorities in stating that the head that is "shiny and smooth from gradually developing senile baldness is shiny and smooth for all time," those who have not quite reached this stage will find much encouragement in the chapters on "Progressive Baldness Overcome," and "How to Prevent and Remedy Premature Baldness," from which we quote the following sentences:—

"Manipulation of the scalp, or massage, when scientifically administered, is the only reliable method which will absolutely and entirely restore the hair in any ordinary case of baldness. . . . This treatment appeals to the intelligent as an art in assisting injured nature to recuperate and prolong life. Sluggishness and atrophy mean decay and death, while action and friction create new life; therefore, a sluggish, debilitated scalp should receive a daily massage or manipulative treatment of sufficient magnetic force to induce a roseate glow to the surface, reviving the blood circulation in the hair follicles around the papillæ and stimulating the action of the skin capillaries. By this means an increased amount of hirsute material is formed, and one can reasonably expect to see results in from thirty to sixty days after a lethargic condition is overcome."

There is nothing prettier or cheerier than a windowful of thrifty growing plants. To have an attractive plant window, follow these four simple rules: —

1. Choose plants adapted to room culture and to the amount of sunshine they will receive.
2. Feed them well.
3. Keep them clean.
4. Keep all insects from them.

An ideal window garden contains both foliage and flowering plants. There should be most of the latter. In fact, there need not be more than one or two foliage plants, if they are large and handsome ones, in a small collection. Give foliage plants roomy pots, rich soil, and generous treatment. In particular keep the dust off their leaves by frequent washings.

The majority of window plants should be flowering ones. See that they really are flowering ones. A flowerless flower window is common enough, but it is a fraud. There is no need of such a condition. For instance, abutilon and the begonia are always in bloom; oranges and lemons are perpetually in fruit or flower. Many other kinds of begonias, oxalis, double petunias, primulas, nicotiana, carnations, and geraniums, if they are of flowering size and have not been allowed to exhaust themselves by summer blooming, will flower steadily all winter and spring. — *Lora S. LaMance, in the* **House-Keeper**.

McClure's for October is timely in the best sense. It reads vigorously and intelligently some of the important lessons of the hour. In its serious articles *McClure's* does not deal with the cursory and the superficial, but with the vital, fundamental thing, and interprets its real meaning and application. It is impressing itself tremendously on the life and thought of the day by its weighty and authoritative way of doing things.

A beautiful cover by Maxfield Parrish is reproduced in colors for the October **Scribner's**. Mr. Parrish has recently finished the illustrations for an edition of Eugene Field's poems, many of which will be reproduced in color.

Our home consumption of wheat for food is about five and a quarter bushels a year for each of our eighty-one million inhabitants. This per capita consumption appears to be interesting. The high prices of meats are probably increasing the demand for bread. — *October* **Success.**

A glowing red cover proclaims the thick and richly packed October issue of **Good Housekeeping**. This is the largest number thus far gotten out, and abounds in valuable material. In fact, there are too many notable articles in this issue for mention here.

GOOD HEALTH

A Journal of Hygiene

J. H. KELLOGG, M. D., EDITOR

Subscription Price, $1.00 a year
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PUBLISHED MONTHLY BY

GOOD HEALTH PUB. CO.

115 WASHINGTON AVE, N.

BATTLE CREEK. · · · · · MICHIGAN

THE CHICAGO BRANCH SANITARIUM.

THE Battle Creek Branch Sanitarium in Chicago has existed for many years, and has done a large amount of work. It has facilities and opportunities that can not be had in any other place in Chicago. In order that the institution might better serve the purpose of its existence, it has recently been subjected to a very thorough renovation. The bath rooms have been remodeled and new equipments put in.

SOME WHO DID NOT WORRY OVER THE STOCK-YARDS STRIKE.

From the *Chicago Daily News.*

The rooms have all been newly decorated, and in most part new furniture has been installed. The elevator is being remodeled and equipped with up-to-date safety devices. More extensive facilities are being installed for vibro-massage, or mechanical Swedish massage. The operating room is being fitted up with modern equipment. The improvement in both the exterior and the interior calls forth words of commendation. Steps are being taken to make Chicago's magnificent boulevard and park system more available to the patients by the use of an automobile.

THE ONLY ONES TO REGRET THE END OF THE GREAT MEAT STRIKE.

From the *Minneapolis Journal*.

It is significant that the one train which makes the Chicago-St. Paul run in ten hours, carries no passengers.

To ride on it is a privilege acquired by few. Yet a journey on this train, which carries none but government mail clerks and its crew, is an experience, especially if the journey be made on the "fireman's side" of the huge locomotive which pulls it. It is a revelation of what fast passenger service means and a liberal education in appreciation of the cool nerve and absolute competency of the men who run fast trains.

The fast mail over the **Chicago, Milwaukee, and St. Paul Railway** leaves Chicago every night of the year with from twenty to fifty tons of mail aboard, and reaches St. Paul every morning with its burden of letters and packages in time for transfer to other trains to the Pacific Coast to connect with the mail boats, north into the Dominion, east and west into adjoining States, and radiating over a dozen lines of railway into every nook and cranny of the Northwest.

If one asks why the fast mail carries no passengers, he is answered that there are other trains which do that work. Another reason is apparent after a journey on the "head end" with the two cinder-marked and grease-smudged gods of the machine that pulls it.

Ten-hour service means speed. — *Curtis L. Mosher, in the St. Paul Dispatch.*

Mr. Horace Fletcher, the apostle of chewing reform, has recently been spending a few days in Battle Creek, stopping at the Battle Creek Sanitarium, an institution in which he is greatly interested. Mr. Fletcher's discoveries respecting the physiology of mastication have created great interest in scientific circles. By the careful observations made upon himself and others during a number of years, Mr. Fletcher has discovered many new facts in relation to the function of taste and mouth-digestion, and has demonstrated that if the food is chewed with sufficient thoroughness; that is, the mouth digestion properly performed, the succeeding stages of the digestive process will almost certainly be well performed.

Mr. Fletcher addressed the guests of the Sanitarium and the medical students, as did also his friend, Mr. Cook, a writer for the *Contemporary Review*, a leading English periodical. The patients of the Sanitarium are always glad to welcome Mr. Fletcher as a guest, for he always brings some bright, new, wholesome, inspiring thoughts with him.

The managers of the Battle Creek Sanitarium report that the last season has been on the whole the most successful in the history of the institution. The main building of the Sanitarium has been a large part of the time crowded to its utmost capacity. Folding beds were placed in the offices, and the upstairs parlors were all occupied as bedrooms.

Sanitariums

The following institutions are conducted in harmony with the same methods and principles as the Battle Creek Sanitarium.

COLORADO SANITARIUM, Boulder, Colo.
HOWARD F. RAND, M. D., Superintendent.

ST. HELENA SANITARIUM, Sanitarium, Napa Co., Cal.
T. J. EVANS, M. D., Superintendent.

NEBRASKA SANITARIUM, College View, Lincoln, Nebr.
W. A. GEORGE, M. D., Superintendent.

PORTLAND SANITARIUM, Mt. Tabor, Ore.
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NEW ENGLAND SANITARIUM, Melrose, Mass.
C. C. NICOLA, M. D., Superintendent.

CHICAGO BRANCH SANITARIUM, 2833d Place, Chicago, Ill.
FRANK J. OTIS, M. D., Superintendent.

IOWA SANITARIUM, 603 E. 12th St., Des Moines, Iowa.
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TRI-CITY SANITARIUM, 1213 15th St., Moline, Ill.
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TREATMENT ROOMS, 1117 4 St., San Diego, Cal.
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GARDEN CITY SANITARIUM, San Jose Cal.
LEWIS J. BELKNAP, M. D., Superintendent.

MADISON SANITARIUM, Madison, Wis.
C. P. FARNSWORTH, M. D., Superintendent.

SPOKANE SANITARIUM, Spokane, Wash.
SILAS YARNELL, M. D., Superintendent.

DETROIT BRANCH SANITARIUM, 54 Farrar St., Detroit, Mich.

TREATMENT PARLORS, 865 5th St., Milwaukee, Wis.

COLORADO SPRINGS SANITARIUM, 320-322½ North Tejon St., Colorado Springs, Colo.
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TREATMENT ROOMS, 201 Granby Block, Cedar Rapids, Iowa.
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BUFFALO SANITARIUM, 922 Niagara St., Buffalo, N. Y.
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NASHVILLE SANITARIUM, corner Church and Vine Sts., Nashville, Tenn.
O. M. HAYWARD, M. D., Superintendent.

CLEVELAND TREATMENT ROOMS, 230 Euclid Ave., Cleveland, Ohio.

TREATMENT ROOMS, 44 E. Main St., Middletown, N. Y.
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SEATTLE SANITARIUM, 612 3d Ave., Seattle, Wash.
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A. B. OLSEN, B. S., M. D., M. R. C. S., Superintendent.

LEICESTER SANITARIUM, 80 Regent St., Leicester, Eng.
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Hygienic Company, 1209 G St., N. W. Washington, D. C.
Dining Room, Church and Vine Sts., Nashville, Tenn.
Hygeia Dining Room, 279 Woodward Ave., Detroit, Mich.
Hygeia Dining Rooms, 5759 Drexel Ave., Chicago, Ill.
Hygienic Cafe, 426 State St., Madison, Wis.
Hygienic Cafe, 865 5th St., Milwaukee, Wis.
Pure Food Cafe, 607 Locust St., Des Moines, Iowa.
Pure Food Cafe, 403 E. 11th St., Kansas City, Mo.
Good Health Cafe, 145 S. 13th St., Lincoln, Nebr.
Nebraska Sanitarium Food Co., College View, Nebr.
Pure Food Store, 2129 Farnum St., Omaha, Nebr.
Vegetarian Cafe, 322½ N. Tejon St., Colorado Springs, Colo.
Vegetarian Restaurant, 555 Boylston St., Boston, Mass.
Vegetarian Cafe, 1543 Glenarm St., Denver, Colo.
The Vegetarian, 755 Market St., San Francisco, Cal.
Vegetarian Dining Rooms, 317 W. 3rd St., Los Angeles, Cal.
Portland Sanitarium Rooms, Mt. Tabor, Ore.
Vegetarian Cafe, 214 Union St., Seattle, Wash.
White Rose Restaurant, W. H. Nelson, 36 W. 18th St., New York City.
Boston Health Food Store, W. F. Childs, Room 316, 100 Boylston St., Boston, Mass.
Vegetarian Cafe, S. 170 Howard St., Spokane, Wash.
The Laurel, 11 W. 18th St., New York City.
Hygeia Cafe, 203 3rd Ave., Peoria, Ill.
Pure Food Cafe, 1807 Franklin Ave., St. Louis, Mo.
N. E. Sanitarium Food Co., 23 Wyoming Ave., D. M. Hall, Mgr., Melrose, Mass.

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The NURSERY OF HEALTH FOOD IDEAS

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The Battle Creek Sanitarium Food Idea Is the **Health Food Idea** *to-day*

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Why buy poor imitations when the real health foods cost no more?

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DIETETIC DEPARTMENT.

We announce the opening of a Special Correspondence Department for the benefit of invalids, dyspeptics, and those suffering from diabetes, rheumatism, and other maladies requiring careful regulation of the diet. If you will fill out the coupon below a blank will be sent you, which, after filling out, you will mail to us. This statement of your dietetic needs will be given attention by a member of our Medical Consulting Staff.

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will be improved by the continued use of our foods, which contain every element necessary to man, woman or child. There is as much chance for improvement in foods as there is in ice-cream freezers or threshing machines. Why not try our new

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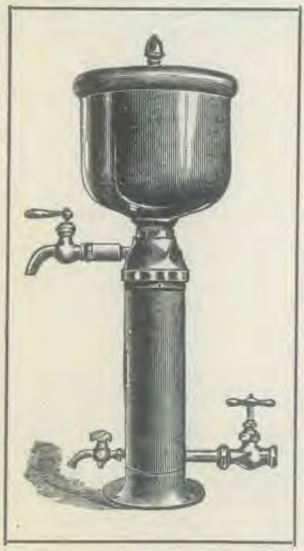

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