The Midsummer Number

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GOOD HEALTH

August, 1904.

The Deformities Produced by the Conventional Dress of Women — *Illustrated.*
The Modern Kitchen a Promoter of the Cigarette Industry.
Cuba as a Health Resort — *Ill.*
The Story of Dress Reform — *Ill.*
Hygienic Clothing for Infants.
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IN THE COOL OF THE DAY

GOOD HEALTH

A Journal of Hygiene

VOL. XXXIX AUGUST, 1904 No. 8

THE DEFORMITIES PRODUCED BY THE CONVENTIONAL DRESS OF WOMEN

BY J. H. KELLOGG, M. D.

THERE are probably few intelligent women nowadays who are not perfectly well aware of the fact that tight dressing is harmful; and yet nearly all women continue to bow their heads meekly to the dictates of Dame Fashion, conforming to conventional practices, the baneful effects of which the medical profession have been exposing for the past quarter of a century. Indeed, more than a hundred years ago the medical profession began to cry out against the evils of waist constriction, pointing out the irreparable injury which is done, not only to the organs brought immediately under pressure, but to the body as a whole. Clothing the body with a rigid garment, such as the corset, suppresses the proper development of the muscles of the trunk. The consequence is that there are to be found in civilized lands but few mature women who do not exhibit very marked evidences of arrested development or of physical decay in the form of the trunk and the feebleness of the muscles of the back and abdomen. The illustration on the next page (Figs. a and b) clearly shows the marked contrast between the figure of a woman whose body has been weakened and deformed by improper dress and that of a well-developed woman.

Some years ago the writer, by request, made an address before a medical society, the subject of which was "The Influence of Dress in Producing the Physical Decadence of American Women." The facts then presented have since been confirmed in many thousands of cases, and hence may be reiterated with emphasis. The following quotations are selected from this address: —

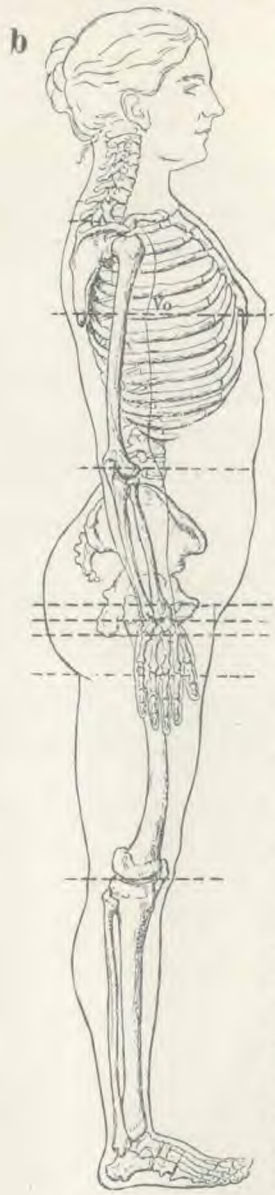
If, in answer to the question why the civilized woman of to-day has a smaller waist than the beautiful women of ancient Greece, whose figures furnished models for the sculptors whose masterpieces modern artists have sought in vain to equal, it is said that the change observable is a product of evolution, or a result of civilization, may we not pertinently enquire why a similar change is not to be found in the modern man?

Why does the civilized woman require a smaller waist than the civilized man? Certainly no physiological reason can be given, and well-known anatomical facts suggest that if there is any natural difference in proportion, woman requires a larger waist than man. She has a larger liver in proportion to her size and weight than man, and the exigencies of motherhood require provision for an increase in waist capacity to which man is not subject.

Still another question of interest arises from the fact, to which almost

every woman can testify, that the waist of the average woman accustomed to constriction from clothing, increases in measure whenever it has an opportunity for development, as when the common mode of dress is exchanged for a more healthful one, or ordinary clothing laid aside for a few weeks, as during confinement to the bed from illness. I have shown by careful measurements in some hundreds of cases that the waist of an adult woman increases within a few months, under the influence of proper clothing and proper exercise, from one or two to six or seven inches.

CORSET-DEFORMED FIGURE



WELL-FORMED FIGURE

Let me call your attention more directly to some of the important particulars in which the ordinary mode of dress among civilized women, especially constriction of the waist, results in physical injury. The chief of these are: —

1. Downward displacement of all the abdominal and pelvic organs, and numerous functional and organic diseases growing out of this disturbance of the static relation of these organs.

2. Lack of development of the muscles of the trunk, which, by long compression and disuse, to a very large degree lose their functional activity, resulting in relaxation of the abdominal walls, weakness of the muscles of the back, general physical feebleness, and destruction of the natural curves of the body (which are not only necessary for health, but also essential to physical grace and beauty), and the development of many bodily deformities, such as drooping shoulders, flat or hollow chest, sunken epigastrium, and various forms of spinal curvature.

3. An ungraceful and unnatural carriage of the body, in sitting, standing, and walking.

4. An abnormal mode of respiration.

Compression of the waist necessarily involves displacement of the organs occupying this portion of the trunk. The unyielding character of the chest walls and the resistance of the diaphragm prevent any considerable displacement in an upward direction. Consequently, the necessary result of waist compression, either by the corset or by tight bands, is, that the liver, stomach, bowels, and other organs occupying this zone of the body are carried downward. The same compressing force which diminishes the circumference of the body at the waist, interferes with the normal activity and development of the muscles that form the anterior wall of the lower trunk, so that they offer little resistance to the displacing force applied at the waist.

Nature has placed each internal organ in the position in which it can do its work most easily and efficiently; and the studies of the results of visceral displacement which have been made by eminent scientific physicians, have shown that to morbid conditions of this sort may be fairly attributable the most serious, and not infrequently the most obstinate disturbances of some of the most important vital functions, and through them of all the other functions of the body.

INSIDE VIEW OF A CORSET-DEFORMED FIGURE

The question may arise whether we are treating the subject fairly in charging upon errors in dress so great and so serious modifications of the human form; and whether these visceral displacements are not to be found in men as well as in women. In order to place this subject upon a rational basis I made a careful examination respecting the position of the stomach, liver, and bowels in 50 working men and 71 working women, all of whom were in ordinary health.

In the 71 women examined, prolapsus of the stomach and bowels was found in 56 cases. In 19 of these cases the right kidney was prolapsed, and in one case both kidneys. The 15 cases in which the stomach and bowels were not prolapsed were all persons under twenty-four years of age. It is noticeable that in a number of cases in which corsets had never been worn, tight waistbands had produced very extensive displacements of the stomach, bowels, and kidney.

In the 50 men I found only six in whom the stomach and bowels could be said to be prolapsed. In only three was the degree of prolapse anything at all comparable with that observed in the women, and in these three it was found on enquiring that a belt or something equivalent had been worn. By comparison, we see that the relative frequency of visceral prolapse was 12 per cent of the men, and 80 per cent of the women.

In consequence of the weakening of the muscles that support the trunk, and especially weakness of the waist muscles, an ungraceful and unnatural carriage of the

INSIDE VIEW OF A HEALTHY FIGURE

ARABIC GIRLS IN COSTUME

body appears, not only in walking and standing, but in sitting. The weak-waisted woman is comfortable only when sitting in a rocking or easy chair. In sitting, the muscles of the trunk are completely relaxed, causing prolapse of the waist and protrusion of the lower abdomen by the depression at the waist occasioned by the compression of the ribs.

Such persons, in standing, assume a great variety of awkward and unhealthful positions. The most common faults are dropping the shoulders, projecting the chin, hips too far forward, weight resting upon the heels or upon one foot, and a general lack of even and graceful balance of the body. In walking, the forward position of the hips makes it impossible to place the whole sole down at once and firmly, so the weight is thrust continually upon the heels. A swinging, swaying, wriggling, or otherwise awkward gait is the most common mode of walking one sees in women, very few of whom are good walkers, in consequence of the inability to balance the body, through the weakness of the muscles of the waist.

The fourth charge which I have made against the common mode of dress, in which the waist is constricted, is that it induces and necessitates an abnormal mode of respiration.

That the respiratory movements are practically alike in adult persons of the two sexes, I think has been fully established by the observations of Mays, Dickinson, and others, as well as by my own studies upon Indian women of various tribes, Chinese women, Italian peasant women, and American women whose breathing has never been interfered with by tight clothing.

In natural breathing, the action is chiefly at the waist, although the entire trunk wall and every organ within the trunk participates in the movement. The action begins with expansion, first at the sides, and then in front, then a slight elevation of the upper chest. There is a lifting forward of the whole front wall of the chest and abdomen.

Correct breathing is as necessary to the health of the pelvic and abdominal viscera as to a healthy condition of the lungs; for the respiratory act not only pumps air in and out of the body, but draws blood to the heart, assisting particularly the portal circulation, and aiding in the absorption of the products of digestion, and so facilitating the digestive process. It is quite possible, also, that the rhythmical movements im-

parted to all the viscera of the trunk by normal respiration, are a sort of vital gymnastics, essential to the health of each organ.

It is thus evident that, in its interference with the proper respiration, as well as from the mechanical injuries it inflicts, the common mode of dress, which involves constriction of the waist, is the most potent means of impairing the health and vigor of the whole body, and may justly be reckoned as perhaps the greatest of all factors in the general decadence in physical vigor so apparent among women of the present generation.

THE MODERN KITCHEN A PROMOTER OF THE CIGARETTE INDUSTRY

BY DAVID PAULSON, M. D.

ONLY those who are called upon to deal with the sad wrecks of humanity for which the cigarette is responsible, can fully appreciate the terrible extent of this wide-spreading evil. The churches must be thoroughly aroused upon this subject, so that they will no longer tolerate the baneful influence which results from the example of a tobacco-using pastor, and furthermore, should cease to consider a member to be in good and regular standing who persists in using this poisonous weed. Strenuous efforts should also be made to secure strong legislative enactments making it a crime to sell tobacco in any form to children.

Yet, after the assistance of these efficient forces is secured, we may expect but little advancement to be made in throttling this giant evil unless the cooperation of another agency is also obtained. We refer to the cooks. As long as they persist in preparing mustard plasters for the inside of the boy's stomach in the form of highly seasoned and spiced foods, which necessarily must irritate the delicate and immature nervous system, so long will the narcotic influence of the cigarette be demanded to soothe the irritated nerves and make the boy *feel* comfortable. He requires this for precisely the same reason that his father, under similar circumstances, feels the need of his after-dinner cigar.

The average smoker who dines for a few days upon plain, wholesome, nonstimulating, nutritious products of the earth, palatably prepared, soon discovers that he does not *miss* his after-dinner smoke when he dispenses with it.

The same principle holds good, only to a greater degree, with the boy; for just as a child's mind yields so readily to favorable and unfavorable circumstances, so the physical structure of the brain in the early years is in such a plastic condition that it responds in an exaggerated manner to the effects of irritating and indigestible foods, and likewise yields in a most dangerous way to the pernicious effects of the death-dealing cigarette.

When we create the necessity for an evil, we certainly ought not to be surprised if it is in some way supplied. Reformatory work is a thousand times more successful when it devotes its chief energies to the removal of causes rather than to the smothering of legitimate effects arising from the existence of such causes.

CUBA AS A HEALTH RESORT *

BY REV. WALTER A. EVANS

I

LAST winter was popularly voted to be the coldest in the interior of the United States "within the memory of the oldest inhabitant." To the discomfiture of extreme cold was added extreme length, and that not relieved by the price of coal as fixed by the barons of the coal trust. Blessed are they who enjoy such rugged health that they scarcely notice the weather, and to whom work is such a pleasurable outlet to abounding vitality that a long winter with coal at trust prices is a small item in an exchequer that is always full! Some of us to whom this beatitude has not applied in recent years, had our loss in part made good during the past winter by a sojourn of five months in Cuba, where duck trousers and panama sombreros were the regular order, and where our entire family fuel bill was not twelve cents per week. As Cuba is becoming more and more a health resort for weary and invalid *Americanos*, since the recent and successful Revolution especially, perhaps the readers of GOOD HEALTH will enjoy a résumé of the therapeutic value of a winter there as seen and experienced by one, who, during the past winter, traveled over a greater part of the island, partly on horseback; who mingled daily and freely with the Cuban people of all classes, and studied, as he was able, the language and customs of the country, as well as observed and enjoyed such bounties as Nature has there provided for man; and who came away heavier in body and lighter in spirit for the experience.

HORSEBACK IN WINTER

The benefits of a winter in Cuba from a GOOD HEALTH standpoint might be classified best, perhaps, under five heads: —

1. *A complete change of scene, environment, and thought.*— This is the prescription which many a doctor has given his patient (*sensible*, too) after pills and powders have been tried *ad nauseam* and have been found wanting, and (if you can close your eyes to much that is depressing to a cultivated and sympathetic nature in the degradation of the lower portion of the Cuban people; put up, in the interior, with the absence of some of the conveniences of our standards of living, and accept a few inconveniences of a *different* standard, such, *e. g.*, as a few *pulgas* [fleas]), the benefits of such rational "physic" are felt from the moment the

splendid steamer "City of Mexico," of the Ward Line, leaves her pier at New York until you return under the Statue of Liberty Enlightening the World, to say with Scott,—

"This is my own, my native land;"—

yea long after the stormy *home* voyage is over, during which you learned to sympathize with Jonah when he wanted to be thrown overboard, and the farmer who exclaimed between paroxysms: "O dear, if I ever get on *terra cotta* again, I'll never try *vice versa* any more!"

During the restful sea voyage of four days and three nights from New York to Havana, with four or five tempting meals a day, as you choose, with the music and other diversions of life aboard ship, one can get away from the chaffing experiences with serious things left behind, and after days with "water, water everywhere," be better prepared to appreciate the verdure of a new land, highly favored of Nature, when the tufted palms heave in sight in the environs of Havana. Besides, there is plenty to amuse one all the way,—the endless swirl of the white-capped waves; the "deep blue sea" dotted here and there with a sail or smoky hulk; flocks of flying fish which at first you would avow were birds lost at sea; schools of porpoises, the swiftest things that swim, which go through the water like a streak and yet never seem to move a fin or tail, amusing themselves, apparently, by swimming around the moving ship, jumping clear out of the water and diving into it again with a "plunk" of pride at beating it. You notice the peculiar color of the Gulf Stream as you pass into it,—as distinct a stream in the ocean's waste as Battle Creek is distinct from the sands of Michigan. You notice the warm and balmy air after you have sailed on its

PALM AVENUE, NEAR HAVANA

PINEAPPLE FIELD

bosom for a few hours, and after passing Cape Hatteras, you are glad to get to your trunk in the hold, put off your flannels and don summer garb, and you can't help thinking how fine it would be to bathe in the ocean and share the fun of the porpoises! There, to-day, on the misty horizon are in dim outline the live-oaks of Georgia and northern Florida! Yonder, on the next morning, are the palms and sands of "The Keys" at the extreme south of "Dixie," and you realize that you are getting far from home. But you are not homesick! All about you is amusement, *delicious* quiet, and a summer air in November which begets a relaxing languor that soothes you like a lullaby for your last night on board the "City of Mexico," and you retire early with cheerful anticipations of actually seeing the tropics and Cuba the next day. Morning soon dawns! As you awake, the ship is still! You dress hurriedly and are on deck in a trice, looking three ways at once! You are at Havana!

Yonder are the ruins of the battleship "Maine" sticking up out of the middle of the harbor! There again are the cold gray stones of Morro Castle, fraught with memories — generations of them — of tyranny, cruelty, and bloodshed, but now robbed of her terrors. Look yonder! Palm trees near at hand! Bananas, actually growing on the hillsides! Orange trees, also, with blossoms and fruit, ripe and green! All is now bustle and stir aboard ship, but soon you get away in the launch; a few minutes later you land amid a jargon of Spanish *cocheros* (cabmen) of all colors. A half-hour's detention to have your baggage inspected in the custom house and you are off,— *contrary* to your expectations of a barbarous country,— whirling away in a trolley car of most modern make through the streets of what is unquestionably one of the most beautiful cities in the world. The writer has been something of a traveler, has seen most of the best cities of the United States and Canada; but none of them that he has seen, compare with Havana for a happy combination of natural, architectural, landscape, and arboreal beauty by the seaside. Havana is as clean as the aisles of a church,— Chicago take notice. Parks of such beauty as only tropical plants and verdure can make. Magnificent stores more gorgeous in arrangement and stock than any seen in Boston or New York, along streets shaded clear across during the heat of the day by canvas canopies

hung from both sides. Palatial hotels, and restaurants with display of dainties to make a dyspeptic's mouth water. Handsome boulevards with tropic trees and wealth of flowers in the center, along which pass continually as fine turnouts as Newport can boast; lined with residences finished in and ornamented by white stucco in every artistic form. Nearly all buildings in down-town Havana are white — a white pearl in an emerald setting.

This is Havana, capital of *Cuba Libre*, free at last after centuries of Spanish tyranny, ecclesiastical corruption, struggle, blood, and warfare. Here we are in *Cuba Libre*, and a few days in Havana, where all is so strange, new, and interesting, suffices to make one forget the little troubles left behind and to cause larger ones to shrink considerably as they fade into the distant horizon of home.

2. *The almost perfect climate of Cuba at once charms the winter tourist and has a tonic effect.*— No shivers or chilblains here, nor sweltering heat, either. It is hotter in Havana than in most places in Cuba, so that people who have not seen the interior, usually misjudge Cuban climate. That of the island generally has the temperature of perpetual June (without the chill and clouds of June this year in Illinois and Michigan),— very similar to the climate of the Hawaiian Islands, so perfect that the Kanakas have no word in their language for *weather*,— plain proof that they never grumble about it. The thermometer in Cuba changes only a few degrees in a year. While this would beget monotony if one from the north should remain there, it is a charming feature for one who winters there. You can pick luxuriant roses, hollyhocks, marigolds, etc., etc., every day in the winter,— the dry season — as well as different kinds of ripe fruit. Winter mornings from 5 : 30 to 7 : 30 are most exhilarating. A very few winter mornings are chilly for an hour or so. They are just the thing for a brisk walk or horseback ride in a bracing atmosphere perfumed most at dawn of day with fragrance of flowers, shrubs, and orange blossoms; charged with ozone, which whets a breakfast appetite to a razor edge. If you have some mechanical ingenuity, you can make a royal shower bath out of a five-gallon kerosene can that costs you but twelve cents, and have a fine shower every morning out of doors in winter, as the writer did. You take your *siesta* (nap) after dinner; then a sun bath in the *patio* (a patio is a room in a Cuban house without a roof, planted to flowers, and having a cistern or a well in it)— and such a sun bath as only the tropics can furnish; and then another shower, *especially* refreshing at that time, after which, to use Cuban phraseology, you feel *robusto!*

From November first to April first, sunshine is the daily program, and though it is hot in the sun from 11 A. M. to 3 P. M., it is not a sultry heat, as in the United States in summer. The trade-winds rise daily with the sun, blow harder as it shines hotter, and subside at sunset,— a wonderful provision of Nature for the tropics. It is always cool in Cuban houses, at least comfortable. They are built for the tropics; in the towns, of brick and stucco, with bars for windows, and tiled roofs for free ventilation; in the country, of *cracks* and poles on the sides, and a thatched roof of palm leaves. Sultry nights in Cuba are unknown even in summer. Indeed, the air is more comfortable in summer than in winter, because of frequent rains which cool it and clear it of dust.

If you are fond of gardening,—and you are to be pitied if you are not—the most healthful of all occupations, you can get a small piece of ground almost anywhere, and by a little healthful activity, can raise garden vegetables for your table in a very short time after arriving, and be in doubt which to enjoy the more,—eating crisp vegetables from your own garden while your friends at home shovel snow, or working among them and seeing them grow. And how they *do* grow! The writer planted *chayotees* in the patio (a chayotee is a kind of squash which can be used *as* a squash, or sliced and stewed with a little lime juice, in which case

CUBAN HUT

it makes excellent apple sauce), and though the soil was, as the little Cuban girl next door said, "*muy mala*" (very poor), by actual measurement the vines grew six to eight inches a night. Everything else grew proportionately.

Cuban climate is as good as the best. It is a sure cure for catarrh within six weeks after landing. Asthma yields to its benign influences still quicker, while even rheumatism capitulates within two months, except in chronic and stubborn cases, and even then loses its terrors. There has been no yellow fever in Cuba since Colonel Ransom of New York took possession of Cuban cities and inaugurated a reign of cleanliness.

Amid such a delightful climate, with home cares left behind, plenty of exercise in going about to see new and amusing sights, which rest the mind by unconsciously taking it off the beaten track of worry, a Cuban appetite becomes something *fearful!* So far from being able to brook the two-meal-a-day prescription, three are *never* enough, and *four* send you to bed hungry sometimes, and now and then it seems as if, while eating, you would starve before you could get the next bite where the swallows homeward fly!

3. *Study of a strange but interesting people also furnishes in Cuba a continual kaleidoscopic change of thought, which tends to rest jaded nature.*—To a newcomer it is a daily circus without the admission fee and ear-splitting music, and instead of one clown, hundreds of them! The Cubans are a race *sui generis*—nobody else like them. They are a mixture of Indian, Negro, Spanish, and American blood; all shades as to color; physically much undersized; mentally very alert to self-interest,—or what they *think* is, for they frequently defeat their own ends—but sunken in ruts of oaken custom; narrow, emotional, exceedingly sensitive, quick-tempered, and *peppery*. They out-French the French in politeness, and sometimes are just as insincere about it. They think all *Americanos* are

"*muy rico*" (very rich), and it is their first duty to bag as much of their *oro* (gold) as possible. But how they study and manage to do it, their strange manners and customs, the scenes of amusement and intense interest which they present in daily life, we must reserve for our next paper.

THE STORY OF DRESS REFORM

BY EDITH E. ADAMS

OF all animals, man is the only one that needs any kind of artificial clothing. Every other creature has its own perfect-fitting natural garment, exactly suited to its constitution, environment, and climate; in many instances even being changed according to the season; in some, changing its color according to circumstances.

To supply his lack, to cover his conscious nakedness, and to protect him from the elements, man, as Carlyle satirically says, thatches himself over with "the dead fleeces of sheep, the bark of vegetables, the entrails of worms, the hides of oxen or seals, the felt of furred beasts; and walks abroad, a moving rag-screen, overheaped with shreds and tatters raked from the charnel-house of nature."

Notwithstanding this fact, he, or perhaps more particularly *she*, has apparently gloried in her shame, regarding this patchwork of borrowed plumage as of so much more consequence than the body it was designed to cover that the latter has been looked upon merely as a clothes-horse — a framework for the display of the latest whimsicalities of the fickle goddess, Fashion, to be compressed or expanded, twisted and tortured, according to her caprice.

STEEPLE HEADDRESS

The crimes and absurdities committed in her name can best be appreciated by the contemplation of old fashion-plates or a study of the costumes of past centuries. Why does every generation laugh at the old fashions, although religiously following the new? Is it not because the most of them are essentially absurd and unsuitable, disguising, deforming, and caricatur-

But the changes adopted were so radical, so unnecessarily masculine, and so offensively sudden, that, far from being hailed with delight, as had been fondly hoped, the new costume met only with ridicule and opprobrium.

ing the Creator's masterpiece? "It is only," says Thoreau, "the serious eye peering from, and the sincere life passed within it, that consecrates the costume of any people."

But while the extravagances, follies, and abuses of woman's fashionable attire have called forth the satire of the poet, the exhortation of the divine, the warning of the moralist, and especially the protest of the physician, all these failed to have any influence in correcting the evil; for the simple reason that they pointed out the wrong without suggesting the remedy. And what more could they do? From woman herself must come her emancipation in the matter of dress; but, unfortunately, the first steps taken in this direction, through lack of consideration and foresight, resulted in deepening prejudice, and binding the shackles tighter than ever.

About the middle of the past century certain brave and intelligent women, anxious to free womankind from the burdens imposed on them by conventional dress, devised and wore a costume which appeared to them to be exactly adapted to their requirements.

Among the most noticeable and unfortunate of these early reform garments was that devised by the intrepid Mrs. Bloomer, and called by her name. Emerson may be right when he supposes that the Parisian who dresses the world would know "how to reconcile the Bloomer costume to the eye of mankind, and make it triumphant over Punch himself, by interposing the just gradations." But the effect of its sudden appearance before a public entirely unprepared for it, and not in the least comprehending the reason for its adoption nor the need for any such change, was to make the term "dress reform" a synonym for ugliness, impropriety, and transgression of social custom.

The few who resolutely clung to the reform dress suffered martyrdom through derision, caricature, and social ostracism. Convinced, at length, that their mental sufferings outweighed the physical benefits of the new costume, and that they were retarding rather than advancing the cause of freedom in which they suffered, they reluctantly took refuge in their abandoned petticoats.

Although M. Worth pronounced the loose Turkish trousers worn by the

women of the East the most graceful and beautiful of costumes, the Western woman, prejudiced by centuries of custom in the matter of skirts, has ever looked askance on any attempt to introduce any such garment, even the much modified "divided skirt" not having met with general favor.

As a result of this unfortunate movement, the cause of dress reform languished, and nothing more was heard of it for a number of years. In the meantime the admission of women to medical colleges, and the consequent study of physiology by an increasing number, was opening their eyes to the defiance of physical laws in woman's dress, and to the necessary changes to be adopted. In the words of one of these, "it only required one look at the internal mechanism of their bodies, in the dissecting-room, to show them the inevitable result of putting strings or bands or bones around those bodies," and out of their convictions and the efforts of earnest women in Boston, grew a revival of the dress-reform movement.

About the year 1873 a committee of ladies in Boston undertook to enquire into the charges brought against women's dress, and to take the steps needed to make it more healthful and serviceable. These women, learning wisdom from the experience of their predecessors, instead of assailing fashion, began by teaching hygiene. Arrangements were made for a series of lectures to women by eminent female physicians, on the subject of "Dress as It Affects the Health of Women."

It was found that it was possible for women to dress healthfully without attracting undue notice, and substituting mental for physical martyrdom. No regulation suit was adopted, but the principles whereby healthful dress might be constructed were clearly defined, practical suggestions made, and a series of healthful undergarments were planned. From Boston the reform spread throughout the United States and Canada, and to the Old World.

One hindrance to the progress of the dress-reform movement was the fact that the general indifference of women to physical culture, and the employment of artificial aids to hide physical defects, had resulted in deterioration in bodily development. When all artifices and unnatural supports were removed, many muscles and nerve-centers refused to perform the necessary service. Women were unable to wear their natural garments so gracefully and becomingly as to recommend them.

Gradually a sentiment in favor of the revival of physical culture came in. This resulted in higher and truer ideals

THE WHEEL FARTHINGALE

of physical beauty and grace, and tended to prevent the violation of harmonious proportions. Beauty was seen to be dependent upon health, which is impossible unless the vital organs are allowed unimpeded action and the clothing is evenly distributed over the body. Sensible modifications of dress adopted for physical culture and athletic sports, such as cycling, tennis, etc., have gradually been incorporated into the general costume.

The wider interests that woman has made for herself in the world within the past half century, her competition with man in the professions and in business, has led to the discarding of impediments in the way of dress, and its adaptation to the exigencies of one's calling. In the meantime another generation has arisen, many of whom have never been deformed by corsets, and the small, tightly-laced waist is no longer fashionable.

How much of the moderation in the fashions of these latter days is due to the dress-reform movement, it is impossible to say. At any rate, the loose, full waist, and the untrimmed walking skirt of instep length which have been the prevalent mode for a number of years, if properly adjusted, leave little to be desired.

But as long as the upper and the lower garments are divided at the waist, that will always be a "danger line," liable to compression by tight bands, if not by corsets. There is also danger in overlapping the upper and lower garments, thus overheating the abdomen and the lower portion of the spine. The hanging of heavy skirts upon the hips, without any support from the shoulders, is another evil to be guarded against in the present mode.

Still it may reasonably be hoped that the large and increasing number of sensible, healthy women of normal pro-

portions who will give the cold shoulder to any outrageous or unhealthful style of dress, will render impossible a revival of any of the hideous exaggerations of the fashions of the past.

But however favorable fashion may apparently be for a time, she is much too fickle to be a reliable helper in any good work. Those who put their trust in her as a reformer are liable to be sadly disappointed, if her follower is as vacillating to-day as she was represented to be in a dramatic pastoral acted in the seventeenth century: —

"Now doth she sweare
That a loose body is the neatest weare,
But ere an hour be gone she will protest
A straight gown graces her proportion best.
Now calls she for a boisterous fardingal,
Then to her hips she'll have her garments fall;
Now doth she praise a sleeve that's long and wide,
Yet by and by that fashion doth deride.
Sometimes she applauds a pavement-sweeping traine,
And presently dispraiseth it againe.
Now she commends a shallow bande so small
That it may seem scarce any bande at all;
But soon to a new fancy doth she reele,
And calls for one as big as a coach wheele.

* * *

Now in her hat, then in her hair is drest;
Now *of all fashions she thinks change the best.*"

HYGIENIC CLOTHING FOR INFANTS AND CHILDREN

BY KATE LINDSAY, M. D.

THE expected baby's layette is always a matter of great concern to the mother, and she expends upon it much thought, care, and labor, often at the expense of her own health and that of the coming little one. Too often the chief idea is to have the tiny garments beautiful and elaborate, so that her many friends may admire and even look with envy on the mass of ruffles, tucking, lace, and embroidery, in which the little one will look "too sweet for anything."

Whether the helpless mite of humanity will be comfortable, warm, and contented in this clothing, or whether the tight bands will compress and hinder the action of the digestive, respiratory, and circulatory organs,— these questions are seldom given any consideration.

Flannel garments irritate the sensitive skin; long, heavy skirts hinder the action of the feet and legs; pins prick; and wrinkles and folds make lying in any position long an agony, to say nothing of one part being chilled for want of clothing, while another part is overheated from excess of the same. No one has thought to ask, "Will this dress help the baby to grow normally mentally and physically? or will it hinder development, cause disease, and help cripple and deform 'the human form divine'?"

Clothing for the infant should be made as simple as possible, every garment forming a complete covering to the body. The material should be as light and soft as can be obtained, and the number of garments as few as will keep the child comfortable in all seasons and temperatures. Flannel, being a poor heat-conductor, forms a good protection from cold and dampness in winter; but in many infants the skin is very sensitive, and as they can not tell when the flannel shirts are making them frantic by the itching and rash they cause, and as flannel absorbs and holds moisture, and retains the secretions and excretions from

the skin, it is always best to put next to the baby a soft linen or cotton garment, and a light flannel over that.

For the first suit for the infant, worn while the mother is still in bed, a soft linen or fine cotton gauze shirt, about twenty inches long, cut princess style, with long sleeves; over that a flannel skirt twenty-two inches long, cut princess also, with long sleeves; and over that a muslin slip twenty-four inches in length, are all that will be required. These garments should all open either in the back or the front, so they can all be slipped together over the feet and fastened with either tapes or thin, small pearl buttons. A complete change of clothing should be made every night. No clothes worn through the day are fit to be worn at night by either young or old.

For the infant's night clothing, a soft gauze shirt and flannel or outing flannel night-dress will be required.

Should any garment become soiled, it should be removed and washed at once. All dirt, with heat and moisture, breeds disease germs and hinders development.

Besides the garments already mentioned, the baby will need socks and diapers. Bands are needed only for the first two or three weeks or until the navel heals. The best kind are ribbed and knitted like a wristlet, about five inches deep. Soft silk or cotton yarn is best for making them. Or they may be made of ribbed gauze underwear. The sleeve of a soft gauze vest answers very well. The edges may be overcast. There should be straps over the shoulders, with buttons in front, to fasten the straps to, and the lower edge may be fastened to the napkin to keep it from wrinkling. This band is elastic, and while it keeps the dressings in place, it never compresses the body or interferes with the action of any organ.

For the first two weeks the best diapers are those made from cheesecloth. Fold a yard lengthwise and then on itself to make a square of eighteen inches; then fold diagonally. Inside of this may be put a double of soft, clean white rags, which may be burned, as the first bowel discharges are difficult to wash out. When the baby is two weeks or a month old, the cheesecloth will serve for inside napkins, and over them may be pinned another light linen or cotton diaper of diaper toweling. No article of the infant's wardrobe requires greater care in selection, caring for, and applying than the napkin. If made of thick, heavy material, it often causes chafing, and makes the little one fretful by overheating the pelvis. To this cause wetting the bed is often due, as well as inflammation and irritation of the bladder, piles, and constipation; and in girls the foundation for female complaints is often laid in the congestion and overheating of the pelvic organs, which makes them invalids for life. Spreading of the thighs and knock-knee deformity are often due to thick napkins worn during infancy. If the napkins are changed as soon as wet or soiled, they will not need to be overthick, and by taking pains to teach the child regular habits, they may be altogether dispensed with by the time the child is a year or eighteen months old; sometimes earlier. The napkins should be carefully washed and all soap rinsed out, as many laundry soaps contain an excess of alkali, rendering garments hard and irritating in texture.

Many children and young people are so seriously deformed that one is led to ask, "Why the bandy-legs, knock-knees, corns, bunions, crooked toes, curved spines, and other evidences of lack of symmetry of so many of the children and youth one meets everywhere?" Most of these cases of ar-

rested development and misshapen bodies are started in the nursery. Tight bands may interfere with the blood flow and arrest the normal growth of these organs of the body, cause displacements and weakened functions, and predispose to disease. Long, heavy skirts on the infant bend the soft, cartilaginous, bony framework of the feet, and crooked toes, flat instep, bunions, etc., result. Tight shoes, hindering the growth, and interfering with the circulation of the blood, cause cold feet, and increase the deformities started by the heavy, long skirts until the poor children can only limp and hobble about, and are doomed to be always conscious of their feet.

The greatest care should be taken to have children's clothing of the proper material, and well fitted. The writer has often pitied active little ones with shoes pinching the feet; rough, starched garments irritating the neck; ill-fitting drawers or trousers chafing the pelvic organs; straps slipping off the shoulders; and skirts held on only by being pinned tightly, thus making the children's existence a torture. Clothing of soft, open texture is much warmer than heavy, close-woven garments. It is lighter, and allows free ventilation of the skin.

For undergarments the knitted fleece-lined union suit, either silk, linen, or cotton, is best. This need not be heavy or too closely woven. Over this may be worn a light, knitted woolen garment in cold weather. In warmer weather only the inner one will be required. With this foundation for dressing children after infancy, all else will be easy. These inner garments should have long sleeves and should be of ankle length. Over them, for girls, may be worn a light underskirt, cut princess or securely buttoned to a waist; over that, a dress of light, serviceable material, as, for every day, stout ginghams or other stout cotton goods, for summer; light woolen for winter; long stockings and well-fitting, broad-heeled shoes, with leggings, mackintosh, and outside wraps for winter and wet weather.

In selecting and planning children's clothing, consider first the needs of the child, and plan to meet them by securing clothing suitable for the age of the little one and for the season. When a child manifests uneasiness or complains of discomfort in its garments, never scold it, and do not disregard its call to be relieved of the discomfort due to the offending garment. Loosen the tight bands; fasten the loose shoulder strap of the apron, which is leading the little girl to elevate one shoulder to keep it up, thus inducing spinal curvature. Lengthen the short seat of the uncomfortable drawers or trousers, and discard the small, ill-fitting shoes. Protect the sensitive skin from rough clothing. You will be rewarded by better health, better temper, better forms, and improved mental, moral, and physical vigor of the children.

They are, or should be, healthy, good-natured young animals, easy to manage when physically comfortable; but are peevish, fretful, and hard to control when suffering bodily pain and discomfort from bad clothing or any other cause.

Nature impels the child to exercise, eat, drink, sleep, think, and act, and to relate itself properly to its surroundings by making it physically uncomfortable whenever it is misrelated to them. Parents should heed nature's protest, and remove the cause of the discomfort.

"WOULDST fashion for thyself a seemly life?
Then act as if thy life were just begun."

A MONUMENT TO TIGHT LACING

ACCORDING to the *Strand*, there is to be found in an old churchyard at Springkell, in Ecclefechan,

where the "Sage of Chelsea" is buried, one of the most remarkable tombstones in existence. On the stone is sculptured the figure of a young woman wearing a very tight corset, and a horseman evidently riding in haste for a physician.

The accompanying cut, copied from the *Strand*, shows this remarkable tombstone, which stands as a monument of one woman's folly, a warning to others to escape the same fate. If the inscriptions upon all tombstones were equally truthful, there would be few graveyards without monuments of the same suggestiveness as that of the cut.

The practice of binding the waist is without doubt quite as destructive to human life as that of tobacco using. The medical profession the world over have for many years recognized and publicly denounced this death-dealing practice, yet the wicked demands of fashion are still followed rather than the advice of scientific physicians and the dictates of common sense. Strangely, too, it is civilized women and Christian women who are the perpetuators of this vicious habit. A practice which maims and cripples and injures soul and body as does constriction of the waist, can scarcely be considered less than a vice. Physiologically, it is a crime, and it becomes a vice in those who have been made acquainted with its evil effects. The consciences of Christian women must be awakened to recognize the terrible evils which must necessarily result from the ordinary conventional mode of dress.

NATURE abhors a vacuum. There is no unoccupied space in the body; and to render any part of it smaller than nature designed, is to cause the organs occupying that part to diminish in size, or to crowd together, one upon another. In either case, nature's processes are sadly interrupted.—*C. E. Hastings, M. D.*

BEAUTY of form and face are the natural results of right living, and to try to get them in idleness by the aid of massage, drugs, or physical culture, is to undermine the foundation for all charm. Nature intended that we should be of use whether we are genius or common clay, and nature rules. We can't cheat her.—*Sel.*

OPTIMISM

JUST a singin', just a singin', 'cause my heart is full o' joy,
Just a bubblin' up with gladness and a grinnin' like a boy,
'Cause the world is full o' sunshine and o' happiness and love
And the Lord is sorter smilin' down upon me from above;
And the birds are singin' love songs as they flitter and they swing
In the leafy, lazy branches, — why, I've simply got ter sing!

Just a singin', just a singin', though my heart is bleedin' sore,
And my sorrer kind a chokes me and the laugh don't come no more.
Just a singin' though the silver's sprinkled heavy in my hair
And the sun o' joy is clouded by the mist of age and care;
Singin' just the same as ever, though my voice has lost its ring;
Singin' just to keep my heart up,— why, I've simply got ter sing!

—*A. B. Braley.*

DICK AND ESAU

BY M. LOUISE WOODSON

IN a Virginia city there is a large tobacco factory that has a monkey as a cigarette sign. The little monkey sits on a pedestal, and smokes cigarettes. He smokes, smokes, smokes, all day till the sun sets. He puffs away at the cigarette, and flourishes it, then puts it back in his grinning mouth. He looks like the incarnation of evil, but withal very busy and intent with his work. He has smoked thousands and thousands of cigarettes. His name is Dick, and the small boys of his native city stop and talk to him and laugh and jeer at him, and many go their heedless ways to do likewise. Poor, dear boys! if they only knew the final result of the deadly habit, they would themselves head a crusade against tobacco in all its evil forms — but to go on with my story of Dick.

One day the news went out that Dick could smoke no more; he was still, and woebe-gone looking. Dick was sick — stricken with inertia. Well, Dick, being a brass monkey, was taken down from his pedestal, and on examination his internal works were found to be in a horrible condition; all gummed up with nicotine were his lungs, which were the bellows within his chest. The bellows were worked by the factory machine works. Dick, the monkey, was taken to a repair shop, and cleaned, and in a day or two was back at his post, smoking, smoking again. This is the story of Dick, the brass sign-monkey. If Dick could talk, he could tell a graphic tale, and sound a loud warning to young boys, also to others.

There is another monkey, Esau by name — a real live Simian, of whom I read an account when he was being exhibited at the Maryland Exposition, in 1902. Esau is a very interesting Simian. His owner and friend, Capt. C. W. DeLancier, has great hopes for him, and under his training Esau is becoming accomplished in civilized ways. He is an African of the chimpanzee tribe. He hated the attire of civilization at first, but catching a view of himself in a mirror, when arrayed in evening suit, he was not thereafter content with his natural garb. He had learned to play a small piano and typewriter, and had his teeth fixed by a dentist; had acquired a taste for tea — verily, was evolving human-beingward. This promising Simian was one year old when he was at the Maryland Exhibi-

tion. Captain DeLancier was studying the Simian language with Esau and a graphophone. Professor Garner went into the forest depths to learn the shrill Simian tongue. Captain DeLancier made Esau speak his vocabulary, and the graphophone cylinder recorded the lesson. Esau was reported as being very much interested. Is there a remote possibility that Esau, while assisting his friend to learn Simian, may acquire the English or French tongue? Then he could do that which Dick, the brass monkey, could not,—take the lecture platform against the tobacco evil, and speak from Dick's experience and exhibit Dick as an object-lesson—call him "Dick, the Cigarette Fiend."

I know another story similar to Dick's. It is about a young student; yea, a theological student who smoked tobacco. He, too, smoked, smoked, smoked, for years; smoked to rest his brain and lull his nerves, smoked when he was tired, and smoked when he was hungry. There came a day when his hand trembled, and his brain grew dizzy. He went to the doctor's office. "You have reached the danger signal—you must stop smoking," said the M. D. He fought a great battle with the demon, habit, and conquered. Friends applauded and were glad for him, as if he were a conqueror. He stopped smoking seven years, and —shall I write it?—he returned to his lulling tempter again, and to-day he smokes; more cautiously, to be sure, but, nevertheless, he smokes. He is a minister of the gospel—alas! As I am telling tales, true tales with morals, for the benefit of readers, I will relate another student story.

He was young, handsome, well-born, and high-bred and intellectual, and, like the other student, smoked cigarettes, not wisely, but with folly. He became a professor in a college, and though in this important position, continued to smoke, for the habit had him in its cruel power. There came a day when a hacking, dry cough troubled him. "Must stop smoking," said friends and relatives and medical advisers. He heeded not. One day he had a sudden hemorrhage. Physicians said the upper part of his lungs was dried up by nicotine. He fled to Florida. In vain! in vain! He sleeps the sleep of death, and the winds moan over his grave to-day.

"A national league is being formed for the purpose of starting a crusade against the cigarette evil. The league will cover the whole country, and every woman should sign her name to the mammoth petition to Congress asking for a national law to prohibit the sale of cigarettes to minors." So reads the circular letter. God speed the league, we pray.

AT a banquet given to Dr. Lorenz, wine was served. He pushed the wine-glass aside. Someone enquired if he was a total abstainer. He answered: "I am a surgeon. My success depends upon having a clear brain, a steady nerve, and firm muscles. No one can take any form of alcohol without blunting these physical powers; therefore, as a surgeon, I must not use any form of spirits." — *Journal of Inebriety.*

THE laws of nature are the mathematical thoughts of God. — *Plato.*

WE know nothing of to-morrow; our business is to be good and happy to-day. — *Sydney Smith.*

PHOTOTHERAPY, OR LIGHT IN THE TREATMENT OF DISEASE

BY JAMES T. CASE

SINCE the earliest times, light has been recognized as a valuable hygienic agent, possessing life-giving and purifying powers. In the Scriptures constant reference is made to light as a beneficial agent, and light and good are synonymous terms. The beneficial effects of light were well known to the old philosophers. The ancient Greeks and Romans made regular use of the sun bath in treating chronic diseases. Celsus recommended well-lighted houses, sun baths, and exercise in the sun for dyspeptics and sufferers from dropsy, paralysis, and kidney disease.

In 1848, Pereira, in a text-book on "Materia Medica and Therapeutics," devoted an entire chapter to sunlight as a therapeutic agent, characterizing the action of light as a "vivifying and vitalizing stimulus, promoting development and nutrition." As one writer has put it, sunlight is "nature's great disinfectant." When one considers that germs are in reality plants, it is very remarkable that the sunlight should, at the same time that it encourages the growth of useful plants, destroy bacteria, the harmful plants. Bright sunlight destroys germs, molds, and other micro-organisms very quickly, and even diffused daylight, while it does not act so quickly, is very powerfully germicidal.

The evil effects which are, in part, at least, due to the exclusion of light are very noticeable among miners, men who work in the holds of ships, in dark factories, dark and damp cellars, persons confined in dungeons and prisons for a considerable length of time, the tenants of dwellings containing but few windows, fronting on narrow streets and crowded alleys where the light of the sun penetrates only with difficulty. It has long been known that in hospitals the patients on the sunny side of the house recover more rapidly.

When a sunbeam is resolved into its component parts by being passed through a glass prism, it is seen to be composed of red, orange, yellow, green, blue, indigo, and violet rays. Recent studies have shown that in addition to these visible rays, there are certain colorless rays, invisible to the naked eye, at either end of the visible spectrum; those beyond the red being called the ultra-red, and those beyond the violet, the ultra-violet. These various colored and invisible rays may be arranged in three different groups, according to their effect — heat, light, and chemical rays. The greatest heat is produced by the ultra-red, red, and orange rays; the strongest impression of light is produced by the yellow and green rays; while the blue, violet, and ultra-violet rays exert the strongest chemical influence. The ultra-red rays are purely caloric, and the ultra-violet rays purely chemical, in their effects. By the use of glass of different colors, these three sets of rays may be separated. Red glass filters out practically all but the heat rays; yellow glass admits the luminous rays; and blue glass, the chemical rays.

Besides causing the sensation of light to the eyes, light has the power to produce inflammation and pigmentation of the skin, and to destroy bacteria. It has long been proved that the germi-

cidal action of light is exerted almost exclusively by the chemical rays.

The first applications of light produce reddening of the skin, and dilatation of the vessels of the skin. When the applications are continued for some time, the surface under treatment becomes tanned, and the blood-supply to the skin is permanently increased, thus

LENS-BOTTLE FOR FILTERING OUT HEAT RAYS

lessening the supply of blood to the deeper parts and relieving internal congestion. This pigmentation and mottling of the skin is the result of the action of the chemical rays. So-called "sunburn" (more properly termed solar erythema), once thought to be due to the overheating of the skin, although it was a well-known fact that severe sunburns occur in places where the temperature seldom reaches as high as zero, is now recognized to be due to the chemical rays.

One of the earliest scientific investigators in the field of phototherapy — the treatment of disease by the influence of light — was Prof. Nils Finsen, of Copenhagen, whose studies on light in the treatment of eruptive diseases were inspired by reading an article on avoiding the pitting of smallpox by the exclusion of light, written by Dr. Picton, of New Orleans, about 1832. Professor Finsen found that exposure of smallpox patients to the influence of the red rays, with the exclusion of the actinic and luminous rays, greatly hindered and often prevented entirely the formation of scars, and shortened the duration of the disease. Having demonstrated that the red rays of light were destructive to the germ of smallpox and other eruptive diseases, Finsen turned his attention to the effects of light in the treatment of *lupus vulgaris*, or tuberculosis of the skin, a very loathsome and lingering disease of the skin, which is exceptionally frequent in Denmark. Finsen found that the blue, violet, and ultra-violet rays were destructive to the germ of lupus. These chemical rays, when properly used, are devoid of heat, and can be concentrated upon the skin without blistering or burning.

The perfected Finsen apparatus, as now constructed, consists of a telescopic tube with a headpiece furnished with two plano-convex lenses of quartz crystal, which gather the light rays, filter out the heat rays, and pass on the chemical rays down the tube of the telescope almost unimpaired. Near the end of the tube a chamber of distilled water still further filters out the heat rays, which are then concentrated by a lense of quartz crystal.

Although the light is cooled in passing through the concentrating apparatus, the skin itself must be protected so that it will not be injured by the heat. Finsen further discovered that

the blood was a serious hindrance to the passage of the rays into the deeper tissues. Both of these difficulties he overcame by devising the *compressor*, by means of which the skin is cooled and emptied of blood. These rays are said to penetrate the tissues for one or two inches, and results seem to show that even more deeply seated tissues have been benefited by exposure to the actinic ray. It is true that tuberculous lungs have been favorably influenced, and the difficult breathing and the cough mitigated.

The light for the Finsen apparatus is furnished by an arc-lamp of about eighty amperes (the ordinary street lamp consumes about eight or ten amperes only). Finsen also devised a sun apparatus, which is preferable to the instrument above described when continuous and regular sunlight is available.

Remarkable results have been achieved by the actinic light in the treatment of lupus, which has hitherto been considered incurable by every other known measure, although the treatment is slow, requiring months of daily séances of an hour each. Finsen reports the successful treatment of both the tubercular and non-tubercular forms of lupus, malignant ulcer, certain forms of baldness, moles, and birth-marks, and acne in all forms. Some of these maladies may be treated to better advantage by combining the actinic ray with the Roentgen, X-ray.

The Roentgen ray, discovered by Professor Roentgen, of Würzburg, in 1895, has been found to be a valuable photo-therapeutic agent, and is preferable to the actinic ray when the diseased tissue is situated in deep-seated parts or near the eye or about the mouth, where it is difficult to apply the actinic ray.

The preparation of the patient for X-ray treatment is very important, in order to prevent the occurrence of se-

FINSEN'S APPARATUS FOR PHOTOTHERAPY

rious burns. A mask or shield of sheet lead or some other pliable material which is opaque to the X-ray, is molded to fit the part to be treated, with an opening to admit the light to the diseased spot. Both normal and diseased skin surfaces are similarly affected by the X-ray. After a time the skin becomes yellow, then reddened, then of a darker red, and in some individuals there is felt a sensation of pricking and irritation. When the exposure is continued beyond this point, the skin may become blistered and ulcerated, producing the so-called X-ray burn. The length of time the patient should be exposed to the light, varies greatly according to the individual conditions. If the exposure is the equivalent of not more than five minutes at ten inches, no burn is produced.

The X-ray is valuable in the treatment of the same class of diseases as the actinic ray. It is a good idea to combine the two, treating the diseased tissue one day with the actinic ray, and the next day with the X-ray.

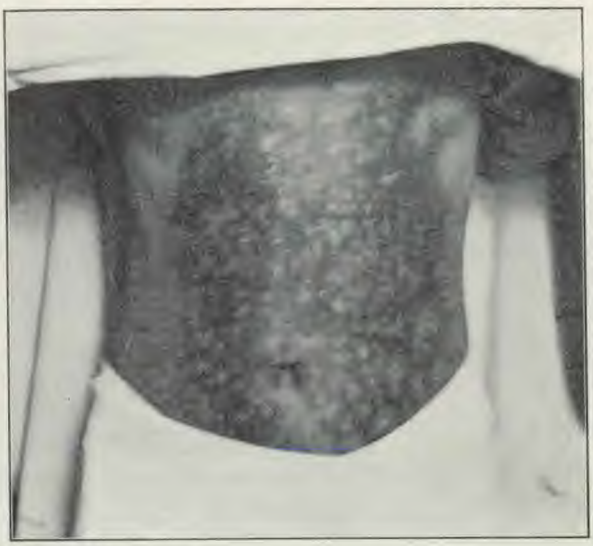
There are various devices by which the arc-lamp may be applied in the treatment of disease. The essential feature of each is a strong horizontal arc-lamp with a parabolic mirror, with a special mechanism for applying light of the desired degree of intensity to any portion of the body. There is also an arrangement of colored glasses which may be placed before the instrument, with which to further filter out the heat rays if desired. Dr. Minim, of St. Petersburg, by means of an instrument of the above type, applies the violet rays with success in the treatment of

A PHOTOTHERAPY OUTFIT; THE ARC-LIGHT, ACTINIC RAY, SO-CALLED FINSEN RAY, AND OTHER LIGHT APPARATUS

the various forms of ulcer — varicose ulcer, malignant ulcer, syphilitic ulcer — and in many acute injuries. The Hopkins lamp is a fifty-ampere searchlight so arranged as to focus the rays at about twelve feet from the instrument, after passing them through blue glass to eliminate the heat rays. The Fonveau-Trouvé chemical radiator is another valuable instrument of this type.

The effects of the incandescent light, including the photophore, and the arc-light have already been considered (April GOOD HEALTH). The incandescent electric light contains a smaller proportion of light and chemical rays than the arc-light, which compares favorably with sunlight in brightness and the proportion of chemical rays.

The sun bath is the simplest form of light bath. To accomplish the best results, it is desirable that the rays of the sun should fall upon the surface of the body without passing through glass, since even ordinary glass filters out more or less of the chemical rays, which are the most valuable from a therapeutic standpoint. As a rule, exposure of the head leads to untoward results; hence it is well to cover the head, and sometimes to apply to the face and neck a napkin wrung out of cold water. The thermic rays, through their influence upon the thermic nerves, and the chemical rays, through their influence upon other nerves, constitute a most powerful tonic and vital stimulant. The sun bath is applicable in all diseases characterized by slowed or imperfect nutrition; as, obesity, diabetes, gout, rheumatism, dyspepsia, nervousness, poverty of the blood, various liver and kidney diseases, various skin affections, and even in tuberculous disease.



PIGMENTATION AND MOTTLING OF THE SKIN PRODUCED BY PHOTOTHERAPY

"WIN AND WEAR"

WHEN we do our very best,
We may trust God for the rest;
But we still may often meet
Little things not very sweet;
And whatever can't be cured
Should be patiently endured.
If we wish to "win and wear,"
We must learn to "grin and bear."

Many people miss success
And the way to happiness,
Just because they lack the will
Needed to endure some ill.
If success we wish to gain,
We may just expect some pain:
If we wish to "win and wear,"
We must learn to "grin and bear."

— *Charles W. McClintic.*

THE JOY OF LIVING IN A BACKYARD

BY CARRIE L. GROUT

ONE summer, after a season of unusually hard work, Mrs. Lawton had grave symptoms of "nerves." The doctor kindly prescribed a "change and rest," but her purse did not permit the prescription to be carried out by leaving home, and so she set her rather active brain to work devising ways and means of getting what she needed.

The grim old mother, Necessity, has a kindly heart if you can reach it, and gives birth to many an extremely useful invention whereof the pleasure is doubled by the exertion it costs.

Mrs. Lawton took to gardening, always a delightful occupation for a woman who loves flowers, but it lacked the human touch without which no joy is complete.

One day Mrs. Lawton and her best friend sat out in the backyard talking things over, when —

"A sudden inspiration came
As sudden winds do blow."

"I have it," cried Mrs. Lawton, "and you must help me."

"Have what? and what are you trying to put upon me?"

"Wait, let me think it out a bit. Don't you think this backyard is rather pleasant?"

"Why, yes; the grass is good, the trees are fine, and it is secluded by that corner in the house. Your flowers are coming on well, too. What is it? Do you want another gardener, or is it a circus performance or the barefoot cure you are contemplating?"

"Oh, I'm doing the barefoot act every morning when the dew is on and the sunshine has warmed it just right. It's delightful. You should come down and try it some morning."

The friend laughed dubiously, but she did not venture any comments.

Mrs. Lawton's eyes grew bright and she looked around eagerly.

"I believe it would work all right if you would help——"

"Don't keep me in suspense. What's your idea?"

"Well, you know we have often talked of the English afternoon teas, and you have told me how you enjoyed them when you were over there. I want to do something like that right out here under the trees. Suppose you and I just notify our friends that we will be at 'home' every afternoon during August. No cards or printed invitations; just let them know there will be lemonade and fruit at four o'clock and they will be welcome early and often."

The friend began to look interested, and soon the two were busy with all sorts of plans.

"Now understand," reiterated Mrs. Lawton, "there must be nothing formal — just a few at a time, and time to talk and get together as we never can at parties; but I can't be worried and hurried getting ready and cleaning up; its for my benefit and not to add to my cares."

"Didn't you save up a lot of jokes from the papers last winter?"

"Yes; what of it?"

"Why, if you have kept them, wouldn't it be a good plan to serve them in a fancy dish to season the refreshments?"

"Just the thing! It is sometimes a little hard to set the talk going."

The friends responded to the informal invitation, a little uncertain as to the nature of the entertainment, but curious to find a new way of amusing themselves.

On being escorted to the backyard, where there were a few easy chairs, a hammock with plenty of cushions, and a small table with bouquet and cups, the blue sky above, and dear, old-fashioned flowers blooming about, they were quite apt to murmur, "How charming!" and drop into the chairs with sighs of deep content.

There were no games or guessing contests, but, glancing about, the eye was met occasionally with one of those restful sentences of Riley's —

"See jist how lazy you kin be."
"Souse your head in the clover bloom."
"In the shades where glory is."

The lemonade was served and perhaps a cheery outdoor poem read.

The literary salad proved a great promoter of good stories, and people passing wondered at the extreme jollity of the group under the trees, who often forgot to go home till the sun went down.

Best of all, the hostesses had as much fun as anybody; more, Mrs. Lawton declared, for they got all the good stories from the whole crowd.

"How unique!" said a lady who was accustomed to giving elaborate parties. "I believe I'll try it," said several, and there were many discussions on how to reach the simple life amid the bustle and cares of a complex civilization. All grew "in friendship with the sky," and life took on an added charm to Mrs. Lawton as her nerves retired to a quiet, easy background, and God seemed nearer and friends grew dearer, just in the old backyard.

WORK

LET me but do my work from day to day,
In field or forest, at the desk or loom,
In roaring market-place, or tranquil room;
Let me but find it in my heart to say,
When vagrant wishes beckon me astray,
"This is my work: my blessing, not my doom;
Of all who live I am the one by whom
This work can best be done in the right way."

Then shall I see it not too great nor small
To suit my spirit, and to prove my powers;
Then shall I cheerful greet the laboring hours;
And cheerful turn when the long shadows fall
At eventide, to play and love and rest,
Because I know for me my work is best.

—*Van Dyke.*

THE DRESS-REFORM MOVEMENT IN EUROPE

SINCE Fashion has her seat in Paris, ruling thence the entire civilized world, it is fitting that the banner of reform should be unfurled in that city. An account of the spreading of the dress-reform movement from that center throughout Europe was recently published in the *Globe Democrat*.

Just after the Paris Exposition the Viscountess de Reville founded a journal entitled *Lettres Parisiennes*, which was dedicated to the reformation of the feminine costume. This magazine demonstrates the esthetic possibilities of reformed garments which unite both beauty and grace in their unbroken lines. By a series of brilliantly written articles, the viscountess has won over many of the notable women of her own country. In 1902 Mme. de Reville inaugurated a dress exposition in Paris in order to show the esthetic and

hygienic possibilities of rational garmenting. For her interest in the subject she was awarded a medal of merit.

Having taken the initiative in the metropolis of Europe, the viscountess found that the women of other countries were eager for reform. Mme. de Pischoff, a well-known leader of German society, was one of the foreign delegates, and became a ready convert. Mme. de Pischoff thinks that the compression of the form by corsets is the root of all evil, and responsible for the many ills suffered by womankind.

Shortly after the dress exposition in Paris, one was opened in Berlin under the auspices of the renowned painter, Paul Schulte-Naumburg. The conditions of admission were that no costume that was to be worn with a corset should be received; that they must all be cut in one piece, and that the weight should depend from the shoulders.

In Vienna, reform dress has become a popular craze, and one meets any number of women garbed according to its precepts. The Baroness Jalke, in an address delivered at the Viennese woman's club, said: "Every true artist rejects the corset, for the eye trained to the artistic and anatomical conception of the human form divine will not countenance the atrocious fashion of dividing a woman's body in two. Accustomed to the contemplation of the splendid statues of antiquity, they insist that the corset interferes with the health and beauty of the female sex."

Mme. Marie Lange, of Vienna, has devoted an entire number of her magazine to the burning question. The apostles of reform in that city propose to open a school of dressmaking where anatomy, as well as the science of cutting and fitting, shall be taught. The Wiesbaden school of decorative art and the Bischoffsheim school of Brussels are advocates of rational dress, and in Frankfort and other important centers the idea is growing.

Prof. Krafft-Ebing, a learned German, says that no one who has not seen the body of a woman upon the dissecting-table could possibly comprehend the crimes resultant from woman's false conception of dress.

In Portugal even royalty has meddled in the matter, for Queen Amelie, who has received the diploma of doctor in medicine, has interdicted the wearing of corsets, and refuses an audience to those ladies who insist upon retaining the objectionable article.

Although the seal of approval has been set in the matter of reformation of costume, the movement can not be said to be general. The opinions voiced by a few women of progressive views have not overcome the prejudice against common-sense garmenting, most of the fair sex associating it with woman's suffrage and strong-minded tendencies. The fear of being conspicuous is another detriment, women being strictly conventional and averse to going out of the beaten track.

Customer — Not long ago I came in here and bought a porous plaster to help me get rid of the lumbago.

Clerk — Yes, sir. What can I do for you now?

Customer — I want something now to help me get rid of the plaster.— *Life.*

THE kitchen is a chemical laboratory, in which are conducted a number of chemical processes by which our food is converted from its crude state to a condition more suitable for digestion and nutrition, and made more agreeable to the palate.— *Prof. Mattien Williams.*

THE BENEFITS OF FRUIT CULTURE

BY D. NETTLETON

THE advantages of a fruit diet are numerous. In the first place, fruit is a germ killer and disease destroyer — a medicinal food. It has been scientifically demonstrated that it is absolutely impossible for typhoid fever germs to live in lemon juice. If people would only live on a liberal fruit diet, which would destroy fever and other disease germs, there would be far less sickness and consequently less sorrow.

Fruit culturists are great benefactors and physicians of the people. The substitution of the orchard for the slaughter-house and butcher's shop would contribute much to the public health. And since health is happiness, a fruit diet would result in much greater happiness for those who adopted it.

The moral influences of fruit culture are also obvious. Our environment has much to do with our character building, for "by beholding we become changed."

What a dreary world this would be without trees! How much happier and better men are by the contemplation of trees, vines, and flowers. Man's first employment in his sinless state was to cultivate the trees and flowers that God had planted. And after the fall, he was sent forth to till the ground, and earn his bread in the sweat of his brow.

There is a refining and uplifting in-

fluence in the society of beautiful trees and plants, especially fruit trees. Their beautiful blossoms making the air fragrant with heavenly perfume, their rich, glowing fruits in bright clusters bending, tend to restrain in man that which is rough and cruel, and encourage him to cultivate kindness and gentleness. The cultivation of fruit trees, vines, and flowers helps to make gentle men and lovely women.

Children who receive their first and most lasting impressions surrounded by hen-coops, cattle-yards, and pigpens; who have to listen constantly to the bellowing of cattle and the squealing of pigs, do not have the elevating and refining influences that those do who come from sweet, clean homes surrounded by green grass and blooming trees, among whose leafy boughs happy birds build their nests and warble their sweet melodies.

That there is no employment more healthful than fruit growing, all who study the health question will admit. The pale-faced men and women of our cities pine for the green fields and groves of the country. Many of the great commercial class herded in crowded cities love to think and sing: —

"How dear to my heart are the scenes of my childhood,
When fond recollection presents them to view —
The orchard, the meadow, the deep, tangled wildwood,
And every loved spot that my infancy knew."

The cities are not the best places for developing noble, strong men and sweet, loving women. Brick walls, smoking chimneys, the noise and confusion of the streets, do not refine and develop the moral qualities of men as do the fields of green and golden grain, blooming trees, and fruit-laden orchards.

Man's new and everlasting home will be adorned with trees and flowers. The glory of Lebanon shall be given unto it; the excellency of Carmel and Sharon. The glory of Lebanon was its trees; the excellency of Carmel, its flowers. We are told of one tree in the midst of the Paradise of God, bearing "twelve manner of fruits, and" yielding its "fruit every month: and the leaves of the tree" are "for the healing of the nations."

Savagery Which Terrified Savages.

If Plutarch's advice, that those who affirm that they were intended by nature for a diet of flesh food, should themselves kill what they wish to eat, were always followed, the question would to most take on a different aspect. Few can endure unmoved the horrible sights of the slaughter-house; far less could they participate in the slaughter. Indians are not noted for being oversensitive; they particularly despise any exhibition of weakness. The interior of a slaughter-house, however, is said to have proved too much for their powers of self-control. The *Record* states that "a party of fifteen Blackfoot Indians recently visited the killing-room of Armour's plant. One fainted, three more were ill, the rest covered up their eyes. They were hurried out of the place into the fresh air."

A TENDER-HEARTED young lady once said to a boy guilty of robbing a bird's nest, "Oh! cruel, heartless, little wretch, to rob those poor little birds of their eggs." "Ho," retorted the boy, "that's the old mother bird you've got on yer bonnet; guess she won't care."

SUMMER DISORDERS OF INFANCY AND EARLY CHILDHOOD

BY KATE LINDSAY, M. D.

(Concluded.)

CHRONIC glandular gastritis, or chronic catarrh of the stomach, usually follows repeated attacks of acute indigestion. It is caused in various ways: by undigested food and improper mastication; by giving the infant a taste of all foods used by adults; by too much sweet, starchy food, highly seasoned foods; by repeated swallowing of foul catarrhal discharges from the mouth, throat, nose, or pharynx; by ulcerated teeth. In older children, it is often the result of eating unripe or spoiled fruit, especially between meals. Both acute and chronic indigestion may result in the worst form from feeding children flesh meats before complete dentition and after; and from the use of raw fruits and vegetables; in fact, any form of incompletely masticated foods. Poisoning from animal food fermentation is very intense and deadly, as the toxins from putrefying animal matter are very potent, and often prove fatal in a short time, as shown every now and then by reports of wholesale poisoning from canned meats.

The symptoms of chronic infantile indigestion are irregular vomiting (often after eating) of yellow, sour-smelling matter, and mucus mixed with food; colic pains; diarrhea, sometimes alternated with constipation; passing of gas from bowels and by eructations; tongue coated, the papillæ enlarged; mouth sore; dry, harsh skin, and often eruptions. The patient is thin and pale, eyes sunken, fontanels depressed; often has thrush and other mouth disorders. Under the eyes and around the mouth appear blue lines. Sleep is broken. The child often has night terrors, and suffers from frightful dreams when old enough to remember them; sometimes there are convulsions, and attacks resembling petit mal, or mild epilepsy. There is a dry, hacking cough and other evidences of chronic bronchitis. Usually in small children, in both acute and chronic gastritis, catarrhal attacks are more frequent and intense in summer, because of spoiled food and water and the debilitating effects of heat.

The treatment should begin by allowing the digestive organs a complete rest. Give enemas and lavages to restore a healthy condition. Complete rest in bed is indicated. Cool mitten frictions followed by oil rubs, alternate hot and cold applications over the abdomen, combined with hot mustard foot-baths, are very beneficial. Keep the child in a crib out of doors, exposing the body to the direct rays of the sun. Change of climate often conduces much to the improvement of the symptoms. The use of abdominal massage and faradic electricity is good, as well as cool pours and sponges of salt or soft water. Every means should be employed to promote sleep. The room should be well ventilated, and there should be freedom from noise and from irritation of insects. Take care to see that the napkins are kept clean. The most important point is proper diet. If the infant is nursing, the milk and the mother's habits of life should be investigated. If defective, tney should be changed as much as possible. If the mother's life is sedentary, often exercise and several

hours out of doors will be all that is needed. If unoccupied and eating a great deal of rich food, she should have out-of-door work and plain diet. When overworked, anemic, or poorly nourished, she needs more rest, more nourishing food, and more sleep, combined with tonic water treatment, sun baths, etc. These measures will improve the health of both mother and infant. If for any reason the mother's milk can not be modified so as to agree with the infant, then artificial food must be resorted to and modified until a food has been compounded that will agree with the little one's digestive capabilities.

When the baby is bottle-fed, the food problem is often still harder to solve, especially when, as is sometimes the case, no form of milk agrees with the child. In such cases, after the preliminary fast and cleansing of the alimentary canal, a formula of modified milk should be prepared, containing about one-half per cent of proteids, or even less, two per cent of fat, and five per cent of sugar of milk. This may be made by taking five tablespoonfuls of cream, two of lime water, combined with seven and one-half even teaspoonfuls of sugar of milk and four teacups of sterilized water. Mix and dissolve the sugar in the water, then mix altogether, and sterilize in bottles, each containing just enough for a meal. Stopper with cotton, and after sterilizing, keep on ice until needed for feeding.

The amount of food needed will depend upon the age of the infant. It is best at first to give but a few teaspoonfuls. Feeding in all cases must be regular,— once in two, three, or four hours. Sometimes whey with white of egg will agree with the baby better than cream, — the white of one egg mixed with eight ounces or two teacups of boiled sweet whey. Or the egg may be mixed with barley water or gruel well strained. In some cases, especially when the child is over a year old, fruit juices, such as fresh apple juice, blackberry, raspberry, and sweet orange juice, are good. The writer has found that for delicate infants and invalids these juices need not only straining, but filtering through filter paper, which removes not only the pulp and cellulose matter, but also the ferments. These juices should be given unsweetened, and, for a drink, either clear or mixed with water.

To prevent and cure indigestion in older children, the mouth must be kept clean, and the teeth sound. Children should be taught to masticate well and to eat plain food at regular intervals, avoiding all "piecing" between meals. They should not be allowed unripe or spoiled fruits or meats, nor an excess of sweets or other rich foods. Especially avoid condiments and tea and coffee.

Mothers should remember that in summer, disease and death come to infants and young children principally through disorders of the digestive organs; that most of these troubles are caused by bad foods and methods of feeding, and lack of cleanliness and good hygiene in the care of the little ones.

AFTER HAMLET

To breathe, or not to breathe, that is the question:
Whether 'tis nobler for our sex to suffer
The pain and torture of a steel-girt corset;
Or to take arms against Dame Fashion's tyrannies
And by opposing, end them?
Unlace, to breathe
Once more; and with full breath to say we end
The sideaches and all those unnatural pains we make flesh heir to —
"'Tis a consummation devoutly to be wished."

— *Minnie Barker Horning.*

Menu for a Vegetarian Dinner

(PRIZE MENU)

BY N. E. PINCHARD

Savory Soup

Crisps

Potato Nut Puffs — Spinach with Eggs

Watercresses

Protose Rice Roll — Tomato Sauce

Salad Sandwiches

Toasted Granose Flakes — Ground Nuts

Fruit Juice

Strawberry Tapioca — Whipped Cream

Cereal Coffee

RECIPES

Savory Soup.— Cook half a pint of small navy or soup beans in three pints of water for two hours, adding boiling water as needed. In a separate kettle place two small parsnips, scraped and sliced, one good-sized onion cut fine, two stalks of celery, and half a can of tomatoes. Cover well with boiling water, and cook until the vegetables are very tender; then add the beans, and press all through a fine colander or soup strainer. Return to the stove, simmer a moment, and just before serving, stir in slowly a cupful of hot cream or rich milk.

A can of sweet corn may be substituted for the beans. As it takes less time, and may be put in with the other vegetables, it is sometimes preferred by the housewife who is her own cook.

Potato Nut Puffs.— Choose good-sized mealy potatoes, start in boiling water with a bit of parsley, celery, bay leaf, or other savory herb, and a pinch of salt; boil hard from start to finish. Drain, set back, uncovered, to steam a moment; mash smooth and fine, with a heaping tablespoonful of peanut butter or half a cupful of ground pecan meats. Then roll into balls the size of an egg, keeping as hot as possible. Have ready a tin sheet or very shallow cake-pan, well oiled; place the balls on it so they will not touch, brush over with beaten egg, and brown quickly in the oven. When done, slip a thin knife under and slide them on to a hot platter. Garnish with parsley, and serve immediately.

Spinach with Eggs.— Pick over and thoroughly wash the spinach; boil quickly until tender, but still bright green (if cooked uncovered, it keeps its color better); drain, and press dry in a hot, square pan. Turn out on a hot platter, cut across and lengthwise to form squares. Place a nicely poached egg on top of each square, and arrange slices of lemon around the edge of the platter, to be served with the spinach.

POTATO NUT PUFFS

A wooden or bone salad fork and spoon are a help in serving.

Protose Rice Roll.— Mince fine one-half pound of protose, one-half medium-

SPINACH WITH EGG

pour sufficient tomato sauce on to the platter to surround the molds, but not to cover them.

Tomato Sauce.— Put half a can of tomatoes over the fire in a stewpan, with a quarter of a minced onion, a little parsley, a bay leaf, and half a teaspoonful of salt. Boil about twenty minutes; remove from the fire and strain through a sieve. Melt in another pan a tablespoonful of cocoanut or dairy butter, and as it melts, sprinkle in a tablespoonful of flour; stir until it browns a little. Mix with the tomato pulp and it is ready for use.

Salad Sandwiches.— Boil three eggs ten minutes; drop in cold water two minutes; peel, and while still warm mash fine with a silver fork, work in a tablespoonful of thick cream, two teaspoonfuls of lemon juice, salt to taste, and a little watercress chopped fine.

After cutting off the crust, butter sparingly the end of a square loaf of

sized onion, two stalks celery, and mix well with one-half teaspoonful of sage, the same of celery-salt, one and a half cups of bread-crumbs moistened by sprinkling lightly with milk or water, and three-fourths cup of rich cream or nut cream. Put in an oiled pudding dish, cover, set in a pan of water, and steam in the oven for half an hour.

Cook one-half cup of rice in a double boiler with two and a half cups of water and a little salt for one and one-half hours. Have custard or coffee cups slightly oiled; place in each about two tablespoonfuls of rice, then a tablespoonful or more of the prepared protose; cover this well with rice, pressing all down closely, and set away to get thoroughly cold. This may all be done the day before using, if desired.

When wanted for a meal, set the cups in a pan of water in the oven until the contents are thoroughly heated. Then invert the cups over a hot platter, and slip out the molds of rice. When all are arranged,

PROTOSE RICE ROLL

good Graham bread; then with a thin, sharp knife cut as thin a slice as possible. Butter and cut until you have slices to make the required number of sandwiches. Spread a buttered slice with egg mixture, place over it a lettuce leaf washed and dried, then another slice and press well together. Trim the edges, removing tough crust; cut across twice diagonally, and arrange the triangles on lettuce leaves on a wooden bread-plate.

Toasted Granose Flakes with Nuts and Fruit Juice.— Toast the flakes in the oven delicately, but enough to crisp them well; sprinkle over them a cupful of ground pecan or other nuts, dust lightly with sugar, and serve with fruit juice.

Strawberry Tapioca.— Soak overnight in cold water a large cupful of tapioca. In the morning put half of the tapioca into a well-oiled pudding dish and sprinkle with sugar; then on this put a quart of fresh, selected berries, sugar, and the rest of the tapioca. Fill the dish with cold water until the tapioca is covered about a quarter of an inch deep. Bake in a moderate oven until it looks clear, adding more water (hot) if it seems too dry. When done, let it get thoroughly cold, and serve it with a whipped cream or a fruit dressing.

If fresh berries can not be had, use canned fruit, as cherries or plums, first draining off the juice, which can be diluted, then thickened with a little cornstarch and used instead of the whipped cream if preferred.

HEALTH IN THE FACTORY *

BY JENNIE WILLIAMS

[Miss Williams, the trained nurse at the N. C. R. factory, has had fifteen years' experience, both as nurse and teacher of nursing. She received her training at the Battle Creek Sanitarium, took a post-graduate course there later, and was attendant in Dr. Kellogg's operating-room for eighteen months. Afterward she was matron, for five years, of the Lincoln (Nebr.) Sanitarium and Training-school, and also served at the Huntsville (Ga.) Industrial School. Her training and experience make her an authority on the conserving of health. — EDITOR *The N. C. R.*]

WHAT can a nurse find to do in a modern factory?

It is her first function to reduce to the minimum the delays incident on injuries and sickness. All flesh wounds, no matter how serious, if taken in hand at once and treated aseptically, can be healed in one-half or one-third the time nature, unaided, would require for the work. The wounds which come to us for immediate treatment never become infected. Indeed, the slight cuts for which the workmen and girls think no treatment at all is necessary, often give more trouble than the really serious wounds, by reason of the inflammation brought on by contact with dirt or septic substances. In some instances where trifling wounds were neglected, blood-poisoning has been averted only by rigorous treatment.

Most of the ailments which have come to us for treatment could be traced directly to insanitary living conditions at home, or to bad food and disregard of the laws of hygiene.

Headaches lead the list of ills, many men, as well as girls, applying for relief every day. Among the other maladies which I have treated during

* We quote this excellent article from *The N. C. R.*, a monthly magazine issued by the National Cash Register Company of Dayton, Ohio, J. H. Patterson, President.

my service at the N. C. R., were sore throat, congestion of the lungs, tonsillitis, congestion of the stomach, pleurisy, neuralgia, congestive chills, toothache, earache, fainting, indigestion, stupor from autointoxication and ptomain poisoning.

Of autointoxication, which is due to the failure of the eliminative organs to rid the system of poisons and wastes, we have had a number of cases where the patient became unconscious, the heart being so depressed that the pulse almost ceased. These have always been relieved by copious drafts of warm water used as an emetic, the cleansing of the alimentary canal, and by hot applications to the heart, spine, and extremities. Autointoxication may follow the use of perfect foods. Ptomain poisoning, the symptoms and effects of which are similar, is usually produced by decayed or fermenting foods.

Headaches, however, more than double all other maladies among N. C. R. men and women. Often appeals come to me from department heads or foremen begging me to patch up some man so that he can remain at work and not delay some urgent or important work. It is at times like these that the money value of factory welfare work comes out most emphatically.

When the men or girls come to me and tell me they are feeling miserable, and have headaches and nausea, I usually ask them what they had for supper or for breakfast. In most cases their trouble can be traced directly to their diet, or to bad ventilation in their homes. It is not uncommon to learn that they have been eating vegetables, fruit, meat, pickles, fried eggs, and milk all at the same meal.

There is no error in diet more often made than that of bad combination of foods. This is a matter that should be studied carefully. Many persons say that they can not eat fruit at all, although it is usually a most wholesome food. As a rule, however, I have found that they could digest it if they did not try to use it with milk and vegetables.

Overeating is the fruitful source of most of our headaches. Indeed, to this one cause, coupled with failure to masticate food properly and to take exercise in the open air, can be traced most of the ills which affect us. The majority of men and women do not chew their food encugh to get the full value of the nutriment it holds. If they were to take time to masticate it thorbughly, they would be able to get along with half their usual allowance and be infinitelv better for putting a limit to their appetites.

Sick headaches are due to the heaping up of poisons in the sufferer's system. A periodic attack means simply that nature has gone on a strike. The nerve storm is like the outburst of a volcano. The appetite vanishes and the victim is forced to rest and take a fresh start.

Abstinence from such substances as produce uric acid will usually correct this tendency. All flesh foods should be given up. The drinking of tea and coffee should be discontinued; spices and condiments should be banished from the table. All starchy foods, and this includes bread, should be dextrinized by toasting in an oven until brown through and through before eating. Ordinary toast is indigestible. For one subject to headaches, it is wise to restrict his grain foods to zwieback or toasted bread or toasted cereals eaten dry and thoroughly masticated. Pure water should always be drunk in quantities, the only care being not to take it within an hour before and three hours after meals.

We have had several cases of sudden and alarming illness caused by the use of headache powders and drugs, none of which, however, had been furnished by the factory. One man who had taken powders purchased from a druggist came near dying at the factory. He was revived by hot water drinking and the application of heat to the spine, heart, and extremities, and was sent to his physician. Despite treatment, he died two days later.

It is against my principles to give headache powders, and every one I administer because of the factory custom makes me feel as if I were teaching people to use them. I give as few as I can, and when it is possible I urge the patient to give up the habit. The same man never receives more than two or three in several months, and I rarely give one to a woman. When one of the girls has a headache, I give her a treatment which not only relieves the pain, but in most cases removes the cause, and there are no injurious reactions.

Users of headache powders often fall into the morphine habit. It is better to take preventive measures than to resort to something to deaden the nerves. This is what we are anxious to do at the factory. We would rather spend the time we use in making up and dispensing powders in teaching people to avoid the causes of headache.

I am especially interested in the relieving of headaches, because all my life, before I went to the Sanitarium and entered the Nurses' Training-school, I was a sufferer from sick headaches. When I began my course, I made a complete and radical change in my diet. I gave up meat, tea, and coffee, and, from a girl so delicate that the doctors and instructors doubted my ability to become a nurse, I gained steadily in strength and got rid of my headaches. For fifteen years I have been almost entirely free from them — a condition I attribute to my diet, exercise, and the practice of taking only two meals daily at a seven-hour interval.

I have had folks say to me: "I am very careful about my diet, and yet I have headaches. I can't understand it." When I question them closely, I find that a great many, in fact a majority, are unaware that sugar produces fermentation in the stomach. And fermentation produces headaches, because anything that clogs the eliminative organs produces headaches. It would be well for men and women if sugar were discarded altogether from their bill of fare, and sweet fruits or sugars produced by the dextrinization of starch substituted where sweetening of food was considered necessary.

There is no tonic like pure water, fresh air, and plenty of exercise. A friend of mine came to me a few weeks ago, looking very thin and pale. He told me that he was going to take a tonic and showed it to me. I read the formula on the bottle, and noticed among others of its constituents the poison, strychnin.

"Surely you are not going to take strychnin," I said. I advised him to take the tonic back and get a package of 20 per cent gluten and use it with cream. Gluten is a nutritious element found in wheat. It nourishes the nerves and restores all highly vitalized tissues. It is the element that builds up.

My friend used the gluten at one meal each day, eating fruits and other foods at the other meals. I saw him again a few weeks later. He was better than I had ever seen him. His face was round and full. He said that he

had not felt so well in the spring for years. I found that he had taken a great deal of exercise in the open air in connection with his dieting. Not selection of foods alone is sufficient; one must have exercise and pure air.

When employees come to me, asking if they would better take a tonic, I always tell them to take easily digested foods, cold baths, and exercise in the open air.

I recommend to them fruit juices as germicides. A few meals of fruit alone will prove the best physic there is. If other foods are combined with the fruits, the purpose is defeated. Fresh fruits are preferable to stewed fruits, but stewed fruits will do the work if they are used without sugar. The fruits most beneficial are oranges, apples, pears, and peaches. Indeed, all juicy fruits are good.

On one occasion six of the girls became ill after eating fried liver. The liver, being the filter of the body, is not fit for food. It is the organ which absorbs all poisonous matter for the sake of protecting the rest of the system. In relieving these girls I gave them tepid water to drink as an emetic and treatment to cleanse the whole alimentary canal. Then I gave them hot applications to the stomach and cold applications to the head to relieve their severe headaches.

In addition to headaches there are many other maladies, such as rheumatism, neuralgia, and nervousness traceable to indigestion and imperfect elimination of wastes. Indigestion and dyspepsia of various kinds are caused by lack of fresh air and exercise, by the taking of too much food, or foods of too many kinds at one meal, — three kinds of food should be the limit, — by bad combinations, drinking at meals, and eating between meals. The latter habit is especially pernicious, as it exhausts the peptic glands and finally affects them permanently.

Indigestion means that food, instead of being converted into pure blood, becomes a poison in the blood. This is the case in autointoxication. This condition is also brought about by torpidity of the eliminative organs. The effete matter washed out of the tissues by the blood is allowed to circulate freely, and is retained in the system, producing various aches and pains, depression of spirits, and sometimes stupor.

If we would be free from bodily ills, we must eat only pure food, drink only pure water, and wear clothing which does not restrict breathing or impede the circulation of the blood.

The Love of Work.

Firstly, I believe that every man's success is within himself, and must come out of himself. No true, abiding, and just success can come to any man in any other way. Secondly, a man must be seriously in earnest. He must act with singleness of heart and purpose; he must do with all his might and with all his concentration of thought the one thing at the one time which he is called upon to do. And if some of my young friends should say here, "I can not do that — I can not love work," then I answer that there is a certain remedy, and it is work. Work in spite of yourself, and make the habit of work, and when the habit of work is formed, it will be transfigured into the love of work; and at last you will not only abhor idleness, but you will have no happiness outside of the work which then you are constrained from love to do. Thirdly, the man must be charitable, not cen-

sorious,— self-effacing, not self-seeking; and he must try at once to think and do the best for his rivals and antagonists that can be done. Fourthly, the man must believe that labor is life, that successful labor is life and gladness, and that successful labor with high aims and just objects, will bring to him the fullest, truest, and happiest life that can be lived upon the earth.— *Sir Andrew Clark.*

Diet and Temper.

A writer in the *New York Telegram* asserts that meat eating is responsible for most of the bad temper that exists in the world. To prove his point he claims that the English, who are thought to be the heaviest meat eaters, have also the worst dispositions.

"If you go to France," he says, "you don't get much meat. The French like fruit, vegetables, salads, a little fish, and a little chicken. I'd venture to say that an Englishman eats more meat in a day than a Frenchman does in a week.

"What effect on his disposition does the Frenchman's less gross food have? A good effect. The French are polite. The world over they are noted for their politeness and good humor.

"But the Japs prove my point best. The mass of the Japanese people live on rice and fruit and sweetmeats and fish. They don't touch meat from one year's end to another. And their temperance and delicacy at table give them the best dispositions in the world. On the streets of Japan there is never any fighting or quarreling. You never see a disturbance of any kind among that people. Tolerance, courtesy, high-bred and ceremonious manners, are as prevalent in Japan as grumbling in England.

"What is the philosophy of all this? Why, simply that meat is a stimulant, like beer, and that after the brief happy effect of this stimulant has worn off, there comes a long effect of ill humor and irritability. All heavy meat eaters have bad dispositions, because they are always suffering from their food's aftermath — because they are always, so to speak, getting over a spree.

"This holds good, too, among animals. Lions, tigers, leopards, and the rest of the carnivora are fierce and treacherous and mean. The herbivora — elephants, antelopes, camels — are good-tempered, mild creatures."

The Native Home of the Sugar-cane.

The sugar-cane and its uses have been known in India, its native home, from time immemorial. It is perhaps the earliest source from which sugar was produced, and all other modes of manufacture have been borrowed from or based upon it. The early classical writers knew sugar vaguely as "honey of canes." To the Greco-Roman world the sugar-cane was the reed which the swarthy Indians delighted to chew, and from which they extracted a mysterious sweetmeat.

It was the Arabs — those great carriers between the East and West — who introduced the cane in the middle ages into Egypt, Sicily, and the South of Spain, where it flourished abundantly until West Indian slavery drove it out of the field for a time and sent the trade in sugar to Jamaica and Cuba.

Early in the sixteenth century the cane was taken from Sicily to Madeira and the Canaries. Thence it found its way to Brazil and Mexico, to Jamaica and Haiti. Cane-sugar was well known in Italy about the second century, and has been common in England since the Tudor period. The strenuous days of great Elizabeth had sugar for their

sack, and ginger was "hot i' the mouth," too, as we all well remember. — *Cornhill Magazine.*

Some Chinese Baths.

A traveler in Mongolia writes: "There are some hot springs by the road about twenty miles north of Chingpeng. The place is named Tangshan. The arrangements for those anxious to benefit by their healing properties are very primitive. A row of twenty or thirty wooden boxes the size of an ordinary packing case is ranged beside the road. In these sit bathers of every age and both sexes, with their heads protruding. Attendants with buckets continuously refill the boxes from the springs. For less luxurious bathers there is accommodation in a pool which has been dug out close by. In this they squat, scooping up the water and pouring it over their heads with brass basins. It is curious to reflect that establishments like Homburg and Aix-les-Bains have had their origin in such beginnings."

The Patent Medicine Swindle.

THE patent medicine men in session here, last fall, by their own report, spent $10,000,000 yearly in advertising, and if they admit to that much, it is safe to estimate half as much more spent by the smaller fry or unaccounted for. There is a great howl about the $1,000,000 annual sop the Louisiana lottery is offering for the mere privilege of doing business, but it is safe to say that it returns to its customers more value than do the firms that take $25,000,000 from the people yearly for patent medicines. The writer recently cut from our papers one day 217 inches of such advertising (eighteen feet), and that is not unusual. An item states that recent investigation has shown that the people of Great Britain swallow over 5,500,000 pills daily, or one pill a week for every person in the population. The pill consumption for one year would weigh 178 tons, and would fill thirty-six freight cars, which it would take two powerful locomotives to pull. Placed in a row the pills would reach nearly 6,500 miles, or from New York to Liverpool and back again. One patent firm prints 25,000,000 almanacs every year, and many own and operate their own printing establishments, and the claim is made that the patent medicine men pay out more for printing than do all the shows combined.— *Syracuse Clinic.*

THE abominable practice of wearing long skirts for the street is dying out. Pretty as it is to see a summer dress negligently trailed over a smooth lawn jeweled with daisies, the sight of a woman dragging her gown in the street, sweeping up the filth and collecting millions of microbes, is a revolting spectacle; and yet with a long skirt the only alternative is to hold it up, a practice which induces cramp in the arm, as well as cold fingers in winter, and gives a decidedly ungraceful walk and attitude.

FLORENCE NIGHTINGALE once said of the profession with which her name is so closely connected: —

"Nursing is an art. It requires an exclusive devotion, and as thorough a preparation as any painter's or sculptor's work; for what is the having to do with dead canvas or cold marble compared with the living body, the temple of God's spirit? Nursing is one of the fine arts; I had almost said the finest of fine arts."

Chautauqua School of Health

ASSIMILATION

BY J. H. KELLOGG, M. D.

DIGESTION does not end with the absorption of the digested foods into the blood current. The final end of the process is in the tissues. and the last act is the transformation whereby substances which have been rendered fluid in the stomach, so that they might be absorbed and circulated, are again rendered solid, so that they may constitute a part of the machinery of the body, and assist in carrying on its work.

There are ten distinct digestive processes: *mouth digestion*, or mastication and insalivation; *deglutition*, or swallowing of the food after it has been masticated; *stomach digestion*, *biliary digestion*, *pancreatic digestion*, *internal digestion*, *absorption*, *liver digestion*, *circulation*, *and assimilation*.

The change that takes place in assimilation is exactly the reverse of that which occurs in the stomach. Here the transfiguration is completed. The whole process, from dust to brain and human thought, is a series of successive transformations in which the presence of the divine hand is everywhere discernible. The power which weaves the mysterious fabric of life in the formation of living flesh from food is not a mere mechanical physical agent; it is the same creative energy which made the worlds.

Assimilation is nothing more nor less than creation. It is the formation of living substances, the building of tissues and organic, living machines, out of the blood, the stream of life, which serves as a sort of circulating market, or, one might say, a canal, along which the nutritive elements prepared in the stomach or other digestive organs, are conveyed to the places where they are needed.

After the food has passed through the liver, it is carried to the heart, from which it is distributed through the whole body, carrying to each part potential energy and material for rebuilding the wasting tissues. The blood is kept uniform in character and quality, so that all the tissues are supplied with the same quality of food. The quantity of food is regulated by the size of the blood vessels, which are proportioned to every part.

The minutest little cell, the frailest filament of tissue, no matter how far removed from the great centers of life, receives its due share of nutriment through the medium of the blood, which may well be termed a "traveling exchange;" for while the blood carries to each tissue material for the repairing of losses sustained in its work, for the building up of its structure, it takes in exchange for the new material,

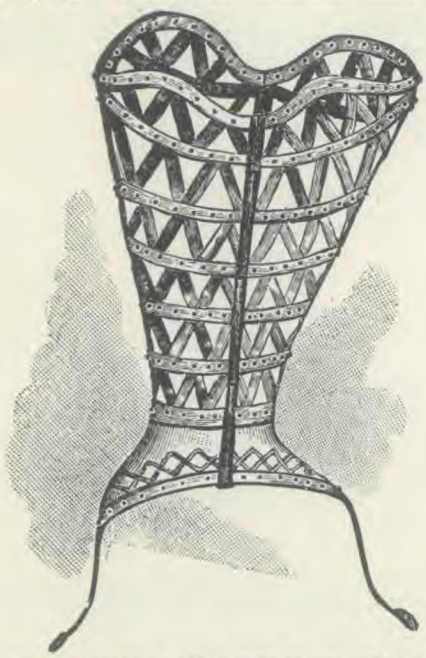
which it supplies, the old, worn-out, poisonous material, thus securing a constant change of matter.

This change is essential to life. In fact, the intensity of life depends upon the rapidity of the change. The increased rate of change does not hasten the wearing out of the body, but rather delays it; for deterioration of the bodily structure takes place much more rapidly during diminished activity than when all the organs are in use, because of the stagnation and accumulation of the poisonous wastes which necessarily accompany slow tissue activity and change, and which interfere with the rebuilding of the tissues and cause disease.

There are found in the tissues remarkable substances which play the part of regulators of the assimilative process. These enzymes are produced in the liver, the pancreas, and certain other of the large internal glands. It is under the influence of these enzymes, which are allied to pepsin and other digestive ferments, that the liquid blood is converted into solid tissue, and that the energy locked up in the food is set free through the action of oxygen with the elements of the food. The wonderful action of these enzymes can be explained in no other way than by the recognition that they are divine agencies acting under the control of that marvelous Intelligence which guides and rules all the activities of the universe, and which is so wonderfully manifest in all the life processes of animate nature.

THE EVOLUTION OF THE HEALTH WAIST

"LADIES must and will wear stays, in spite of all the medical men in Europe," wrote Madame Caplin, about the middle of the nineteenth century. These words indicate the controversy that has long been going on between the doctor and the staymaker. The reason why the constant attacks on the corset have failed to demolish it, is that it has been part of woman's attire for so many centuries that it has come to be regarded as a sort of exoskeleton, essential to an erect and graceful carriage.



CORSET COVER OF STEEL WORN IN THE TIME OF CATHERINE DE MEDICI

As early as four centuries after the Christian era, mention is made of stays in the letters of Synesius, Bishop of Cyrene. He speaks of "a slave girl out of the far East who had a pinched wasp waist that was the marvel of the Greek ladies, who sent for her, from house to house, to see this new and prodigious waist, with which it seemed to them impossible for a human being to breathe or live."

Terence, a Roman dramatist, mentions "ladies who strait-lace their waists to make them small and well-shaped." But little can be learned concerning corsets until about the twelfth century. Medieval writers make frequent reference to the practice of lacing. Chaucer tells of a beauty —

"Sore pleasant and neat withal,
Gentle, and in her middle small."

A French moralist writing in the middle of the fifteenth century says that "by detestable vanity ladies of rank now cause their robes to be made . . . so tight that they can scarcely respire in them, and often suffer great pain by it."

The evil seems to have reached its climax in the French court in the days of Catherine de Medici, who herself invented a corset which consisted of two pieces opened longitudinally by hinges, and closed with a hasp and pin. A thirteen-inch waist, we are told, was the accepted standard of beauty during her reign.

CORSET AND STOMACHER OF THE EIGHTEENTH CENTURY

FREEDOM WAIST

In spite of the constantly changing fashions, this barbarous destroyer of female grace, beauty, and health, invented at a time when physiology was unknown, held its own through the centuries. The squibs of the merry, the expostulations of the earnest, and the ills resulting from the unnatural compression failed to cure the evil.

But at last the reiterated warnings of medical men began to have some effect, at least to modify it. Considerable interest was aroused by a "hygienic corset," which was awarded a medal at the great exhibition of 1851 in England, about the time of the beginning of the dress-reform agitation in this country. This corset, which was claimed to be "ingeniously adapted for giving sup-

port to the trunk without confinement to the thorax," was the forerunner of a succession of "health corsets," "comfort corsets," etc., all of which have been characterized by a well-known physician as devices of the devil to keep in bondage women who would otherwise have been emancipated.

The "hygienic corset" was said to supply "a new layer of muscles" to supplement the original layer, which were inadequate for their task. But the muscles of a woman's body, if left alone, are as well able to perform their functions as are those of a man's, as multitudes of women have since demonstrated.

In some cases a bust supporter may be needed. The lower illustration on the preceding page shows a "freedom waist," a most comfortable and suitable garment to be worn over the union undersuit. The puff provides the bust support for those who need it, while allowing perfect freedom to all the muscles.

MOSQUITOES AND MALARIA

BY F. J. OTIS, M. D.

IT is quite a well-known fact that the mosquito is an active agent in carrying malaria from one individual to another. But how this is done is not so apparent to the average person. Some facts known only to the scientist are so exceedingly interesting that we will give a description of the malaria parasite as it passes through its many forms in man and in the mosquito. All who have observed the transformation of the butterfly through its different stages, from the cocoon to the worm, and then the butterfly, know something of the many changes through which one insect or animal may pass during its life history.

The malaria parasite, although a microscopic animal, passes through a great many changes of form. When it is at its largest, it is a little single-cell animal occupying the inside of a red blood corpuscle as its home. It has the appearance of an ameba, and, like the ameba, may put out pseudopodia, or false feet, and by these it may move about in the red blood cell. When it first enters the red cell, it is a long, narrow, rapid-swimming, wormlike animal (19, Fig. 1) that pierces the red cell wall (1), taking up its abode inside. It can not be seen by the microscopist unless it is stained, when it appears like a ring (3), just as if the snake-form had entered the red cell and joined the two ends, making a circle. It destroys the contents of the red cell, leaving only the pigment of the hemoglobin. It grows rapidly for twenty-four to seventy-two hours, depending on whether the chill is produced daily, every other day, or every three days (4, 5, 6). When it reaches its full growth, it divides into from eight to twenty-five little parasites. The little parasites are beautifully arranged, as seen in 6, Fig. 1. The cell then bursts, letting out from eight to twenty-five malaria parasites instead of one (8, 8). When they break out of the red cell, the poison that they have produced in the cell enters the plasma of the blood, influencing the entire body. The effect of this poison in the plasma of the tissues causes the temperature to rise rapidly, resulting in the chill. It is

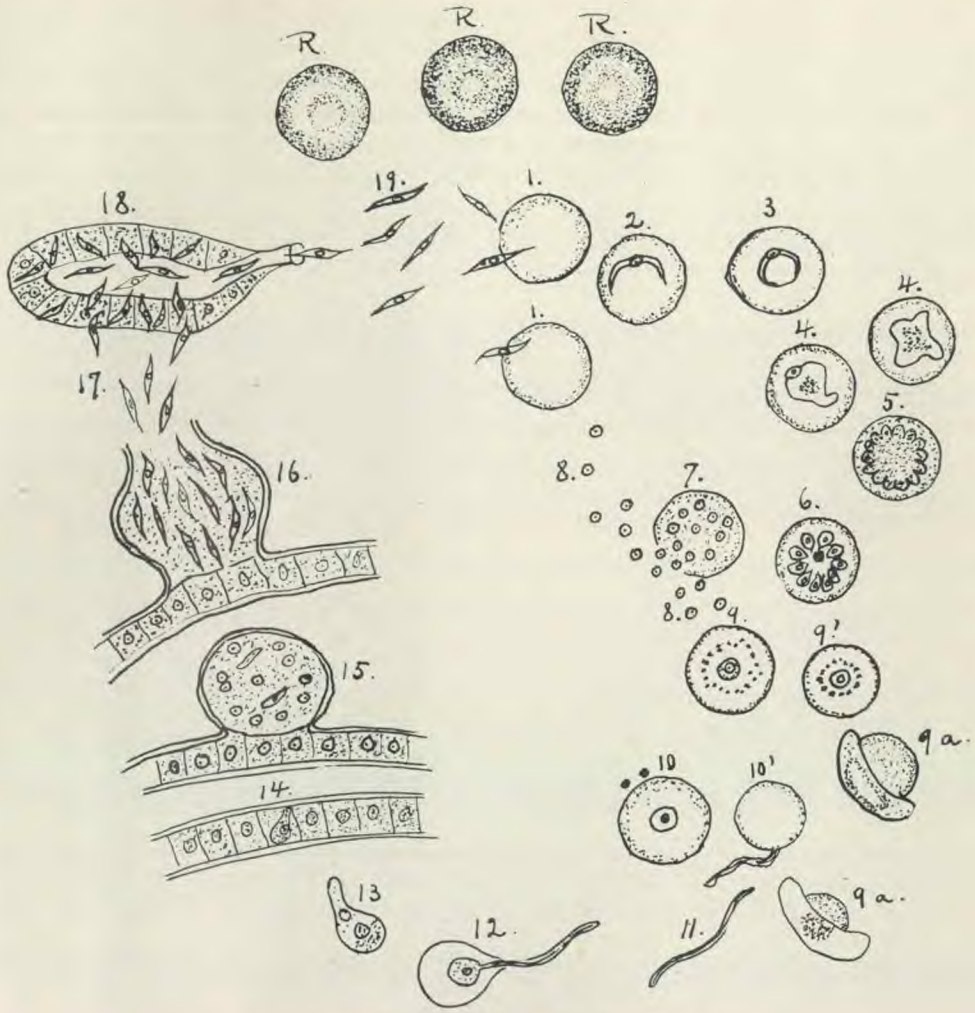


FIG. 1. STAGES OF DEVELOPMENT OF THE MALARIA PARASITE

R., R., R., Normal red cells. 1, Malaria parasite entering cell. 2, 3, 4, 5, Stages of growth. 5, Beginning multiplication. 6, Complete rosette. 7, Many parasites set free. 8, Returning to normal red cells. 9, 9^1, 9a, 10, 10^1, Further development of 8. 11, Whip or flagella. 12, Union of 10 and 11 that occurs only in the mosquito. 13, Ookinet. 14, Section of stomach wall with one ookinet in one cell. 15, Cyst on stomach wall. 16, Bursting of cyst. 17, Sporozoites. 18, Salivary gland of mosquito containing malaria.

when these numerous parasites are free in the blood stream that the doctor gives quinine to destroy them. Quinine does not affect them when they are in the red cells, so it is useless to give it then. If left unharmed, these little parasites enter the red cell again and pass through the same cycle over and over. Each cycle, if the numbers are sufficient, makes a chill.

Some of the parasites develop outside of the red cell, forming two kinds of parasites, represented by 9 and 9^1. One of them, a short time after they have been removed from the body, extends little whips, with which it lashes the surrounding material in a very lively manner (10^1). After a little the whips are detached from the body of the cell (11). They swim about quite independently. Later these whips unite with the protoplasm of the other cell (12). There is then formed a sluggish ameba, quite different from the malarial parasite in the red cell.

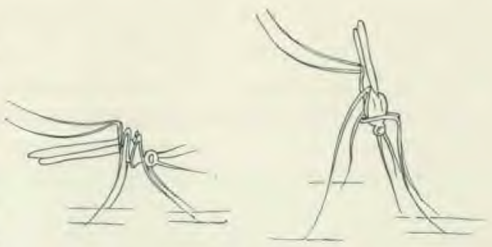
The last two changes do not occur unless the parasite is removed from the human circulation. Ordinarily, the forms just described die in the body spontaneously. But if a mosquito of the anopheles variety sucks some of the blood containing them, the parasites above mentioned (8, 8, 9, 9^1, and 10, 10^1) in the blood stream develop, as just described, in the stomach of the mosquito. There they undergo the whip-making process and produce the ameba which scientists call the ookinet (13). The ookinet is the malaria parasite in the mosquito. It dwells in the mosquito's stomach for a while, then pierces the stomach wall (14). The mosquito tries to protect itself by throwing around it a membrane, forming in the stomach wall a cyst or sac of fluid in which the malaria lives (15). In this cyst the ookinet divides into many hundreds of smaller bodies, which change in about four days into little, snake-like bodies. In the course of eight days the sac bursts, letting out all these snake-like bodies (17) into the mosquito's body (16). They swim about through the circulation and finally concentrate themselves, for some unknown reason, in the salivary gland of the mosquito (18). Here they wait until the mosquito uses some of the saliva. This it nearly always does when it bites.

So, should the mosquito, in the next few days or weeks, bite another individual, it would inject many of these little snake-like forms of malaria into the human circulation. The disease is certain to follow in about two weeks. For every parasite the mosquito imbibed there are ten thousand or more of the snake-form parasites in its saliva to take its place. If, in its ordinary meal, the mosquito should get twenty-five malaria parasites from the human being, which is very possible, it will in eight days have two hundred and fifty thousand malaria parasites in and about its salivary gland. There will be opportunity for its discharging about one hundred thousand into the circulation of the human being. Even this number is not large enough to cause a chill in two days, as the poison would not be sufficient. Six hundred thousand on the second day in the human being would break up into two million; still there would be no chill. Two days later, if it is the common tertian malaria, there will be forty million in the place of the two million in the human circulation. Still there are not many symptoms. This process of multiplication continues from ten days to two weeks; then there are parasites sufficient to cause the disease to become manifest.

It is with a knowledge of the above facts that man now undertakes to cope with the disease. It is evident that there are two places where the germ may be destroyed most readily. One place is in the body, as mentioned before, when the parasite is out in the blood stream. Here quinine is apparently quite effectual in destroying it. Then the body forces aid a great deal, inasmuch as the stronger individuals do not develop the disease so quickly.

The best opportunity for destroying the parasite is when it exists in the mosquito. We can well afford to sacrifice the mosquito, for none of us enjoy its humming and biting. Fortunately, in ridding a locality of them, we dispense with the possibility of contracting malaria.

There are many varieties of mosquitoes. The *culex* (a, Fig. 2) is the most common, but does not harbor the malaria germ. The anopheles (b, Fig. 2) is the kind that carries malaria. It is found in all malaria districts. The illustration represents the resting positions. This position assists us in easily recognizing the dangerous mosquito. Figure 3 represents the anopheles mosquito injecting the parasites from its salivary gland (5) into the circulation.



a FIG. 2 b

a., Culex mosquito b., Anopheles mosquito

The mosquito usually lives from four to six weeks, except in winter, when it may escape the frost until spring. But after it has laid its eggs, it thrives no longer. Nature seems particularly to protect the female during this season of the year, in order that she may lay her eggs in the spring, and that the species may not become extinct. But after the season is once open, the life is comparatively short. The mosquito lays its eggs on the surface of quiet or stagnant water, where they hatch, forming larvæ (Fig. 4). Later these develop into another form, called the pupa. Both these forms, although existing in water, have a breathing apparatus that requires them to come to the surface for air every few minutes. Consequently, they live in shallow streams mostly, where they are near the surface. The health officer takes advantage of this fact by having crude oil or crude petroleum distributed on the water. This oil is quite incompatible to their existence. If they do not come to the surface, they must drown, so in a short time all the mos-

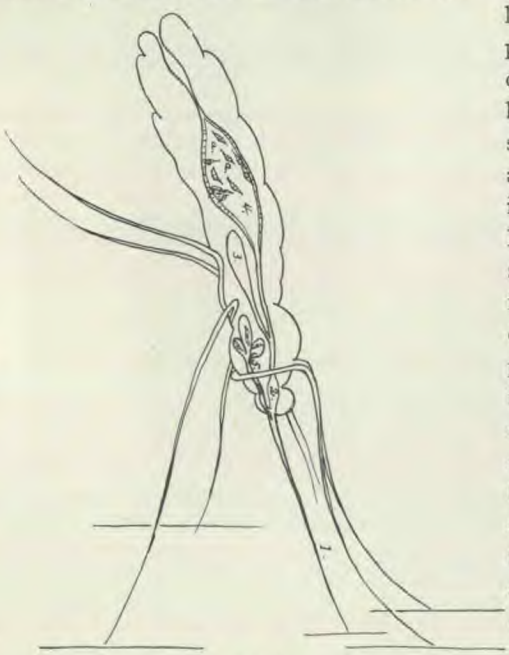


FIG. 3

1, Proboscis. 2, Pharynx. 3, Suction stomach. 4, Chyle stomach containing enlarged malaria parasites. 5, Salivary gland containing parasites ready for injection.

quitoes in a vicinity may be destroyed. The living ones will not lay eggs in oil, so they soon die. Thus the locality is free from mosquitoes until restocked with those from another locality. If there are no mosquitoes suffering from malaria, the disease can not be communicated from one to another. Much can be done to lessen the number of mosquitoes by simply keeping all pools filled, and all empty cans upturned.

MOSQUITO LARVÆ, 1½ TIMES THEIR NATURAL SIZE

If precaution is taken to protect the individual from mosquito bites, there will be no infected mosquitoes in the vicinity to transfer the disease to others. Prevention, then, in the care of the malaria patient is one of the greatest means of controlling the spread of the disease.

The methods here mentioned have been demonstrated very effectually by a number of governments. Only recently Japan sent a number of soldiers into a malaria district and divided them into two portions. One of the companies was provided with mosquito-netting and tents that were mosquito proof. The mosquito does not bite until late in the afternoon, or particularly when the sun goes down; so the Japanese government required its soldiers to remain in the tents during this part of the day. The other company was left entirely unprotected, and many cases of malaria developed in it, while there was not a case in the company properly protected.

When Lord Ross, under the auspices of the English government, went to the west coast of Africa to investigate, he ordered that every pool of water in the region of some of the cities be filled up, and that those that could not be filled, should have petroleum spread on the surface. As a result, the mosquitoes soon became scarce in the community. A malaria that had been very severe and even fatal, affecting the majority of the people, almost completely ceased.

The English government demonstrated further facts in regard to the cause of malaria by selecting mosquito eggs and permitting them to hatch and develop into mosquitoes under artificial surroundings. These mosquitoes were permitted to bite an individual suffering from malaria, after which they were shipped from Italy, where the malaria cases were, to London. There the physicians permitted them to bite themselves and some other willing subjects who had not been in a malaria district for years. In a few days symptoms of the disease developed, and malaria parasites were found in their blood.

Those who study the life of microscopic animals observe that they are able to multiply for a definite time, after which there must be a change in the stock and mixing of the various stocks or the little animals will die out.

The paramecium, an interesting little single-cell animal, will divide two hundred times, after which its multiplication ceases unless it is mixed with another stock. It has been proposed that

malaria has a similar requirement for its perpetuation. Consequently, if a person leaves a malaria district for one where there are no mosquitoes, the disease will be self-limited. It is supposed by some that the time is about six months. We have not much data on this point, but we know that after a person has suffered from malaria, even though he move to a non-malaria district, he suffers from recurrence of the disease for weeks and even months afterward; but if he remains away for about a year, he becomes entirely free from the disease.

To protect one from malaria, all the mosquitoes in the vicinity of the malaria case should be destroyed. Malaria patients should be thoroughly protected from mosquito bites. Those living in malaria districts should retire to a mosquito shelter in the afternoon before the insects begin to bite. These precautions will renovate any malaria district.

HOW TO SWIM

BY A SWIMMER

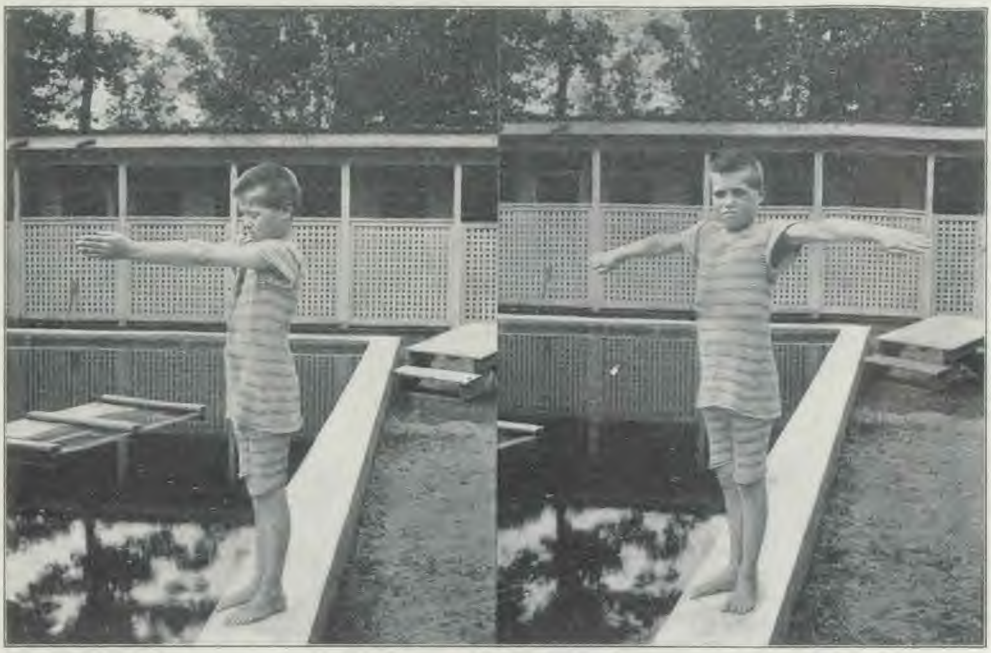
MAN seems to be, of all animals, the least adapted to progression in the water. Other animals, dogs for example, are so naturally formed for swimming that they do not have to learn to swim. The movements of the limbs of a dog in swimming are precisely the same as in walking; he simply walks in the water, holding his nose high, and does not have to trouble himself with modifying his movements to suit the element in which he is moving, whether in the air or in the water. With man this is different. In the water he must move his limbs in a way in which he has no occasion to move them when on land. The consequence is that when he makes his first attempt to swim, he finds the muscles which he must necessarily use, weak and easily exhausted; therefore, learning to swim requires much practice and considerable time.

The great health advantage in swimming is in the fact that the head must be carried well backward, and the arms must be used in a way which will develop the shoulder retractors, or the muscles which draw the shoulders backward; hence it is one of the finest of all means for developing the chest, and overcoming the tendency which exists among all sedentary persons to become round-shouldered.

Swimming thus constitutes a most healthful form of recreation. It is refreshing, promotes appetite, and is one of the most valuable of all accomplishments. The majority of deaths from drowning are due to lack of knowledge of this most useful art.

The old method of teaching a boy to

DIVING



FIRST ARM MOVEMENT SECOND ARM MOVEMENT

swim was by throwing him into water deep enough to drown him, making it, with him, a case of "sink or swim." The modern method, however, is more humane.

THE MOVEMENTS

There are three movements for the arms and two for the legs, the movements for the arms starting with the position for the arms shown in our first illustration.

At the first movement, the arms are carried outward at the sides, the palms facing backward.

At the second movement, the arms are brought from this position to that shown in Fig. 3.

At the third movement, the arms are thrust directly forward to the position shown in Fig. 4.

The time occupied in movements 2 and 3 together is the same as that of movement 1 alone.

The two movements of the legs are also shown in the illustration. During the second movement of the arms, by which they are brought to the position shown in Fig. 3, the knees are flexed and the legs drawn up. For strong swimming, the knees are drawn well up under the body, a position which can not be assumed except in the water, or with the body suspended by a belt. The second movement of the legs is executed with

1 2 MOVEMENTS IN SWIMMING 3 4

the third movement of the arms, the legs being thrust downward and outward, as in Fig. 1, assuming at the end of the movement the position shown in Fig. 4.

By the aid of a teacher these movements may be easily acquired by the following method: The pupil, being placed in water not higher than his shoulders, seizes one end of a stick, the other end of which is held by the teacher, who stands in a boat or upon a pier. The first thing the pupil should do is to acquire the ability to balance himself in the water. A firm hold upon the stick enables him to maintain his position, and by degrees he learns to flex the back in such a manner as to keep the head above water and the heels near the surface.

Having acquired his balance in the water, the pupil takes his first lesson in leg movements. In swimming, the arm movements and leg movements are

FLOATING

executed together, with the exception that the first arm movement is made without simultaneous movements of the legs, the two movements of the legs being executed only with the second and third arm movements. In order to establish the proper rhythmical movement, the teacher counts for these combined movements, "One, two, three, one, two, three," the time given to "two" and "three" being each one-half that given to "one."

After practicing the arm and leg movements for a few minutes on land, the pupil is supported in the water by means of a belt passed around his body in such a position as to balance him in the water. The belt is attached to a rope supported at the end of a stout pole, one end of which is grasped by the teacher, who thus supports the pupil in the water. The pupil is now made to execute the arm movements, keeping time to the count, the movements being made

1 2 3

SIDE SWIMMING

in the order above described. After practicing the arm movements for a time, the arm and leg movements should be combined.

After the pupil has acquired a little confidence, and has learned to combine the movements fairly well, he is provided with a swimming-belt and cast loose into the water to navigate himself. In a short time, if he has given good attention to his instruction, he will be able to move about in the water with ease and confidence, and may then readily learn side swimming and diving.

SCHOOL OF HEALTH SEARCH QUESTIONS

ASSIMILATION

1. How many distinct digestive processes are there ?
2. What is the final process of digestion ?
3. Describe what is meant by assimilation.
4. By what means are the food elemen's conveyed to the tissues ?
5. How is the food supply regulated to meet the needs of the different parts of the body ?
6. What does the blood take up in exchange for the new material deposited in the tissues ?
7. Give facts which show the importance of this change of matter in the body.
8. Describe the function of the enzymes.

THE EVOLUTION OF THE HEALTH WAIST

1. Describe some of the evils resulting from compression of the waist by the corset. (See leading article.)
2. Why has this barbarous custom continued in spite of the testimony of medical men ?
3. Give some references to the practice in ancient and medieval writers.
4. When did tight lacing reach its climax ?
5. About what time were attempts first made to introduce a more hygienic garment?
6. What may be said of the various modifications of the corset ?
7. Describe a garment that is perfectly adapted to take its place.

MOSQUITOES AND MALARIA

1. When a person is infected with malaria from a mosquito bite, how long a time elapses before the disease manifests itself ?
2. When only is quinine likely to be effective in destroying the malaria parasites ?
3. When is the best opportunity for getting rid of malaria parasites?
4. Describe different ways in which this may be done.
5. At what time in the day does the mosquito bite ?
6. How has it been demonstrated that if one is protected during that time he is not likely to be infected ?
7. How long a time does it usually take for one infected with malaria to become entirely free from the poison ?

HOW TO SWIM

1. Why is it necessary for man to learn to swim, which other animals do so naturally ?
2. Why are the muscles used in swimming at first weak and easily exhausted ?
3. Mention the health advantages gained in swimming.
4. How many arm movements are used in swimming ? Describe them.
5. Describe the two leg movements.
6. How are the arm and leg movements combined?
7. How may the pupil be supported in the water while practicing ?

Hundred Year Club

HOW TO LIVE A CENTURY

"It is good to be old if one has lived well,— I mean living as one should," said one recently, who, having lived well past the century mark, and still finding life worth living, knows whereof he speaks. Mr. Wolf Weismann is a Jew who was born in Russia, and lived in that country until eleven years ago, when he was ninety-two years of age. His home is now at Hoboken, N. J.

MR. WOLF WEISMANN

Having often been asked the secret of his long, active, and useful life, Mr. Weismann took advantage of an opportunity to answer this question in an article in the *North American*. He has always been particularly interested in the accounts of long-lived persons in different countries, and was therefore prepared to write intelligently on the subject of longevity. Concerning his own condition at the time of writing, he says: —

"I am one hundred and three years old, and I enjoy life as much now as I did when I was thirty. That means, of course, that I am in sound health of mind and body. I read and write without spectacles. My hearing seems to me as good as it ever was. My appetite is as keen as when I was a young man. My teeth are fairly sound — two years ago I cut four new ones. Age has not caused my shoulders to stoop. It is no trouble whatever for me to stand erect, and my limbs feel strong under me."

In his instruction to the young as to how to grow old happily and youthfully, he says: —

"Be an evergreen. That has always been my model in nature; sturdy, straight, wholesome, and refreshing.

"Don't work too hard. Nature never intended man to work feverishly eight, ten, even fourteen and sixteen hours a

day, as some Americans do. That is the pace that leads to the graveyard and the insane asylum. It is wicked, health-destroying, mind-destroying.

"You will be surprised when I tell you that the nervous American sleeps too much; but it is so. Instead of sleeping so long, he should walk much out of doors. If he will cut two or three hours off his sleeping allowance and give it to walking in the fresh morning air, he will be a healthier, and live to be an older man.

"Do not smoke. That is the one thing in my more than a century of life that I remember with regret. I would that I had never smoked. I broke the bad habit after I was fifty years old.

"If you would live happily and healthily, be as much as you may with little children. They will teach you much of the beauty and simplicity of life.

"Every man who harbors hatred or suspicion in his soul is to that extent wicked. To be happy and to live long, we should be as little children are,— open-hearted, generous, trustful, optimistic. Suspicion is a deadly vermin that eats away the soul. Believe in people when you can, and try to believe in them if you can't. More than likely they deserve it. Eight out of every ten men are honest. Don't make rogues of them by doubting.

"Doubtless it is true that the character of a man's occupation has much to do with the preservation of his health and the duration of life. Statistics show that outdoor workers whose bodies are sufficiently nourished, live longer than those who labor indoors. Also that workers in wood live longer than those who breathe air permeated with particles from the metals, textiles, or chemicals which they handle.

"In all my reading about long-lived races and individuals I am constantly impressed with the influence of contentment of mind. It seems that, in spite of all the efforts of modern science, enlightened Americans and Europeans can not compete with certain barbarous, almost uncivilized, peoples, in the matter of prolonging the span of human life.

"In the northern part of Africa, for instance, where the ideas and conditions of the people are practically the same as they were thousands of years ago, we read that men and women one hundred and fifty years old are not uncommon.

"There the 'strenuous life' is unknown. It seems that the Moslems in Algeria and Morocco are never excited except in moments of religious zeal. The atmosphere is dry and wholesome, and their lives are practically spent out of doors. Even the merchants are calm and dignified always, apparently quite indifferent whether customers come or not.

"These people, while being much in the open air, live simply, on natural foods, and never allow their minds to be disturbed.

"All of this helps to convince me that the lessons of my own experience are true and valuable ones. Nature is the best guide, and nature urges us not only to eat pure food and breathe pure air and give our bodies sufficient exercise, but also to be serene, patient, and moral.

"To a conscientious observation of these rules, based on common-sense science, I attribute my present advanced age and the blessing of good health and a cheerful spirit."

THE only failure a man ought to fear is failure in cleaving to the purpose he sees to be best. — *George Eliot.*

A MAN "too busy" to take care of his health is like a workman too busy to sharpen his tools. — *Exchange.*

. . By the Editor . .

WONDERFUL NEW FACTS ABOUT THE HUMAN BODY

PROFESSOR CHARPENTIER, a French scientist, recently presented a paper before the Paris Academy of Sciences in which he showed that the *n*-rays of Blondiot are produced in the human body; that these radiations are thrown off so actively that they can be easily studied by means of a device which renders them luminous. These rays are principally produced by the muscles and nerves, and are thrown off most actively when the muscles, nerves, or nerve centers are in action. These rays are thrown off so abundantly when the muscles or nerves are in action that it is easy to localize a nerve center by the luminescence produced upon the test-object employed for detecting the rays. For example: when the test is applied to the spinal column, the different portions of the spine become luminous coincidentally with the action of the muscles which receive nerves from the different parts. When the arms are active, luminosity is greatest at the upper part of the cord, in the region of the neck. When one arm only is active, the fact appears in the abundance of luminosity in the opposite side of the cord; but in the brain the reverse occurs, for the reason that the nerves cross over to the opposite side of the brain.

This method of studying the nerve centers is so delicate that it is possible by the application of the instrument to the head to determine which portion of the brain is active. When one is speaking, for example, the light appears in the region of the language center. The writing center and other centers may be made to shine out in a similar way.

Little by little the refinements of modern scientific research are penetrating the secret chambers of the body. The truth of the declaration of the ancient seer, that we are "fearfully and wonderfully made," beomes more and more impressive. How interesting it is to note the operations of that great miracle-maker, sunlight! The rays of light fall upon the earth; vegetation springs up. Seeds, fruits, nuts, and other foodstuffs are simply masses of light combined with the elements of the earth and the air that are thus vitalized by the light. When any of these substances are burned, the light comes back in the form of heat and luminous rays. When these substances are eaten as food, they are transformed into bodily tissue of muscles, nerves, and other structure, and thus by their activity disintegrated. The light is set free, reappearing in heat and other forms of energy, and, as is now shown, even in the luminous form of the *n*-rays.

By this means the time may come when it will be possible to point an instrument at a man's head and tell what he is thinking about; or, at least, to make a very good estimate of his character by observing what portion of his brain is most active. It will also become easy to show the influence of personal habits as regards diet, etc., upon muscular and nervous activity.

In the days of ignorance and darkness it was possible for men to persuade

themselves that alcohol, tobacco, tea and coffee, flesh eating, and other unwholesome habits had no influence upon the physical, mental, or moral welfare of man; but in recent years the improved searchlights of science are being turned upon these questions of practical life with such penetrating power that the truth respecting right living shines forth in unmistakable clearness, and ignorance will soon cease to be an excuse. Those who insist upon adhering to evil habits which are destroying their lives, must frankly confess that their only excuse is perverted appetite — that they choose evil rather than good.

MEAT EATING AND APPENDICITIS

DR. CHAUVEL, MEDICAL INSPECTOR OF THE ARMY, HAS MADE A STUDY OF THE DISEASE AND DRAWS INTERESTING DEDUCTIONS FAVORING VEGETARIANISM

It is a long time since appendicitis has been discussed at the Academy of Medicine, says the *Paris Matin* in a recent issue. True, we have had vacations, and though appendicitis is not idle, the academy supposes it ought to rest during the months of August and September. And, besides, it begins to become difficult to say anything new on a question which for ten years past has made so much ink and blood run. It is Dr. Chauvel, medical inspector of the army, who has belled the cat by a study of the frequency of appendicitis in the French army.

A little detail in passing: During the year 1902 the military hospitals received 668 patients afflicted with appendicitis. Out of this number 188 have been treated according to the surgical rite, and 480 have received a purely medical treatment, although, according to a celebrated mot, "the medical treatment of appendicitis does not exist." Of the 188 operated on with the knife, twenty-three died; while the 480 not treated with the knife furnished but five deaths — scarcely one per cent. Thus, theoretically, medical treatment does not exist; but, practically, medical treatment cures ninety-nine out of a hundred. This is vexatious for the theorists, but not to be treated with contempt by the sick.

The interesting point in the statistical study of M. Chauvel is the comparison which he instituted between the figures furnished by the army of the metropolis and by the army in Algeria. In 1901 the Nineteenth Corps of the army of France had 460 cases of appendicitis, very nearly one to every thousand of the effective,— to be precise, .95,— while the Nineteenth Corps in Algeria and Tunis had but thirty-two cases, or .44 per thousand — twice less. In 1902 these figures were larger — 619 cases in France, or 1.27 per thousand, and forty-nine in Algeria, or .63. The proportion is smaller in Algeria than in France, and the difference, which is from simple to double, remains exactly the same in 1902 as in 1901.

These statistics not having been manufactured *pour les besoins de la cause*, we may consider the deductions exact, and admit that as a general rule, appendicitis is more rare in Algeria than in France. Besides, that is the opinion of all the physicians who practice in our African colony, and M. Chauvel cites the example of a surgeon in very active practice, who, during a sojourn of five years at the Civil and Military Hospital of Bilda, found but a single occasion for operating for appendicitis. Unlucky surgeon!

M. Chauvel pushed yet further his enquiries. Our army in Africa includes Europeans and natives. Legionaries, soldiers of the line, and Turcos,— are they equals before appendicitis? Or Mohammed, does he kindly extend his protection over the appendices of his followers? In five years, from 1898 to 1902, out of an effective of 14,000 men, we have among the French and Europeans 137 cases of appendicitis, or .64 per 1,000, while in the same space of time, out of an effective of 17,000 natives, we find but thirteen cases, that is, .14 per 1,000.

By this it appears that appendicitis is two times less frequent among the French soldiers in Algeria than among the French of France, and it is ten times more rare among the native Algerians. The difference is much too great to be accidental. It should have a cause. What is it? Is it an affair of race, of

climate, or religion? M. Chauvel thinks it is a question of alimentation.

The Arabs are very sober. They eat little, and are, above all, vegetarians. When they do eat meat, they eat it very much cooked. Accordingly, among the native tribes, living their ordinary life, appendicitis is almost unknown. If one observes it more frequently among our auxiliaries, sharpshooters, and spahis, it is because the régime of the latter is no more the régime of the Arab, but nearer to that of the French trooper.

This explanation, perhaps, is not absolutely satisfactory, inasmuch as it does not tell us how and why this relative immunity extends to the European transplanted to the soil of Africa, where their alimentary régime hardly differs from the régime of the metropolis, but one may suspect that it has much truth in it. Other observers have signalized this rarity of appendicitis among people less carnivorous than ours. Dr. Snyder, who for ten years has been attached to the court of the Shah of Persia, has had to treat but five cases of this malady at Teheran, three of which were Europeans and only two Persians. Dr. Snyder also attributes the rarity of appendicular accidents to the mode of alimentation of the Persians. At Teheran abstinence from pork is obligatory, and the meat of cattle is almost unknown. They seldom eat any meat but mutton and chicken, and these always very much cooked. One of the two Persians attacked by appendicitis was a student recently returned from Paris, and he had continued to feed himself in the European style.

On the other hand, Dr. Matignon, who for five years was physician at the French Embassy at Peking, has not met a single case of appendicitis, either in the mission or in the hospital of Nautang, during the whole of his sojourn in the North of China. Now the Chinese, according to Matignon, eat but very little meat. The European alone eats beef. Meat is a luxury in which only people in easy circumstances can indulge, and its consumption is very limited.

The great majority of the Peking population are nourished mainly by millet, simply boiled in water, rice, cabbage, sweet potatoes, and pickled turnips. The Chinese eat also much Indian meal and wheat, of which they make cakes with dough, not leavened, and cooked by steam. Thanks to this régime, the Chinese enjoy an admirable *liberte du ventre*, and that undoubtedly is the cause of their appendicitis immunity.

The carnal régime, then, the abuse of meat, appears to be the true cause of this evil. No meat, no appendicitis. And the vegetarians triumph. If appendicitis is less frequent in our rural districts than in cities, it is because our peasants are nourished more upon farinaceous food. Dr. Championniere knew a physician practicing in Brittany, where little meat is consumed, who for a number of years had seen but three cases of appendicitis. In the religious communities where the use of meat is forbidden, appendicitis is unknown.

Compare with this the frequency of the disease among the Anglo-Saxons, the great eaters of beefsteaks and bleeding roasts. In England they do not hesitate to organize insurance companies against appendicitis. In the United States the disease is so common that a Philadelphia surgeon, Dr. Deavers, has recently published under the suggestive title, "A Year of Work in Appendicitis," a personal statistic of 500 cases operated upon by him in one year, from Sept. 1, 1902, to Sept. 1, 1903, or two appendicitis cases per day, supposing the indefatigable surgeon rests on Sunday.

We quote the above from a leading New York newspaper, not only because of the importance of the facts presented, but as evidence of the interest which the public is taking in the principles of rational dietetics. Food reformers are no longer laughed at. Even the vagaries of faddists receive respectful attention and fair-minded criticism. It may be safely said that at the present time at least one hundred persons are interested in diet reform where a quarter of a century ago one person gave the matter even a passing thought. The world moves.

IS A FOOD-CONSUMING MACHINE PROPER FOOD?

UNDER this title the Lititz (Pa.) *Express*, edited by John G. Zook, publishes the following terse argument in behalf of rational diet:—

What is the truth about the food question?

Was Benjamin Franklin correct?

He claimed that the animal organism was a food-consuming machine, *not food itself.*

Was Franklin as scientific on the food question as he was in other lines?

Here is a new way of looking at meat as food: —

The old stationary engine was a wood- or fuel-consuming machine. It was not meant to be fuel itself.

What if the engineer would keep feeding other broken-up engines in his firebox.

He would get some fuel, but mostly broken iron.

Rather costly?

Most of it would be waste material.

What is animal food?

There is some fuel in it, but it is mainly used up food or excrementitious matter, and is full of poisons.

In other words, animal food is second-hand food.

Why not go to original sources: Grains, cereals, vegetables, and fruits, etc.?

The only thing that saves the meat eater are the grains, cereals, and vegetables that he takes along with his second-hand animal food.

The Japanese do not follow the meat food idea. The Russians find it hard to beat them in strategy which means brains or in physical endurance.

Why can the elephant, the ox, and the chimpanzee get so much physical strength out of a non-animal food?

Was Benjamin Franklin ahead of his time?

Is Edison ahead of his time on the food question?

BATTLE CREEK SANITARIUM IDEAS IN A GREAT FACTORY

One of the greatest manufacturing organizations on the face of the earth is the National Cash Register Company, of Dayton, Ohio. The presiding genius of this enormous concern, in the buildings and appliances of which many millions are invested, is Mr. John H. Patterson,— a man whose largeness of heart and many-sided abilities have enabled him to make of his great manufacturing interests an object-lesson for the world as an example of a business organization which not only attains the highest success from a financial standpoint, but at the same time pays due regard to the physical, mental, and social welfare of all connected with it.

The National Cash Register Company is a great feature of the thriving city of Dayton, Ohio, and its wonderful system has attracted to Dayton multitudes of manufacturers, financiers, social reformers, and humanitarians of all classes. Every month Mr. Patterson sends out a little magazine to the thousands of agents and others connected with the concern who are located in all parts of the civilized world. This magazine, entitled *The N. C. R.*, is ably edited and is always interesting. The May number was particularly interesting, as it was devoted almost exclusively to the subject of health. There was a splendid article entitled "Nature Principles in Physical Culture," telling all about Miss Dwight's "straight-foot method" of bodily training. An exceedingly valuable article was contributed by Mr. Horace Fletcher, relating to the Yale report and summary of Professor Chittenden's experiments in relation to diet, which fully confirm the hygienic idea of diet. There was a practical article on the stomach; another on the brain; and a capital article by Miss Jennie Williams, entitled "Health in the Factory," which contained so many excellent and practical points that we take pleasure in reproducing it, entire, elsewhere in this number.

Mr. Patterson has several times been a

guest at the Battle Creek Sanitarium, and it is a matter of great interest and encouragement to note the efforts which this master organizer and generous philanthropist is making to introduce advanced health ideas among the thousands of men and women who are dependent upon him as wage earners, and who look to him much in the same way as children regard a father.

"EAT MORE VEGETABLES"

UNDER this heading the editor of the *Chicago Daily Tribune* gives the readers of that great daily the following excellent advice in view of the recent increase in the price of fresh meat, and the apprehension of a shortage in the meat supply and a still further increase in prices: —

"To the housewife of resource there need be no increase in the family expenses, for she may find many substitutes for fresh meat at this season of the year. When the potato crop fails in Ireland it is a serious matter, for the reason that potatoes are the main food product of that country. It is impossible to get a substitute without greatly increased expense. But in this country the resources are so varied and the foods so manifold that the curtailment of the supply of an article so important as meat need inflict not only no suffering, but no extra expense. All that is needed is an intelligent study of the possibilities of other foods. Few people realize how independent they can be of meat until they try to get along without it.

"Now that the market-man has challenged the independence of the housewife, let her show him how little he really counts in the domestic economy. Let her also surprise the other members of the family with a bill of fare at once palatable, varied, and inexpensive, but in which little meat is used. In this way what threatened to become a hardship may become an event of considerable educational value, and lead to a broadening of the dietary in American families."

It is part of the mission of this journal to show its readers how not only to use less meat, but to get along without flesh foods entirely, and not only without suffering any loss from a nutritive standpoint, but with an actual gain. Almost the sole value of flesh foods lies in the supply of proteids which they furnish, but proteids are found also in vegetables. Some vegetables contain proteids in proportion as high as or even higher than does flesh meat.

For example, beefsteak contains about nineteen or twenty per cent of proteids, while beans contain twenty-four per cent, and some species of nuts still more. Peas and lentils are equally rich in proteids. In other words, a pound of beans, nuts, peas, or lentils contains more proteids than does a pound of beef. Milk and eggs are also rich in proteids. A pound and a half of eggs contains as much proteids as a pound of meat. Six or seven pints of milk contain approximately the same amount of proteids as a pound of beefsteak.

So it is possible to dispense with flesh foods altogether without suffering any loss. As a matter of fact, the majority of people eat altogether too much proteids, probably two or three times as much as they really require. Professor Chittenden, in his experiments with the twenty-one soldiers furnished him by the United States government and the eight athletes selected from students of Yale University, showed most conclusively that health can be maintained on an ounce and a half to two ounces of proteid a day, which is only about one-third of the amount provided in the ordinary army ration.

It is plain that no one need suffer because of the butchers' strike and the rise in the price of butchers' meat. Instead, the present will be a good time for dispensing with flesh foods altogether. The

butcher and the butcher's shop might be dropped out of the community altogether without any real loss. In fact, there would be a substantial gain, as dispensing with flesh foods would at once cut off an enormous unnecessary expenditure, and would at the same time obviate an enormous amount of sickness which is directly traceable to flesh eating. Tapeworms as a human malady would disappear. There is no method by which tapeworms can be contracted except by the use of flesh food. They are ordinarily derived from beef, but a certain species is introduced by the use of pork. The terrible disease, trichinosis, would also disappear. This always results from the use of the flesh of hogs or chickens infested with the horrible trichina parasite. Gout, chronic rheumatism, and a great variety of uric-acid disorders would also disappear speedily, for no one suffers from uric-acid disorders unless he swallows uric acid in his daily food.

So the most satisfactory way of meeting the present situation as regards the flesh meat supply, is to discontinue its use. This may be done without any hardships at all by the adoption of a rational bill of fare. Anybody who wants to make the experiment will do well to study the dietetic department of this journal. Those who are especially interested should address the Sanitarium Food Company, Battle Creek, Mich., for a copy of a booklet entitled "The New Dietetics," which contains many helpful suggestions.

Unusual Occupations of Women.

The last census reveals the fact that several thousand women are engaged in occupations which are generally monopolized by men, and demonstrates that civilized women, as well as savage women, can follow the arduous pursuits which are usually considered suited to men only, provided they are prepared therefor by proper physical training. We quote the following summary from *The World's Work*: —

Stock raisers and drovers	1,947
Lumbermen	100
Wood-choppers	113
Civil engineers and surveyors	84
Longshoremen	18
Stevedores	21
Watchmen, policemen	879
Boatmen and sailors	154
Pilots	5
Carriage and hack drivers	43
Railway baggage-men	10
Brakemen	31
Conductors	7
Switchmen and yardmen	26
Ship carpenters	6
Masons	167
Plumbers and fitters	126
Fishermen and oystermen	1,805
Miners and quarrymen	1,370
Blacksmiths	196

Dr. Roberts Bartholow.

In the death of Dr. Roberts Bartholow, M. A., M. D., LL. D., the world has lost a great physician. Dr. Bartholow is well known to the medical profession throughout the world. He was specially prominent as a writer upon drugs and medical practice; he also wrote a work on medical electricity. Probably no man in the United States was more profoundly acquainted with drugs and their properties than was Dr. Bartholow, notwithstanding the *Journal of the American Medical Association*, in a brief account of his life, remarks that, "though a firm believer in the effectiveness of drugs, in the latter years of his life he became more and more convinced of the utility of dietetic and hygienic methods of treatment. He enjoyed an unusual power of discriminating the virtues and merits of these separate forces in the genius of healing." It is very interesting to note this fact, and equally interesting to observe that the fact is noted and recorded by the *Journal of the American Medical Association*, the organ of the greatest medical association in the world, and one of the most influential and widely circulated of all medical journals.

The world moves. Progressive medical men are recognizing and teaching more and more emphatically that the most powerful curative agents are those

which are especially concerned in the maintenance of life and health under ordinary conditions. Disease is simply "poor health," and can no longer be regarded as a state in which the body is so far removed from its normal condition that agents which in its normal state are poisonous, become innocuous and friendly. It is safe to say that the attitude of Dr. Bartholow toward natural or physiologic curative agents at the time of his death represents that of every medical man of equally wide culture and experience.

Dangerous Infectious Diseases.

The health department of the city of Philadelphia has recently determined to place tuberculosis in the list of diseases dangerous to public health, and on this account notifiable; that is, every physician is required to give notice to the health department of every case of tuberculosis which he is called upon to attend. The health department will then take the necessary steps to prevent the extension of the disease, by disinfection of the apartments occupied by the patients, in case of death, and by other practical means.

The health department of New York has added childbed fever to the list of notifiable diseases. Midwives, as well as physicians, are required to report all cases of this disorder. This is a very important advance in preventive medicine, and will be the means of saving a multitude of lives, as childbed fever is without doubt in many cases communicated by physicians or midwives who have been infected by contact with another case of the disease.

Influence of Fat upon Digestion.

Panum, in a series of experiments upon dogs, showed that when a dog is fed upon meat alone, the time required for digestion, assimilation, and excretion of the nitrogen contained in the meat to such a degree as to develop the maximum of urea, is from two and one-half to five hours; whereas, when an equal quantity of fat is added to the meat, this period is delayed to six to eight hours, or twice as long.

This experiment shows conclusively that the free use of fat with proteids delays the digestion of nitrogenous products. This observation agrees with those of Pawlow, who showed that the free use of fat prevents the secretion of hydrochloric acid, which is an essential constituent of the gastric juice, and is necessary for the proper digestion of the nitrogen and proteid of foods.

Typhoid Fever Infection from Blankets.

The *British Medical Journal* reports an outbreak of typhoid fever on a British training ship, the origin of which was traced to infected army blankets which had been received from South Africa. This instance shows that typhoid infection may be carried by means of articles of clothing which have been in contact with persons suffering from this disease, and impresses the importance of thorough disinfection of bedding, blankets, and all articles of clothing which may have been used in connection with patients suffering from typhoid.

Rejected Candidates.

It is reported that at a recent examination of candidates for admission to the Naval Academy at Annapolis, only eleven out of twenty-five were found sufficiently sound physically to be admitted. The whole twenty-five passed the mental examination, but fourteen of them were unable to present the necessary physical requirements. This fact is a fair index of the rate at which the physical decadence of the American people is progressing. Insanity, idiocy, and epilepsy are all increasing at a very rapid rate,— three hundred per cent within the past fifty years.

. . . Question Box . . .

10,092. Stomach Trouble — Irish Potatoes — Apples.— S. D. P., Minnesota: "1. Prescribe diet for an active old person who has stomach trouble and inactive bowels, first by Sanitarium foods; second, with common foods within the means and reach of ordinary wage-earners. 2. Are Irish potatoes constipating? 3. Which are better, baked or raw apples at mealtime?"

Ans.— 1. Bill of fare of Sanitarium health foods: Granose flakes or biscuits, toasted wheat flakes, toasted corn flakes, granola, granuto, breakfast toast, protose, nuttolene, bromose, gluten sticks, malt honey. Bill of fare of ordinary foods: Baked potatoes, Graham bread, buttermilk, bean purée, green peas, pea and lentil purée, sterilized butter, pecans, filberts, and other edible nuts, stewed raisins, fresh and stewed fruits.

2. No.

3. Baked apples.

10,093. Dyspepsia.— G. B. B., Colorado, asks: "1. What kind of dyspepsia do the following symptoms indicate: Craving appetite; food causes heaviness in the stomach; dull pain in the stomach from one meal to the next; sometimes soreness, heartburn, belching, sourness, occasional headache and constipation? 2. Does milk combine with any kind of food? 3. Should milk be taken with apple dumplings and fresh strawberries?"

Ans.— 1. Acid dyspepsia.

2. Milk agrees best with cereal foods.

3. These are bad combinations.

10,094. Oatmeal.— E. M. O., Pennsylvania, asks if oatmeal browned in the oven, then cooked for breakfast the same as roasted rice is prepared, is wholesome.

Ans.— Yes.

10,095. Prolapsus of Rectum — Weak Eyes.— R. H. F., Alabama: "1. Advise treatment for ulceration and prolapsus of the rectum. 2. Have you any appliance for supporting the rectum? 3. Is it best to use hot or cold water to bathe eyes weak from nervousness and dry catarrh?"

Ans.— 1. Bathe in cold water, either by the application of cloths wet in cold water, or the shallow cold sitz bath for four or five minutes twice daily. Two inches of water in the sitz bath is sufficient; temperature, 60° or less.

2. There are no very satisfactory instruments for this purpose. An operation may be required. A surgeon should be consulted.

3. Bathe the eyes with very hot water or employ the vapor douche.

10,096. Honey — Olive Oil.— H. B. W., New York: "1. Why is not bee honey good for food if eaten in moderation? God called Canaan a 'land flowing with milk and honey,' and this gave to his people a recommendation of both articles of food. 2. Is not olive oil valuable for rubbing on the skin at certain times, and perhaps for food, also? In the Old Testament olive oil is not infrequently alluded to for anointing purposes."

Ans.— 1. Honey is much more wholesome than cane-sugar. The wax should be rejected, and it is well, also, to avoid the use of honey that is very strongly flavored.

2. Yes; olive oil has antiseptic properties. It is a good dressing for wounds. It may be taken in moderation with other food without injury, and often with benefit. In the East travelers always carry it and employ it for wounds as well as for dietetic purposes.

10,097. Skin Disease.— Mrs. W. R. S., Iowa: "Our daughter has a skin disease which has caused the loss of hair from her eyelids, also brows, and much of the hair from the scalp. The disease made its appearance three years ago, when she was fourteen, manifesting itself by itching of the lashes, which could be allayed only by pulling the affected hair, which came out easily. After the lashes were all pulled, the brows began itching, and then the hair at the crown of the head. Hairs reappear, but the disease attacks them."

Ans.— This is a case that requires the per-

sonal attention of a skilled physician. Local applications must be made to destroy the parasites.

10,098. Wesson's Cooking Oil.— J. E. G., Iowa: "1. Is Wesson's Cooking Oil, made in New York, a healthful food? 2. Is it better than peanut butter for cooking purposes? 3. Is it a vegetable oil?"

Ans.— 1. We are not familiar with the product.

2. Probably not.

3. We have no means of knowing.

10,099. The No-bath Theory.— W. W. J., Ohio, asks us to reply to the Chicago man who advises people not to bathe.

Ans.— The Chicago man mistakes. The experience of the whole civilized race for centuries shows clearly enough that bathing is essential to health. This man may be hardy enough to live like an Esquimo, with a dirty skin, but it is difficult to understand how he can live in civilized society without at least occasionally patronizing the bath. Birds bathe; so do dogs and horses when they can get a chance. Even the pig, dirty animal though he is, takes a bath when circumstances are favorable. Civilized man, of all creatures, must depend upon the bath for skin health, not only for cleanliness, but as a means of counteracting the debilitating effect of the clothing which shuts away the air and light, and thus encourages diseased conditions. The cold morning bath is necessary as a means of skin gymnastics. The cleansing bath, at least twice or three times a week, is required to remove the waste matters which are poured out upon the skin, and then retained by the clothing.

10,100. Nervousness—Bathing.—M. S. B., Michigan: "1. What causes the head to shake in a woman seventy-six years of age, of a nervous nature? 2. Do you agree with the Chicago doctor who claims that 'pneumonia, colds, and other ills result from the foolish habit of washing the body'?"

Ans.— 1. Probably a disease known as paralysis agitans.

2. No.

10,101. Enemas.— Mrs. D. W. S., Indiana: "1. When one must employ the enema frequently, which is better—the high enema or the short? 2. Is clear water the best, or should an antiseptic be always used?"

Ans.— 1. If the enema is employed for the purpose of securing a movement of the bowels, the least injury is done by a small enema of cool water, 80° to 75°.

2. Soap may be added without any injury, and often with benefit.

10,102. Constipation.— T. J. M., Minnesota, asks for a method of curing constipation.

Ans.— Constipation is due to different causes. A direct cause may be contraction of the bowels, dilatation of the colon, or mechanical obstruction. Dilatation of the colon is the most common cause. When the constipation is due to contraction of the colon, the abdominal muscles are usually strongly contracted, and very commonly there is pain. In constipation due to contraction of the bowels, a fomentation to the abdomen, and the hot or warm enema should be employed. When due to dilatation of the colon, the cool enema, 80° to 75°, is better. In cases in which obstruction is due to some mechanical cause, some surgical operation is usually necessary. Certain foods are constipating, while others are laxative. To the first-mentioned class belong the following: Rice, Graham mush, cracked wheat, cornstarch, tapioca, gluten gruel, whipped white of egg, gruels, cornmeal mush, oatmeal, white bread, rice pudding, gluten mush, jellied white of egg, and all cereal mushes and breakfast foods except granola or granuto, and toasted wheat flakes or toasted corn flakes. The following-named foods are laxative: Fresh fruits, apple juice, lemonade, acid fruit juices, grape juice, egg-nog, kumyss-nog, buttermilk, figs, malt honey, bromose, malt honey caramels, health cocoa, fruit jellies, fruit soup, pea soup, nuttola, granose biscuit, butter, olive oil, stewed raisins, spinach, tomatoes, sweet potatoes, apple-nog, kumyss, prunes, malted nuts, fig bromose, health chocolates, granuto, nuts, especially pecans, almonds, filberts, and peanuts, granose, toasted wheat flakes, toasted corn flakes, nut oils, maltol, asparagus, cauliflower, Irish potatoes.

10,103. Biochemistry — Fletcherizing — Nutritive Value of Foods.— I. B., Minnesota: "1. I have had biochemistry in my possession five years, and have seen good results from its use. What do you think of it? 2. In following the principles of diet as demonstrated by Mr. Horace Fletcher, is 1½ oz. nitrogenous, 10 oz. carbonaceous, and 1 oz. fat sufficient for one day's nourishment? 3.

Would you advise more fat in winter? 4. When one thoroughly masticates a meal of mostly dry food, what percentage of liquid should the meal contain? 5. On pages 371 and 372 of 'Home Hand-Book' you figure dry beans, peas, zwieback, and grains as containing from ten to fourteen per cent water, and dry raisins and other fruits from thirty to forty per cent. Please explain. 6. Can you give the percentage of nutritive properties in tapioca? 7. Does baking grain foods a little brown, as aerated whole-wheat crackers, remove or partially remove the fat? 8 Do you consider the Schuesser Tissue Remedies useful when combined with proper diet, hydrotherapy, and other rational treatments? 9. Where may the book by Mr. Fletcher (mentioned in October GOOD HEALTH) be obtained?"

Ans.—1. We have no faith in it.

2. Yes.

3. Yes, if there is much exposure to cold.

4. Half a pint will probably prove sufficient.

5. Most foods are hydroscopic, and absorb a considerable amount of moisture from the air. The table given in "Home Hand-Book" is copied from chemical authorities. The figures given are obtained by actual analyses. Foods which contain sugar retain more water than do farinaceous substances.

6. It is farinaceous, and contains little or no waste.

7. No.

8. Proper diet, hydrotherapy, and other rational treatment are certainly useful when properly applied, and will accomplish everything which can be accomplished, without the use of "tissue remedies."

9. Good Health Publishing Company.

10,104. Diet of Young Mother.—Mrs. J. M. M., Illinois: "1. What diet tends to increase the natural food supply for an infant? 2. How many meals a day should the mother take? 3. What is the next best food after mother's milk?"

Ans.—1. A natural food diet. Nuts are particularly healthful.

2. Three are ample.

3. Malted nuts, either taken alone and well diluted, or added to cow's milk.

10,105. Numbness of Arm.—L. D. W., Nebraska: "1. What will relieve numbness in the arm, coming on after two hours' sleep? The numbness extends to the finger tips. 2. Could the removal of an ovarian tumor, also the left ovary, four years ago, have any bearing on this?"

Ans.—1. Avoid sleeping on the arm.

2. The operation referred to may possibly have some relation to the troublesome symptom described.

10,106. Pain in Leg.—T. D. M., Michigan: "For six months have had pain in my right limb. It started above the ankle on the outside of the leg. One physician said it was congestion of the veins. It troubles me most when resting. When the leg is in a horizontal position, it goes to sleep. The pain is now mostly in the knee. For two months the pain was confined to a spot two inches long and two inches above the ankle joint, in the fleshy part. What is the cause and cure?"

Ans.—Possibly neuritis. Fomentations applied twice a day, followed by a heating compress, will be found helpful. The general health should be improved by an outdoor life and daily cold rubbing.

10,107. Enlarged Tonsils.—C. E. L., Massachusetts: "Do you advise removal of enlarged tonsils?"

Ans.—Yes, when subject to frequent attacks of inflammation.

10,108. Dizziness.—W. K., Wisconsin, eighty-two years old, is dizzy in the morning, especially if rising suddenly. He observes health rules, and his general health is good. Give cause and cure.

Ans.—Old age may be the cause. The condition may be aggravated by indigestion. It is well to avoid rising suddenly. A good plan is to bend well forward before beginning to rise from the sitting position, and to rise slowly.

10,109. Catarrh—Varicose Veins.—G. T. P., California, aged fifty-three years, is usually sick all winter; has catarrh in head; suffers from dizziness, headache, dull pain through left side and back. Takes a cold sponge bath both night and morning with a vigorous rub. 1. Please outline treatment. 2. Advise treatment for varicose veins in a woman of eighty-four.

Ans.—1. Local treatment for the nose would be advisable. The use of the vapor facial douche, and an antiseptic spray would be of service.

2. Bathe the affected parts with a sponge wet in cold water for three or four minutes twice daily. After bathing dry well, rub on a little vaseline, then apply an elastic bandage or elastic stocking.

10,110. Prolapsus of Bowels—Headache.—J. L. H., Minnesota: "1. Can prolapsus of

bowels of several years' standing be cured, and how? 2. Two or three times a month a severe headache begins on top of head and in a few hours settles around the right eye and lasts fifteen hours. There is no trouble with the stomach. What is the cause and cure? 3. Would glasses help? 4. Could poor teeth be the cause?"

Ans.— 1. A perfect and complete cure is not always possible. Relief may be obtained by wearing an abdominal supporter, by abdominal massage, bathing the abdomen with cold water, strengthening the muscles by applications of electricity, and all useful measures.

2. A collection of undigested food may be the cause. The remedies above suggested will be found helpful.

3. Possibly the headache may be aggravated by some condition of the eyes which could be relieved by glasses. An oculist should be consulted.

4. It is also possible that there may be irritation arising from a bad condition of the teeth. If there are decayed teeth, a dentist should be consulted.

10,111. St. Vitus Dance.— G. L. B., Missouri: "Advise treatment for extreme nervousness in a girl of thirteen, which began three years ago with St. Vitus dance. At this time her eyes gave out. She has recovered sufficiently to return to school, but is still very nervous."

Ans.— The child has a neurotic constitution. She should be kept out of doors as much as possible, and given an opportunity to grow up in a natural way. Every effort should be made to develop the muscular system, improve the digestion, and to secure good general health. Six months of thoroughgoing treatment in a sanitarium would be found beneficial.

10,112. Enlarged Glands.— J. H. L., New Hampshire: "Six months ago I had an enlarged gland removed from the right side of my neck, directly below the ear. The gland was as large as a good-sized hen's egg. It healed nicely, but during the past month I have noticed upon rising in the morning that there is evidence of the swelling returning, as there is at present a small hard lump which disappears after I am up an hour or so; that is, it becomes soft. What should be done for it? I have kept in excellent health for the past year by exercise, pure air, no meat, and but two meals a day."

Ans.— The swelling may be due to the enlargement of another gland. In this case removal may be required. The application of hot and cold compresses, five seconds each, for five minutes, two or three times a day, will be found to produce satisfactory results.

LITERARY NOTES

ALREADY the newspapers are full of paragraphs from Kansas calling for 20,000 laborers to save the wheat crop. In the July number of **Scribner's** Charles M. Harger describes his amusing adventures while participating as a day-laborer during the great harvest of last year.

The world is too full of sadness and sorrow, misery and sickness; it needs more sunshine; it needs cheerful lives which radiate gladness; it needs encouragers who will lift and not bear down, who will encourage, not discourage.

Who can estimate the value of a sunny soul who scatters gladness and good cheer wherever he goes, instead of gloom and sadness? Everybody is attracted to these cheerful faces and sunny lives, and repelled by the gloomy, the morose, and the sad. We envy people who radiate cheer wherever they go, and fling out gladness from every pore. Money, houses, and lands look contemptible beside such a disposition. The ability to radiate sunshine is a greater power than beauty, or than mere mental accomplishments.—*July* **Success.**

So much has been written and said during the past few years on the subject of living in the open air, that I want to recommend a substitute for a piazza in case you have not one for work or rest in a convenient place. I have taken great comfort in a tent placed in a retired and shady part of a rather small lot. My tent has flaps that open up and form additional overhead protection on two sides. A maple floor, several inches from the ground, makes it habitable, even in a rain-storm, and an army cot, sewing table, canvas chairs, looking-glass, and calendar constitute the furnishings. (The looking-glass is for my guests.) I nap, draw, sew, read, and entertain my friends in my tent from May until October. Last year I gave a Fourth of July supper to ten, and added grass mats and bunting decorations for the occasion.— *Annie Graham Rockfellow*, in **Good Housekeeping.**

There are real things in the July **McClure's.** They fairly crowd each other from cover to cover, and leave a lasting impression of vigorous life and interest. There is more even than this on these pages. There is deep significance and rich enjoyment.

In all probability, Hawthorne was never happier than when he lived in the little red cottage at Lenox, Mass. During his residence there, amid those Berkshire Hills, he wrote the "House of Seven Gables." A movement is now on foot to erect a suitable memorial to Hawthorne on the site of this little cottage. The present year would be a most appropriate time to build such a monument, as it is just one hundred years since Hawthorne was born. Surely this centennial anniversary of his birth should not be passed by unnoticed.— *From "The Haunts of Hawthorne," by James Melvin Lee, in* **Four-Track News** *for July.*

"The Four Epochs of Woman's Life," by Anna M. Galbraith, M. D., Fellow of the New York Academy of Medicine. Second edition, revised and enlarged. Published by W. B. Saunders and Co., Philadelphia, New York, and London. Price, $1.50, net.

The fact that a second edition of this work, written for the instruction of the laity on subjects of which every woman should have a thorough knowledge, has been demanded in such a short time, is sufficient proof that women are awakening to a sense of the penalties they have paid for their ignorance of those laws of nature which govern the epochs of their lives. The language used is clear and comprehensive, without being indelicate, and will be easily understood even by those unfamiliar with medical subjects. A glossary of the medical terms used has been appended.

"How to Sleep," by Marian M. George, is written for the purpose of relieving some of that large class of sufferers who spend many weary hours in the vain wooing of "Nature's sweet restorer." Everything relating to the hygiene of slumber comes in for consideration. Among the Fifty Remedies for Sleeplessness recommended by different authorities, every victim of insomnia should be able to find some helpful suggestion that will meet his case. The chapters on Sleep for Children and Bedtime Stories, Songs, and Poems, will be of interest to mothers of young children.

Published by A. Flanagan Company, Chicago and New York.

PUBLISHERS' DEPARTMENT

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

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BATTLE CREEK. . . . . MICHIGAN

VEGETARIAN CONGRESS

THE Whole World's Vegetarian Congress will be held September 27 and 28 at Liberty Hall, Administration Building, of Louisiana Purchase Exposition. All GOOD HEALTH readers are cordially invited. Delegates will be present from various parts of the world.

HENRY S. CLUBB, *Pres.* V. S. A.
EDGAR G. PERKINS, *Sec.* St. Louis V. S.
F. J. CONARD, 2800 Locust St.,
Chn. of Congress Committee.

THE BATTLE CREEK SANITARIUM SYSTEM OF COOKERY

What it is, and How it Originated

THE story is interesting. A hundred years ago, a company of Bible Christians near Manchester, England, set out to escape from the Egypt of unwholesome and disease-producing viands, and started a movement in diet reform which has been progressing ever since. The Brook Farm Experiment of Ripley, Dana, Hawthorne, Emerson, Thoreau, Alcott, and a hundred other eminent New England men and women half a century ago, was a notable step toward the natural order in diet.

The Battle Creek Sanitarium movement, begun forty years ago, proved more successful than any of its predecessors. Unfortunately, all these movements gave too little attention to the constructive side. The effort was chiefly negative. Numerous articles of diet were discarded, but a sufficient number of wholesome substitutes was not provided. An impoverished diet was the result. Physicians who sought to wean their patients from an artificial and disease-producing dietary, or who wished

tc prescribe for their patients foods of unknown nutritive value and possessed of definite and positive qualities available for use in a curative way, were always at their wits' end to meet the needs and the demands of their patients. The uric-acid-saturated rheumatic must cease the use of meats; but what could he take in its place? He must have proteids. Eggs he tired of; milk made him bilious; beans he could not digest. What was left?

The lean patient with acid dyspepsia needed fat-making foods, but could not digest bread or potatoes, cane-sugar nor mushes; discarding animal fats, he was in a dilemma, impossible to escape from. New foodstuffs were needed, new dietetic preparations were indispensable.

A food laboratory and experimental kitchen were established at Battle Creek with Mrs Kellogg in charge. The earth was ransacked for foodstuffs and new ideas in cookery. Money, brains, and long years of effort were brought to bear upon the problem. Thousands upon thousands of experiments were made. Out of results bad, indifferent good, better, very good, best, and very best, only the most excellent were chosen. Nothing was taken for granted. Everything was tested and proved, and not in one point only, but in all points. New discoveries were made in principle and method. Whole new fields of culinary and gustatory inquiry were opened up and explored, and the result was the production of a dozen new foods, hundreds of new dishes, and new and practical ideas in countless numbers.

The final result of this quarter of a century of work may be seen to-day in the dietary, the scientific cookery system of the Battle Creek Sanitarium and the institutions allied to it, and the unique foods prepared by the Sanitarium Food Company and the Sanitas Nut Food Company.

The principles which have been worked out, and the results attained, are now for the first time presented in their entirety in a neat volume, of 487 pages, by Mrs. Kellogg, "Science in the Kitchen."

For circular address,

Modern Medicine Pub. Co.,
Battle Creek,
Mich.

"**The Sacramento Valley** of California: Its Resources, Industries, and Advantages; Scenery, Climate, and Opportunities. Facts for the Investor, Home-maker, and Health-seeker." By A. J. Wells. Published by the Passenger Department of the Southern Pacific Company, San Francisco, Cal., 1904.

Prof. Elwood Mead, in his report for the Department of Agriculture, speaks of a "world-wide movement toward the Pacific Coast," and predicts that "the opening years of the twentieth century will witness a new era of home-making in the West." Northern California, "The Italy of America," is in the dawn of this new era. The Sacramento Valley, with the San Joaquin, constitutes the great agricultural heart of the State, and is said to be "the only great valley on the planet which has at once a fertile soil, an inviting climate, vast undeveloped resources, and a sparse population." "In no other country of the globe can all that Florida and New England soils produce be grown on one acre."

Those desiring further information regarding the Sacramento Valley will receive the above booklet, free, on application to the publishers, who have now in press another booklet on the coast country of California.

THAT the value of natural methods of treatment is coming to be more and more appreciated by the invalid public, is clearly shown by the multitudes of patients who throng the Battle Creek Sanitarium at all seasons of the year. The enlarged facilities afforded by the new main building have proved to be none too ample to accommodate the enormous patronage of this great institution.

Those who visit the Sanitarium are not merely temporarily helped, but are so constitutionally improved by tissue reconstruction that permanent benefit is gained. Patients are also taught how to keep well by observing the laws of health, and are trained to healthful habits in diet, dress, exercise, etc., so when they go away from the institution, they will continue improvement as the months go by.

Every vacation season scores of old patients return, not because they are sick, but for the purpose of spending a few weeks at the institution to become familiar with the latest developments in the philosophy of healthful living, and to lay in a stock of new ideas, and thus to keep in touch with the march of progress in the movement back to natural ways, of which the Battle Ceeek Sanitarium has long been recognized as the center.

"Young America in the Hands of His Friends: A Political Drama." By Arthur W. Sanborn. Published by James H. West Co., Boston. Price, 75 cents.

This work, which is a parody on American imperialism and its accompanying evils, illustrates a political principle, and ridicules the follies, the vices, and the madness of the times.

Young America is represented as a good-natured and easy-going, but somewhat impressionable, young man who has fallen into moral and political difficulties. He has become enamoured of a captivating stranger, Miss Empire, lately arrived in this country from the Old World. But their marriage has not resulted as fortunately as Young America anticipated. His wife has developed a domineering temper; her extravagance has distressed his resources; and finally, in her haste to obtain a retinue of servants, like her European neighbors, she has entangled him in a war in the Philippines which he half suspects is not much to his credit. The dialogue is humorous and the action dramatic throughout. The play is both entertaining and suggestive.

THE DETROIT FREE PRESS.

WITH the issue of Sunday, July 10, *The Free Press* began the publication of a new series of the famous Dooley sketches. Nearly two years ago, owing to other engagements, Mr. F. P. Dunne, the author of the sketches, discontinued them. During the years in which they had been published they won a higher degree of popularity than any other newspaper or magazine feature; and ever since their stoppage Mr. Dunne has been persistently urged to revive the sayings of the genial humorist-philosopher. This he has at last consented to do, and *The Free Press* has been chosen as the medium for their dissemination in Michigan. It is the intention of Mr. Dunne to keep in pretty close touch with current events, and his admirers may expect to be entertained every Sunday, for an indefinite period, by his inimitable humor and keen satire, upon subjects of living interest.

Patient—I can't afford to be sick.
Specialist—Is your business so profitable?
Patient—No; yours is.—*Judge*.

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Good Health Pub. Co.,

BATTLE CREEK, MICH.

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LONG WAIST

SHORT WAIST

FOR THE SUMMER MONTHS WE OFFER OUR

Good Health Adjustable Jean Waists

For $1.25, or with One Year's Subscription to Good Health for $1.60

These waists are made of light-weight twilled material, white or drab, in sizes, bust measure 30 to 38. No odd sizes. They are adjustable, and can be made larger or smaller by adjusting the shoulder straps and oval elastics on each side of the waist. By making the former longer or shorter the length of the skirt may be regulated. We also carry a line of sateen waists, drab, white, or black.

For health, grace, and economy our waist has no competitor. Send for descriptive booklet. When ordering give bust, hip, and waist measurements.

ADDRESS

Dress Dept., Good Health Pub. Co.,

105 Washington Ave., N., Battle Creek, Mich.

Real, Original Health Foods

SERVED DAILY AT

The Battle Creek Sanitarium

They may be ordered direct from the BATTLE CREEK SANITARIUM Co., Ltd., provided you cannot secure them fresh and wholesome from your family grocer. A Draft, Post-office Money Order or Express Money Order should accompany each order, we have no accounts with individuals.

Where Do You Live

We Prepay Express

We prepay express charges on orders amounting to $5, to the cities of Omaha, South Omaha, Nebraska City, Neb., Atchison, Leavenworth, and Kansas City, Kan., and to all express offices in the following States: —

Connecticut	Maryland	Ohio
Delaware	Massachusetts	Pennsylvania
Dist. of Columbia	Michigan	Rhode Island
Illinois	Minnesota	Vermont
Indiana	Missouri	Virgina
Iowa	New Hampshire	West Virginia
Kentucky	New Jersey	Wisconsin
Maine	New York	

If you live in any of the above mentioned cities or States and wish to order in lots of $15 worth or more, we will allow you a discount of 10% and pay the freight, *not* the express. We do not advise you to order in this quantity. We think you will find it more satisfactory to buy in smaller lots and have the goods fresher. Another thing, you cannot tell when to expect freight shipments. You may get one shipment in a few days and the next may be several weeks on the road. Freight is uncertain; express is sure and quick.

We Prepay Freight

We prepay freight on orders amounting to $10 or more to all freight stations in the following States and territories: —

Alabama	Louisiana	North Carolina
Arkansas	Mississippi	South Carolina
Florida	Nebraska	Oklahoma
Georgia	North Dakota	Tennessee
Indian Territory	South Dakota	Texas
Kansas		

If your order amounts to $20 or more, we will prepay freight and allow you a discount of 10%.

$15 Orders

We prepay freight on $20 orders to freight stations in Washington, Oregon, Idaho, and New Mexico.

$20 Orders

We prepay freight on $20 orders to freight stations in Washington, Oregon, Idaho, and New Mexico.

Customers in California, Arizona, Nevada and Utah, will do well to purchase their foods from the St. Helena Sanitarium Food Co., or some of its branches. This company has on sale a full line of our products.

Foreign

We ship foods to many customers in Canada and have agents in several other foreign countries. If you live outside of the United States write us for prices or the name of our nearest agent.

We wish to call your attention to the fact that there are many imitations of our foods. Because a food is made in Battle Creek, and is called a Health Food, is no proof that it is genuine. The only safe rule to follow is to accept nothing but that which bears the name of the Battle Creek Sanitarium Food Co. or of the Sanitas Nut Food Co., Ltd. These two companies are the originators of Health Foods, and their products are the only ones used and endorsed by the Battle Creek Sanitarium.

BATTLE CREEK Sanitarium CO., LTD.

[over]

We want you to try

Sanitarium Foods

Because we know if you once try them, you will always use them and will thank us for having brought them to your attention

Read This Paragraph Carefully before Sending Your Order.

The foods listed below are worth $3.07. In order to induce you to try them, we offer them for $2.50, and will prepay express charges to Minnesota, Iowa, and Missouri, and to all points east of the Mississippi River and north of Tennessee. If you live south of Kentucky, Virginia, Missouri and Kansas, or in Kansas, Nebraska or the Dakotas, add 50 cts. to help pay express charges. We pay the balance. If you live beyond these boundaries, write us before sending the trial order.

Now please remember that this is no very great risk on your part. You get more than your money's worth ($3.07 worth for $2.50), and if you don't buy this food, you will buy the kind that costs more.

Cut out this cupon and send to us with your remittance.

CUT OUT, SIGN AND MAIL

$3.07

for

$2.50

This offer is not good if you are already purchasing Sanitarium foods direct from factory. Only one sample order, will be sent to a family. No Substitutions allowed.

Battle Creek Sanitarium Co., Ltd. **THIS OFFER EXPIRES**
Battle Creek, Mich.

Gentlemen: I enclose _____ for the $3.07 worth of Sanitarium foods listed below. You agree to ship by express prepaid

1 pkg. Bromose	$0.25	*1 pkg. Granola*	$0.12
1 jar Meltose	.30	*1 pkg. Graham Crackers*	.15
1 can Protose	.25	*1 pkg. Oatmeal Wafers*	.15
1 can Nut Butter	.15	*1 pkg. Whole Wheat Wafers.*	.15
1 pkg. Granose Biscuits	.15	*1 pkg. W. W. Cream Sticks.*	.15
1 pkg. Toasted Corn Flakes.	.15	*1 pkg. Gluten Meal 20%*	.20
1 box Chocolates	.30	*1 pkg. Caramel Cereal*	.15
1 pkg. Zwieback	.15	*1 can Baked Beans*	.15
1 pkg. Vegetable Gelatine	.15		$3.07

Equal 30 cts. worth ordinary gelatine.

Name _____

Street _____

68 *Town* _____

State _____

Department of Dietetics

Special Advice

Will be given by our Dietetic Specialists to those who desire our foods selected with especial care and professional skill to fit their ills.

Cut out Coupon Send to us No Charge for Advice

BATTLE CREEK SANITARIUM CO., Ltd.

Department of Dietetics
Battle Creek, Mich.

Gentlemen: I understand you make a special line of foods for those whose health is so impaired as to render the use of ordinary food impracticable. I wish you would send me full particulars and a blank to fill out, so that my difficulties may be submitted to your Dietetic Specialists who will prescribe foods indicated in my case.

Name _____

Street _____

Town _____

State _____

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And we will send you GOOD HEALTH, and a $3.50 HOLMAN BIBLE, bound in Egyptian morocco with divinity circuit, red under gold, size 5¼x7¾. The type is bourgeois, 8vo., easy to read. Contains column references, fifteen maps, four thousand questions and answers on the Bible, concordance of nearly fifty thousand references, and a new illustrated Bible dictionary. These are valuable helps. We will send a smaller Holman Bible, size 4⅜x6½, with fine minion print 16mo., in place of the larger size, if desired. Thumb index, 50c extra.

Send for our 1904 Catalogue.

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Life Boat	$1.00	Life Boat and Medical Missionary	$1.25
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Ideal Magazine	1.00	American Motherhood	1.25
Bible Training School	1.00	Youth's Instructor	1.50
Atlantic Union Gleaner	1.00	Southern Watchman	1.50
Advocate of Christian Education	1.00	Signs of the Times	2.00

The Review and Herald may be included in any of the above offers by adding $1.50. New or renewed subscriptions accepted. All sent to different addresses if desired.

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We will send you any of the following named books, written by J. H. Kellogg, M. D., Superintendent of the Battle Creek Sanitarium, with one year's subscription to GOOD HEALTH and Medical Missionary for the prices set opposite each:

The Stomach, Its Disorders and How to Cure Them, cloth	$2.00	Home Hand-Book, cloth	$4.75
Half-buff	2.50	Half-buff	5.25
Ladies' Guide, cloth	3.50	Library	5.75
Half-buff	4.00	Or Science in the Kitchen, by Mrs. E. E. Kellogg, in Oilcloth	2.25
Library	4.25		

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DIRECTORY

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ST. HELENA SANITARIUM, Sanitarium, Napa Co., Cal.
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NEWFOUNDLAND HEALTH INSTITUTE, 282 Duckworth St., St. Johns, Newfoundland.
A. E. LEMON, M. D., Superintendent.
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Hygeia Dining Rooms, 5759 Drexel Ave., Chicago, Ill.
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Hygienic Cafe, 865 5th St., Milwaukee, Wis.
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Good Health Cafe, 145 S. 13th St., Lincoln, Neb.
Nebraska Sanitarium Food Co., College View Neb.
Pure Food Store, 2129 Farnum St., Omaha, Neb.
Vegetarian Cafe, 322½ N. Tejon St., Colo. Springs, Colo
Vegetarian Cafe, 1543 Glenarm St., Denver, Colo.
The Vegetarian, 755 Market St., San Francisco, Cal.
Vegetarian Dining Rooms, 317 W. 3d St., Los Angeles, Cal.
Portland Sanitarium Rooms, Mt. Tabor, Ore.
Good Health Restaurant, 616 3d St. Seattle, Wash.
White Rose Restaurant, W. H. Nelson, Proprietor, 36 W. 18th St., New York City.
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