GOOD HEALTH

A Journal of Hygiene.

VOL. XXXIV. MAY, 1899. No. 5.

HOW TO EAT FOR ONE HUNDRED YEARS.[1]

BY J. H. KELLOGG, M. D.

THE old Scandinavians had a proverb, "The ox knows when to come home from grazing, but the fool never knows his stomach's measure."

In my title it was not my intention to intimate that any human being might sit down to a dinner at the Waldorf Astoria, and keep steadily eating for one hundred years. Perhaps too much time spent at the dinner-table may be one cause for the enormous and almost universal abbreviation of human life, but it is more probable that for the average man this time might be extended with advantage, provided, of course, that it were profitably employed. To be able to eat at proper times for one hundred years or more is not an unworthy ambition; for science as well as history affords most convincing evidence that man, even modern man, is entitled to at least one hundred years of comfortable and happy life. That his career is cut short at the end of scarcely more than two fifths of this period is evidence that he has in some way been defrauded of what is rightly his, and I understand it to be one of the ambitions of this club to find out why man dies at forty-two instead of at one hundred or one hundred and forty-two, and to set in operation such agencies and influences as shall help man to recover some of the longevity which has been lost to the ages past, and which is so rapidly slipping away from him at the present day.

If I had time I should undertake to present incontrovertible evidence, of which there is abundance, that notwithstanding the increase in the average length of life which statistics show within the last century, there is an actual diminution in the real vigor and stamina of the race. This is shown by the fact that centenarians are disappearing with alarming rapidity, and that diseases of all sorts and degenerate types of people are multiplying everywhere.

Man lives at the present time scarcely one twentieth of the original span of years allotted to the human race. Why this brevity of life? Has not man within him an aspiration for a never-ending consciousness? and is it not reasonable to suppose that the beneficent Being who gave him existence intended that this intense intuitive longing for life should be gratified? This instinct is not only natural to the human race, but it is universal. Its significance is the possibility somewhere of a never-ending existence.

Man is mortal only because he has wandered away from the divine order of being — the divine order of life. Had he

[1] From a paper read before the Hundred Year Club, of New York City, at the Waldorf Astoria, March 21, 1899.

continued to tread the paths of absolute obedience, he would have incurred no penalty, since he would have violated no law, and he would have lived above the power of all death-dealing agencies.

The man who wishes to live one hundred years needs first of all to find out this divine way of life and then perseveringly to walk in it. We are sick simply because we sin against nature. We die, omitting accidents, only when we have filled with sin the cup of iniquity — when our bodies are worn out with the struggle to repair the damage done by our wrong conduct. The one thing which the man who wishes to live on this earth for a hundred years requires is life. There is only one source of life, and that is that great magazine of force, of energy, of power, which the world calls nature, which science calls God.

A human being may be likened to a river. The body is the form through which flows the stream of life. The stream is sometimes wide and deep, sweeping along majestically with broad and vigorous current. Life is at high tide. Again, the stream is shallow, narrow, sluggish, turbid, weak. Life is at low tide. When the stream no longer flows, life has fled. Whence is life? The Creator has so ordered that the stream of life must each day be replenished from the same source whence it first originated. The sun, the center of our little group of astronomic atoms, pours down life constantly, in the sunshine. The plants gather up the sunlight, and store it for our use in natural foods — fruits, grains, nuts, and other vegetable storehouses. Animals, by eating, avail themselves of this stored-up life, thus keeping each his vital streamlet flowing.

Pure food, pure water, pure air, are the means by which the vital forces are perpetually kindled and maintained. Food constitutes the life fuel; oxygen breaks the bonds which hold life in latent form, and makes it living, active energy; water transfers the life fuel from cell to cell, and carries away the ashes which might clog the vital forces. Hence to eat well, to drink well, to breathe well, are the three conditions most essential to long and vigorous life. Other conditions are important, but these are absolutely essential. The best food is that which has the most life in it, and which most readily lends itself to replenish the ever-wasting stores of vital energy. The best water is that which is simply water, nothing more — pure water. The best air is that which contains the essential elements of air without contamination by germs or poisonous gases. Other matters relating to personal conduct in relation to life are chiefly important because of their relation to the three essential elements, — food, air, and water.

Men are constantly laboring under the error of supposing that by adding something to pure water, which God made as a vehicle for life, they can somehow improve it, render it more vitalizing. Hence we have beer, wine, and other alcoholic beverages, tea, coffee, and a score of other poisonous decoctions, which many would persuade us are "cups that cheer but not inebriate," but which our experience and reason tell us are all alike deceptive, fascinating tempters to dull our senses while leading us on to death. The water of the river of life is as pure as crystal, but water from a sewer-infected pool is a vehicle of death.

The breath of life which comes down sweet and pure from the mountain tops has life in it, but the same breath, laden with the soot and germs and malodors of a great city, bears death as well as life.

The food which God made for man to eat — fruits, nuts, and grains — brings with it life and life only to the hungry, dying soul. There is no death in pure water;

AND I SEZ, "IT IS MY NEW DRESS, JOSIAH ALLEN, THAT HAS WROUGHT THE CHARM."

there is no disease in pure air; there is no death or disease in pure, natural food.

Civilized man has wandered so far away from God, and has to such a degree extinguished his natural instincts, that he no longer craves that which is absolutely pure and life-giving, but chooses death rather than life. In close, unventilated rooms he breathes dead air, and dies of pneumonia, pulmonary tuberculosis, or chronic asphyxia, and gives the blame to Providence or germs. He rejects pure water, and drinks instead the poison-laden beverages which persuade him that he is warm when he is cold, that he is strong when he is weak, that he is rested when he is weary, that he is well when he is ill, that he is rich when he is poorer than ever, that he is reviving when he is dying. This perverted man likewise turns away from the simple foods designed for his sustenance, in which unadulterated life is stored in the most concentrated and available form, and compels himself by persistent efforts to accept instead stuffs which carry with them unlimited disease, death, and damnation. In examining a bill of fare which I found on the table of a fashionable hotel the other day, I noticed in it much food for thought, solemn thought, painful thought, but little food for brains or bones or muscles. There were indigestibles enough to ruin the stomach of a goat. There were corpses galore,— dead sheep, dead cows, dead calves, dead pigs, dead hens,— with all their various parts, external and internal, — limbs, entrails, and viscera,— as if it were the report of a coroner's inquest or the inventory of a dissecting room.

Nature gives no hint that God ever designed the human stomach either for a rendering establishment or a cemetery. The taste for flesh has come down to us by heredity from cannibalistic ancestors, — a simple indication that the savage who roamed the forests of the British Isles two thousand years ago is still yelling in our hearts. Here is a cheese, putrescent with age and accompanied by a dead rabbit with a *haut-gout* which suggests that if not embalmed, like Porto Rico beef, it ought to have been both embalmed and accorded a decent, natural burial, instead of being sepulchered in the stomachs of creatures made in the image of God, and to whom God offers unadulterated life through the agencies which he has established for the ministration of life to those who would walk the earth godlike in conduct and intelligence.

Whence this scavenger appetite? The day before Christmas a gentleman stood inspecting, perhaps with his Christmas dinner in view, a lot of gangrenous and putrescent rabbits hanging in front of a butcher's shop in a town in Ohio. An unsophisticated farmer, whose tastes had not yet been educated up to the civilized standard, passing along, stopped his team, gazed at the neglected-to-be-buried carcasses for a moment, then exclaimed, in tones which quite destroyed our friend's appetite for long-dead rabbit, "Well, if ever I sink low enough to eat such things as that, I will shave my head, and paint it red, like a turkey-buzzard." But heads are not painted red on this account, though noses sometimes are. Many a blotched face owes its condition to the carrion buried in the stomach which cares for it.

That flesh-eating shortens life scarcely needs argument for its demonstration. Every intelligent person knows that those uncomfortable lodgers, tapeworm and trichinæ, are borrowed, respectively, from the ox and from the pig. The shortening of lives from these causes is directly traceable to the use of flesh-food. Intestinal tuberculosis and tuberculosis of the throat likewise owe their origin, in large part at least, to the use of tubercular flesh. More common and more serious maladies than

those due to the direct transmission of disease are fairly traceable to the use of flesh-food and the taking therewith of those death-dealing elements known to the physician as uric acid, urea, creatin, creatinin, and a long list of xanthins and other toxic bodies known under the general term of excrementitious, or waste substances.

Vegetable foods contain only stored life, or energy. The animal is intended by nature to use life, or energy, not to store it. In the vegetable there is one thing — life; in the animal there are two things — life and death. When man chooses his food from God's storehouse of life, the vegetable kingdom, he feeds upon life alone, and thus swells the tide of life in his body, building up bulwarks against disease, and holding death at bay; but when he turns away from the pure nutriment given him by nature, which is perfectly adapted to his needs, and chooses to feed, like a cannibal, upon his inferior relatives, the hog, the sheep, the calf, to suck the puny thighs of a dead robin, or to regale himself with the stuffed intestines of a pig, he takes into his body, not only life, but death, and thus adds to the death he has in his body the death elements, or excreta, of another animal's body; hence the excrementitious substances must increase with more than natural rapidity, and the time must come sooner when death will preponderate over life, and the vital stream cease to flow.

Vegetables store energy; animals use it. For one animal to eat another animal is like feeding a furnace with small stoves or with fragments of another furnace. There may be some unburned fuel mixed with the furnace fragments, but the furnace diet of pure fuel would certainly be much more conducive to the production of a bright and glowing fire.

The fact that a man is able to endure a small amount of flesh eating argues nothing in its favor; for if he does not take exercise to work the poison out of his system, he becomes a victim of chronic poisoning, a subject of uric acid diathesis, with all the horrors manifested in rheumatism, neuralgia, gall-stones, Bright's disease, renal calculus, stone in the bladder, and a score of other painful and often incurable maladies. This alone is certainly an overwhelming argument against the use of flesh as food.

I do not present these ideas as in any sense new or unique, not as a new departure in diet, but as a Renaissance. I plead for a return to the good old ways of man in the days of his innocence, the diet of the golden age, sung by the older poets of Greece and Rome, the practise of Adam, Noah, Pythagoras, John the Baptist, Socrates, Seneca, Buddha, Chrysostom, Plutarch, and Porphyry.

SOMEWHERE, in deeps
Of tangled ripening wheat,
A little prairie-chicken cries —
A plaintive call that pleads and weeps;
Meanwhile the unreplying mother lies,
Stained and mangled, with dust-filled eyes,
Limp and bloody at the sportman's feet.

— *Hamlin Garland.*

NEW MEXICO AS A HEALTH RESORT.

BY HARRIET B. KELLS.

WHEN one is ill," said Emerson, "something the devil 's the matter." Happily, exact science as well as the prophet soul of the poet has at last laid the problem of disease at the right door. No informed mind now charges physical degeneracy to the "dispensation of an inscrutable Providence," but brings the delinquencies of the body, as of the soul, for judgment, to the bar of universal law. That the right one is "given his due for the broken code, as well as for broken nights, those may judge who are spending shuddering days in which wicked nerves and anemic brain tell them a thousand lies that their judgment struggles to contradict, — the nerves half the time having the best of it. How many are fighting to fortify themselves with Hawthorne's intrepidity: "Through faith I persist in believing that spring and summer will come in due season, but the unregenerate man shivers within me, and suggests a doubt whether I may not have wandered within the precincts of the Arctic circle." Who is saying, "It is not the real I that shivers and suffers here, but a specter of myself hounding my every hour"? Who murmurs, "I am but a dreamer among shadows," and watches with paralyzed soul and hungry, hopeless eyes the swimmers in the mid-stream of the world's life? Let such a one believe with all his soul, as Dr. Johnson said, that a man is a rascal when he is sick;" and let him suspect that "outer have something to do with inner complaints," — and let him go to New Mexico.

And why to New Mexico? Obviously, it is nearer than California, and the Pacific slope is damp. It is such a fascinating mixture of the old and the new. The ancient adobe mission at Santa Fé disputes priority with the venerable coquina cathedral at St. Augustine, both relics of the nearly mythical days when the finest turquoise in the world was dug out of New Mexican soil and sent to Spain, where it still rests among the crown jewels. The cliff-dwellers' caverns and the freshest Ann Arbor girl on her wheel confront each other with such delicious imperturbability; while the archaic Pueblo Indian and the latest commercial hustler size each other up, without a word, over a bunch of mission grapes.

New Mexico is such a country of surprises. The newest arrival from the East advances cautiously into its "wild and woolly" traditions, and is invited to make himself at home in handsomely furnished club-rooms, with the last magazines and papers on the tables; or is taken to the woman's club to hear a French savant lecture upon the political status of Europe; and his Chinese restaurateur says with emphasis: "William Jennin' Bryan, Presiden' United States? Naw! he eatee his dinnee at dis tablee!" The chink of dollars rings sharply, and he looks in upon Mexican peaked-crowns and cowboy sombreros clustered over gaming-tables in full view of passers-by on the main thoroughfare. But almost as his shocked eye sweeps the street for police protection, he becomes conscious that the spirit, if not the letter, of the Vigilantes makes life and property there as safe as in Broadway. Life at the fountainhead in nomadic tents jogs elegant modern homes of brick and stone; banks and churches, storehouses, and schoolhouses of latest architecture look as if they had acquired squatter sovereignty over the primitive.

The new man is equally astonished over what he does and what he does not find.

Not a homeopathic pellet or jar of coco butter can he buy at the drug-store, yet the humblest door and window are as well screened as in a city. Cowboys, with lasso on pommel, sweep like the wind past three times as many well-furnished news stands as will be found among equal populations in the East. Every man drives his own wagon, and talks with ladies in his shirt-sleeves; every woman cooks her own dinner, and may fill her own clothes-line. But just because of this reversion of type—"Adam delved and Eve spun"—men and women read omnivorously, and keep tender touch with progress "back East, in God's country." For out of that country have come for all sorts of reasons—health a chief one—"all sorts and conditions of men;" and some day all of them expect to go back; nobody expects to die in New Mexico, and no one is more keenly aware than the Westerner that when he does return, he must find his level at a higher gauge than he left it.

A Field of Rye, Pecos Valley.

"Billy the Kid" is dead, but the man who killed him is yet to be shaken hands with; and the woman whom he forced, at the point of a pistol, to dance with him, may be your *vis-à-vis* at the next church supper; and the mother of that stylish girl and of that fine fellow, the next congressman elect, will tell you, if you ask her, how she reared them forty miles from everywhere, and how often she fled from the skulking Indians with one at her breast and leading the other by the hand.

It is true you may still meet the saloon-keeper in "good society;" but for all that the East has sifted down on the plains for your selection as many of her choice and cultured spirits as will preserve in your social life the flavor of your antecedents. Besides, it is a joy in arid America to which an old-worlder is a stranger, that one has the privilege of meeting people squarely on their own merits, knowing nothing and caring less for what they may have left behind them.

But, as somebody has already said, "The new West is not already evolved; it is evolution caught in the act." It has begun its evolvement, however, higher up the scale of being than the rest of the country. It *begins* with its tendency set toward the new thought, the new freedom, the new expansion. While the East has generated, and is trying to formulate it, the West seizes the advancing idea, and

A Sorghum Field, Pecos Valley.

gives it a body and a life out on the plains. The perpetual stimulus of ever-increasing altitudes, the sense of vastness in the desert, of freedom of choice and opportunity, make a man grasp "the biggest thing out" as a brother. Magnitude and newness can not terrify him, for he dropped the conservative east of the Mississippi. The spirit of his growth is to make the unexpected happen.

I saw two women, in adjoining counties, solicited by both Democrats and Republicans to beat the party machine by running for county superintendents of education. The novelty of the woman candidate struck the cowboy's sense of fun, and appealed to his elemental conviction of justice. "Gee whiz! a woman superintendent! Well, I never—but be blamed if I don't! — and I'll corral the whole outfit for her!" So "The Woman" was the watchword that won its fiery way from "outfit" to "outfit," and won at every precinct save one in each of the counties. "It 's a darned shame," was protested, when the vote was counted, "to give a man candidate such an advantage! He voted for himself, and beat her by that one vote!"

New Mexico and Arizona are already reflecting on their privilege and duty to complete the great block of States between the Dominion line on the north and the Mexican border on the south, in which no sex in citizenship constitutes the only true republic in the world. When they shall have learned to eliminate the illiterate Mexican vote, the vast area from the 103d meridian to the Pacific will have caught the thrill of freedom and justice, — the spirit of the plains which the Rockies look down on,— and the world will consult the map of the United States with a new sense of brotherhood, democracy, and religion.

But what has all this to do with sick

people ? — Everything ; for the prime necessity for an invalid is that he shall forget himself. Nothing so conduces to this result as a change of outer conditions. The regeneration of the "rascal" in the sick man begins with the tonic of diversion, and this can be found in perfection on the spot where the incongruous heaps upon itself, where blackbirds have red wings, and slender, jet swallows with gorgeous orange breasts mold out their adobe nests over your front door or kitchen stove, as suits their vagrant fancy.

Dr. William Thornton Parker, of Boston, recently said : "Dryness, either cold or mild, is the most desirable thing sought for in the treatment of pulmonary diseases. With dryness we must have more or less elevation associated ; to obtain the best results certainly nothing under one thousand or over six thousand feet above sea-level should be sought. The percentage of clear, sunshiny days in the dry climate of New Mexico is very great. The remarkable opportunities for out-of-door life and the reasonable hope of complete cure make the long journey worth all the trouble and expense. We have this great Western health section as a winter resort for pulmonary invalids ; it is unsurpassed in any quarter of the globe." Other physicians, equally eminent in America and Europe, have added like testimony to the experience of hundreds of men and women who have had to choose between exile and death.

I have known those brought to Mexico in beds to recover entirely from lung weakness and to live as laborious lives as any in the community. I have known others, whose span of life at home a few weeks would probably have covered, to live for several years in comparative activity and enjoyment. The tendency to hemorrhages of the lungs, to asthma and catarrh, seems to yield readily to the influence of the climate. But all persons afflicted with serious pulmonary difficulties should expect permanent residence only to maintain permanent cure.

En route through Nebraska and Kansas the refugee from the grave begins to rouse up to the wonderful color scheme of the plains. Before he has reached the New Mexico line via Kansas City and Amarillo, Tex., he would not dare to doze for fear of missing one of those mystical mirages or a herd of antelope feeding with the cattle along the road. He smiles at the saucy little prairie-dog, frisking beside the serious white burrow owl in the mouth of his hole. There is a magical, opaline haze clinging about those red hills which, he is told, outline the Pecos River. He sleeps the sleep of the just, that first night, in this new-old land, at Roswell, under the shadow of El Capitan, that noble outrider of the Rockies, twelve thousand feet high ; and he sleeps under a blanket ; everybody always does here, whatever the mercury may have registered at noonday ; and he sleeps flooded with air, for night air is as pure and dry as day air ; it is disloyal to shun it.

The next necessity is a readjustment of ideas regarding perspective. There are no low-lying deceptive mists to be reckoned with at 3,800 feet above sea-level. That mountain "just over there" is sixty-five miles off, and those red hills that "will do for an afternoon walk" are twelve miles away. Those white-capped hillocks, farther toward the west, with peak following peak, like mountain crests, are the Rockies, more than one hundred miles beyond, their heads just within the limit of perpetual snow. The only thing to do is to strike out into the mystery with some one who can explain, — across the boundless plain by one of those narrow tracks that look as if they "may never lead to a human door." But all of them lead to clumps of green, which are cottonwoods and weeping-willows border-

ing irrigating canals and ditches, or twining their huge arms overhead along broad avenues.

Beyond those sinuous miles of trees lie the unbroken fields of alfalfa,— the oases of the desert that are the life of the great stock industries,— cattle, and sheep, and hogs, whose "blood" counts far more than human pedigree in ranch blue-books. In those low-roofed homes behind the trees are the transplanted lives and hopes from "back East" which have taken new root, with the last dollar, perhaps, in those clean, regular orchards, in those fields of Egyptian, Kaffir, and Indian corn, in acres of celery and truck-gardens, and in those great stretches of sugar-beets for the factory at Eddy, seventy-five miles south.

If it is autumn,— a health-seeker should go to New Mexico in September if he expects to winter there,— his curiosity is quickly agog to fathom the secret of the riotous prodigality of nature. Is it soil, or climate, or farming by irrigation? Apples, incredible for size and color and specklessness, hang thick as gooseberries along sweeping, flexible stems; peaches, pears, plums, apricots, cherries, grapes, are no whit inferior, for not an insect has yet threatened the perfectness of New Mexican fruit.

Mile after mile one follows the tenuous line through the "salt-bump" grass of the mesa, under the fleckless sky, in the lustrous, quivering air saturated with gold, nor man nor beast is tired. "Yes," says the driver, "yer can go further an' faster over these smooth roads than anywhere *I* ever see. It's a great country for men an' steers, an' a hard one on women an'

Artesian Well in Pecos Valley, New Mexico. Flow, 400 Gallons per Minute.

horses. Why, yer hev to break a horse over every Monday morning that's got any Spanish blood in him; an' the child'ens out here is jes' as ungawdly. It's the climate, folks say."

The stockman wants rain for the grass on the ranges, but nobody else has any use for it outside of three purposes,— to dust the pollen at the right time from the corn tassels to the ear, to fill the cisterns, and to lay the wind. It seems as if the restless air of the plains will not quiet down in the spring-time without a shower-bath; and when it does come, contrast with usual conditions makes it seem the wettest rain that ever fell. In the Pecos Valley the water supply is sufficient through inexhaustible streams and artesian wells, which are attainable almost anywhere, within four hundred feet of the surface, with flows of from one hundred and fifty to six hundred gallons every minute.

But why tell all this to a sick person? Man alive!—or woman,—you are not going to New Mexico to die, but to live the alivest life you ever dreamed of, more heart-beats to every minute, more brimming hopes to every beat. The uncorrupted, resonant air will re-establish the resonance in your recreant lungs; it will steal into your veins, and bring back those lost rhythms of heart and nerves and brain. You may live the year around out of doors like a sheep herder; for, if you are wise, you will harness your recovery to an out-of-door occupation. You will not have to fear malaria, sunstroke, cyclones, or mad dogs. In a year you will be trying to decide whether a stock ranch, a sugar-beet plantation, or a five-hundred-acre orchard will best fit your resuscitated energies. You will have already become one of those "self-reliant, self-poised, self-sufficient" Westerners, a victim to the contagion of their frank, hospitable, "rustling" ways.

If the Pecos Valley does not fill your ideals, you may go farther West, and find more of the same sort, and any altitude, and mines, and Mexicans. But I warn you, a man who is always drifting with the sun is counted a failure out there, or one whose case only the air of the heavenly world will suit. But everywhere you will have the mountains, the majesty of mysterious Rockies, veiled with that tender, pellucid mist that was at once the triumph and the despair of Baerstadt in his immortal paintings; shimmering into glory in the gold of the molten sunset; glowing like a palpitating heart of fire; wrapping a royal robe of purple about their silent, snowy crowns when, over against the vanished sun, the full moon floods plain and pinnacle with a soft, unutterable loveliness, every shadow of a leaf in that pure, dewless air fretting the earth in the clear-cut witchery of the adumbrations of an electric light.

But if you have any self-respect or veneration for the unknown, do not go West steeped in the habits and prejudices of your past. Cut loose, and put yourself *en rapport* with the primeval in the great American desert; set yourself athrill with its vastness, like the "wideness in God's mercy;" interpret its unbroken horizon lines. There is a ghost of cliff-dweller and mound-builder haunting the plains, and the pathos of nations and noble herds scattered in "the cloud-rack of a tempest" of blood and fire. All the deep forces of nature will claim your sympathy, even the pitiless savagery of the desert, when it creeps back, stealthy, upon the culture man has bravely wrested from it, blight and insect and the unknowable devouring alike his harvests and his hopes.

Listen, and you may hear the hunt go by in the air some wild night,—neighing horse, baying hound (*vide* "Lorna Doone" and "Guy Mannering"),—when the wind raves out of the west; or you may catch

"winged dream and melody" afloat; may see —

> "Spirits of sound and souls of flowers,
> All the dearest, griefless powers,"

when your soul is in tune with the joy of life in the pulsing color of the boundless mesa.

But be sure of one thing: When your health is regained, you will go back East; but it will be only a pilgrimage. The atmosphere you were born in will have lost its color. In its pale humidity your lungs will pine for the vibrant gold of the plains. Conservatism and a narrowed horizon will stifle your moral freedom. The mingled flavor of the prehistoric and the *fin-de-siècle* will have enthralled you. You will be homesick and worse sick, till you see again "that dewless, treeless wonderland of golden sunshine."

A TRAGEDY IN THREE PARTS.

PART I. — *The Bonnet.*

A BIT of foundation as big as your hand;
Bows of ribbon and lace;
Wire sufficient to make them stand;
A handful of roses, a velvet band —
It lacks but one crowning grace.

PART II. — *The Bird.*

A chirp, a twitter, a flash of wings,
Four wide-open mouths in a nest;
From morning till night she brings and brings
For growing birds, they are hungry things —
Aye! hungry things at the best.

The crack of a rifle, a shot well sped;
A crimson stain on the grass;
Four hungry birds in a nest unfed —
Ah! well, we will leave the rest unsaid;
Some things it were better to pass.

PART III. — *The Wearer.*

The lady has surely a beautiful face,
She has surely a queenly air;
The bonnet had flowers and ribbon and lace;
But the bird has added the crowning grace —
It is really a charming affair.

Is the love of a bonnet supreme over all,
In a lady so faultlessly fair?
The Father takes heed when the sparrows fall,
He hears when the starving nestlings call —
Can a tender woman *not care?*

— *Anon., in Current Literature.*

MY FREEDOM SUIT.[1]

BY "JOSIAH ALLEN'S WIFE."

THE question of dress has always been a momentious one to woman ever since Eve, under satanic influence, made her famous fall suit of fig leaves. And it seems as if that influence aforesaid has always entered into that matter from Eve down to Louie Fuller. Care, trouble, hard work, extravagance, constant change and constant fret and worry of mind, together with extreme bodily pain and discomfort, at times seems to have been the portion of Miss Adam's descendants.

And after almost nineteen hundred years of high civilization our fairest girls set in barbarous darkness bearin' the marks of savage compression, or rubbin' the purple marks of cruel steel mutilation from the tender white flesh.

As I told Josiah once, — he felt awful

[1] Copyrighted by Marietta Holley.

good-natured (after a noble dinner), and thinkin' to please me I spoze, he begun to run Eastern wimmen to me and their barbarous ways of squozein girls' feet, so 's they could n't only jest wobble, and other ones who wore rings on their toes, — and I did n't feel quite so complacent as he did; I 'd eat sunthin' that disagreed with me, — you know that will jest about spile anybody's temper, — and I felt like argyin, and then I talked on principle too, yes, indeed I did. I sez right out: "I jest as lives be squoze in one place as another, and bein' squoze in the feet don't crush in the heart and lungs and stop their work, and I 'd enough sight ruther wear rings on my toes than have holes punched through my ears, and heavy rings hung onto 'em."

"Rings on your toes!" sez he skornfully. "How you 'd look, Samantha, with 'em."

And I sprunted up further, and sez I: "It don't become us to run feet too much when some of our girls wobble round on heels two inches high, pressin' right against the nerves where they will do the most hurt to their health and eye-sight, and so tight that every wobble they make is agony. I 'll be hanged," sez I, "if I don't think it would be a good plan for 'em to wear rings on their toes; they 'd look better than the crop of corns that usually ornament 'em."

Josiah looked worried, and he sez, "It would mortify me dretfully, Samantha, to see you walkin' into the Jonesville meetin' house with rings on your toes."

"Well," sez I, "you need n't worry, Josiah, I never have made a practise of goin' to meetin' bare-footed. And if I should take it into my head to wear rings on my toes," sez I dreamily, a lookin' down on to my good common-sense shoes, "nobody but you and I would know it."

He looked still more worried, and sez, "Well, I would n't talk about any such foolish outlay of money, Samantha." And I promised him then and there that I had n't no idee of buyin' toe rings.

"But," sez I, "the barbarous ways of some of our own tribes ort to make us more lenitent to other savages." And it had.

Yes, wimmen's dress is a subject that has always gin sights and sights of care and trouble; long, heavy, trailin' skirts to break the back, and rake in disease and filth into the home, tight girtin' waists, low necks in all weathers, skirts so tight that they sometimes cramp the limbs, anon swellin' out into balloons, hair sometimes drawed back so tight as most to destroy the bump of common sense, anon lifted up in a structure so high and complicated it took hours to rare it up, and so heavy that it jest wore down on that bump aforesaid. Constant change, constant discomfort and pain! Oh, how much sufferin' Eve did bring on to her girls by that fall suit of hern!

Although far back in the mists and shadows, when the world wuz new, we read of a time when for forty years Satan seemed to relax his vigilance, and the question of woman's costoom seemed to be a comparatively easy one. We read that the clothing of the children of Israel never wore out as they were passing through the wilderness; one dress, one fashion for forty years — what a boon to wimmen! no wearisome shopping and selecting new material, no dressmakers, no new sleeve patterns, no new puckers.

Ah, how different now as we journey through our wilderness! Our garments morally and actually get caught aginst the brambles and are torn, they get wet with the rain, soiled and heavy with the mud and dirt of our pilgrimage. They weigh us down and draw us back, and we have to git new ones anon or oftener. And every year a new sleeve pattern, and

dressmakers a standin' ready to girt us in, and lengthen out our skirts till they trail in the dirt, and put in heavy linings that break our patient backs with the weight.

The clothing of the old Israelitesses wuz loose and comfortable; no tight, high-heeled shoes, no corsets, no heavy hair-cloth linings to break their old backs, so I spoze.

Thus I eppisoded almost onbeknown to myself as I made two short mornings calls on a pleasant day in October, the errent and first cause of my calls bein' philanthropy and a desire to help my race in my day and generation.

Maggie, my son's wife, had got a new pattern for a working dress to wear on rainy days and around the house mornings, and had helped me make one for myself, and I had took such solid comfort in it that I had seemin'ly renewed my youth like a eagle; actually I had seemed to enjoy religion better. Nobody knows the comfort I took with it, and so as my first thoughts naterally turned to the betterment and advancement of the human race, and my sect, I thought I would take the pattern to Angerose Pitkins and Faith Gowdey, two neighborin' girls, who since their Mas' deaths have been their Pas' housekeepers. I think considerable of both girls, and I spoze one reason is that I 've tried to mother 'em all I could since they wuz left, as you may say, with a house and family on their young shoulders. But I can't help likin' Faith the best; she is real congenial to me, and a first-rate housekeeper, and knows sunthin'. And that is so convenient in this world, to know something.

Oh, Angerose knows some things too, of course, but she seems more vapory. She is real sentimental, and hain't no housekeeper, though she makes a great show on the outside; folks who only go to the two houses on afternoons and Sundays would mebby think that Angerose wuz the best housekeeper, she flings on so much style, dresses dretful gay, and buys the best kind of cookin' for company, and calls it hern, so I 've been told.

Sister Pitkins (sister in the meetin'-house) left a young babe, and Angerose is a bringin' it up by hand. And it wuz strange, strange as a dog, that Sister Gowdey left a baby, too, only a month or two older than Sister Pitkins's baby, and Faith is takin' care of that for the present, but they say that Brother Gowdey is dressin' up more than he did, and takes notice of wimmen, and that Widder Huffstater is quiltin', and makin' clothes for herself as one who hopes.

Well, it beats all how different the actions and looks of them two babies is. The little Pitkins is scrawny, pimply, sore-eyed, and cries the most of the time when it hain't eatin', for Angerose will give it what she eats herself, and I 've tried in vain to convince her that sassage and gravy and pies and pickles and doughnuts wuz not the proper food for babes. But she will go her own way. She sez to me, when I wuz urgin' her to give the baby more wholesome food, that pie and pork and pickles wuz hereditary in the Pitkins family, her Pa and Ma always eat 'em, and that the baby hankers for 'em, so she feeds it all it wants of pickles and pie; she always has pie-crust left, so she bakes it in crackers and gives it to the baby at all hours. Mince pie is her favorite food, and fried cakes comes next, and Angerose don't make her fried cakes right, they devour too much grease, and it makes 'em soggy.

Well, the baby eats and cries, and cries and eats, the hull durin' time a-most. I took care on it two weeks while Angerose went to see a sick aunt, and I got it so that it behaved like a lady. I jest gin it sweet, light bread made out of hull wheat, and good, new milk, and all the fresh

water it wanted to drink, and once in awhile some wheat grit with a little cream on it; fed it at regular hours, and put it to bed in a well-aired room; kep' it kinder still, did n't jounce it round as if it wuz made of rubber, and you 'd ort to seen the difference in its looks when Angerose got back, it did n't look like the same child; its eyes wuz bright, its cheeks begun to look pink, and the pimples begun to wear away.

I urged her to foller on in my way, but no, she is obstinate, she would do as she wanted to. Faith is different; she hearn to me, and the little Gowdey baby is healthy and rosy as it can be.

But I have felt to pity both girls lots of times, and I 've always tried to do 'em both good turns whenever I could; and so when I found out the solid comfort there wuz in this short dress of mine, my first idee wuz to lend them the pattern. I thought that they could git round the house so handy in it, and they both have enough to do.

So I put on my own dress for the occasion, feelin' as if I wuz a sampler for them to work out, and some as if I wuz the tenth clause in a sermon, the occasion seemed jest so noble and riz up.

My dress wuz a gray wool, light but warm, made not too full, and hemmed round the bottom so it sot out good, but no lining; it come down a little below the tops of my good lookin' common-sense shoes, my stockin's wuz good black woosted, though they did n't show, and I had a warm skirt and waist combined over the woven combination next my body, and one light skirt, so light that it did n't count, wuz buttoned round my frame. I have been very particular describin' the dress of my heroine,— or no, I hain't my own heroine, I mean to have Faith Gowdey as such, but as I say, my hull dress did n't weigh, well I can't tell what it did n't weigh. It wuz so light it seemin'ly did n't weigh anything, and my limbs moved off so free and joyous that my pardner looked at me admirin'ly as I went down the path and out of the gate where he wuz mendin' a picket, and he sez: —

"What duz ail you, Samantha? You seem to be renewin' your age, and I hain't seen you so good tempered for years and years, you hain't nigh so cross lately as you be usually."

I felt that this wuz very high praise indeed, as comin' from one's own pardner.

And I sez, "It is my new dress, Josiah Allen, that has wrought the charm."

He looked clost at me, and sez admirin'ly, "Well, I 've noticed lately that you did n't look so old as usual. I declare for it, Samantha, you don't look now but a few years older than I do."

Josiah Allen is several months older than I be, I know his age. But what brooks words? He wants to appear young, and thinks he duz. I felt that, judged from his standpoint, I could n't have warmer praise for juveniality of appearance. He gin me another admirin' glance, and we parted with no further words, only a gentle reminder on his part to be sure and come home in time to cook a warm dinner. So fond he is of me, and I went forward, seemin'ly walkin' on air, I felt so light and free.

Oh, I forgot to say in describing my *toot ensembly* that I had a jacket jest like my skirt, fitting jest as clost as my figger, no more, and a vest of black satin made by Maggie from a old black satin apron of mine, and trimmed round the collar and acrost the front with some white lace insertion of her own, a pointed girdle of the same in front and the lines of the handsome jacket comin' down before took off from my size so that though I wuz revelin' in comfort I looked slight, compared to what I would in a tight-fittin' cosset drawing me in like a string tied

round a piller. Two pockets in my skirt, one on each side, protected by good lookin' straps, added to my perfect contentment. Why, some of the time that morning I had both of my hands in my pockets as I walked round the house, I felt so glad of 'em, havin' existed for years, as all other wimmen have, with no pocket at all unless it wuz in the gathers behind, where it served no other useful purpose only to hang out through the pocket-hole behind, makin' women a mockery and derision as they walked into meetin' and society in that condition, but mortifyin' the flesh as I spoze, and so a sort of a sackcloth-and-ashes benefit.

But to resoom. I had n't more'n opened the gate and wuz passin' out into the highway when who should drive up but Tom Curtis to buy my eggs. He keeps a grocery and provision store over in Loontown, and is doin' well, a handsome, good actin', and good appearin' chap too, but some spilte by education. He wuz brung up by a weak, genteel sort of a mother. But naterally she passed away more 'n a year ago, and Tom has been lookin' round, so folks say, for a bride.

She will be a doin' well whoever gits him, for besides him and his solid worth and good temper and property he has got a house all ready for her to walk right into, full and overflowing of everything of the very nicest kind to keep house with. Well, I knew that Tom had for a few months past been payin' attention about equal to Angerose Pitkins and Faith Gowdey, and their two Pas too, as I said, wuz a lookin' round after widders and old maids, not knowin' when their girls would be snatched away from 'em. And then widdermen don't need an excuse anyway, not often they don't, it is nateral for 'em to git second pardners, and third, and even fourth.

Well, as I wuz a sayin', Tom driv up and asked me about my eggs, and I went back into the house with him to git 'em, and as I walked on in advance of him, he sez some as my pardner had: —

"Why, Josiah Allen's wife, how young and smart you do look to-day."

And I sez even as I had said to my pardner, "It is my new dress, Tom; don't you see?" and I turned and faced him, and sez I: "Don't you see the lightness of it, the comfort of its not draggin' in the dust, the looseness, and the pockets!" sez I proudly.

Tom's face, which had been lit up by admirin' pleasure, grew overcasted. "But I don't approve of such garments," sez he. "My mother wuz always opposed to 'em."

"Yes," sez I, "I know she always favored tight cossets and heavy skirts." Sez I, "Even when she wuz enjoyin' awful poor health, she enjoyed it in a cosset that stopped her breath and half choked her."

"Yes," sez Tom, "she always wanted to look trim and taper."

"I know it," sez I. "Mebby if she had n't tapered so much she would be here to-day." Sez I sadly, "She wuz a Christian, Tom, and a lovin' mother, but her skirts weighed more than twenty pounds when she could n't hardly walk acrost the floor. I know, for I hefted 'em myself one day when she fainted away when I wuz there."

"Yes," sez Tom, "she always wanted her dresses to hang good."

"Well," sez I more sadly still, "they are a hangin' good now, Tom, and *for* good. But," sez I, givin' a more cheerful turn to the conversation, "just see my pockets!" and I proudly pointed to the two pockets that adorned my sides."

But I see that Tom looked glum; old chains of thought wove by his Ma still held him, and he sez, "I don't hardly like to see a lady havin' pockets, it seems so — so masculine as it were."

And I sez quite warmly, "Don't I have a body to take care on, and a soul to be saved as well as your sect?"

And he sez, real polite and cordial, "Oh, yes, oh, yes, Miss Allen."

"Well," sez I, "how many pockets do you have in your clothes when you git all dressed up in your overcoat?"

And after a little mental reckonin' up he admitted that he had twenty-two, all told.

"Well," sez I, "don't our sect have twice as many things to carry in our pockets as your sect duz?" Sez I, "When we go to the store to trade, our sect has to carry about all the samples of dress-goods, bedclothes, lounge covers, yarn, woosted, wall-paper, etcetera, etc., and when," sez I, "do we ever see your sect carryin' in your pockets tattin' and knittin' work, and patchwork and crazy pieces, with spools of thread and balls of yarn and woosted, and needle cases? and we have just as many keys and handkerchiefs and gloves and mittens, and portmoneys. We have twice as much at least to carry in our pockets as your sect does."

And Tom admitted it readily; he is truthful.

"Well, then," sez I, "we need at least twice as many pockets. Forty-four pockets," sez I firmly, "is what we ort to have to keep justice in view, but I don't stand for them, I throw off the forty-two and compromise on two pockets, and I'll be hanged if your sect don't begretch them to us."

Tom looked some ashamed. You see it wuz the first time he had had the powers of Rithmetic and Retoric brought to bear on the subject, and he see in a minute how weak and wobblin' his side wuz. But the old chains held him, and he said as he turned to go out that he didn't approve of the new dress, he liked the long, womanly trailin' skirts and the trim tight waists.

Sez I, "Long skirts are all right in their place, in parlors and parties, but for rainy days outdoors, and for working suits the short dresses are a boon."

But he sez as he went down the step, "My mother always wore long dresses round the house, she wore full long dresses, high-heeled shoes, and tight waists working days and wash days. Her waist wuz n't much bigger than my arm," sez he proudly, as he turned for a last word on the platform.

"I know it," sez I, "I remember well how tight her dress wuz when I onhooked her at the time I spoke of, she wuz quite big when let loose from her cosset, and the weight of her skirts I well remember, too, heavy hair-cloth up to her knees."

"She looked lovely up to the last," sez he proudly.

"Yes," sez I, "your Ma wuz as neat as a pin, but it made her sights of work hemmin' over her long dresses to keep 'em always neat round the bottom; it wore her out, Tom, that, and the heft and the tightness." Sez I to myself, "The only comfortable healthy dress she ever had on wuz her shroud," but I would n't say it out loud for fear of hurtin' his feelin's.

Well, I hated to have Tom feel so, for I felt that Faith Gowdey had idees more like mine, and I wuz real afraid that Angerose Pitkins, with her soft womanly ways, and not wantin' any rights or comforts, would carry off the prize. For though Tom's idees wuz out of gear, owin' to former influences, he wuz a prize, a good, honest, God-fearin' feller, and so good a son could n't fail to be a good husband.

Well, I walked along rather deprested, and middlin' fast, for I told Tom I would go on with him to Mr. Pitkinses and Mr. Gowdeys. He wanted me to add my testimony about a new jelly he wuz tryin' to introduce. I had used it and found it beautiful. I had told him that I wuz jest

a goin' to call at both places, but I would n't git into the buggy for I said it would n't pay, they both lived so near.

Well, when we went into Mr. Pitkinses, Angerose wuz up to her ears in work, and I guess she would have run if she had had time, for Tom had never seen her only evenings and Sundays when she wuz dressed up as neat as a pin, and her long skirts and tight waists made her look some like a doll. They wuz killin' pigs that day to Mr. Pitkinses, and she wuz also fryin' cakes and takin' up the spare-room carpet. She wuz always the greatest case to git different kinds of work round, do a big day's work once in a while, and then set down and rest, for all the world she made me think of a camel, who would drink enough at one time to carry him acrost the desert, but it kep' her house all stirred up and oncomfortable the most of the time. Faith wuz always different; she wuz more megum, and though mebby she wuz n't so showy in her work and did n't git the name of doin' such heavy days' works, she wuz fur more stiddy and comfortable, kep' her house clean and settled down every day.

Well, Angerose wuz bound to be stylish, sink or swim, and now, though her work wuz so arjous and she herself wuz her only domestic, she wuz dressed in the extreme hite of fashion carried out in old ragged material.

She had on a pale blue parmetty dress, made with a train ruffled round the bottom with pinked out thin silk of the same color. It wuz her best dress five years back, and you could see what havoc time had played with sky blue and silk pinkin'.

Good land, you could n't tell where the pinks wuz, not a single pink, all tattered and dirty fringes, and though there wuz a spot or two in the middle of the back and the back breadths where you could see the color of the sky above, the biggest heft of the dress wuz the color of the earth beneath,— nasty, dirty, all covered with grease spots and big rents. The waist wuz trimmed with what had been white chiffon. Good land! Chiffon! I should have never mistrusted what it wuz; it looked now like the feathers of a white goose after it had waded through a mud puddle, only tore out more and stringy. But her cosset wuz drawed up tight round her figger so she could n't bend over any more than a cane or a ramrod could; the sufferin's she must have endured wuz fearful, to say nothing of her old high-heeled shoes — ragged, but foot torturers.

Well, she looked as if she would sink when she see Tom, and as I glanced at him I see that he looked ditto and the same. But as for me I looked pretty cheerful, for any preacher likes to have a good illustration of his text, and here it wuz by eyesight and by ear, for Angerose, when I drawed her attention to my new short dress, said she did n't approve of 'em, she thought they wuz so onwomanly.

Well, we did n't stay long, for besides the looks of the place, the air wuz dretful, for Angerose carries out the old idees of bein' afraid of cold air, so the air in that kitchen wuz venerable with long use, and hallowed mebby in her eyes by bein' used by her family for months, breathed in and out, out and in, by her Pa, the children, and herself. Hallowed, too, by the different meals they had had, cabbage, onions, doughnuts, etc. O, the air wuz full of old associations, I hain't a doubt, and as a relic would be valuable, but for breathing purposes no good, and we wuz glad to git out in the fresh air, to say nothin' of the fearful cries the baby kep' up, who wuz a settin' on the floor on a old ragged comforter, eatin' pie-crust.

Well, we found that Mr. Gowdey's folks wuz a havin' the thrashers that day, so Faith had jest as much to do as Angerose. But I see a difference even as we went up

the steps. The piaza wuz as clean as a pin, and I noticed that the two windows opening on it wuz open a few inches, one at the top and one at the bottom, so 's to make a current of sweet air. They had sash curtains of clean, white cheese-cloth gathered to the frames so they wuz n't in the way of the air.

Well, Faith come to the door herself, and the first minute I looked at her I see that my mission to her wuz in vain, she had got the same pattern of Maggie, only hern was made smaller as mine wuz made bigger.

Hers was made of dark blue gingham, with a pink shambry vest all trimmed round with pretty white braid, she looked sweet as a pink. Her dress cleared the floor by four or five inches, and her shoes wuz good hull common-sense ones of russet leather, and her pretty hair wuz brushed back and braided up out of the way. It curled naturally, and a few little locks had broke loose and hung down on her white forward and neck.

Well, that kitchen wuz as clean as a pin, and the pretty baby wuz tied into a high chair in front of a table covered with white oilcloth and wuz havin' a first-rate time with its playthings. On another table I see five or six loaves of good bread made out of hull wheat, and there wuz a basket of rosy-cheeked peaches on the table all ready for dinner, and some luscious grapes, white and purple. They eat sights of fruit to Mr. Gowdeys, sights of it, and that is what I believe makes 'em so healthy and their complexion so pure and clean looking. Why, Faith don't eat anything else only jest fruit and vegetables and grains of different kinds, and she looks like a peach herself, jest as rosy and plump, good-tempered too she is, and smart as a whip.

Angerose is a great meat hand; the Pitkins dote, as I have said, on pork and mince pies and greasy fried cakes, and they look some like their favorite food, greasy and pasty and kinder heavy. Angerose paints, so they say.

But to resoom. Tom and I stayed some time. I could see by the looks round me that she had had jest as much to do as Angerose. Why, good land! there wuz as many as ten men she had to cook for that day; I could see hull pailfuls of vegetables she had cleaned all ready for dinner, potatoes and pink beets and early cabbage all ready to put over the fire when the time come. I could see that she had jest as much to do as Angerose had, but she had done one thing at a time and finished it up, and went to the next. She had faculty, and then she got round easy, her dress wuz easy, her heart and lungs wuz free to work, it wuz so light she could git round as light as anything. The air wuz sweet and pure, that made her feel invigorated and good. And we sot down and stayed there for quite a spell.

Tom is a great case for peaches, and she passed us some with some white and purple grapes, and Tom eat more, I wuz afraid, than wuz good for him. But I felt that he did it to make an excuse to stay there, for he did n't want to go, and I felt happy to see his arguments shattered to pieces and crumbs before my eyes, and my idees triumphant.

Well, from what I hearn afterwards I spoze that them two calls that forenoon wuz the turnin' point with Tom, and settled matters; I spoze so. 'Tennyrate from that day Tom has paid his attentions exclusively to Faith, and I have jest got a invitation to-day to their weddin'. It is to be next week Thursday at four o'clock to the house. Her Pa married the widder Huffstater last Wednesday, so she will help give the weddin' feast. I lay out to go, and Josiah is settin' store on goin' too. The widder Huffstater that wuz, is a oncommon good cook.

THE HYGIENIC MANAGEMENT OF INSOMNIA.

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(Concluded.)

4. *The Treatment of Insomnia.*— The usual treatment of insomnia is to give large doses of hypnotics, such as sulphonal, trional, bromidia, chloral, and the bromides. These drugs, when given in sufficiently large doses, will produce a condition of unconsciousness which is thought by many to be equivalent to sleep; but the sleep produced by these drugs is not sleep in the true sense of the term. These drugs so paralyze the nerves and nerve cells that they almost completely rob the nerve tissues of that property which they possess in such a high degree; viz., irritability, or the capability of responding to various forms of stimuli. These drugs paralyze the nerve cell and the nerve fiber, and rob them of this physiological property, thus putting them in a condition where they do not respond to any form of stimulus. Consequently they are to a large degree inactive, and the patient passes into an unconscious, stupefied condition. But more than this, drugs interfere with the normal chemical changes which take place in the nerve cell, so that besides losing their irritability, they also lose their ability to rebuild themselves with new material and recharge themselves with new energy. Naturally, after a night of unconsciousness and stupor produced by drugs, the individual awakes from this condition really no better physically, and perhaps worse, than before the drug was taken; for the nerve cell has not undergone any recuperative process, but on the other hand has been poisoned, benumbed, and stupefied by the action of the drug. Drugs are therefore harmful, and should never be used except in extreme cases, where it may be necessary to bridge over the night with the hope of getting hold of something better or with the hope that normal sleep may return in a short time. All these so-called hypnotics are really deceptive in their effect.

In speaking of the causes of insomnia we have already referred to the importance of a proper dietary and regularity in all the habits of life. A plain, simple diet, made up chiefly of fruits and grains, with two meals a day or at most a very light lunch in the evening, regularity in the hours of eating, taking care to keep the bowels open, a proper amount of exercise, proper sleeping apartments; that is, in a room well ventilated, with a temperature of from 60° to 70° F. when the weather will so permit, the use of a bed that is firm and with not too many heavy covers over the body, with a room so arranged that light and noises are avoided, and cleanliness of body maintained by taking a cool sponge bath on rising, followed by a brisk rub with a coarse towel, are among the hygienic remedies conducive to sleep.

In addition to these remedies, the patient should have a course of tonic treatment, consisting of the use of cool shower-baths, electricity, massage, etc., to tone up the nervous and muscular systems and the organs of the body generally. There is no better tonic than a cool shower-bath taken at a temperature of from 70° to 80° F. for one or two minutes, followed by massage or a brisk rubbing of the body. This, with the foregoing regulations, will afford an excellent line of

treatment for improving nerve tone and the nutrition of the body generally. This should be taken from three to six times weekly, preferably in the forenoon.

For the purpose of inducing sleep the following remedies are valuable: A warm full bath taken in the evening just before retiring is a valuable means of inducing sleep. The bath should be at a temperature of from 102° to 104°. The patient should remain in this bath for twenty minutes, and while in the bath should be rubbed vigorously by an attendant. The head should be wrapped in a towel wrung out of ice-cold water. After this warm bath the temperature of the water should be reduced gradually to about 85° for the purpose of cooling the patient, and then he should be dried thoroughly and put to bed immediately, preferably without being allowed to walk or make any muscular exertion at all. A rubber bag containing warm water should be applied to the feet, the room should be made quiet, with all possible conditions conducive to sleep.

In my own experience I have found this simple remedy very valuable in treating a large number of cases of insomnia. The electro-water bath is a more valuable remedy than the simple water bath, but of course appliances for this bath are not usually found in the ordinary home.

The hot foot bath or the hot leg bath, taken just before bedtime, with a cool cloth on the head, is also another valuable means of inducing sleep. The temperature of the water should be from 110° to 115°, and the feet or legs should be immersed in the water from twenty to thirty minutes. They should then be cooled in water of from 80° to 85°, thoroughly dried, and the patient put to bed immediately.

These warm baths dilate the blood-vessels of the surface of the body and in the feet or legs, as the case may be, thus drawing the blood away from the brain, and producing conditions favorable to sleep. They also lessen nerve irritability, and act as sedatives to the nervous system. They are therefore very valuable in insomnia, in cases of excessive nervous irritability, or where there is hyperemia, or too much blood in the brain.

Massage, taken just at bedtime, and better with the patient in bed, is also a very valuable remedy; and of course should be given by a trained nurse or masseur. This also has the effect to relieve the brain of too much blood, and is a nerve sedative.

The use of the galvanic current applied to the head and spine, or both, is also very valuable in the treatment of insomnia. The application should be made by a physician. The negative pole of the battery is attached to a large electrode, which is placed at the back of the neck or the spine, with the smaller electrode attached to the positive pole, and the current is applied over the forehead top of the head, and the head generally. The current should be of such strength as not to be painful to the patient, and should be applied for fifteen minutes at a time just before retiring. On many occasions in using the current in this way I have had the patient drop to sleep before the treatment was finished.

The current is best applied to the spine by having a large electrode attached to the negative pole of the battery and placed over the stomach and bowels, and a smaller electrode attached to the positive pole applied continuously up and down the spine for fifteen or twenty minutes. The current should be of such strength as to be distinctly felt by the patient without causing pain. Certain instruments are used for measuring the current, as a milliamperemeter; when an instrument of this kind can be had, it should always be employed.

The faradic electric current may also

be used in somewhat the same way as has been indicated for the galvanic current. The faradic current is not so sedative, but may be used with benefit when a galvanic battery is not at hand.

Where indigestion and fermentation are present in the stomach, the use of the stomach-tube before retiring is a very efficient remedy. The relief thus afforded to one who has been for weeks or months without a good night's sleep is very gratifying and exceedingly beneficial. The stomach-tube should usually be employed by a physician, but there are many individuals who, after having it used for a time, and having become accustomed to it, are able to use it themselves.

Persons suffering from constipation may often obtain a good night's sleep by emptying the bowels thoroughly by means of an enema before retiring. This relieves the bowels of a mass of poisonous material which, if allowed to remain, would be absorbed into the blood, keep the individual awake, and be the cause of numerous other nervous symptoms.

There are other non-medicinal remedies which might be suggested for the treatment of insomnia; but if the foregoing instruction is followed, I am certain that any one who may be afflicted with this troublesome symptom will, upon the adoption of proper methods of living and some of the different lines of treatment recommended in this paper, find himself gradually improving, and in many instances improvement will come almost as if by magic.

DEAR LITTLE JOE.

BY ELOISE O. RICHBERG.

"BROWSIE loves Weanie," and with tears rolling over his fat, rosy cheeks, Joe begged for the life of his awkward playfellow.

"You will like the pot-pie with dumplings, Joe," his mother called from the porch, "as well as the rest of us."

"Pot-pie — from Weanie!" indignantly exclaimed the tender-hearted little fellow. "I'll never eat any more pot-pie as long as I live."

His father now reminded him, "No worse than any other meat;" and all joined in the laugh, as Joe released the neck of his pet calf and turned miserably away.

Seeing how deeply he was touched, his mother went to him, and said, in a gentler tone, as she kissed the wet cheek and quivering lips,—

"Something must be killed, my son, or we could serve no meat at the table."

Sitting down on the step, he slowly stroked lame Tabby's back, and hardly saw Maje, the frowzy black dog that came sniffing curiously around the idle hand, wondering what was wrong with his jolly young master.

Suddenly hugging them both in his arms, Joe called out,—

"If you must kill Weanie, papa, I can't eat dinner with the rest; and, anyway, I'll never eat meat again,— calves or cats or dogs or — colts or — rabbits or — white mice or — birds or — anything that loves! I'd rather starve and — go to God right, than kill things that other things love, as Browsie loves Weanie."

Mr. and Mrs. Jinks, Joe's parents, believed in love, above all things; and Weanie was spared to her dear mother, and repaid the kindness with many a big pailful of rich, creamy milk.

Mr. and Mrs. Jinks are still studying the lesson on diet and ethics that a little boy taught them that day.

THE PHYSICAL TRAINING OF CHILDREN.

THE spontaneous activity of the young infant as it lies in its cradle twisting its arms and legs, developing its lungs by crowing, and the muscles of its arms by seizing every object that comes within its reach, shows that exercise is one of nature's first laws of health for the human being as well as for other animals. But under the present artificial conditions of society, even little children have ceased to be altogether natural. The entire race has lost that early instinct of self-development and self-training so essential to its highest welfare. Hence, even the little ones can not be left to their own devices for physical culture.

The physical habits formed in childhood are of the most tenacious character. Children have a very great faculty for imitating any kind of muscular activity, as well as for acquiring physical habits of any sort. Habits adopted in childhood become fixed during the growing period. Hence the importance of guiding the child in its earliest years, so that by a careful training of the muscles correct habits of standing, of sitting, of walking, of breathing, of performing every muscular function, may be established.

Graceful attitudes in the adult are not the result of evolution, but of early training.

When we consider that muscular habits have much to do with the development of our bodies, with the shape of the skeleton and of the chest, the physical training of the child becomes of serious consideration. A child is pigeon-breasted, his chest protrudes. Why? — Because he has acquired an abnormal habit of breathing, sometimes as the result of nasal obstructions that bring into play muscles which are not ordinarily employed. One of the special objects of exercises for children should be the development of the chest. In children the cartilages are flexible, and the costal articulations of the spine have free mobility, so that when the child takes exercise and increases the activity of his respiratory movements, the result is an enlargement of the chest. Forcible respiration in the child means a respiration

fuller than the ordinary. It means expansion of the chest, a stretching of all the joints and cartilages connected with the ribs. With the adult this is not true, because of the calcareous structures of the chest. The adult can make his chest a little larger, but he can not increase his chest capacity. The child, however, or the youth can increase his chest capacity considerably. I have known persons under thirty years of age to increase their chest capacity three or four inches by exercise. Think what a gain it would be for children to take exercises which would create a demand for air, and by daily expansion cause the chest to grow deep and large and broad, thus providing a capital of strength for future years.

Contrary to the common impression, the majority of children do not take enough exercise. The well-trained child is taught to "sit down and behave like a little man," or "a little woman." The result is seen in the lusterless eyes, the pale cheeks, the bloodless lips, the languid manner, that invariably follow such a deviation from nature's plan. Children are often permanently injured by being compelled to "sit still." Sometimes they are obliged to keep still as a punishment. Now I consider keeping a child still the very worst kind of punishment. The child is certain to fall into a bad position — an attitude of despair or of sullenness. How much better than making him sit still for an hour would it be to send him up and down stairs a hundred times, quietly. This is a much wiser principle of punishment. Idleness results disastrously, not only by giving the mind an opportunity to fill itself with mischief, but by encouraging the body also to settle into bad ways.

Children are very likely to be injured by too much exercise of certain muscles and too little exercise of others, by unsymmetrical work and development. It is especially important that children should not be allowed to take too violent exercise. During the growing period the bones are soft and full of blood. We might say that there is a physiological congestion of the bones, so that a bruise or an injury is much more likely to develop an inflammation than in the case of an adult. If the child plays violently or is subjected to violent exercise, the bones are likely to become bruised or congested in some part, causing inflammation to set in and germs to begin their mischievous work. We notice frequently, as the result of violent play, white swellings of the knee or abscesses of the hip-joint. These diseases originate, in every case, in some mechanical injury, and children should be carefully protected from such danger. It is very important that the child should not become inordinately fatigued. When it is subjected to severe exercise so that it becomes exhausted and perspires excessively, the wastes of the body are so great that the child's growth is hindered. The waste is greater than the repair. The material needed for the work of digestion, for liver, heart, and lung action, is stolen away for these outside activities, and the child is likely to be stunted and dwarfed in consequence. The body can not be built up without material. If the materials are consumed in violent exercise, they can not be used for the formation of new tissue.

What the child requires is vigorous activity with frequent intervals of rest. One should be careful, however, not to coddle children. Excessive coddling is productive of greater injury than excessive exercise. When the child is fatigued, nature comes to the rescue, and he complains, or drops down beside his play and goes to sleep. But parents by injudicious kindness and petting often do their children the greatest harm.

It is not always possible to give chil-

dren all the necessary exercise out of doors, although since the child gets more oxygen and stimulus from the open air, sunshine, and light, out-of-door surroundings are to be preferred whenever available. But when this is out of the question, the best substitute is indoor play with proper arrangements and with as little clothing as possible. Turn the little ones loose in a room where the body will be exposed to the air. The clothing should be light and loose, so that the muscles will have free play.

A common delusion prevails with reference to what is called "growing fever" and "growing pains." Parents often say, "My boy seems to have the growing fever; he is shooting up so fast." Doctors account for the weakness and debility of a fourteen- or fifteen-year-old boy, who is growing rapidly, on the supposition that he has the growing fever. Perhaps this idea has arisen from the fact that children are very likely to have fevers. Growing children have a lessened ability to defend themselves against germs; their constitutions at this period are less vigorous than when more mature; hence children are particularly susceptible to colds and fevers. Overexercise, playing too long, running too hard, nervous anxiety about lessons, may produce a feverish condition tending to interfere with the processes of growth. There is no foundation for the theory that growth itself induces fever; it does not.

The debility of childhood is often due to bad digestion. It is more often due to deficient exercise. Sometimes when there is a lack of nerve tone, nature sacrifices one part of the body to build up another, thus giving rise to weakness of particular parts. The child may be growing so rapidly in height that nature, not having material enough to support this growth, tears down some other portion of the body in order to build this part, and as a result we have a condition of lowered resistance, and a tendency to disease.

J. H. KELLOGG, M. D.

THE UNDERCLOTHING.

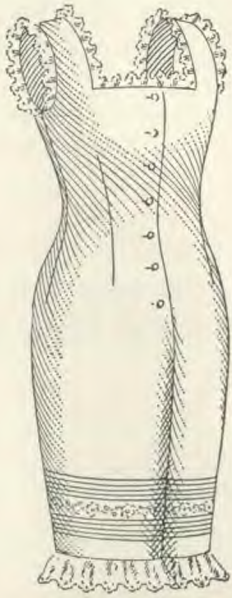
HEALTHFUL dress means much more than making the outer garments in a becoming manner; as in building a house or developing any structure, we need first a good foundation. The true foundation for any dress is the body upon which the dress is hung. As has been stated in previous lessons, the body should be so poised that it will present a strong, dignified appearance, and, what is vastly more important, every organ should maintain its proper position.

The first question, then, that confronts us is how to attain such a position. There are many ways by which the body can be brought to a normal position. One important point which should always be borne in mind is that in walking, standing, or sitting, the chest must lead. The chest should be pushed forward and upward; this brings the whole body into the correct poise.

An excellent method of correcting an incorrect position is to stand with the back against a flat surface, as a door or wall, letting the shoulders, hips, and heels touch the surface. Tip the head back until the top touches the wall, which will force the shoulders away from the support.

Bring the head forward into the natural position, being careful to retain the shoulders in place. This will give a correct position, which, though possibly tiresome at first, will soon become natural.

Having taken into account the position and condition of the body, we now turn our attention to the matter of clothing. In selecting material for garments, or those which are ready-made, care should be exercised to choose that which will meet the demand as to season, service, or person.



The clothing should be as light as possible, but of such material as will keep the body as nearly as possible at a uniform temperature. White or light-gray underwear is more healthful than black, because white is a better conductor of heat. The material should be sufficiently porous to allow a free circulation of air through the clothing.

The union undergarments now so generally worn are most satisfactory and convenient. These can be obtained in silk, wool, Lisle, or cotton. The silk is very durable as well as warm and comfortable, but is quite expensive. The all-wool garment is advisable in some cases, but is open to the objection that unless great care is used in laundering, it will shrink and become thick and hard. The three-fourths wool or half-wool garment is warm and durable, and many prefer it to the all-wool. Union undergarments made from linen mesh are now worn by many, and are very durable and satisfactory, but rather expensive.

If one is unable to purchase any of these garments, a very neat and convenient union suit may be made of muslin or any other material desired. The accompanying illustrations represent the muslin garment.

Next to the union suit should be worn a waist, to which may be attached the skirt, and also muslin drawers, if desired. The Freedom waist we believe is the best for this purpose, as it gives perfect freedom to the body, and at the same time acts as a perfect support for the skirts. It should be made of good material that will not draw or stretch to any great degree. Silk, satin, sateen, silesia, twill, or linen may

be used for this waist. The special advantage of the Freedom waist over the ordinary one is that it is so cut that the weight pulls evenly from the shoulders, and however heavy the skirt may be, it does not drag down in the back and up in front. The seams in the back are straight, not curved or bias. The puff in front allows ample room for expansion, and at the same time serves as a support. Around the waist are two rows of buttons, one above the other, to which the skirts and

FREEDOM WAIST WITH SKIRT ATTACHED.

other garments may be attached. A hose supporter may also be attached to the lower border of the waist, and thus every article of clothing be perfectly supported from the shoulders.

Care should be taken to see that the material for undergarments is such as properly to protect the body from the extremes of heat and cold, always remembering that the limbs, which are farthest from the center of circulation, must be sufficiently clothed to keep a uniform temperature of the whole body. During the cold seasons and when the weather is unsettled, most people would be better protected by wearing woolen undergarments; in some cases it is advisable to wear flannel even during the summer months. Especially is this true in cases of rheumatism, in which the body is very susceptible to cold. During the winter months woolen stockings and thick-soled, leather, or, better, felt shoes should be worn. By dressing in this manner the circulation may be equalized all over the body.

With the garments made as suggested, there is no necessity for the least constriction by bands, corsets, or elastics, and there is opportunity for entire freedom of movement of every part of the body, and perfect circulation of the blood.

ABBIE M. WINEGAR, M. D.

AËRATED BREADS.

PROBABLY the earliest form of bread was simply the whole grain moistened and exposed to heat. Later the grain was roasted and ground or powdered between stones, mixed to a dough with water, and baked in the form of thin cakes. Two centuries before Christ, Marcus Porcius Cato put in writing a recipe for bread which was probably in accord with the method of bread making at that time. It read: "Make kneaded bread thus: Wash your hands and trough well. Put the meal into the trough, add water gradually, and knead thoroughly. When you have kneaded it well, mold it, and bake it under cover." The bread of our Anglo-

Saxon ancestry was chiefly unleavened, and baked in round, flat cakes which the superstition of the cook marked with a cross to preserve them from the perils of the fire. At the present time that used by the majority of the laboring classes of the Old World is some form of unleavened bread. The bread of the native Mexicans is *tortillas*, a thin cake made of corn soaked in lime-water until it can be ground into a dough. Various tribes of American Indians make for their daily fare a similar article from wheat, which they first spread on cloths and dry in the sun, then between a stone slab and a roller they grind it by hand into a very good variety of graham flour. After the flour is mixed into a dough with water, it is carefully kneaded, partially flattened on a board, then thinned by dexterously tossing from one hand to the other and baked on a tin over glowing coals.

A careful study of good bread reveals the fact that besides being palatable and of a high nutritive value, it must, in point of wholesomeness, contain no ingredient which will in any way be injurious if taken into the system, and as regards its digestibility it must be prepared in some form so crisp or dry as to require sufficient mastication to insure thorough mixing with that important digestive agent, the saliva; or if soft in texture, it should be so friable, light, and porous as to be readily insalivated. A pasty, sticky, semi-solid mass of any sort can in no wise be considered good bread.

A common, convenient, and, when properly made, wholesome form of bread is that made light by fermentation. Yet it is possible to make most excellent light bread without fermentation. The unfermented bread in most common use is that prepared from flour and liquid to which some fat, as shortening, is added and the whole made light by the liberation of gas within the dough itself during the process of baking. This is accomplished either by mixing with the flour certain chemical substances which, when brought in contact in a moistened condition, act upon one another so as to set free carbonic acid gas, which expands, and in so doing puffs up the bread; or by the introduction into the dough of some volatile substance, as carbonate of ammonia, which the heat of the oven will cause to vaporize, and which in escaping lifts up and makes light the bread. The chemicals originally used in making unfermented breads were muriatic acid and carbonate of soda. Their use was soon abandoned, however, on account of the propensity of the acid for eating holes in the fingers of the baker as well as in his pans, and for it was substituted the more convenient process, at least for hands and pans, of using soda or saleratus with cream of tartar or sour milk.

It is a question whether the advantage of this change extends so far as the stomach of the user, since the chemicals made use of in either case are a frequent source of injury to that useful organ. Alkalis, the class of chemicals to which soda and saleratus belong when pure and strong, are powerful corrosive poisons. The acid used with the alkali, if rightly proportioned, destroys the poisonous property, and unites with the alkali to form a new compound, which, though not a poison, is unwholesome. In order that even this result may be brought about, the most *exact* proportions of both acid and alkali must be used. Not only must measurements be accurate in quantity, but the strength of both the acid and the alkali must be so carefully and correctly estimated that the one will exactly neutralize the other. This is a most difficult result to secure, particularly when soda and sour milk are used, for, although two cups of sour milk may at one time be sufficiently acid to neutralize

a teaspoonful of saleratus, at another time it may vary in acidity so much as to be insufficient for the purpose, and while two teaspoonfuls of some brand of cream of tartar will neutralize a teaspoonful of one kind of soda, similar measures may not always bring about the same results in other brands. Very seldom, indeed, will the proportions be sufficiently exact to accomplish perfect neutralization, since these, like all other chemicals, are subject to variations in degree of strength from long keeping, from adulterations, and other causes. Add to this the fact, patent to all who have given the subject thought, that the majority of cooks guess at the measurements or go by some rule of thumb, subject to no variations and independent of the strength of the chemicals, and it will be apparent that bread made light in this manner is in great danger of being an unhealthful article.

Baking-powders are composed of soda and cream of tartar or similar chemicals, and while their use offers the advantage of securing the chemicals properly proportioned, they, like the soda and cream of tartar when purchased separately, are subject to many deteriorating influences, particularly adulteration. As the result of investigations made by the government chemists, it was found that out of one hundred and forty different kinds of baking-powders none were free from adulterations. Even were they perfectly pure, these agents are not altogether harmless, as is so generally believed. There seems to be a prevalent notion that when an alkali is neutralized by an acid, both chemicals are in some way destroyed or vaporized in the process, and in some occult manner escape from the bread during the baking. This is an error. The acid and the alkali neutralize each other chemically, but they do not destroy each other. Their union forms a neutral substance, a salt exactly like the Rochelle salts of medicine, which, were it collected from the bread and weighed, would be almost the same in quantity as the amount of baking-powder put into the bread.

It is not necessary to make use of these chemicals. Very excellent breads, light and toothsome, may be made without yeast or chemicals. By introducing into the material cold air, which, under proper conditions of the oven, will be retained within the bread and under the action of the heat will expand, thus making light the bread, we may secure an article both palatable and nutritious. Aërated bread may be prepared for baking either in the form of a batter or a dough. All material used for such breads should be of the best possible quality. For batter breads the material should be carefully measured, and all utensils should be in readiness before beginning the work of putting the bread together, since air, while not difficult to catch, is hard to hold, and success is largely dependent upon the despatch characterizing the process. The oven must also be in readiness, heated to a temperature sufficient to form a slight crust over all portions of the bread before the air escapes, but not sufficient to brown it within the first fifteen minutes. If the heat is not sufficient, the air will not expand enough to make the bread light, or if before a sufficient crust is formed to retain the air and form a framework or support for the dough, the heat is lessened or withdrawn, the air will escape or contract to its former volume, and in either case the bread will be heavy. All aërated breads are lightest when baked in a small form. For this reason small iron cups are most desirable for baking batter breads.

Air is incorporated into the batter breads by brisk and continuous beating of the liquid to be used until it is foamy and full of air bubbles. Flour may then be added, a little at a time, but the beat-

ing must be continuous until the whole is effervescent like yeast.

This beating will require but ten minutes at the most, if the work is continuous and brisk. If the beating is stopped, the air that has already been secured will escape; if the beating is slow or interspersed with stirring, the air will escape between the strokes. When one is accustomed to the process, very nice light bread can be made from liquid and flour alone, but the novice in making aërated breads will find it an advantage to add to the mixture the stiffly beaten white of an egg. The egg, because of its viscous nature when beaten, serves as a sort of trap to catch and hold air, and added to the bread aids in making it light. It should be added just before putting the batter into the irons, and while it should be very completely incorporated into the batter, it should not be beaten much afterward or the air in the egg will be driven out. If carefully made and properly baked, the result will be a bread as light as any raised by fermentation or chemicals. Breads in which egg is used, require less heating of the irons and a lower oven temperature than when prepared without the egg. Batter breads of this sort may be made from all kinds of flour and meals, and may be varied in many ways.

The difficulties most likely to be encountered in the successful production of aërated batter breads are due to the inaccuracy of measurement, poor material, an improperly heated oven, or careless and insufficient beating. If, after baking, such breads appear pasty in the interior, it is doubtless due to their being insufficiently baked, or to the fact that not enough dough in proportion to the liquid has been used. If the bread when baked seems light, but has large holes in the center, it is probable either that the iron or the oven was at first too hot, or that the egg, if used, was not thoroughly mingled throughout the whole. Well-baked breads of this sort are light, spongy, and of uniform texture. They are more quickly and easily made than almost any other kind of bread. They are, however, in no other particular superior to the aërated dough breads. These breads require the same care as regards material, accuracy of measurement, carefulness, and dexterity in putting together, as do the batter breads. Air is incorporated into such breads by kneading, chopping, or pounding. They also should be baked in a small or thin form.

The temperature of the oven for these breads should be about the same as for batter breads of the same size. The best utensil on which to bake them is a perforated sheet of iron or a perforated tin. The loaves need to be placed sufficiently far apart so that they will not touch. Aërated dough breads of all kinds should be put into the oven as quickly as possible after the dough is ready to shape, otherwise they will lack in lightness. With both batter and dough breads, however, the material may, if necessary, be left for a long time without detriment, if placed on ice, and this is especially advisable when the material is not of the coldest, since the lightness of the bread is due not alone to the quantity of air which it contains, but to the expansion of that air, and the colder the air, the more it will expand.

These beaten or chopped breads are excellent for school or picnic luncheons. They are also desirable for the traveler, and will keep in good condition longer than any other kind of bread.

ELLA EATON KELLOGG.

Seasonable Bills of Fare

. . By . .
Mrs. E. E. KELLOGG

BREAKFAST No. 1

Fresh Fruits
Grains of Gold with Maltol
Nut Sticks Whole-Wheat Puffs
Cream or Coconut Cream Toast
Caramel-Cereal

DINNER No. 1

Asparagus Soup.
Stewed Potato Spinach
Macaroni with Kornlet
Currant Puffs
Browned Granose Biscuit
Stewed Dried Apple with Dried Cherries
Fruit Crackers

BREAKFAST No. 2

Strawberries
with Coconut or Almond Cream and Nut Crisps
Asparagus on Toast
Breakfast Rolls
Sliced Protose C with Fruit Jelly
Fruit-Coco

DINNER No. 2

Gran-Nuts with Fruit-Juice
Split-Pea Succotash Fresh Lettuce
Stewed Tomato with Zwieback
Toasted Rolls Whole-Wheat Puffs
Strawberry Minute Pudding
Sliced Pineapple

Nut Sticks.— Larger quantities of the flour and nut meal used in the same proportion as for nut crisps may be made into a dough in the same manner. After being well kneaded, it may be divided and shaped by rolling with the hand into a long roll about the size of the little finger. Cut into three- or four-inch lengths, and bake on perforated tins for about twenty minutes.

Whole-Wheat Puffs.— Put the yolk of an egg into a basin, and beat the white in a separate dish to a stiff froth. Add to the yolk one half a cupful of rather thin sweet cream and one cupful of skim-milk. Beat the egg, cream, and milk together until perfectly mingled and foamy with air bubbles; then add, gradually, beating well at the same time, one pint of wheat-berry flour. Continue the beating vigorously and without interruption for eight or ten minutes; then stir in, lightly, the white of the egg. Do not beat again after the white of the egg is added, but turn at once into heated, shallow irons, and bake for an hour in a moderately quick oven. If properly made and carefully baked, these puffs will be of a fine, even texture throughout, and as light as bread raised by fermentation.

Currant Puffs.— Prepare the puffs as directed in the foregoing recipe with the addition of one cup of Zante currants which have been well washed, dried, and floured.

Asparagus Soup.— Wash two bunches of fresh asparagus carefully, and cut into small pieces. Put to cook in a quart of boiling water, and simmer gently till perfectly tender, when there should remain about a pint of the liquor. Turn into a colander, and rub all through except the hard portion. To a pint of asparagus mixture add salt and one cup of thin cream and a pint of milk; boil up for a few minutes, and serve.

Fruit Crackers.— Prepare a dough with one cup of cold sweet cream and three cups of graham flour, knead well, and divide into two portions. Roll each quite thin. Spread one thickly with dates or figs seeded and chopped; place the other one on top and press together with the rolling-pin. Cut into squares and bake. An additional one fourth of a cup of flour will doubtless be needed for dusting the board and kneading.

Nut Crisps.— Mix together thoroughly one and one-half cups of coarse graham flour and one-half cup of nut meal. Make into a rather stiff dough with ice-cold water, knead well, roll into a sheet as thin as brown paper, cut with a knife into squares, and bake on perforated tins until lightly browned on both sides.

Asparagus on Toast.— Cook the asparagus in bunches, and when tender, drain and place on slices of nicely browned toast moistened in the asparagus liquor. Pour over all a cream sauce prepared as directed below: —

Cream Sauce.— Let a pint of sweet cream (about six hours old is best) come to the boiling-point, and stir into it salt to taste and a level tablespoonful of flour rubbed smooth with a little cold cream. Boil till the flour is perfectly cooked, and then pass through a fine wire strainer.

Breakfast Rolls.— Sift a pint and a half of graham flour into a bowl, and into it stir a cupful of very cold thin cream or unskimmed milk. Pour the liquid into the flour slowly, a few spoonfuls at a time, mixing each spoonful to a dough with the flour as fast as poured in. When all the liquid has been added, gather the fragments of dough together, knead thoroughly for ten minutes or longer, until perfectly smooth and elastic. The quantity of flour will vary somewhat with the quality, but in general the quantity given will be quite sufficient for mixing the dough and dusting the board. When well kneaded, divide into two portions; roll each over and over with the hands, until a long roll about one inch in diameter is formed; cut this into two-inch lengths, prick with a fork, and place on perforated tins, far enough apart so that one will not touch another when baking. Each roll should be as smooth and perfect as possible, and with no dry flour adhering. Bake at once, or let stand on ice for twenty minutes. The rolls should not be allowed to stand after forming, unless on ice. From thirty to forty minutes will be required for baking. When done, spread on the table to cool, but do not pile one on top of another.

Very nice rolls may be made in the same manner, using for the wetting ice-cold soft water. They require a longer kneading, are more crisp, but less tender than those made with cream.

With some brands of graham flour the rolls will be much lighter if one-third white flour be used. Whole-wheat flour may be used in place of graham, if preferred.

Strawberry Minute Pudding.— Cook a quart of ripe strawberries in a pint of water till well scalded. Add sugar to taste. Skim out the fruit, and into the boiling juice stir a scant cup of granulated wheat flour previously rubbed to a paste with a little cold water; cook fifteen or twenty minutes, pour over the fruit, and serve cold with cream sauce.

Nut Butter Puffs.— Dissolve sterilized nut butter in five times its own volume of water. Into one cup of this cream beat one egg and sufficient sifted graham flour (part white flour if desired) to make a batter of proper consistency. The batter should be poured into warm, not hot, gem-irons. Bake in a moderate oven until well baked throughout or for about fifty minutes.

THE GENEALOGY OF CERTAIN DISEASES.

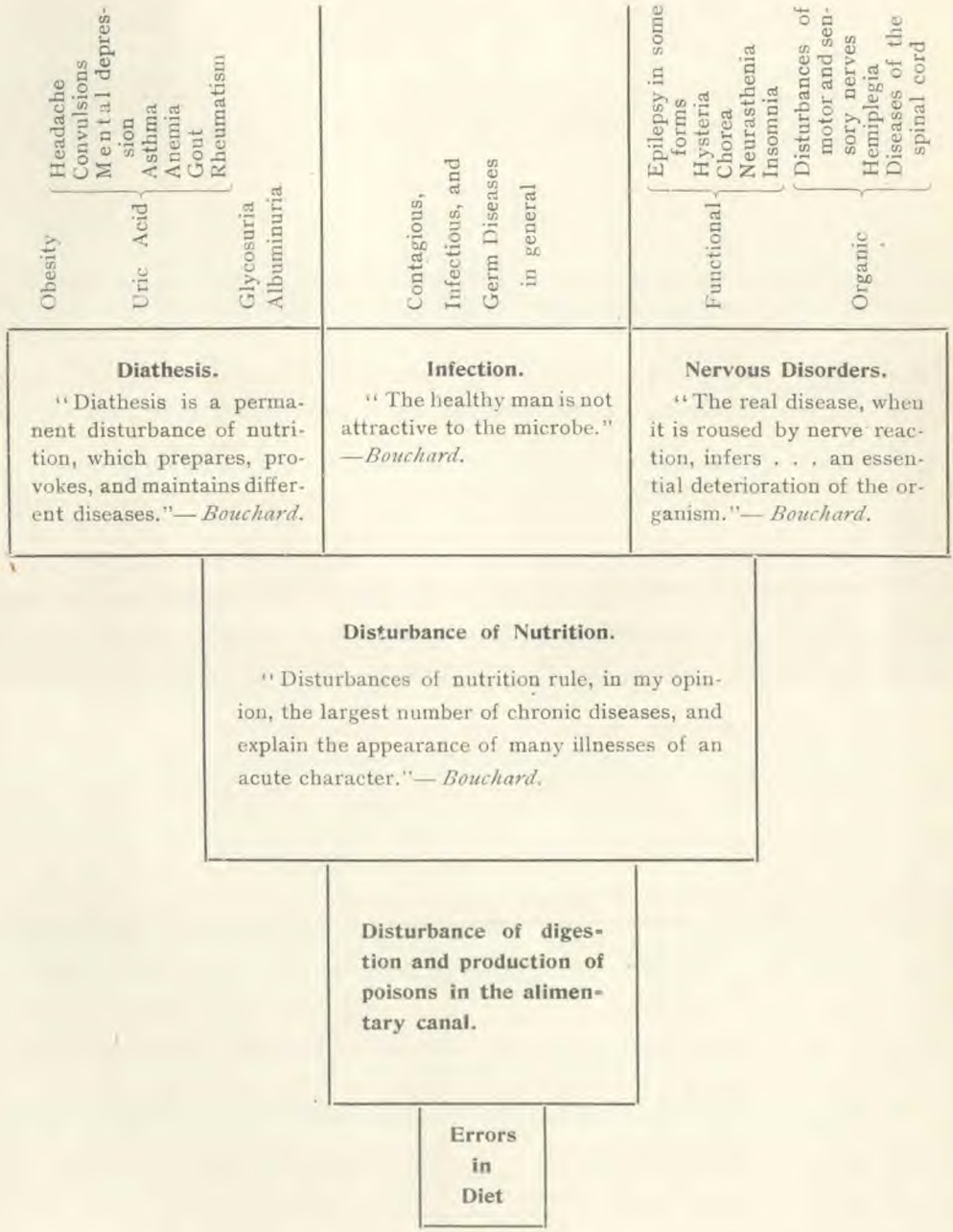
THERE is, perhaps, no more deep-seated delusion in the popular mind than the supposition that disease comes in some spontaneous manner, like the outburst of a volcano. The laboring man struggles to lay up something in case of sickness, little imagining that sickness is a harvest resulting from systematic sowing. True, it is difficult to see clearly how a disease, with its varied and complex symptoms, can possibly spring from such apparently simple seed sowing as tea drinking, lack of proper exercise, or impure air. Yet it is not so difficult when we look at the mighty oak with its thousands of leaves, and recollect that this wealth of foliage came from one smooth acorn planted in the ground.

There are more than fifteen hundred distinct diseases described in our medical books, and with these go thousands of symptoms, but they all spring from a violation of only a few of nature's laws. That this is no theory but an absolute fact, has been demonstrated to a mathematical certainty by the extensive researches of such men as Bouchard and Boix in France, and Dr. Haig in London, as well as by the painstaking efforts of thousands of scientific men in all parts of the world.

To illustrate at a glance the relation of certain diseases to the violation of nature's laws, the accompanying diagram has been prepared. First notice the square which has the words, "Errors in Diet," written within it. When a person eats food that does not properly nourish the body, or worse still, eats such food as readily decays and ferments, the functions of digestion are paralyzed so that even good food can not be properly digested. Hence the patient passes into the stage considered in the next larger square. As these poisons are absorbed, they are carried by the blood to every part of the system, disturbing the nutrition, and preventing the healthy changes which should take place in every cell. In the third square is stated the condition which is the foundation of so much trouble. As Bouchard says, the condition here represented controls the largest share of chronic disease, and explains the appearance of many acute ones. In other words, when a man's system has reached this state, he is likely to develop almost any disorder, and will soon need the money he has saved up for a rainy day. Disease may appear in some constitutional disorder, as obesity with its fatty degeneration of such organs as the heart and liver; or it may be that uric acid will begin to accumulate in the system, producing headache, mental depression, rheumatism, gout, and some forms of asthma; or perhaps the kidneys will begin to eliminate either sugar or albumin.

Instead of contracting any of the constitutional disorders represented in the left-hand square, under "Diathesis," one may be exposed to some of the germ diseases. Bouchard states a great truth when he says that a healthy man is not attractive to the microbe. When a contagious disease is in the neighborhood, only a small per cent. of those who are exposed take it, and the reason is as just intimated. It is those whose bodies are in a condition to afford a convenient and pleasant place for the germs to build their nests, who are susceptible to infection.

Again, instead of these disturbances of the body being manifested in either a constitutional malady or in the form of some infectious disease, we may, perchance, have what is indicated in the remaining square, some of the various nervous diseases. These may be functional in character, as hysterics, St. Vitus's dance, nervous prostration, sleeplessness,



"All diseases are but parts of the body's methods of resistance against forces that interfere with its normal adjustments within itself and with its environment."

"Disease *per se* does not exist: we have given names to certain deviations from the normal equilibrium of forces that constitute health, and then exalted these names in our minds to real things."—*Editorial in Med. and Surg. Bulletin.*

and certain forms of spasm and convulsions; or, on the other hand, they may be what is called organic, in which some really structural change has taken place in the nervous system, such as various diseases of the brain and spinal nerves, producing paralysis and certain forms of epilepsy, shaking palsy, and others of like character. The foundation of many of these diseases is laid in the continual irritation of poisonous substances either taken immediately into the body or produced in the alimentary canal as a result of the various abnormal fermentations which are likely to be continually taking place in such individuals.

It will probably be apparent to every one how discouraging it is when a disease has fully leaved out to begin to treat it simply by taking off a leaf. Here is headache; a powder will cure that, but the mental depression will be worse the next day. Or here is St. Vitus's dance; large and increasing doses of various drugs may smother this, only to render the individual more susceptible to consumption and other germ diseases. Is it not clear that, in order to help the sick person to get well, the ax must be laid at the root of the tree? Instead of continually trying to satisfy every morbid whim and fancy of the sick, should we not begin to feed them the simple foods which will tend to clear up the coated tongue and destroy the germs that are flourishing in the alimentary canal? Instead of administering quieting drugs, which have the same tendency to stop the activities of the kidneys as the activities of the brain, should we not coax the patient to drink an abundance of pure water and to keep the skin in an active condition by daily sponging?

Morphine, which obscures some distressing symptoms, to precisely the same extent paralyzes the activity of the bowels, thus retaining in the body the very poisons which lie at the foundation of the patient's troubles. The same restoring power that renews the bark on the tree, that causes the plant to grow, that heals an abrasion of the skin, is in every individual to build him up to the normal when it has a chance. But when one continues to do the very things that made him sick, and tries to antidote this violation by swallowing certain drugs or patent medicines, how difficult and trying are all the long and painful weeks of convalescence, which in the majority of cases could be cut down to a few days.

When we recognize that sickness is the result of our seed sowing, how important it is that we learn to sow health day by day, and to avoid those things which uproot the seed, and lay the foundation for innumerable ills. Health is not a matter of luck or chance, but is maintained in the same way that the student secures his education,— by a process of constant cultivation along lines which are in themselves perfectly simple, if they are only faithfully followed.

DAVID PAULSON, M. D.

THE NOSE AND THROAT.

Structure.— The nose is the airy portal to the respiratory system, just as the mouth is the gateway to the alimentary canal. Inasmuch as the special senses of taste and smell are so closely associated functionally, and are more or less dependent the one upon the other, their anatomical relations are just as intimate, for obvious reasons.

The nasal cavity and the throat are lined by a mucous membrane which in structure closely resembles the skin. This membrane is continuous with that which lines the mouth, the esophagus, and the larynx. It is made up of microscopical cells, and deeply studded with little glands which separate fluid from the

blood and discharge it upon the surface. This membrane is also very richly supplied with blood-vessels; both arteries and veins, and both glands and vessels are controlled by numerous nerves. In addition to the general nerve supply, the special nerve of smell is distributed to all parts of the upper portion of the nasal passages.

If one examines the nose by throwing a light into its chambers, it will be noticed on first inspection that two bodies, somewhat curled upon themselves, project from the outer wall of the cavity inward toward the middle partition, or septum, and then a little downward. These are the turbinated bones. They are porous, very vascular, and because of their irregular outline increase considerably the surface of the lining mucous membrane.

Functions.— The nose has several important physiological functions in addition to its effect upon the personal appearance. Its most important function is its relation to the process of respiration. This is the most vital process of the system. If abrogated to the least degree, all the other functions of the body are influenced to a greater or less extent.

The nose is the proper inlet for air. When man was created, God breathed into his nostrils the breath of life, and he became a living soul. Man can not improve upon this first method of breathing, and one has life only to the extent that he follows the divine order. Air received through the nose is much more refreshing and invigorating than that taken through the mouth.

The indirect system of heating is nicely illustrated in the nasal cavity. As the air inhaled comes in contact with the extensive surface of mucous membrane in its passage through the nasal chambers, it becomes warmed just as air becomes warmed in passing over a hot coil, or a heated surface, and is thus prepared for the lungs. On the other hand, overheated air parts with some of its heat in its passage through the nose and throat.

Another important function is that performed by the secretions of the nose, which amount to several ounces in twenty-four hours. The air inhaled becomes saturated to the dew-point from these nasal secretions, and the lungs receive a moist air, which is less irritating than dry air. Then again, these secretions keep the membrane moist, and so fine particles floating in the air, and dust are collected on these surfaces, and prevented from entering the lungs. These secretions are cleansing to the nasal membrane and are also antiseptic, protecting these parts from the action of germs. Thus the air in its passage through the nose, pharynx, and larynx becomes warmed, moistened, and practically free from dust and germs.

The nose is the seat of the sense of smell. Odors, either fragrant or obnoxious, are transmitted through the air in very minute particles, and these atomic bodies coming in contact with the sensitive endings of the olfactory nerve, stimulate it, and the impression is registered in the brain as smell. By this sense we are able to detect dangerous gases; and poisonous and otherwise dangerous food may be discovered before it enters the mouth, for smell precedes taste. The nose is also protected at its entrance by short, stiff hairs, which prevent insects and large particles in the air from entering.

Diseases of the Nose and Throat.— The majority of the difficulties of the nose and throat have their origin in "colds." The question of "taking cold" is one of great importance because of its prominence in the production of disease in these organs. A cold, whether it be in the head, in the throat, or "on the lungs," is a congestion of the mucous membrane of those parts, due to a sudden chilling of the skin, either in whole

or in part, and because of the exhaustion of the nerve centers the skin fails to react; the equilibrium of the circulation is broken, and the part in which there is the least resistance suffers. This is usually some part of the mucous membrane. The most intimate relation exists between the skin on the outside of the body, and that on the inside, or the mucous membrane. The slightest change of temperature affects the skin. In health there is an equilibrium in the circulation in all those parts; but in exhaustion, this equilibrium is broken, and disease follows.

Colds are indicators on the dial of health of a lowered vitality. Frequent attacks of acute nasal catarrh or of acute sore throat plainly reveal a state of exhaustion; a chronic catarrh of either of these parts in a great majority of cases indicates that there has been a lowering of all the vital forces. Associated with these chronic conditions of the nose and throat are gastric disorders, constipation, and an inactive skin. Colds go hand in hand with exhaustion of the vital forces, and following quickly upon these are pneumonia, pleurisy, heart disease, attacks of gastro-intestinal indigestion, diseases of the kidneys, liver, pelvic organs, and nerves.

Acute catarrh is often produced by chilling of the feet and ankles, by being chilled when the skin is moist, by loss of sleep, overwork, overeating, sedentary habits, overheated rooms, and by lack of sunshine and fresh air. All these factors favor chronic catarrh of the nose and throat, and repeated acute attacks especially predispose to a chronic state.

The mucous membrane of the nose being in a condition of passive congestion, the tissues thicken, one or both sides are partially or completely occluded, breathing is difficult, and mouth breathing follows. If the nasal passages are partially closed on one side, or are completely closed, the lungs are weakened by not receiving sufficient air and because extra effort is required of the respiratory muscles to inhale the air.

Mouth breathing irritates the throat, which becomes dry, and dust and germs are deposited upon it, the tissues hardening and thickening. Dry pellets of secretion collect in the upper and lower portions of the pharynx. The air enters the lungs dry, laden with dust and germs, and not properly warmed. This is a frequent cause of lung disease.

A child that breathes through the mouth and snores at night should be given careful treatment, for a diseased condition of the nose and throat often seriously interferes with physical and mental growth.

Treatment.— From the foregoing it can readily be seen that diseases of the nose and throat can not be successfully treated by simply giving attention to the local condition and neglecting the general causes.

No one can be cured of catarrh so long as he is in a state of lowered vitality and general debility. The sum total of energy and resistance must be increased.

It is therefore necessary to give careful attention to diet as one of the first measures. Pickles, vinegar, pepper, and all the condiments are irritating to the throat, as is also fat and greasy food. The diet should be simple, consisting of well-prepared cereals, fruits, and nuts, and dry foodstuffs.

One should have all the sunshine possible, outdoor exercise, and frequent bathing. The morning cold bath is one of the best of all general measures for treating chronic catarrh.

Of local measures there are many. Steaming the face, at the same time applying ice to the neck for a few minutes, and then a cold compress to the face, the whole treatment repeated three or four times, is

excellent. Next come cleansing solutions, sprays, and oils. For a cleansing solution to be used as a gargle, a nasal douche, or in an atomizer the following is excellent: Sodium borate and sodium bicarbonate, each one teaspoonful; carbolic acid, thirty drops; glycerin, two tablespoonfuls; pure water, one quart: or equal parts of borax, sodium bicarbonate, and common salt may be used, putting one teaspoonful of this in a pint of water. After cleansing the nose and throat, some oily substance containing a medicament is of great service. This can be put up at any drug-store. One dram each of menthol and camphor to four ounces of albolene may be used in an atomizer or a nebulizer, the latter being the best of all local means of treating the nose and throat. Camphor, menthol, and eucalyptus may also be used in an inhaler with good results.

FREDERICK M. ROSSITER, M. D.

GENERAL HOT AND COLD APPLICATIONS OF WATER.

THE most important applications of hot water for general excitant effects are the very hot douche, in the form of the shower, spray, or jet, at a temperature of from 110° to 130° F., continued from fifteen seconds to four minutes; the very hot affusion, temperature from 110° to 115°, continued from thirty seconds to five minutes; the hot blanket pack, temperature from 105° to 110°, continuing from ten to twenty minutes; the hot sponge bath; the hot enema, temperature from 105° to 112°; hot water drinking; general alternate hot and cold sponging; the full bath, temperature from 105° to 110°, for five or ten minutes.

The effect of alternate hot and cold applications is continually to renew the exciting effect of the heat; hence the cold application should be brief,— only long enough to remove the heat absorbed by the skin from the hot application, and not long enough to produce a lowering of temperature, as indicated by chill, shivering, or any other indication of thermic reaction. As a rule, in hot and cold applications the hot and the cold applications should be made of equal time,— about fifteen seconds each.

Alternate hot and cold applications are the exciting applications *par excellence*, for the following reasons: —

1. For primary excitant effects it is desirable to arouse the nerve centers to activity without exhausting them by creating decided reaction effects. It is especially important to suppress atonic thermic reaction.

2. If the cold application is prolonged, the effect is to extract heat from the skin and from the blood, and thus either directly to lower the vigor of the patient or to provoke an undesirable thermic reaction whereby the weakened resources of the body will be still further exhausted.

3. By a short application of heat immediately followed by an application of cold of equal length the heat impression is made only of sufficient intensity and length to produce the desired nervous impression, any further effect being prevented by the antidoting influence of the succeeding cold application, which restores the normal temperature of the skin, and thus prepares it for the new exciting impression to be produced by the succeeding hot application.

Although the strongest excitant effects may be obtained by the alternate douche, very powerful excitant effects may also be secured by alternate hot and cold sponging, compresses, affusions, etc.

In the employment of non-percutient applications, as the fomentation, greater extremes of temperature may be employed than with the douche. As a rule, the temperature should be as extreme as can be borne without actual pain, except, of course, in case of an extremely nervous patient, who might be overexcited by a too strong stimulation of the sensory nerves.

In the employment of the hot full bath and the hot douche, great care must be taken to avoid cerebral excitement. To prevent this it is sometimes necessary to apply a cold compress or an ice-cap to the head while hot applications are being made to other portions of the body. Care must also be taken to avoid over-excitement of the heart. Generally, very hot applications are contraindicated in cases of weak heart, arterio-sclerosis, advanced age, infancy, and early childhood (less than seven years), also in cases of previous injury from sunstroke or heat-stroke.

The excitant effect of cold may be occasionally used with advantage in cases of collapse and asphyxia. The action must be brief and general, and the colder the water and the greater the force with which it is applied, the better will be the effects produced.

As a rule, however, the excitant effect of heat is to be preferred to that of cold. Any possible depressant effects from the heat may be prevented by a very short cold application following the hot application. General excitant effects from heat or alternate applications of heat and cold are indicated in cases of extreme exhaustion, collapse, surgical shock, collapse under anesthesia, drowning, suffocation, syncope from hemorrhage, fright, or other cause.

The general excitant effects of cold water occupy a large place in the therapeutic armamentarium. Indeed, there is no therapeutic measure known to modern medical science which is capable of producing more powerful general excitation of the entire system than may be obtained by a scientific application of cold water. A short application of very cold water is often exciting, no matter in what manner it is applied. When, to the influence of a low temperature is added the percussion effect obtained by the douche with considerable pressure, the excitation resulting is of a most intense character, and is capable of arousing to action every nerve fiber and every cell, and awakening every form of activity in the entire body.

In the practical therapeutic employment of water, two important general excitant effects, somewhat similar, but differing in use, are especially recognized. These may be distinguished as (1) restorative and (2) tonic.

1. *Restorative Effects.*— A single short application of cold water in the form of a douche, affusion, rubbing, wet sheet immersion, or in any other manner in which cold or very cold water is brought in contact with the general surface of the body, is always restorative and invigorating in its influence. A man who has been exhausted by laborious effort in a highly heated atmosphere finds his muscular strength singularly re-enforced by an affusion of cold water, cold immersion, a cold shower bath, and especially by the cold douche. Even an application of cold water to the head and face has a wonderfully refreshing effect. The brightened look, the increased vigor and buoyancy, and the intense relief which come from a simple bathing of the head, face, and neck with cold water are the result of the reflex stimulation of the nerve centers of the

brain and spinal cord and the tonic reaction which follows such an application. When the whole surface of the body is acted upon instead of a small area, the effect is proportionately greater.

During the heated term in our great cities thousands of lives have been saved by the timely opening of free shower baths in crowded tenement-house districts, whereby the depressing and exhausting effects of a superheated atmosphere have been successfully antagonized and antidoted by the restorative influence of the cold bath.

In this connection it is important to mention the necessity of exercising care in the use of the general cold bath in cases of extreme exhaustion from violent exercise, and when, either with or without exhaustion, a sensation of chilliness exists. A general cold application should never be made when the surface is cold, blue, covered with cold perspiration, or when the body is in a state of extreme fatigue from violent exertion of any sort. When the surface is hot and dry, cold applications may be made without risk, and usually the presence of perspiration, even though it be quite profuse, is not a contra-indication to cold applications, provided, however, that the patient is at the same time suffering from a rise of temperature; but the application must be short, and must be followed by sufficient exercise to promote proper reaction. Care must be taken to see that the exercise is not such as to produce too violent a reaction, especially in cases in which the skin of the patient is hot and perspiring.

In case of extreme exhaustion in which it is not prudent to administer a cold bath, a cold application may with advantage be made to the head, face, neck, and spine. The hands and feet may also be bathed in cold water, care being taken to keep the remainder of the body covered if there is a cold perspiration.

A short hot bath continued from two to four minutes followed by a short cold bath is one of the most efficient means of combating a state of exhaustion or collapse such as often occurs in fever.

J. H. KELLOGG, M. D.

THE PANCREATIC JUICE AND ITS FUNCTIONS.

THE pancreatic juice is the product of the pancreatic gland, which is situated behind the stomach. This gland is located so that its head, or larger end, rests within the curvature of the duodenum. The smaller end extends to the left, and lies close to the spleen. This gland is what is commonly known as the "sweetbread."

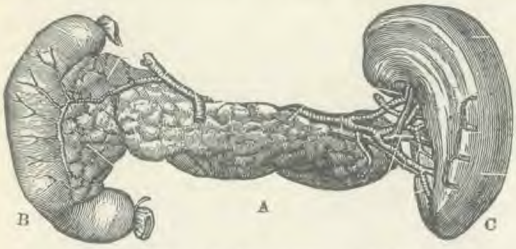
The pancreas has two ducts, which connect the gland with the small intestine. It is through these ducts that the pancreatic juice is poured into the intestine; here also the fluid comes in contact with the food material. The bile from the liver is poured into the intestine at the same place.

We have already learned that the saliva and the gastric juice each digest one particular kind of food, the saliva digesting the starch, and the gastric juice the proteid, or nitrogenous food. The function of the pancreatic juice is of a much broader nature than that of either the saliva or the gastric juice, for it is capable of digesting all food substances,— proteids, fats, and carbohydrates. This is a wise provision on the part of nature, for, should the saliva and the gastric juice fail to do their part, the pancreatic juice would perform these functions.

A chemical analysis of the pancreatic juice shows it to contain three digestive ferments,—amylopsin, trypsin, and steapsin. The amylopsin digests the starchy foods, trypsin the proteid foods, and steapsin emulsifies the fats.

Amylopsin rapidly converts starch into sugar. It is able to change starch into sugar much more rapidly and energetically than the ptyalin of the saliva.

Trypsin acts energetically upon the proteid substances, rapidly converting



A. Pancreas; B. Duodenum; C. Spleen.

them into peptones. The gastric juice, by means of the pepsin, also possesses this power, but the trypsin of the pancreatic juice has a further action in that it is capable of changing part of the peptones into substances called amido-acids, the chief of which are leucin, tyrosin, glutanic and aspartic acids, also taurin. The leucin and tyrosin are carried to the liver, and there undergo a chemical change, forming glycogen,— a substance which is stored in the liver and is utilized as food by the tissues when needed,— and a waste product known as urea. The aspartic and glutanic acids are probably disposed of in the same manner as the leucin and tyrosin. In certain diseases of the liver in which it is not capable of changing the substances, the leucin and tyrosin appear in the urine.

Taurin differs from the other substances mentioned in that it contains sulphur. It is also carried to the liver and unites with a substance called cholalic acid, forming what is known as taurocholic acid. This acid in turn combines with sodium, producing sodium taurochotate, an important constituent of the bile. From this brief description of the digestion of proteids by the pancreatic juice it will be seen that the process is very complex.

In the digestion of fat, most of it does not undergo any chemical change, but is, by the action of the pancreatic juice, broken up into very minute particles.

Ordinary fat, which we obtain from nuts, grains, fruit, or animal tissue, is a compound of glycerin with a fatty acid, and is known as neutral fat; that is, it is neither acid nor alkaline. When the steapsin of the pancreatic juice comes in contact with the neutral fat, a small portion of it (about one tenth) is broken up into free glycerin and free fatty acid. As soon as this is accomplished, part of the alkali which is present combines with the free fatty acid, making a soap. This is a fact with which many are familiar. In making soap an alkali (lye) is obtained from wood-ashes in which rancid fat is placed and the mixture boiled, the result being soap. Fat, when it becomes rancid, separates into glycerin and fatty acid, so the alkali (lye) unites with the fatty acid, and a soap is formed. This soap which is produced in the body by the union of the fatty acid with the alkali acts upon the remaining fat, breaking it up into exceedingly small particles, and thus forms an emulsion which is readily absorbed.

Charles E. Stewart, M. D.

THE CARE OF THE BATH-ROOM.

It would be difficult to find any more sensible and practical suggestions as to the hygiene of the bath-room than the following, which we quote from our English contemporary, *Health*.

"Those persons who rush into the bath-room, splash around a while, muss up a few towels, saturate sponges, and rush out again, leaving the water to run out of the bath-tub if it will, and the towels to dry in a heap on the floor, have very little idea of the possible mischief of which they may be guilty. In the first place, it is a fact

very little understood that a sponge is by no means a fit article to use in taking a bath. It is convenient and agreeable and all that, but it is the plumber's best friend, and those who value perfection in their plumbing long ago learned to have none of it.

"The sponge, especially after it has been used a short time, is continually shedding little particles of itself. These lodge in the pipes, and in many cases attach themselves to little rough places on the inside. One house where the water drained away very slowly was examined all through, the bath-room, of course, at the last, when it was found that one of the traps was almost filled with bits of sponge that seemed to be matted together by some curious jelly-like growth. Just what it was neither the plumber nor the householder was scientist enough to explain, but, all the same, the pipes were stopped, and it cost a pretty penny to get things in order again. A good, soft towel, with a comfortably wide hem securely stitched on the sewing-machine so that no linty edges are exposed, is quite as agreeable to many people as a sponge, and certainly has no particles to come off and interfere with the plumbing.

"In all bath-rooms there should be kept standing a suitable vessel with a quantity of disinfectant. This should be poured through all the pipes, and allowed to remain long enough to do its work. Many persons object to potash, and such will find copperas or a strong solution of salsoda the next best means of keeping up to an approved sanitary standard. Hot water, judiciously used, is a good thing; but to have this perfectly safe, the plumbing must be good, else the joints, by long-continued heat, may become slightly softened. Much of the solder that is used melts at a very low temperature, and can not be trusted to hold a long-continued stream of water that is at boiling-point. The bath-room should have an outside window, and fresh air, whenever it is possible to admit it. In summer, a slatted or Venetian blind should be provided so that the window may remain open, except in case of storm. Few things are more disagreeable than a stuffy bath-room, one where the odors of sewer-gas and soggy, decaying wood are evident. To avoid this, there must be no leaks in the pipes or faucets, and the joints must be carefully looked after."

HOME CLUB QUESTIONS.

PHYSICAL DEVELOPMENT.

1. WHY is it desirable to have a system for the physical training of children?
2. How early should this training begin?
3. What form should gymnastic exercises for children usually take?
4. What mistakes are most frequently made in the physical training of the very young?
5. What is the greatest hindrance to the carrying out of rational principles of child training?

SCIENTIFIC COOKERY.

1. Why are breads made light by chemicals undesirable?
2. Considered from the standpoint of health, are griddle-cakes, dumplings, etc., wholesome?
3. Name five essential points to be observed in the production of good aërated bread.
4. How may air be incorporated into bread?
5. What is the comparative value of aërated and fermented bread made from the same materials?

THE GENEALOGY OF CERTAIN DISEASES.

1. What is meant by "diathesis"?
2. Define glycosuria, albuminuria, chorea, hemiplegia.
3. What are the peripheral nerves?
4. What is the difference between rheumatism and gout?

5. Why single out errors in diet upon which to root the genealogical tree rather than errors in exercise or in sleep?

HYDROTHERAPY.

1. Define syncope, arterio-sclerosis, asphyxia.

2. What is percussion?

3. What is meant by "affusion"?

4. Is it correct to speak of a hot fomentation?

5. What is the difference between a shower and a spray?

PHYSIOLOGY AND HYGIENE.

1. What food substances does the pancreatic juice digest?

2. What are the active digestive principles in the pancreatic juice?

3. What particular food substance does each act upon?

4. What is an emulsion?

5. What is the objection to using a sponge in bathing?

ANSWERS TO HOME CLUB QUESTIONS FOR APRIL.

PHYSICAL DEVELOPMENT.

1. To supply the body with oxygen, to assist in the circulation of the blood, and to hasten the combustion of poisons.

2. To poison it throughout by the instant accumulation of unoxidized waste matter.

3. Thirty cubic inches.

4. From three to four inches.

5. On first rising, before dressing, and after undressing, just before going to bed, until one forms a habit of correct breathing.

HEALTHFUL DRESS.

1. A round waist, too small a waist, exaggerated hips, flat chest, protruding abdomen, misshapen feet.

2. Irritable tempers, clouded minds, nervous troubles of various kinds.

3. Yes, because the principle of health, as opposed to vanity, is involved.

4. Because it makes them unnecessarily heavy.

5. The fact that the arms and shoulders should be clothed just as warmly as the legs. If any parts are to be left unprotected, it should be those nearest the heart and lungs, the center of circulation.

SCIENTIFIC COOKERY.

1. Through the distention of the dough by the action of some gas generated within the dough or introduced into it.

2. Good materials; proper combination of these materials; an equable temperature throughout the fermentative process; thorough baking; and careful cooling.

3. Fermented bread to be easily digested must have been thoroughly baked throughout. It must be sweet, of a light, spongy texture, easily friable, and at least one day old.

4. More care during the process of fermentation, longer kneading, more careful baking.

5. Poor flour; poor yeast; lack of cleanliness of utensils used; lack of care; over-fermentation, insufficient heat of the oven; insufficient baking; cooling in a close room.

HYDROTHERAPY.

1. Migraine is the same as sick-headache. Diabetes is a disease characterized by sugar in the urine. Chlorosis, commonly known as "greensickness," is a peculiar form of anemia, or bloodlessness, common in young women.

2. Apepsia is that condition of the stomach in which there is complete inability to digest food. Hypopepsia is the condition in which the stomach makes too little hydrochloric acid; hyperpepsia is the condition in which it makes too much.

3. A non-percutient bath is one in which the water is applied without force to the skin.

4. Chronic toxemia is a condition in which there is a chronic poisoning of the blood from one source or another, frequently from disorders of digestion.

5. That the curative power resides in the body.

PHYSIOLOGY AND HYGIENE.

1. Two hours, under normal conditions.

2. Cold water, if one has a healthy digestion.

3. By drinking copiously an hour before meal-time, and by eating slowly.

4. Cleanliness and sunshine.

5. Fifteen minutes.

EMPLOYMENT FOR LITTLE FINGERS.

BY MRS. E. E. KELLOGG.

ENFORCED idleness is one of the most unhappy conditions of human life. Our hearts are stirred and our sympathies taxed to the utmost over the needs and distresses of the unemployed among men and women, but there is, in nearly every household, one or more of a class whose condition is quite as pitiable through lack of proper employment.

The question so familiar to every mother, "What can I do?" voices a need of childhood so common that its import is apt to be overlooked. Not infrequently the question falls like a troublesome intrusion upon the ear of the tired mother, fully occupied with her own work and plans, to be met in any way easiest for the parent with little thought save to be rid of the annoyance of the child's ceaseless activity.

Activity is the normal condition of young life. To be doing something is as necessary to the happiness of the child as it is to that of the man. What we term mischief is generally only misdirected activity. The child must be busy; if right opportunities and proper materials are not supplied to him, he will make use of wrong ones and in a way very likely to disturb or annoy his elders. For this quite probably he will be thought to merit a punishment in spite of the fact that no approved employment has been furnished him. All close observers of child life recognize the fact that the noisy, restless, mischievous child becomes quiet, happy, and usually good tempered when occupied and interested. It is injustice to the child not to provide him with employment and then to call him mischievous when he finds it for himself. Something to do is as needful to his well-being as something to eat and something to wear. Food and raiment all true parents seek to provide for their children, and all should just as conscientiously supply themselves with resources to meet the child's need of employment.

No great expenditure of money is required for this purpose, but more or less time and thought must necessarily be given. The common materials which abound in every household or which can be obtained from Nature's abundant store offer provision for many entertaining and profitable employments.

Among fascinating occupations for the very little ones is that of sorting and classifying objects of different colors, shapes, and sizes; corn, red, white, and yellow; beans, black, brown, speckled, and other large seeds; pebbles, light and dark; buttons, scraps of pretty cloth; various colored papers; large glass beads; colored wools,— these are all suitable for this purpose. When obtainable, the Hailman beads, half-inch cubes, spheres, and cylinders, which can be purchased both colored and uncolored, will keep the little fingers, eyes, and brains busy stringing them on a shoe-string or a tape with needle attached. With a little suggestive help from the mother, something of form and number may be learned through their use. Empty spools or the contents of the button box may be used for stringing when the beads are not obtainable. Blocks of wood, oblongs, triangles, squares, octagons, and other mathematical forms which any one familiar with the use of a saw can provide from pieces of boards, offer almost endless possibilities for the construction of houses, furniture, ladders, railroads, or any other object which the imagination of the child or the fertile mind of some one suggests.

We recently read of one mother who provided for her little ones a pounding table, with hammer and nails which they drove to form fences, bridges, elevated railroads, tables, and numberless other things. Pins and a cushion in which to stick them might be utilized in the same way.

Sand and pebbles are always favorites with the children. A low table with a deep tray just covering the top and filled with sand is most serviceable, but a pan filled with moist sand placed on a sweeping cloth or an old sheet upon the floor will answer very well. The filling of bottles, pails, or other dishes with the dry sand, the pressing of moistened sand into patty pans to form cakes, or the shaping of it into a flower-garden in which to plant small stems and twigs will furnish the wee ones employment for a whole morning. For the child of six or seven, the sand pan offers possibilities almost without limit. In the sand he can represent mountains, rivers, and all geographical formations; make the hut of the Esquimau, the adobe house of the Mexican, and the dwelling and environments of people in other localities. He can make letters, figures, pictures, and all manner of designs in the sand. We know of one family of small children who, being obliged to remain at home on account of rain, from a long-promised attendance upon Decoration-day services, with the help of an older friend, a few miniature flags, some flowers, and their sand table, celebrated the occasion in a way afterward looked back upon as one of the red-letter days of life. If it be feared that the sand will make too much dirt indoors, we suggest that a child's broom and dustpan be kept in some convenient place, and that the little ones be taught to sweep up their own litter when they have tired of the work in the sand. This will occupy them anew for a time, and will be of value in more ways than one. Cleaning up is a process which should follow all the children's occupations.

The modeling of familiar objects in clay, dough, putty, or warm beeswax; the blowing of soap bubbles; outlining of designs with some kind of flat seeds, as split peas or lentils; the braiding of strands of bright-colored cloth, or the stringing of soft pieces to be made into rugs, are other pleasing employments for the little folks.

All mothers are familiar with the fascination of slate or paper and plain or colored pencils. The home blackboard with white and colored crayons offers similar occupation. In the use of these various materials the child should be allowed to work out his own ideas so long as they seem purposeful. When his interest lags, the mother should be ready with suggestions as to what to make; for example, the objects familiar to the child in the house or yard; a representation of the things he has seen during a walk, or ride, or visit to some shop or store.

As the warm spring and summer days advance, the sorting and planting of seeds; making collections of all the different kinds of leaves they can find to be carefully pressed, and on some rainy day traced in outline on cardboard to be pricked or painted; the gathering of specimens of different woods, stones, and soils to be talked over with papa, afford excellent occupation and also exercise. Later in the season, as seeds begin to ripen, the gathering of every different kind to be found will prove interesting, and if oblongs of white tarlatan, two by four inches, be doubled and stitched around the edge to enclose samples of each kind of seed as gathered, a valuable and permanent collection may be made.

Most children love to work with scissors, paper, and paste. With these, besides the kindergarten cutting, folding, and chain work, all manner of animals, dolls,

dolls' clothing, household utensils, sleds, wagons, boats, and other articles may be produced. Pasteboard shoe boxes may be transformed into doll houses with windows of glazed paper. The making of curtains out of tissue-paper, arranging tiny pictures with gilt paper frames for the walls, the weaving of kindergarten mats for rugs, and the manufacture of cardboard furniture will afford delightful occupation.

It is not natural for little children to concentrate their minds upon any one occupation for very long at a time without some new incentive. This the mother should anticipate, and should study to have ready for them at the needed time some thought or suggestion to start the little powers again to action. The children's needs should be kept in mind, and preparation made for them by collecting and saving such materials as can be made use of.

Children delight in cutting out pictures. These may be sorted and pasted into scrap-books, which may be made of considerable educational value if mama or some older member of the family talks with them of the subject in hand. There may be one scrap-book of all kinds of animals, another of all varieties of plants and vegetables, others of home life in other lands, the wearing apparel of different nations, the utensils used in domestic life, different industries, etc. Pictures of noted men and women may be mounted on cardboard and saved in portfolios. Large pictures may be pasted on cardboard and cut into sections to make dissected pictures. Catalogues of flowers and vegetables, if saved, make good painting books for little children, as do also old-fashioned magazines and catalogues, the figures of which after being colored may be cut out for paper dolls.

Children delight to make things which can be of real use in the home, and early enjoy work with thread and needle if the sewing lessons are disguised through giving them something of real worth to do, as the sewing of buttons on some garment for themselves or others, the hemming of towels or dish towels, or the outlining of some simple pattern as a gift. We know of several families of little ones between the ages of four and seven who do the bulk of their own weekly mending under the direction of their mother, even darning their own stockings, having learned the first points of the art through mat weaving in the kindergarten, from which they advanced to the weaving of cloth strips after the same method, which, when finished, served as uppers for ironing holders. Darning upon coarse canvas followed, and then the finer work upon stockings. Just here it may be stated that children may make many beautiful and useful articles by weaving ribbons, strips of silks, or crêpe paper for pincushions, handkerchief cases, tidies, and chair cushions.

Knitting reins on spools or with needles, or crocheting yarn chains offers another change of work.

Participation in the daily work of the home, the sweeping, dusting, and general putting to rights, is an occupation most delightful to the childish heart. We have in mind one little boy of four who is never happier than when the hour comes for the daily emptying of the numerous waste-baskets throughout the house. Real work of all sorts is a most pleasurable employment for little children, and mothers who keep in touch and in full sympathy with these would-be helpers, providing them with ample occupation, will find the way out of many a dilemma in the care and management of them.

"But," say some mothers, "these things take so much time." True, but in the end it saves time, and what is more, it helps to save the child.

EDUCATING THE BABY TO MASTICATE PROPERLY.

BY KATE LINDSAY, M. D.

AN important step in the evolution of digestion in the infant is teaching the little one how to masticate properly. The student of this subject is surprised at the brief treatment given it by medical science. Sometimes a writer on dietetics dismisses the ideas of mastication and insalivation with paragraphs of from two to ten lines each. A recent article described insalivation as "one of the least important of the digestive functions." Science has given so little attention to this matter that there are but few recorded experiments to assist us in determining the ideal preparation of a mouthful of food.

Two questions very naturally present themselves to our minds: First, what is the proper function of each organ of the digestive apparatus? Second, what lack of thoroughness is likely to furnish improperly prepared food for the action of the stomach?

Before we can answer these, we may profitably study the anatomy of the mouth, for it is unreasonable to suppose that nature has furnished man with a complicated system of useless organs. In considering the motor apparatus for working the grinding organs, we find a powerful system of muscles attached to a strong lever and so arranged as to work the teeth with much force over the fixed serrated surface of the immovable upper teeth. These muscles can remain strong only when properly exercised. The jawbones and the teeth also need functionally the same treatment; the teeth sometimes decay if deprived of it.

When we look at the salivary apparatus, we find a complicated glandular system whose purpose is to form from the blood a fluid containing a ferment which acts upon that important food element, starch. In order that this action may be complete, the food must not only be finely pulverized, but must be thoroughly moistened.

The freedom of the mouth and teeth from disease-germs must also be considered. Small results can be obtained from sterilizing the food ever so carefully and scientifically, if before it enters the stomach it is ground by teeth full of decaying cavities with a pus sac around every root, while the mucous membrane is coated with unhealthy catarrhal discharges from diseased glands.

Realizing the necessity of this education we may well ask, When should the baby begin to take lessons in proper chewing? and what shall be the material used? We answer that education of the muscles of mastication may begin at the age of eight, ten, or twelve months. The grinding teeth are not yet cut, but there being a free flow of saliva, the food should be in such a form that it can not be broken into large pieces, but by biting and moistening, small portions may be detached. A piece of zwieback, a crisp biscuit, or a hard cracker should be given the little one once or twice daily, just before its regular meal.

All habits, like chewing, swallowing, and breathing, should be automatic and under the control of the central ganglia. These centers become developed, and exercise functional activity sooner than the higher intellectual centers; and it is essential that they be properly trained, or in after life the nerve energy of the higher ganglia will have to be wasted in restraining efforts. This may be no easy task, as can be seen by watching a little three-year-old in his fruitless efforts to keep his

fingers from his mouth after the habit of finger-sucking has been formed. Impulse is commonly stronger than intellect. Digestion is hindered if attention needs to be given to mastication.

Unfortunately, children often eat from every dish given the parents, and soft foods are swallowed wholly unmasticated. If the child swallows only well-chewed food, it will never need to be irritated and made fretful by constant promptings to eat more slowly, when later it causes its friends chagrin at its unrefined manners. Besides, there is danger that the digestion may be permanently injured before its habits are corrected. The child should be under the complete control of his mother. She can form his habits much more easily now than later in life, when he can help himself to improper food.

After the molar teeth are cut (between the age of one year and thirty-two months), proper habits of chewing should be well established. This can be materially aided by adding to the dietary one solid article at a time, and never giving anything beyond the baby's power to manage. By the third year the dietary may include various dry breads and ripe fruits. Regularity at meals should also be taught.

Sore gums or imperfect teeth may cause lack of mastication, and as the first teeth largely determine the character of the second set, the first set should be well cared for. This is just the time of life that the tooth-brush and the dentist are of the most importance.

It is needless to remind the mother that the child should not eat between meals, and that candy, condiments, or anything which tends to derange the digestion and deprave the secretions of the mouth glands, should be forbidden, as also the practise of cracking nuts or biting thread with the teeth.

The saliva is not the proper fluid to moisten pencils or postage-stamps, and the mouth should not be made the catch-all for money, pins, etc.

If at three years of age the child is eating correctly, there is little danger that under normal circumstances bad habits will be formed later.

The great cause of failure in the world's plans of reformation is that they are applied too late. It is far easier to occupy the ground first, and to plant good habits, than it is to send a child to a reform school to unlearn his wrong habits.

An all-round education neglects nothing, and certainly anything which will promote the physical well-being so decidedly as correct habits of eating and drinking, should not be overlooked in the education of infancy.

"WHATEVER we greatly admire and profoundly desire to become, that we in some measure already are." Born for the big, blessed, inspiring "outdoors," we women shall never rest until we rejoice once more in our paradise regained. I wonder if this is not a secret wish in every woman's soul. It astonished and amused me not a little, though there was really untold pathos in it, when a bright young friend of mine responded to my question, "What do you think I should really enjoy most of anything on earth?" with the unheard-of statement, "Well, in spite of your demure ways and devotion to philanthropy, I really believe you 'd like best of all to put on a gymnasium suit and climb a tree!" — *Frances E. Willard.*

TOLSTOI, we are told, is a teetotaler and a vegetarian. He never takes tea, coffee, butter, eggs, milk, cheese, or sugar.

A Boy Stronger than a Man.

A lad in Boston, rather small for his age, works in an office as errand boy for four gentlemen who do business there. One day the gentlemen were chaffing him a little for being so small, and said to him: —

"You will never amount to much; you can never do much, you are too small."

The little fellow looked at them.

"Well," said he, "as small as I am, I can do something that none of you can do."

"Ah, what is that?" said they.

"I don't know as I ought to tell you," he replied.

But they were anxious to know, and urged him to tell what he could do that none of them could do.

"I can keep from swearing," said the little fellow.

There were some blushes on four faces, and there seemed to be no more anxiety for further information. — *The National Advocate.*

An Invalid's Garden.

An exchange suggests a pleasing diversion for the invalid: A tiny garden can be made to stand on a table by the bedside by cutting a piece of sheet wadding to fit the top of a large bowl or wide-mouthed jar, which is filled with water just high enough for the bottom of the wadding to touch it. Two or three small pieces of charcoal in the bottom of the bowl will keep the water pure. When all is arranged, the top of the wadding should be sprinkled with the seeds of mignonette, sweet alyssum, or any other easily grown annual. The roots will penetrate the wadding to find nourishment, and constant pleasure will be afforded the invalid in watching the development of these green and fragrant plants.

A Precocious Sinner.

The editor of the *Sunday-School Times* recently met ten boys on Chestnut street, Philadelphia, smoking cigarettes. He stopped them, and spoke to them in kindly warning against their folly. After a little conversation on the subject, one of the boys looked up in all earnestness, and said: "I wish I'd never begun to smoke; but I can't break it off now." "How old are you, my boy?" asked the editor. "Going on eight," said the little tobacco slave.

A PRAYER.

LORD GOD, thou lettest the green things start
A new life every year;
Out of their sunken selves they rise,
Erect and sweet and clear;
Behold the lily's pure, white leaves
Unfolding by each mere!

Again the sap mounts in the fir
Through every swelling vein;
Again the clover stirs and thrills,
Responsive to the rain;
Again the tender grass makes green
The lone breast of the plain.

Hear the new, the golden flood of song
The lark pours to the blue!
Behold the strong, undaunted shoot
Pushing its brave front through
The fallen . . . Lord God, Lord God,
Let me begin anew!

Out of my own self let me rise!
For God, if it can be,
A new and noble growth may spring
From yon decaying tree —
Surely a strong, pure life may mount
Out of this life of me.

—*Ella Higginson, in "When the Birds Go North Again."*

EDITORIAL.

A Rational Prescription.

The best way to keep well is not to take such exquisite precautions against any contact with disease, or the causes of disease, but to make our bodies so hardy that contact or exposure can not affect us.

Dr. Brown-Sequard some years ago invented a method for preventing people from taking cold. He said that the two principal ways of taking cold are by getting the feet wet, and by the blowing of the wind on the back of the neck. He adopted two modes of prevention: One was to put the feet in cold water a very short time at first, the time of exposure being lengthened each day until the patient could hold his feet in water an hour or two without being chilled. This removed the danger of taking cold because of wet feet. Then, in order to cure the susceptibility of the back of the neck to currents of air, the doctor made the patient sit down in a chair while he blew upon the back of his neck with a pair of bellows, blowing at first about a minute; the next day he would lengthen the time to two minutes, and so on until the patient could endure the operation for half an hour without being chilled; thus he was rendered proof against taking cold in this way.

This same principle can and should be applied to diseases and indispositions in general. The body should be like a fort in time of war, always armed and equipped against a possible assault or any insidious foe.

The Sedentary Horse.

Suppose a horse that has been shut up in the stable for three months is brought out and put through his paces; his back is soon covered with what looks like white frost. It is perspiration containing a kind of pitch which gives forth an extremely offensive odor. This pitch is composed of poisons which have been produced in the horse's body. But take that horse out every day for a month and put him through some good exercise; the perspiration will pour down his back and limbs, but it will not leave any frost behind. The ill-smelling, offensive material deposited on the back of the sedentary horse is, as I have said, simply extract of horse,— and it has permeated the horse all through.

The sedentary man, woman, or child is in the same condition as the sedentary horse. His system is stagnant, and the accumulated poisons given off by the breath and perspiration, betray themselves by an offensive odor.

The human being who lives an idle life can not possibly be clean; his whole body is offensive; it is contaminated with poisons, and the only way he can get clean is by exercise, by work, by such means as will expand the lungs and oxygenate his blood even to the ends of his fingers and toes.

Starving on Beef Tea.

Rudyard Kipling has had a hard time. One of his daughters died, and he had a terrible fight for his own life. At the critical stage of convalescence he was allowed no food except beef tea, a barrel of which contains about nutrition enough for one square meal, but poison enough to kill a whole regiment of rabbits or half a dozen men, if properly administered. Dr. Austin Flint many years ago called attention to the fact that the chemical composition of beef tea is practically identical with that of urine, which it certainly resembles in appearance, odor, and flavor. Two hundred years ago the urine of young children was used by physicians in precisely the same manner that beef tea is now used,— at least, Dr. Haig, a noted English physician, makes this statement in his remarkable work on uric acid. Urine is simply an extract of the tissues. Beef tea is urine which has not yet been extracted from the tissues by the kidneys.

Why not quit this nasty business, and eat and drink things that are clean? In fruit-juices there is a large amount of actual nourishment,— starch perfectly digested in the

laboratory of nature, in the form of levulose, or fruit-sugar, ready for immediate absorption, and capable of imparting strength and energy almost instantaneously.

If Mr. Kipling had been allowed to eat oranges to his heart's content, baked sweet apples, hot-house grapes, and to take fruit-juices, he would have made a far more rapid and satisfactory recovery.

Thomas Dolan, formerly working superintendent for a great packing-house, recently testified before a notary public to the effect that cattle that die in the building — poor, miserable creatures, "unfit for dog meat" — are converted into beef extract. Think of feeding such trash to invalids when God has given us an abundance of nutriment already digested and prepared for immediate assimilation in the delicious juices of luscious fruits!

Embalmed Beef.

The newspapers are just now teeming with accounts of the awful rottenness, corruption, and disease sold to the public and eaten by them under the name of canned beef. The same beef is said to have been embalmed. It all needed embalming to prevent putrefaction, but the poor dead brutes should have been accorded a decent burial instead of being engulfed with all their disease and corruption in human stomachs.

The present revelation respecting the meat-packing business ought to set people to thinking whether it is not about time that this terrible business should cease. What excuse can civilized man give for maintaining these killing establishments in the very heart of our great centers of civilization? In view of the millions of murders of animals committed annually in cold blood in this country, it is no wonder that we are obliged to face a record of ten thousand human murders annually, while in India, a heathen country, but where animal life is held in sacred regard, the number of murders to the million of population is scarcely one half that in the United States. There is food for thought in this fact.

The discoveries of the investigating committee were certainly disgusting enough, and if they serve the purpose of opening the eyes of a few thousand men and women to the horrors of butchery and meat eating, much good will be accomplished, whether anybody is punished or not.

Schoolgirls Reforming.

It was recently announced in the newspapers that the high-school girls of Newark, N. J., have taken a stand for dress reform, and have universally discarded stays and tight waists. The girls have adopted suits resembling gymnasium suits, which give them perfect freedom of movement. This is certainly a step in the right direction. It is to be hoped that high-school girls in other cities will take a similar stand in behalf of that freedom from the fetters of fashion to which every woman is entitled. One of the most inalienable rights is the right to breathe. The readiness with which this right is surrendered by women of large intelligence is one of the psychological puzzles of the age. This reformatory movement on the part of the high-school girls ought to set older women to thinking more seriously upon this important question.

The Y. M. C. A. Emergency Box.

The editor of *Men* has called our attention to the fact that in our criticism of the Y. M. C. A. emergency box, published on page 802, December number, we referred to the presence of the whisky bottle and the measuring-glass. We have learned from Mr. Ober that these are left out in the Association boxes, as shown by the detailed description of the box as it appears on page 59, Christmas number of *Men*.

We are very glad to make this correction, and to know that the Young Men's Christian Association has allied itself on the side of progress in temperance reform. So long as whisky is recognized as essential in emergencies, it will be the custom to keep it in the house, and emergencies will be liable to occur so frequently as to become habitual.

Died of Lumpy-Jaw.

A gentleman recently died in Chicago who had been for eight years an inspector at the stock-yards. He was choked to death by a large growth which started underneath the jaw four years ago. His business had chiefly been the inspection of lumpy-jaw cattle. His physician announced that he had doubtless contracted the disease in the course of his business, and that this was the cause of his death.

Now, a large amount of lumpy-jaw meat is annually consumed for food, and the wonder is that the disease is not more frequent among human beings. A man prominently connected with the meat business in Chicago not long ago remarked that if none but healthy animals were used for food, the price of meat would be one dollar a pound. It is about time that men and women began to think seriously of the danger that lurks in the eating of dead animals. All the processes surrounding the fattening of animals are favorable to the development of disease. It is scarcely possible to find a fat animal that is not infected with disease and capable of communicating, if not the actual disease, a condition favorable to the development of both acute and chronic maladies.

The Secret of German Sausage.

A curious suit was recently brought in one of the London courts: A German sausage-maker sued one of his former employees for "giving away" some of the secrets of the German sausage trade which the employee had promised faithfully to preserve inviolate. The court awarded damages to the amount of one shilling, thereby intimating that the secret was not worth more than a shilling. The public, however, would be willing to pay much more than that to know exactly what a German sausage is made of, and it would doubtless be of immense profit to the general public if the mysterious constituents of this article so much esteemed by our Teutonic friends should be laid bare. A correspondent of a foreign paper remarks: "How many anxious consumers would willingly pay the defendant's fine twice over, would he but unbosom himself, and 'let the cat out of the bag'—Oh, horribly appropriate phrase!—and give them some assurance of the true constitution of the mysterious comestible." But the cat is likely to be kept in the bag as well as in the sausage, for the discharged employee has gone into the business for himself, and so has an interest in the secret.

Apropos of this circumstance, however, we might relate a fact which occurred in San Francisco a few years ago: A certain manufacturer of sausage had carried off all the prizes at the several "Pure Food" (!!!) exhibitions, and had built up a great trade in his special brand of sausage. After he had thus prospered for several years, his success came to an untimely end through the meddlesome curiosity of a policeman, who, noticing a long procession of boys coming regularly every day in the early morning hours to the sausage-maker's establishment, each with one or more feline companions, had the audacity to pry into the secret of the business, and made the horrible discovery that the cats which the boys carried on their backs to this establishment were speedily killed, skinned, and manufactured into "fresh premium sausage"!

It is strange, indeed, that so many intelligent men and women are so wedded to such questionable, and, we may say, abominable, substances as sausage, tripe, and other viscera, when nature has supplied us with an abundance of delicate, delicious, and wholesome foods.

The Cold Bath.

The morning is the best time for a cold bath, because one is warm when he first gets out of bed, and is in the best condition for a healthy reaction. But the bath should be taken immediately upon rising. This does not mean within five or ten minutes, after he has moved about the room and become chilled; it means at once. Only when this rule is strictly followed is the morning cold bath a benefit.

CONSUMPTION AND LEPROSY.

THE germ of consumption is closely related to the germ of leprosy, and is the cause of more deaths than any other three classes of germs known. One seventh of all the people who die are victims of the disease produced by the tubercle germ. But while a case of leprosy discovered in one of our towns or small cities would arouse the wildest excitement and consternation, the greatest indifference prevails with regard to the danger of contracting this far more prevalent disease, tuberculosis.

Consumptive people are allowed to go spitting about the streets; the sputum dries and is ground up and mixed with the dust. This dust gets into public halls, churches, and other buildings. The sexton or janitor comes in, stirs up this dust, and the people who attend church and concerts inhale it, laden as it is with tubercle germs and ptomains. The same thing is true of railway cars; they are filled with germ-laden dust, and every little while the porter comes in, dusts the seats and windows, and compels you to inhale these germs. There is no way to avoid it, except by leaving the car. Even dwelling-houses are not much safer. Whenever the dusting process is going on in a house, the old house cat knows enough to get up and go out where there is better air to breathe; but the majority of people just sit still and breathe in air that is full of death-dealing microbes, the most potent of all the agencies of death in this world.

The Mauser bullet, the mitrailleuse, or the Gatling gun is a puny plaything compared with the consumption germ. The man who has tubercle germs, and who goes spitting about the streets, is more dangerous than a loaded revolver, and somebody is certain to fall a victim to consumption in consequence of that man's carelessness. Yet there is nothing done about it!

We are a century behind the times in this respect. In Naples, a hundred years ago, a plague-stricken person was isolated, and the result was the deliverance of the people from that plague; but we Americans go on from year to year without taking precautions against consumptives, and so the "great white plague" is decimating us,—more than that, it is carrying off one seventh of all the people. I think we have in this State about 2,100,000 inhabitants, and of this number about three hundred thousand are going to die of consumption; and yet the State of Michigan simply shuts its eyes to this fact, and does nothing about it. We have recently enacted a law requiring physicians to report consumptive cases, but we have no law to prevent this spitting about the streets or to require the homes of consumptives to be disinfected; no law that the sputum of consumptives shall be destroyed, and not scattered about the floor to be dried and ground into dust to be breathed by those who live in the house and by those who call there.

I have seen many cases of consumption in which the patient caught the disease from a neighbor or from some member of the same family. In one case the first victim was a farmer. His wife came to me, dying of consumption. I asked her how she contracted it. She said she did n't know, but that her husband had recently died of consumption. I said, "You took care of your husband during his sickness, did you not?" She said she did. Then I said, "Don't you think you might have caught the disease from your husband while taking care of him?" "Why," said she, "I did n't know it was catching." I asked her if great pains had been taken to destroy the sputum. She said, "The sputum was received upon cloths; I then hung the cloths up to dry, and when they had dried, I rubbed them together thoroughly, shook them out and used them again." Very naturally it was not long before this woman died also.

I once knew a family of five sisters, all of whom died of consumption. One of the sisters took the disease and died, and the sister who attended her during her sickness contracted the disease and died, and so on, until they were all carried off.

It is important that people should know these things and be more concerned about them. The facts have been published year after year, and yet the public takes but little interest in them. I am surprised that the people of every civil government do not rise up and demand that every man who has consumption shall be isolated, or shall conform to certain sanitary regulations so that he shall not infect others. If a person with smallpox should go around among others exposing them to that disease, he would be arrested at once and taken care of. Consumption is just as contagious as smallpox, and far more deadly, and yet those who suffer from it are allowed to go at large and infect others without limit.

This is a matter that should receive the careful attention of every intelligent and thoughtful person.

AN EIGHTY-YEAR-OLD VEGETARIAN.

We are glad to have the following note from a well-preserved vegetarian of eighty years, whose experience confirms the advantages of a pure dietary as a means of holding old age at bay : —

Ft. Scott, Kan., Dec. 30, 1898.

Dr. J. H. Kellogg,—

Dear Sir: I notice in the *Literary Digest* of the 24th inst. some pretended arguments against vegetarianism by Dr. Paul Carus, from the *Humanitarian;* and also some by yourself, from the *Voice*, on the other side, which seem to me to be irrefutable. I do not see the *Voice*, but was much interested in the condensed summary given in the *Digest*, for I have been a strict vegetarian for more than half a century. Since 1841, for more than fifty-seven years, I have eaten no flesh of any kind and drunk no tea or coffee. I was an invalid up to my twenty-second year (1841), always doctoring, and that year I went cod fishing for my health. It all did no good. Passing through Boston on my return home to western New York, I procured the works of Dr. Alcott, Sylvester Graham, etc., and from that time was a convert. In the course of a year or two I acquired health and vigor, and from that time to this I have hardly had a sick day, or had occasion to take a dose of medicine. I am now in my eightieth year, and feel scarcely any symptoms of decay, either physical or mental. I have always worked hard with body and mind. I am a clergyman by profession, but for a good many years have worked nearly every day, more or less, on a farm. My staple article of diet has been unbolted wheaten meal bread, together with an abundance of fruit. My doctrine has been, and is, that man is designed and constitutionally adapted to live on seeds and fruits ; and, of course, on such other vegetable productions as resemble, or by cooking may be made to resemble, the meal of seeds or the pulp of fruits. I published in 1851 (by Fowler and Wells) a book on the "Organic Laws," — now out of print,— inculcating my views. Since then my experience has from year to year only tended to confirm my opinion and strengthen my convictions. I marvel that reasonable men continue to eat flesh. Why should they ? I can conceive of but one reason — the gratification of an acquired appetite — the same reason that induces men to continue to drink whisky. But as the teetotaler receives more real enjoyment from drinking the beverages provided by nature than the dram drinker, so the vegetarian receives more gustatory enjoyment even than the flesh eater, to say nothing of the constant and serene happiness of perfect and constant health and vigor, and youth extended to old age ; for I feel almost as young as I did at thirty, and can scarcely realize that I am nearly eighty. Yours, etc.,

J. B. Saxe.

P. S.— Christmas day, as the roads are nearly impassable now, I rode on horseback about five miles and back, to marry a couple, and just as easily as I could have done at twenty. J. B. S.

ANSWERS TO CORRESPONDENTS.

Pimples — Catarrh — Weak Eyes. — C. E. S., Illinois, asks: "1. What form of diet or treatment is beneficial for pimples, blotches, and blackheads? 2. Redness and soreness of the nose, tickling sensation in the nose, also almost continuous accumulation of matter in the throat, hacking (symptoms much worse in winter),—do these symptoms indicate nasal and bronchial catarrh? 3. What remedy can you suggest? 4. What can be done for weak eyes?"

Ans.— 1. A pure diet consisting of fruits, grains, and nuts. Animal fats, flesh-meats, condiments, and all objectionable foods should be avoided. For the pimples, blotches, etc., make hot applications to the affected parts. Dip a small sponge in very hot water, and apply to the face as long as it can be borne, then interrupt for a few minutes and renew the application.

2. Yes.

3. A pure dietary, a cool sponge bath taken every morning, followed by half an hour's exercise out of doors.

4. Bathe the eyes in hot water two or three times daily, and consult an oculist.

Weak Lungs. — J. J. M., Nova Scotia, is a young man thirty years old, who has hemorrhage of the lungs. He asks: "1. Shall I discontinue the use of meat and fish? 2. What combinations of foods would be best for breakfast, dinner, and supper? 3. What are the best hours for meals when one takes three meals a day? 4. Will cooking walnuts, almonds, butternuts, etc., in a bean crock like beans be a good way to prepare them as food? 5. Do you approve of a cold, salt-water, morning sponge bath? 6. Would you advise me to use some sort of health exerciser? 7. Is it dangerous for one to sleep with the window open at night, both summer and winter?"

Ans.— 1. Yes, by all means.

2. Send five cents to GOOD HEALTH for a copy of the little booklet, "How to Live on a Dime a Day." It might be well to send five cents more and obtain a copy of "Balanced Bills of Fare," and perhaps another five for "The Daily Ration," which will give you much useful information.

3. Seven, twelve, and six o'clock. The midday meal should be the hearty meal. It is very difficult to eat more than twice a day without violating physical laws.

4. Yes.

5. Yes.

6. Yes.

7. No.

Grape-Nuts. — J. H. T., Illinois, asks if grape-nuts is valuable as an article of diet.

Ans.— We have had no experience with this newly exploited article. It contains neither grapes nor nuts. We judge from its description that it is a mixture of breadstuffs and glucose.

Nervousness. — A. B., Ontario, says that he is very nervous, is troubled with bad dreams, and is very melancholy. He has never used tobacco or liquor, and has a splendid appetite. His hair is turning gray in some places. 1. What is the cause? 2. Is it serious? 3. What is the cure?

Ans.— 1. The patient is probably suffering from the disease known as patchy baldness.

2. Yes, so far as the hair is concerned; no, as regards the general health.

3. The cure is not easy; in the majority of cases a cure can not be effected. Sometimes small patches of baldness appear as the result of the investment of a parasite in the skin. In such cases destruction of the parasite will relieve the baldness. A dermatologist should be consulted.

Constipation. — A. J. H., Ohio, wishes to know if a tablespoonful of sweet olive-oil three times a day will relieve constipation, and where the oil may be obtained.

Ans.— In some cases small doses of oil or fat of any sort taken after a meal have the effect to stimulate intestinal activity. Nut oil is preferable. This may be obtained from the Sanitas Nut Food Co., Battle Creek, Mich.

Buttermilk. — W. F. W., New York: "1. Is buttermilk good for one who has hyperpepsia? 2. If so, what are its valuable qualities, and why is it better than sweet milk? 3. When is the best time to take it? 4. Should it be taken when fruit is a part of the meal?"

Ans.— 1. Yes, in some cases, provided it is not too sour.

2. The especially valuable qualities of buttermilk are the fact that the acid which it contains destroys germs likely to be present in the stomach or prevents their growth, and, when taken into the stomach, does not form large hard curds to remain in the stomach in a half-digested state and finally undergo decomposition and produce various unpleasant symptoms.

3. With the meal.

4. It does not necessarily disagree with fruit, especially sweet fruit, although in cases of hyperpepsia, patients not infrequently have an idiosyncrasy against acid fruits, so that only mildly acid or sweet fruits may be employed.

Seeking Information.— Mr. B., of Toronto, Canada, writes us as follows: "I have been for some time a subscriber to GOOD HEALTH, and noticed in the January number of this year your article entitled "Matador or Abattoir," and the quotation you give from Gen. 1:29 and 30. Now, if the interpretation you give with regard to this passage is the correct one, will you kindly let me know what meaning you gather from 1 Tim. 4:1–5, in which will be found the following: 'And commanding to abstain from meats, which God hath created to be received with thanksgiving of them which believe and know the truth. For every creature of God is good, and nothing to be refused, if it be received with thanksgiving: for it is sanctified by the word of God and prayer.'"

Ans.— As regards the meaning of 1 Tim. 4:1–5, it is very clear that Paul did not intend to instruct Timothy that everything God had made was good to eat. The term used for "meats" in this case, correctly interpreted, refers to foods in general, so that we read, "and commanding to abstain from foods, which God hath created to be received with thanksgiving of them which believe and know the truth." Gen. 1:29, 30 tells us what foods God created to be received with thanksgiving. There is no evidence to be found in the Bible that God ever created animals to be eaten. Eating animals is a practise which came in hundreds of years after creation. The expression, "every creature of God is good, and nothing to be refused," proves too much if it proves anything at all in favor of meat eating, for it proves that every beast that lives is wholesome food. This principle followed would decorate our tables with reptiles, bugs, toads, scorpions, spiders, dogs, and cats *à la* Chinese, birds of prey as well as beasts of prey, and numerous other abominations which even the robust stomach of a lover of prime beef and raw oysters would hardly be able to relish. Those that "believe and know the truth" about diet will very gladly follow the original bill of fare which God gave to Adam (Gen. 1:29, 30), and which the gorilla, chimpanzee, orang-outang, and all the lower animals that come nearest to man in their structure still adhere to as man did in the early ages of his history, before he had wandered so far away from the divine order.

Food that is "sanctified through the word of God" may well be received with thanksgiving. In order that prayer should be exercised in its influence upon food, it must be made in harmony with the word of God. The word of God says that pig is an abomination. The hog is a scavenger in consequence of the curse resulting from man's sin and fall. God instructed the children of Israel through Moses that the hog is an abomination. The Bible nowhere says anything to the contrary. The Saviour showed his opinion of hogs by sending the devils into them, by whom they were driven into the sea. The demon of disease still possesses the pig, and no amount of praying or scripture quotation will ever make him any different from what he is,— a filthy scavenger, an agent of disease and death. Adam Clarke, the great commentator, well recognized this fact when on one occasion he was asked to give thanks at a dinner of which the principal article on the bill of fare was a roast pig which occupied the center of the table. After silently gazing upon the porcine corpse for a moment, he uttered this very appropriate prayer: "O Lord, if thou canst bless under the gospel what thou didst curse under the law, bless this pig," but that he had no expectation that the Lord could consistently perform such an arbitrary act is clear, however, as he declared upon another occasion, that if he were to make a sacrifice to the devil, his offering would consist of a roast pig stuffed with tobacco.

There is nothing in the Bible which does not harmonize perfectly with the principles of rational diet and hygienic reform in all its bearings. Those who quote scripture to uphold themselves in evil practises, who do not love the truth for its own sake, love darkness rather than light, and are seeking for an excuse wherewith to silence conscience and comfort themselves in the pursuit of their evil ways. Such arguments, however, avail nothing against truth, and will subtract nothing from the penalty which these pettifoggers must suffer as the result of their violation of nature's laws.

Whisky — Damp Climate. —C. R. L., Alabama, writes: "I was a hard drinker until I began reading GOOD HEALTH, when I became convinced of the foolishness of it, and resolved never to touch another drop. I thank God that I was induced to read your magazine. 1. How can I overcome the bad effects resulting from the long-continued use of liquor? 2. Where I live it is very damp. Would you advise a weak person to move to a more healthful location? 3. Would a change of climate tend to prolong life? 4. In damp and cool weather I feel as if I could not get breath. What is the reason? 5. What can be done for it?"

Ans.— 1. By a temperate and abstemious life. Take a cold sponge bath every morning, live outdoors; every morning take exercise in the open air; adopt a dietary of simple and wholesome foods, avoiding meats, condiments, vinegar, and all irritating and stimulating foods.

2. Yes.

3. Yes.

4. There is doubtless a tendency to asthma.

5. The probable cause is irritation of the sympathetic nerve, which is very likely the result of indigestion. There may be prolapse of some of the

viscera. Your case is one which ought to be carefully investigated, and you should have treatment for a few weeks or months at some well-organized sanitarium. Not much can be done in the way of improvement until after the general health has been reinstated by a course of thorough treatment.

Substitutes for Granose — Sauce — Milk. — Mrs. H. A. C., Minnesota: "1. Granose is too expensive for general use in our family. Could cream sticks or bread sticks (made of fermented dough) be substituted? 2. Is sauce made of young green apples wholesome? 3. When GOOD HEALTH states that milk is a poor combination with vegetables and meats, does it include the milk dressing used on vegetables, and would it exclude custard and pudding from a dinner composed of meat and vegetables? 4. Can children drink milk between meals (say midway between) with impunity? 5. Is it better to drink it then than at meals? 6. Are prunes, dried apples, and dried peaches as good as fresh fruit, figs, and dates? 7. Can milk and cream be sterilized by boiling in the inner kettle of a double boiler? 8. If so, how long should they be boiled?"

Ans.— 1. Yes, but such bread is less wholesome and not likely to produce the same results as granose.

2. Such foods are very questionable indeed; immature fruits are always likely to cause disorder of the digestion.

3. The suggestion with reference to milk being a poor combination with vegetables has special reference to patients who have slow digestion, and is not a matter of great importance to persons with a moderately sound stomach.

4. No, milk should not be taken as a drink, but always as a food; it should be slowly sipped, and never taken between meals.

5. No.

6. Probably not quite as good, but they are nevertheless in the highest degree wholesome when properly prepared.

7. Yes, so far as the danger from germs of tuberculosis or typhoid fever is concerned, but the degree of sterilization produced is not sufficient to make it possible to prevent septic changes in the milk.

8. Milk boiled for half an hour every day for three days in succession will keep fairly well for some days if placed on ice.

Vegetables — Fruits — Constipation — Hair — Pillow. — R. V., Ohio: "1. What vegetables are best as food? 2. Are all fruits good for food? 3. How should grapes be eaten? 4. What will remove brown spots from the face of one troubled with constipation? 5. Is it harmful to wash the hair with soap? 6. What will prevent the hair from becoming oily? 7. What kind and size of pillow is best to sleep on?"

Ans.— 1. Cauliflower, the ordinary potato, and the sweet potato.

2. All the fruits generally regarded as wholesome may safely be used.

3. It is better to discard the skins and seeds.

4. The bowels must be regulated by a proper dietary, exercise, and simple hydrotherapeutic measures, and the general health must be improved.

5. Not necessarily, if the soap is of the proper sort, and is thoroughly removed. Only Castile soap or tar soap should be used for this purpose.

6. A shampoo once a week.

7. It is best not to use a pillow at all, but if one must be employed, it should be thin, of hair, wool, or cotton.

Pain in Back — Complexion — Sweats. — J. W. M., Virginia: "1. What causes pain in the back? 2. What will improve a dark complexion? 3. Is it injurious to eat chicken once a day, at dinner? 4. I have discarded other meats for some months, but find I am growing thinner and weaker. What is the reason? 5. What can be done for one who sweats nights and days?"

Ans.— 1. Probably prolapse of the stomach and bowels.

2. Make the blood pure and the skin clear by proper diet and abundant exercise, with a warm bath at night two or three times a week, and a cool bath regularly every morning.

3. Yes, for the chickens.

4. It is probable that your diet is lacking in fats. Send five cents to GOOD HEALTH for "How to Live on a Dime a Day or Less." Meat is not fattening. A well-digested dietary of fruits, grains, and nuts will furnish all the elements of nutrition in the best possible condition.

5. The cause must be removed. There may be a fever, or the cause may be weakness. A hot bath at night and a cool bath in the morning are useful in cases of this sort.

Bladder Difficulty — Bromose. — I. J. W., Georgia: "1. What is the cause of scanty and frequent micturition with a burning, straining sensation, heaviness of the bladder, loss of flesh, and extreme weakness at times? We have pure mountain air, and live on fruits, grains, and nuts,— walnuts, hickory-nuts, and peanuts, also vegetables, some milk, and plenty of cottage cheese. 2. Does the difficulty indicate Bright's disease? I have tried rest and cold compresses with only temporary relief. 3. Would you recommend bromose to build one up and to produce flesh? 4. What is the price?"

Ans.— 1. Probably deficient water drinking. Use more largely of fruits, and drink two or three pints of water daily.

2. No.

3. Yes.

4. Address Sanitas Nut Food Co., Battle Creek, Mich.

Throbbing — Chills — Nervousness.— J. W. E. W., Massachusetts, says that though apparently well, he is extremely nervous, and asks: "1. What is the cause of throbbing or jumping sensations in various parts of the body, especially in the left side, near the heart? 2. Why should the hands and feet become very warm, particularly after meals? 3. What should cause chills in the limbs and head, the hair seeming to 'stand on end'? 4. What causes one to feel as if he wanted to be 'on the jump' all the time? 5. Do you think the cause is in the heart or the blood?"

Ans.— 1. An excited condition, probably due to sympathetic nervous disturbance.

2. The same cause, the sympathetic nerves being doubtless irritated by the presence of food in the stomach. The stomach is probably abnormally irritable.

3. This is another phenomenon also undoubtedly due to sympathetic nervous disturbance.

4. Nervous irritability growing out of reflex disturbance arising from the causes above mentioned.

5. The trouble is in neither the heart nor the blood, but is in the nervous centers, which are unduly excited by some cause, probably that mentioned above.

Liquor — Sinking Spells.— A. H. A., Pennsylvania, is resisting the use of liquor for weakness, and desires to know what can take its place; also what to take when she has "sinking spells."

Ans.— The best remedy for the weakness is the proper application of heat or cold, or the use of heat and cold alternately. A cold sponge bath, cold daily rub, hot and cold sponging to the spine, are measures which, if employed daily, will be found exceedingly useful in removing the weakness and preventing or curing the sinking spells.

Neurasthenia — Sluggish Circulation — Raw Fruits.— T. W. D., South Carolina: "1. What are the most prominent symptoms of neurasthenia? 2. What is the best diet and treatment for it? 3. Can it be cured after a person is fifty years old? 4. What causes neurasthenia. 5. What is good for a sluggish circulation? 6. What causes ringing in the ears? 7. Are raw fruits as good as cooked ones?"

Ans.— 1. The symptoms of neurasthenia include those of almost all nervous disorders. The patient is generally depressed, easily excited, nervous, often haunted by morbid fears, restless sleep, languor, easily tired, headache, especially in the back of the head, nervous headaches, creeping, crawling, and various other sensations about the limbs, hands, and feet, and other sensations of animal motion.

2. The cause must be removed. The most common cause is disorder of the digestion. By proper diet, proper exercise, out-of-door life, and suitable applications of water, relief can usually be obtained in a reasonably short space of time. The use of fattening and blood-making foods is of great service in most of these cases.

3. Yes.

4. Long-continued nervous irritation or exhaustion and especially a disordered digestion.

5. Exercise.

6. Probably catarrh of the middle ear.

7. Yes, and in the majority of cases, better.

Psoriasis — Varicose Veins.— S. D., Montana: "1. What will cure psoriasis of several years' standing that does not readily yield to common remedies? 2. Please suggest a remedy for varicose veins."

Ans.— 1. Alkaline baths, with properly medicated soaps. It is usually necessary to consult a skilled specialist.

2. Generally the disease may be radically cured by means of an operation upon the diseased veins, but this is not always necessary, since relief may be obtained by the use of a suitable elastic bandage or an elastic stocking.

Zwieback.— Mrs. E. E. P., Massachusetts, wishes to know how to make zwieback.

Ans.— Cut stale bread into moderately thin slices; place in the oven, and leave until slightly browned throughout the thickness of the slice.

California — Catarrh of the Stomach.— C. W., Iowa, asks if California is a good place for people who have catarrh of the stomach, and if so, what part is best?

Ans.— A change of climate is not of great importance in catarrh of the stomach. The important thing is proper regulation of the diet.

Definitions — Solar Plexus — Sympathetic Nerve Centers.— L. M. F., Wisconsin: "1. Will you explain what is meant by a dilated or prolapsed stomach? 2. What is the solar plexus? 3. Where is it located? 4. What is its function? 5. What are the symptoms when it is disordered? 6. Is saleratus objectionable for acidity of the stomach? 7. When the food is easily fermented, which is preferable — yeast or baking-powder

bread? 8. How long should a sedentary person remain in the morning cold bath?"

Ans.— 1. A dilated stomach is one which has been stretched beyond its normal size, or one incapable of contracting so as to empty itself completely at the conclusion of the digestion of a meal. A prolapsed stomach is one that has fallen below its proper position. The lower border of the stomach naturally falls about two inches above the umbilicus. In prolapse of the stomach the lower border may often be found several inches below the umbilicus.

2. The solar plexus is a mass of nerve matter closely associated with the stomach.

3. Pressure made upward just beneath the lower end of the breast-bone falls upon the solar plexus.

4. The solar plexus is sometimes called the organic brain, or the abdominal brain. It rules over most of the functions of the body, controls the secretion and excretion, the circulation, and, in fact, the nutrition.

5. General nutritive disorders, which may be felt throughout the whole body, and especially nervous disturbances.

6. Yes, an alkali is usually objectionable. When the acidity is due to fermentation, an alkali should not be used; when due to excess of hydrochloric acid, it is sometimes necessary to use bicarbonate of soda for a time.

7. Neither one. Use water bread.

8. From half a minute to a minute.

Fruit Diet — Prolapsed Stomach — Cold Bath.— J. C. S., Iowa: "1. Should a person living exclusively on a fruit diet eat only twice a day? 2. On a grape diet, how much should be eaten at each meal? 3. Is there any danger of eating too much acid fruits? 4. I rise at six, and breakfast at half past six. Would it be better for me to miss taking a cold sponge bath than to have it so near breakfast? 5. How long would a person who has a prolapsed stomach have to take treatment at the Sanitarium in order to avoid wearing the abdominal supporter?"

Ans.— 1. No; he should eat three or four times a day.

2. From one to two pounds.

3. It is possible to surfeit on any foods, but acid fruits are not more dangerous than any other kind.

4. No; the sponge bath is admissible half an hour before eating. It is only very hot or very cold prolonged bathing that is injurious especially before eating.

5. Until the muscles are sufficiently developed to hold the viscera in place.

Catarrh of the Stomach — Acid Fruits.— C. E. E., Nebraska: "1. What is lavage? 2. Can catarrh of the stomach be cured by it? 3. Are acid fruits, such as fresh strawberries, bad for one affected with catarrh of the stomach?"

Ans.— 1. Washing the stomach by means of a stomach-tube.

2. Yes, by the aid of other treatment and proper regulation of the dietary.

3. No.

Intestinal Indigestion — Hot Salt Water. — A subscriber in Massachusetts wants to know (1) what diet is best for one who has intestinal indigestion combined with constipation, and who is unable to take much fruit; (2) if it is beneficial to take a cup of hot salt water a half-hour before breakfast to induce action of the bowels.

Ans.— 1. Such foods as gran-nuts and granose, with such nut preparations as protose, bromose, and fruit-coco.

2. The practise can not be commended.

Bananas.— Mrs. E. J. A., Washington, wishes to know if bananas are wholesome in the far Northwest, and if they are hard to digest.

Ans.— The only difficulty is that in this part of the world, bananas are seldom received in really good condition, but are almost entirely those which have not been thoroughly ripened.

Boils — Cascarets.— A subscriber in Michigan writes: "1. Is it good to drink milk in which shot has been boiled, for the cure of boils? 2. What do you think of Cascarets?"

Ans.— 1. No.

2. We have never found it necessary to make any use of this article.

Molasses — Fat. — C. H. T., Illinois: "1. Is molasses healthful? 2. What is a good fat-producing food?"

Ans.— 1. No.

2.— A diet of fruits, grains, and nuts. Protose, nuttolene, fruit-coco, granose, gran-nuts, and granola,— these are all fattening foods.

Sciatica.— J. M. C., Missouri, wishes a prescription for sciatica.

Ans.— Rest in bed, fomentation over the lower part of the back, hot bags over the affected nerve, sponge baths with a neutral bath lasting from half an hour to an hour, at a temperature of 92° to 96°, applications of electricity, improvement of the general health by proper dietary, especially by the avoidance of meat and condiments of all kinds.

When to Wean Babies.— A subscriber in Ohio wishes to know at what age a child should be weaned, and at what time of the year.

Ans.— A child may be weaned when it has acquired sufficient teeth to eat and chew well cereal foods and other simple food preparations. The proper time to wean a child is when it is ready to be weaned. If the child is fed on proper food properly prepared, there is no danger in weaning it at any season of the year.

Muscular Rheumatism.— L. A. N., Oregon, a woman sixty years old, wishes to know what is the best diet for muscular rheumatism.

Ans.— A diet of fruits, nuts, and grains, or preparations derived from them.

Headache — Neuralgia in the Head — Cracking of the Jaw.— M. M. E., Michigan: "1. What is the cause of headache on arising in the morning? 2. What is the cause of neuralgia in the head, also a heavy pain back of the right ear? 3. What makes the jaw crack and snap, especially in cold weather? 4. Is there any remedy for it?"

Ans.— 1. Perhaps a late supper.

2. Disturbance of the abdominal sympathetic, probably from a prolapsed or dilated stomach.

3. The slipping of a tendon.

4. Avoid making violent movements of the jaws. Avoid loud and unnecessary talking as much as possible.

Bunions.— An Iowa woman who has worn loose, soft shoes all her life to escape having bunions, now at the age of forty-seven years finds that all her precautions have been in vain; for a bunion has put in its appearance. She will be very thankful for a remedy.

Ans.— The bunion must be removed by surgical procedure, or may be palliated by means of a bunion plaster.

Indigestion — Vapor-Bath Cabinet — Calomel Pills.— — S. A. J., Ohio: "I am a sufferer from indigestion, constipation, and nervousness. I will admit to formerly eating heartily and hastily, but since reading GOOD HEALTH, I am trying to reform. My diet consists chiefly of well-baked white bread and fruits, such as oranges, bananas (raw), berries, cooked prunes, apples, etc., but these are often regurgitated one or two hours after eating. I do not perspire freely. Sometimes I feel sick at my stomach, with a bad taste and breath. 1. Would a vapor-bath cabinet be beneficial? 2. Are calomel pills good for a person having a small liver, and for carrying away surplus bile?"

Ans.— 1. Yes. The wet sheet pack will answer just as well, but the electric-light bath is still better.

2. We find no occasion to use calomel pills.

Disagreeable Perspiration.— A subscriber in Illinois asks: "What is the cause of and remedy for offensive perspiration, especially in the armpits? The person so troubled is not robust, but generally well, is a moderate eater, rarely uses meat, and bathes daily."

Ans.— It is probable that decomposition of the perspiration takes place after it has been formed. The parts should be thoroughly cleansed with a weak solution of chloride of lime or bichloride of mercury (1-2,000), making the applications at least twice daily, after thoroughly shampooing the parts with soap and rinsing with water.

Poison Oak — Vermin — Flies.— A. S., California: "1. Can you suggest a remedy for one who has been poisoned by poison oak? 2. What will destroy vermin? Is there any way of getting rid of flies?"

Ans.— 1. Alkaline solutions of various sorts are the most effective remedies. Dilute ammonia water, a strong solution of baking-soda, weak lye, lime-water, and, in the absence of anything better, soft soap may be applied. The extract of *grindelia robusta*, a California plant, is highly recommended, being rubbed upon the poisoned part.

2. Thorough cleanliness is the best remedy for vermin of all sorts. Flies, ants, cockroaches, bedbugs, etc., are scavengers. If there is no filth for them to feed upon, they will speedily disappear. Thorough cleanliness of the body and of the garments is the best means of dispersing lice; the head louse is easily killed by the application of kerosene oil and creosote. The best way to get rid of ants is to put baits for them in bottles, and when the bottles are swarming with the ants, remove to a safe distance, or destroy by dipping in boiling water. Cockroaches will soon disappear when there is nothing left for them to subsist upon, as they swarm only in places where they find fragments of food. There are various roach powders manufactured which are effective. Flies swarm only where they are attracted by something to eat. Thorough cleanliness and the use of sticky fly-paper are the best means of keeping them under control.

Catarrh.— A subscriber in Illinois has had catarrh for many years. She calls it the "eating" kind, and has entirely lost the sense of smell. She has employed many specialists, but in vain. The discharge is very poisonous, and when lying down, the dropping in the throat is extremely annoying. 1. Can she be cured? 2. What diet would you prescribe? 3. Is there an efficient home remedy?

Ans.— 1. The annoying discharge can be stopped, but it is impossible for the mucous membrane of the nose to be restored to perfect health. Possibly the sense of smell might be improved somewhat, but in many cases of neglected olfactory catarrh, the sense of smell is permanently destroyed.

2. A simple, pure dietary of fruits, grains, and nuts, properly prepared.

3. The constant use of the Pocket Vaporizer applied to both throat and nose is likely to be of more service than anything else with which we are acquainted.

LITERARY NOTICES.

Three Thousand Questions on Medical Subjects, arranged for self-examination, with the proper references to standard works in which the correct replies will be found. This little book contains the essential questions with which the medical student has to deal in his examinations. One side of each leaf is left blank so that brief answers to the questions on the preceding page may be inserted. Those who have to prepare for State examinations will also find it of great convenience. The following subjects are dealt with: Anatomy, physiology, materia medica and therapeutics, prescription writing, chemistry, practise of medicine, surgery, obstetrics, gynecology, diseases of children, diseases of the eye, diseases of the skin, questions on dental pathology and medicine. (Published by P. Blakiston's Sons & Co., 1012 Walnut street, Philadelphia. Price 10 cents.)

Laurel Winners is an attractive little book gotten out by the John Church Co., giving short biographical sketches of some of the most prominent of America's musicians, with a list of each author's most popular productions. It is a book that will interest every lover of music.

The Easter number of **Good Housekeeping** contains many articles of interest and profit. The first story, "Thusa Hill's Easter Basket," is a touching bit of romance and philanthropy. "Women's Clubs and Household Economics" is treated by Harriet C. Towner. There is an interesting article on Queen Victoria as a Housekeeper. Then there are numerous poems, and articles on various household themes, not forgetting the children. (Good Housekeeping, Springfield, Mass. $1 a year.)

A series of articles on "America's Working People," by Mr. Charles B. Spahr, now appearing from time to time in the **Outlook**, is attracting much attention as a first-hand study of typical industrial regions in the United States. The article in the April Magazine number is called "A Typical Primitive Community," and gives a graphic account of a visit to a small farming village in the backwoods of Alabama.

Under the title "The Face of Christ in Art," an interesting collection of opinions of noted clergymen of many denominations has been made by Mrs. Wade Hampton, Jr., in reply to the question, "Is the Portraiture of Jesus in Art, Strong or Weak?" The question is answered by Cardinal Gibbons, Dr. Morgan Dix, Dr. Parkhurst, Rabbi Gottheil, Dr. Greer, Dr. Cuthbert Hall, Bishop Potter, Archbishop Corrigan, Dr. Watson (Ian Maclaren), and others. The article is illustrated with careful reproductions of many famous art pictures of Christ. It forms a peculiarly appropriate feature for this number, as this is the Easter number.

Mr. Elbert F. Baldwin, a member of the editorial staff of the *Outlook*, furnishes an extremely picturesque account of a visit made by him to the country home of M. Loubet, the newly elected President of France. As is well known, M. Loubet was of peasant birth, and his mother still sometimes dresses in peasant costume. Mr. Baldwin's article is interestingly illustrated by pictures of Mme. Loubet, the President's mother, of the old farm at Montélimar, of M. Loubet, and of scenes since the election of M. Loubet by the French Chambers. (The Outlook Company, New York. $3 a year.)

The frontispiece of the April **Inland Printer** is an exquisite reproduction of an oil-painting of the Hackensack Meadows, New Jersey. Duplicates are for sale by the Inland Printer Co. (The Inland Printer Co., Chicago, Ill. $2 a year.)

Baby's Firsts, by Mary Wood-Allen, M. D., is a valuable book on the physical care of the babe from the time of its arrival to the beginning of the second year. It treats all the topics considered in a scientific, yet simple and thoroughly practical manner. 35 cents. Wood-Allen Publishing Co., Ann Arbor, Mich.

PUBLISHERS' DEPARTMENT.

THE INTERNATIONAL HEALTH ASSOCIATION.— Steps have been taken toward the organization of an International Health Association. We give below the substance of a circular which is being sent out by the promoters of this new movement to all who are likely to be interested in the new organization : —

The friends of hygienic, sanitary, and temperance reform are hereby invited to join hands in the promotion of the interests of these reforms by the organization of a society to be known as the International Health Association. Its objects are : —

1. To promulgate the principles of physical righteousness in relation to human life, as revealed by the Bible and science and confirmed by experience.

2. To associate together for mutual encouragement and assistance those whose aim is the most perfect obedience to the requirements of the divine order of life and conduct.

The work of the association will largely be carried on by standing committees and bureaus. It is proposed that there shall be standing committees upon the following subjects : —

Foods, with subcommittees on vegetarianism, cookery, adulteration of foods, and food inspection ; dress reform ; health reform ; literature ; drug habits, with subcommittees on alcoholism ; tea, coffee, and tobacco using, opium and morphine habits ; home sanitation ; chemistry ; pathology ; economics ; climatology ; habits in relation to health, patent medicines, and nostrums ; suppression of contagious diseases ; race deterioration ; Bible hygiene ; comparative hygiene ; promulgation of principles.

It is proposed to urge upon the attention of the people through State legislatures, town councils, and other avenues the various practical health questions which demand their attention. Among the questions which will be agitated are laws against the sale and use of cigarettes on the streets and other public places ; a law requiring the inspection of foods ; a law preventing the adulteration and sale of diseased animals ; also laws for the suppression of the patent medicine business and other frauds which are constantly perpetrated upon the public ; the necessity for reform in dress ; food reforms in various lines, etc.

TO PROMOTE AND MAINTAIN PERSONAL HYGIENE, INDIVIDUAL PROPHYLAXIS.

LISTERINE.

Listerine is a non-poisonous, non-irritating antiseptic, composed of ozoniferous essences, vegetable antiseptics, and benzo-boracic acid ; miscible with water in any proportion and in agreeable strength sufficiently powerful to make and maintain surgical cleanliness — asepsis — in the treatment of all parts of the human body.

These properties have won for LISTERINE a first place in the lying-in room and in the treatment of catarrhal conditions of the mucous surfaces of every locality.

LISTERINE alone, in teaspoonful doses, or diluted with one or two parts of water or glycerin, will give entire relief in fermentative dyspepsia.

An ounce of LISTERINE in a pint of warm water forms a refreshing, purifying, and protecting application for sponging the body during illness or health. A few ounces added to the bath enhances its tonicity and refreshing effect.

For the preservation of the teeth, and for maintaining the mucous membrane of the mouth in a healthy condition, LISTERINE is indispensable.

Send for descriptive literature to the manufacturers.

Lambert Pharmacal Co., St. Louis.

Be assured of the genuine Listerine by purchasing an original package, 14-ounce bottle.

A PRACTICAL REFORMER.

A GENTLEMAN who is evidently in earnest in his efforts to reform, writes us as follows:—

"In the January number (page 5) you say: 'If people generally would observe the laws of health in their diet, this alarming tendency to crankiness and craziness, as well as a great many neighborhood troubles, church quarrels, and domestic jars, would disappear. . . . Most of this great evil among men might be avoided, I believe, if the diet could only be corrected.' And on page 56 you say: 'Back of the questions of social and political reform, back of the temperance and the tobacco questions, lies the question of healthful living in the home. . . . The only way to bring about a general reformation of any kind is to begin with individuals.' And in your book, 'The Stomach,' page 20, you say: 'No disease is more dependent upon conditions which the individual himself can control than this [dyspepsia].' Your diet lists in 'The Stomach,' and your 'Seasonable Menus' in GOOD HEALTH require the constant use of various nut preparations. Your price-lists show these to cost the consumer from thirty to sixty cents a pound, and from sixty to seventy-five cents a pint, besides freight.

"Will you please tell the readers of GOOD HEALTH how (1) those too poor to have homes can be individually reformed into healthful living; (2) how those able to have homes (as tenants), but with too small an income to buy the foods you mention, are to be so reformed?

"I have never used intoxicating liquors or tobacco, and am not a meat eater or tea or coffee drinker. For about five years my family has used the cereal preparations from your Sanitarium. We use no butter, and no condiments except salt. We have sought to know and follow the ways of health in all lines. But my income is too small to enable me to buy the nut preparations, at their present prices, for anything more than an occasional taste. Yet the majority of day laborers in America have smaller incomes than I, and many have larger families. How are these people to secure 'healthful living in the home'—according to your prescriptions—while social conditions remain unchanged? If the individual reformation of these must precede the reform of social conditions, how is it to be done?

"I find it impossible to follow so much of the ways of health as I know, because of my poverty. Yet not one in a thousand tries as hard as I. How, then, are you going to make healthy those as poor and poorer, who lack both the desire and the persistence to try even as hard as I?"

In answer to this gentleman's inquiries we would say:—

1. We have recently published a booklet, entitled "How to Live on a Dime a Day," which will be sent to any address for five cents. This booklet answers completely the question which this gentleman asks.

2. The nut foods at thirty cents a pound are as cheap as beef at fifteen cents a pound, as they contain twice as much nutrient material, and they are really cheaper, for the meat is disease-producing, whereas the nut foods present nutrient material in its primitive purity. But it is possible for one to live wholesomely without purchasing nut preparations at all. These products are expensive because nuts are high in price, and because the methods of preparation are expensive, and especially because dealers demand a large discount for introducing new foods of this sort. But one can buy the nuts and make simple preparations of them at home, in ways that will answer every purpose so far as health is concerned, although of course lacking in toothsomeness and variety.

Canned meats cost thirty cents a pound, some varieties thirty-five and forty cents. Canned nuts, worth more than double the nutritive value, are offered at the same price. Those who buy meats from the market get the material in the raw, unmanufactured state, and prepare it or cook it to suit themselves. Nuts (certain varieties at least) can be bought in the market at a low price, and if one bears the expense of preparation himself, the cost will be much less than that of meat.

We might also call attention to the fact that an International Health Association has been organized, through which persons who are really active in the extension and support of the principles may obtain health foods and appliances of all sorts at a very great concession. Any who desire further information upon this subject may address the International Health Association, Battle Creek, Mich.

CLASSIFICATION OF CAUSES OF DEATH.

A PAMPHLET containing an exposition of the Bertillon classification of causes of death has been issued by the American Public Health Association. This association, comprising the sanitary officers of Canada, Mexico, and the United States, unanimously recommended the general adoption of this system for mortality reports at its last meeting, as did also the conference of State and Provincial Boards of Health of North America. The system is used in France, and is making progress in Europe

and in South America. It is hoped that it may meet with general adoption all over the world in time to begin the mortality statistics of the next century on a uniform basis. To this end an International Commission of Revision, representing all the countries desiring to employ the classification, will meet in Paris at the time of the International Congress of Hygiene and Demography in 1900. The several National Commissions constituting this body are engaged in ascertaining the wishes of the registrars and users of mortality statistics of their respective countries in regard to the changes which shall be made in the present form, and the present pamphlet is issued chiefly for this purpose. It will be sent, free of expense, to all persons desiring it, and the advice and suggestions of all sanitarians, pathologists, statisticians, and others interested in the subject of statistics of causes of death are earnestly solicited. Requests for the pamphlet and for other information on the subject may be addressed to Dr. Cressy L. Wilbur, Secretary of the U. S. Commission of Revision, Lansing, Mich.

"ONE HUNDRED ORIGINAL RECIPES FOR MAKING NUT FOODS AND PREPARING TOOTHSOME DISHES WITHOUT THE USE OF BUTTER, CREAM, MILK, OR EGGS."—A radical health reformer's cook-book, by Mrs. E. E. Kellogg. This is the first of a series of similar booklets in which it is intended to record the rapid progress now being made in the development of a new, natural, and thoroughly wholesome dietary.

Sent on receipt of ten cents. Address Good Health Publishing Co., Battle Creek, Mich.

THE Chicago and Northwestern Railway has issued another of their attractive little brochures, entitled **A Thrilling Night's Ride in the North-Western Fast Mail,** in which H. I. Cleveland describes the journey from Chicago to Omaha over that famous route. The narrative is graphically told, and forms a most artistic little volume.

LADY AGENTS wanted to sell flavoring extracts and perfumes. It will pay you to write me. R. W. Snyder, 140 E. Canal street, Battle Creek, Mich.

HYDROZONE (30 volumes preserved aqueous solution of H_2O_2)

IS THE MOST POWERFUL ANTISEPTIC AND PUS DESTROYER.
HARMLESS STIMULANT TO HEALTHY GRANULATIONS.

GLYCOZONE (C. P. Glycerine combined with Ozone)

IS THE MOST POWERFUL HEALING AGENT KNOWN.

THESE REMEDIES CURE ALL DISEASES CAUSED BY GERMS.

Successfully used in the treatment of Gastric and Intestinal Disorders (Chronic or Acute):

DYSPEPSIA, GASTRITIS, GASTRIC ULCER, HEART-BURN, CONSTIPATION, DIARRHŒA, Etc.

"Half an hour before meals, administer from 4 to 8 ozs. of a mixture containing 2 per cent. of **Hydrozone** in water. Follow after eating with **Glycozone** in one or two teaspoonful doses well diluted in a wineglassful of water."

Send for free 240-page book "Treatment of Diseases caused by Germs," containing reprints of 120 scientific articles by leading contributors to medical literature.
Physicians remitting 50 cents will receive one complimentary sample of each, "Hydrozone" and "Glycozone" by express, charges prepaid.

Hydrozone is put up only in extra small, small, medium and large size bottles bearing a red label, white letters, gold and blue border with my signature.

Glycozone is put up only in 4-oz., 8-oz. and 16-oz. bottles bearing a yellow label, white and black letters, red and blue border with my signature.

Marchand's Eye Balsam cures all inflammatory and contagious diseases of the eyes.

PREPARED ONLY BY

Charles Marchand

Chemist and Graduate of the "Ecole Centrale des Arts et Manufactures de Paris" (France).

Charles Marchand, 28 Prince St., New York.

Sold by leading Druggists. **Avoid imitations.** ☞ **Mention this Publication.**

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READ the seven testimonials on this page, and tell us by letter which one you would consider of the most value in advertising our foods. On July 1 the contest will close, and the testimonial that has been selected the largest number of times will be declared the choice. Each person who has chosen this testimonial will receive a copy of the New Webster Dictionary by return mail. Send two two-cent stamps to pay postage. Address—

SANITAS NUT FOOD CO., Battle Creek, Mich.

1

SHELTON, CONN.

SANITAS NUT FOOD CO.,

DEAR SIRS: I have given your nut foods a fair trial, and find them very satisfactory. When I started to use them, I weighed 98 pounds; I now weigh 114¾ pounds, having used them but four weeks. I can not praise your foods too highly, as I think they are perfect.

Yours sincerely,

JEANETTA GARDNER.

2

A. S. WARREN of the QUARTERMASTER DEPARTMENT, WEST POINT, says:

"We like the Bromose, Nut Butter, and Nuttose, and will use them hereafter in place of meat."

3

WEASTWORTH, S. D.

SANITAS NUT FOOD CO.,

DEAR SIRS: My experience with your foods is more than satisfactory. I am delighted with the nut products, and have made them an exclusive diet, together with the Sanitarium Health Food Co.'s foods. Sincerely yours,

FERRER MARTYN.

Author, Preacher, Reformer,
Lecturer, Entertainer, Publicist.

4

BUTTE, MONT.

I dispensed with doctor's treatment, omitted all animal foods from my diet, adopted a strictly nut, grain, and fruit regimen, and after three weeks my headaches were gone. This was about Feb. 15, of this year, and to the time of this writing have not had a single attack—the longest time that I have been without a headache since 1880. My weight was 121 pounds at the time of changing diet, and two weeks ago I weighed 132 pounds. I have better health now than I have had for years. My work is very confining, but I discharge my duties with ease, and always feel ready to do more.

E. W. GOLD.

Sanitas Nut Food Co., Ltd., BATTLE CREEK, . . MICH. . .

5

COVINGTON, ILL.

SANITAS NUT FOOD CO.: Your favor received containing request for my baby's picture. I enclose the same. It was taken when he was eleven months old. When he was born, he weighed 10 pounds. When he was two months old, he weighed only nine pounds. He was so sick, he cried as though suffering intensely. We all despaired of his life, and every one who saw him thought he could not live. I sent for some Malted Nuts and used in his milk, and he began to improve right away. In two or three months he was fat and healthy as any one's baby. Now, at fifteen months of age, he weighs 24 pounds. Under God I believe I owe his life to Malted Nuts.

Yours sincerely, MRS. ARLETTA E. NEWLAN.

6

LONGMONT, COLO.

SANITAS FOOD CO.,

DEAR SIRS: I take this means of thanking you for your sample box of foods that reached me some time ago. I am very much impressed with the way in which your foods are prepared, and also the benefits that are derived from their administration to my patients. Again thanking you for your kindness, I am, Yours truly, CHARLES FISHER ANDREW, M. D.

7

CHICAGO, ILL.

DR. E. L. Hayford, 34 Washington St., tells me he had quite a remarkable case in which he used Bromose. It was an old man with pernicious anemia, on whom he and other doctors had exhausted their resources in vain. He was nothing but skin and bones. He recommended Bromose, and did not see him again for some time, and then was much astonished to find that he had gained thirty pounds by the use of Bromose. Yours truly, E. H. BAKER.