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GOOD



HEALTH

CONDUCTED
BY

J. H. KELLOGG, M.D.

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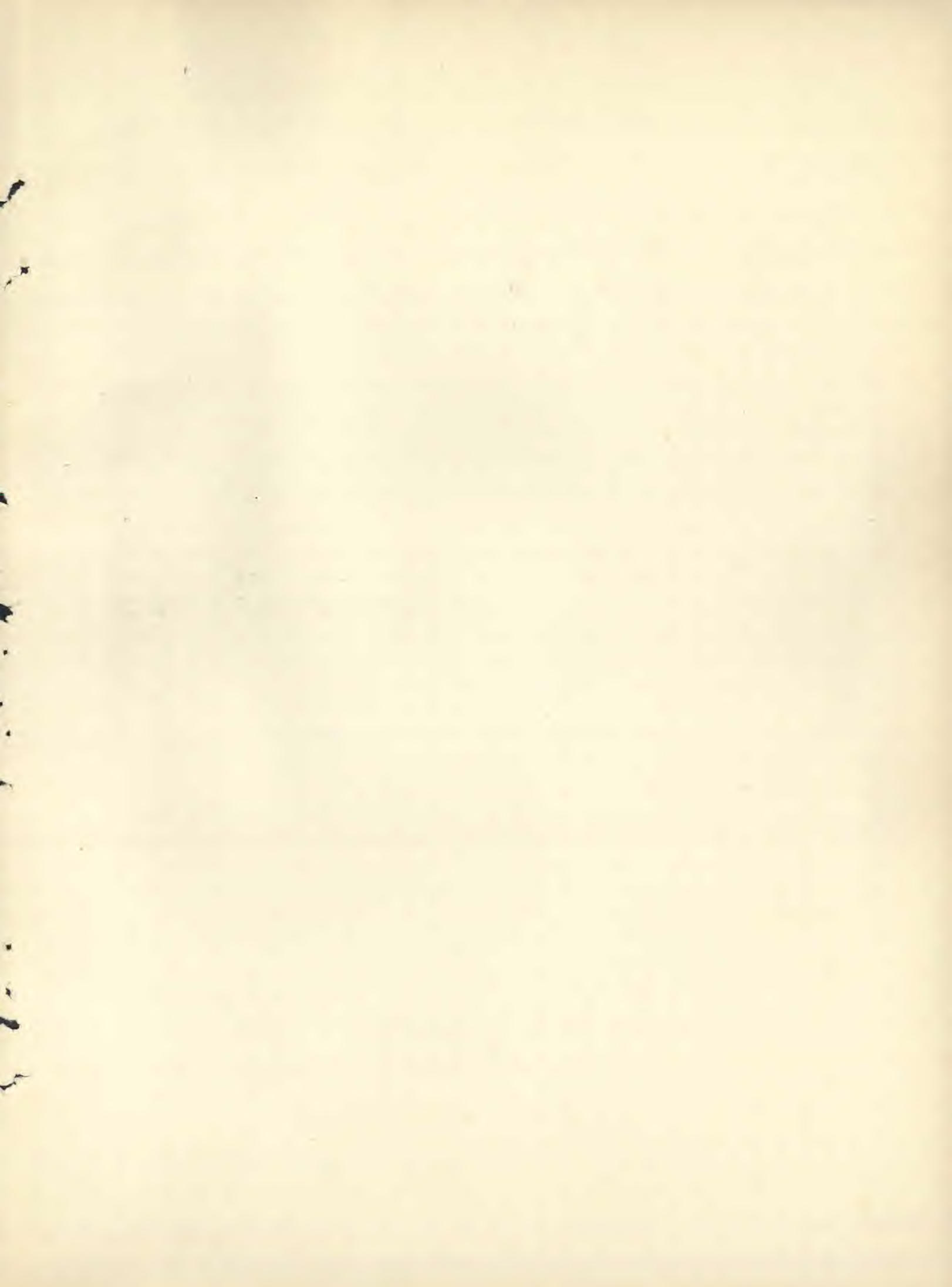
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DANGEROUS SPORT.



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BATTLE CREEK MICHIGAN.

MARCH, 1893.

INTERNATIONAL HEALTH STUDIES.

BY FELIX L. OSWALD, M. D.

Author of "Physical Education," "The Bible of Nature," Etc.

47.—Hudson's Bay Territory.

THE humorist Sterne observes that "old age should not be measured by years, but by vices," and most travelers in high latitudes will agree that the inhospitality of the far North ought to be measured by the progress of forest destruction, rather than by the distance from the equator.

A treeless plain, swept by a blizzard, is a phenomenon out and out uglier than the dreariest part of the Sahara Desert; but in a forest, no matter how far north or how deeply buried in snow, an able-bodied man, equipped with an ax and a box of matches, can always manage to make himself comfortable.

Axes and matches, it might seem, would soon exhaust those sources of comfort, but under the management of the Hudson's Bay Company, that result could be postponed to a practically unlimited period. They do a little trading in pitch and timber, but by far the principal object of their enterprise is the collection of furs, and hunters have rarely been tree-destroyers. The small clearings of the trading posts do not aggregate one per cent of the enormous area still covered with primitive forests, and even the pursuit of game is regulated in a way to prevent the wars of extermination which have turned so many of our own woodlands into zoölogical deserts.

In September, the Indians and halfbreeds assemble at the next trading post, and receive what is technically known as "debt," *i. e.*, a supply of creature comforts advanced on the condition that the recipient is to repay his creditor in peltry before the beginning of the strawberry season. Some of the lucky trappers balance their account within a month; others forward installments of fur up to the middle

of May; but hunting in summer is wisely discouraged, and experts can tell at a glance whether the original proprietor of a fur coat has been killed before or after the thaws. It might seem strange that semi-barbarians can be trusted out of sight with an amount of merchandise representing the equivalent of a month's hard work; but Capt. Morgan, in his "Canadian Chronicle," explains that possibility by a characteristic anecdote: "What makes you look so glum, old man?" asked a Nelson River trader, when an Indian patriarch entered his store, looking as fierce as a meat ax.

"It's those minks," said the sachem; "they robbed me again last night; this makes the tenth brace of partridges they have stolen from my larder."

"Why do n't you make a trap, and catch them?" asked the trader.

"I'm not in debt," said the old fellow, "why should I work?"

"This is why," laughed the trader, handing him a five-pound package of sugar; "I'm your creditor now," and the very next morning the debtor returned with the hides of the obnoxious animals on a stretching-board.

The fact is, that the American aborigines, in spite of their indolence, have a strong sense of obligation, and can be trusted to discharge a debt that can be paid in the products of the wilderness. A few get permission to carry their accounts to the next hunting season, but nine out of ten have a balance to their credit, and re-assemble in May to cash the surplus, and rummage the cargoes of miscellanies which have reached the post from headquarters by that

time. Flame-colored kerchiefs for the papooses are in great request, and among the edible luxuries, brown sugar and pungent preserves (ginger etc.) hold the first rank of popularity; but it is a suggestive fact that the children of the Northwoods, with all their digestive omnipotence, abhor strong cheese, and indulge in all sorts of cynical comments at the expense of the pale faces who degrade their humanity by a passion for the malodorous diet.

In 1863, the Hudson's Bay Company ceded its administrative privileges to the British government, and accepted a modified charter, opening a chance for considerable competition. Some of the free traders promptly abused that liberty by debauching



TRADING-POST WAIFS

the Indians with cheap whisky, but the results of that experiment enforced a return to the old system of local option, which in most cases amounts to total prohibition in a sense of the word unknown in Kansas or Maine. "Instruct your Indian in arson and the manufacture of dynamite bombs," says Commissioner Evans, "and he may not abuse your confidence, but do not pervert his nature by turning him into a toper. You might as well infect your dog with hydrophobia poison, and rely on his good nature to obviate the ruinous consequences."

Alcohol, accordingly, was tabooed by general consent, but the idol-worshipping propensity of our race had again to explode in dances around a golden calf of some sort or other. Redeemed opium smokers fuddle with betel-nuts, and the employees

and tenants of the Hudson's Bay Company seem to have blossomed out into a society for the promotion of tea worship. Hot tea is distributed freely in lumber camps, in raft bivouacs, and in extra cold weather, even in the trading station: black tea, as strong as possible, is recommended as a panacea for all the climatic vicissitudes of British North America, for in summer it is often prescribed to "counteract the debilitating effect of sultry weather."

"Tea may not cure all diseases," said a votary of the Mongolian nectar, "but you surely do not mean to deny that it cures sick-headaches?"

"Certainly not," I replied, "I might as well deny that it causes them."

The fact is that every unnatural stimulant can be made to effect a temporary relief of the very ailments resulting from its habitual use, but that effect is in every case followed by a debilitating reaction,—a reaction curable only by an increased dose of the treacherous tonic. China, Russia, and now the North Canadian territories swarm with tea toppers, who have become as completely dependent upon their tippie as hasheesh fiends or beer drinkers, and think that they cannot work, think, sleep, or digest their food, without the assistance of the wonted stimulant.

Happily, both frost and hard work operate as antidotes of narcotic poisons, and in that way the trappers of a frozen wilderness escape part of the penalty of their mistake, but they thus burn the candle of life at both ends, and the net result is an inevitable loss of health and comfort.

In midwinter, when snow falls to the depth of three or four feet, the garrison of a frontier port lives as secluded as the inmates of a Thibetan monarchy, but education has multiplied their means of indoor pastimes, and their strange life gives their physicians an opportunity for all sorts of interesting sanitary observations. Dr. Joseph H. Neal, who passed several winters at the Deer Lake station, has noticed that a heavy fall of snow promotes sound sleep and relieves asthmatic troubles, both, as he suggests, indicating the probability that snowflakes purify the atmosphere and increase its percentage of oxygen or of ozone. Active exercise, in such weather, he observes, stimulates the vigor of the digestive organs, and yet hunger and frost will not wear out the vital resources of the system half as quick as frost and sleeplessness, a fact which throws a curious light on the phenomenon of hibernation. After a good long night's rest, a traveler in the ice woods awakens, braced for a struggle with the frost fiends as if he had received his strength by a magic elixir of life, and the *qui dort dine* (slumber is as good as a square meal) is no-

where more true than at the borders of the arctic circle. By a wise arrangement of nature, a steady frost appears to increase the capacity for protracted sleep, and also the enjoyment of what one might call a polar *dolce far niente*, making a torpor perhaps somewhat akin to the comfortable lethargy of a hibernating animal.

Camping in the midst of the frozen woods is not so difficult, provided the traveler carries a sleeping bag,—a fur-lined sack that will cover his body all around to the shoulders, where it is supplemented by a heavy shawl that can be drawn over the ears like a hood, but does not interfere with the short-notice movements of the arms. The purpose of the bag with its multiplex layers of soft fur, is to keep the feet as warm as possible, foot-warming and head-cooling being, indeed, a sovereign remedy for insomnia. When game is scarce, a trapper will stick to his fur bag till the morning sun is an hour or two high, and going to bed in daytime is, on the whole, a better expedient in a coal famine than the alternative of "warming up" at the dramshop.

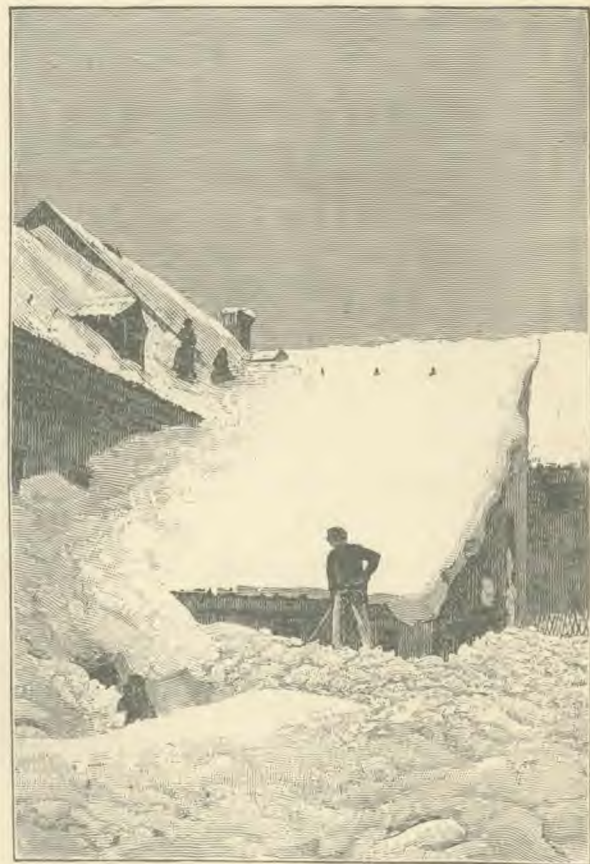
The Indians have learned to appreciate English boots and woolen socks, but prefer fur coats to woven fabrics. Over a pelisse of bear skins they wear a linen overall, or a blouse of soft-tanned buckskin, thus protecting their store of animal warmth under teguments inclosing a double layer of warm air, on the same principle that makes the triple shirt of the Havre 'longshoremen warmer and far more comfortable than broadcloth.

The Indians of Lake Winnipeg have no occasion to dread the white man as the arch enemy of their race, and on their occasional visits to the trading posts, make themselves at home in a way completely refuting the idea that the aborigines of our continent are stolid and unsocial bipeds. The rage of resentment, rather than natural apathy, makes their southern kinsmen unwilling to waste a word in the presence of their Caucasian despoilers, but the north Canadian tribes use the clearings of the frontier posts for family reunions, celebrated with dances and athletic sports, and after dark in summer time, with uproarious picnics. At a single session a party of ten or twelve will devour a bushel of crackers and gallons of potatoes, meat stew, and mush, but above all, berries, which they collect *en masse*, and swallow greedily as a corrective to the grease diet of the long winter.

Song and fireside tales enliven these symposiums, but in one respect the northern redskins confirm a general characteristic of their race: they are remarkably devoid of the vice, or virtue, expressed in the

word *uxoriousness*. Like the Turks of Alp Arslan's time, they appear to consider the presence of a female a disgrace to an assembly of rational bipeds, and considering their alleged affinity to the lost tribes of Israel, they would make abnormally poor Mormans; their families are small, and the care of the progeny devolves almost altogether upon the mother.

The existence of halfbreeds is no fault of theirs, and with the strange instinct of inferior races they hate the Mestizos, even where they tolerate or welcome the presence of their Caucasian rivals. Like



TRADING POST IN MIDWINTER.

all mongrels, the halfbreeds too often justify that aversion. By some unexplained law of nature the union of two widely dissimilar races appears, in four out of five cases, to produce offspring combining the more ignoble traits of their progenitors. Thus the West Indian mulattoes generally exhibit only the unprincipled egotism of the Spanish Creoles, without their chivalrous impulses or their poetic instincts, and the indolence of their black mother without her patience and misfortune-proof good humor. But now and then it happens that hybrids inherit the better qualities of both parents, and some halfbreed

scouts of the Canadian Northlands are honest, intelligent, and enterprising enough to be an ornament to humanity, as well as to the wigwam of their maternal relatives.

As a rule, the male Indians are too proud to appeal to the charity of their British employers, but their squaws are less scrupulous, and their youngsters are often unconscionable beggars, haunting the neighborhood of the trading posts under the pretext of awaiting the return of their father, and in the meantime subsisting on the liberality of the store-keepers and post masters, who tolerate them as the British planters

robatic performances of the long-legged humbugs. Those same Portuguese used to give their financial reports a semblance of grandeur by computing their income in pennies, "so and so many *mil reis*;" and similar considerations of exigency seem to have tempted the Hudson's Bay folks to enumerate their settlements by *houses*,—"Deer Lake House," "Pine Ridge House," "Black Lake House," etc., to cover the map with something more than the names of uninhabited mountain ranges. Settlements at all approaching the size of villages are found only on the Saskatchewan, and near the mouth of the Nelson



MOUTH OF THE NELSON RIVER, HUDSON'S BAY.

tolerate the sacred monkeys of Hindostan—for want of better pastimes. Even the Portuguese of Goa, with their fanatical hate of idols, connived at worship for the sake of the farce *circenses*,—the ac-

River, but farther north extends a pathless, though fairly well-wooded, wilderness of 800,000 square miles—considerably more than the combined area of Austria and the German empire.

(To be continued.)

LEARN to hide your pains and aches under a pleasant smile. No one cares to hear whether you have the earache, headache, or rheumatism. Do n't cry. Tears do well enough in novels and on the stage, but they are out of place in real life. Learn to meet your friends with a smile. The good-humored man or woman is always welcome, but the dyspeptic or

hypocondriac is not wanted anywhere, and is a nuisance as well.

"Is the doctor in?"

"Yes, but he's resting to-day, and can't see any one. There was a children's party in the block night before last."—*Chicago News*.

HEALTHY HOMES.

II.—THE CELLAR.

BY HELEN L. MANNING.

IN sitting down to count the cost of a house, do not scrimp on either the cellar or the kitchen. Go without a parlor, or build a house with one less wing, rather than slight these most necessary parts.

The cellar of a healthy home ought to be something more than a hole in the ground under the house; in fact, a cellar for the storage of fruit and vegetables ought not to be under the house at all; for one so built is a menace to the health of the family. It is desirable, however, to have a well-ventilated basement beneath the house, which can be made useful for dry storage, if desired. But as the fact remains that houses are generally built with cellars beneath them, and that fruit and vegetables are as generally stored therein, it may be wise to consider how to reduce their objectionability, as to location, to a minimum.

In the first place, a cellar should be large and light and well-ventilated. A good way to secure ventilation is by means of a flue leading into the chimney most used for fires. The draft in the chimney caused by heated air, will carry away most of the gases which otherwise might find their way into the rooms above. During mild weather, the windows should be kept wide open, protected by iron bars and wire netting only, and in the winter, the windows should be thrown open at least once a week,—once a day would be better,—long enough to secure a complete change of air. Hinged windows are very convenient.

The walls of a cellar should be both water-tight and air-tight, for it is essential that ground air as well as moisture be kept out. The matter of under-drainage, when necessary, should be attended to before the walls are laid. If the cellar does not extend under the entire house, the remaining space between the foundation walls should be rendered impervious to air and moisture just as much as the bottom and sides of the cellar.

In "Our Homes and How to Make Them Healthy," it is recommended that this be secured by using a layer of some impervious material, such as cement, concrete, asphalt, or some other such substance. The writer adds: "Concrete is perhaps the most generally available material for the purpose, inasmuch as the materials for making it of a sufficiently good quality can be obtained almost everywhere without much difficulty. The layer of concrete

should be at least six inches thick, and be rammed solid, and then well grouted with liquid cement, so as to make it tolerably smooth and capable of being swept clean, before it is finally covered up with flooring; for it usually happens that shavings, sawdust, and rubbish of all kinds, often fouled by the workmen, are swept down under the floor just before the house is completed, and this of course should be avoided."

The danger from ground air is greatest in winter, when the surrounding earth is frozen. Then if the cellar floor, the walls, and the remaining space, if any, between the walls, are not finished with some sort of air-proof cement, they act as ventilating shafts for ground air.

The most scrupulous cleanliness should be observed in the care of the cellar, to prevent germs of mold or decay from getting a foothold. In this matter it is eminently true that "eternal vigilance is the price of safety."

Whether there is a cellar beneath the house, or a well-ventilated basement, or only an air space with suitable ventilators, it is expedient to lay all the floors of the first story double, and of matched boards. Better still, put a layer of cement between the two floors, thus positively preventing all air from below from reaching the living rooms.

Houses are sometimes built with no basement, and no provision for ventilating the space between the foundation walls. Such houses are very unwholesome, for the damp, close air in the inclosed space fosters mold, and engenders decay of the sills and joists.

Allen Dudley, in *Vick's Magazine*, gives a description of a practical outside cellar, which he says has proved highly serviceable for ten years, and which cost only thirty-five dollars at the outset, not counting shoveling and such work done by his hired man. A description of the same is herewith condensed, hoping that it will induce others to try this sanitary method of storing fruits and roots, instead of putting them beneath living rooms.

He says that he marked off a space about eighteen or twenty feet long, and ten feet wide, and dug down more than five feet. Posts were inserted at the corners and at proper intervals on the sides, and boards nailed to them, thus forming a solid wall. The space

between this and the outside wall of earth, about five inches, was filled with sawdust. On the bottom, a few tiles were laid to prevent moisture or seepage. A good plank floor was then put down, and partitions built for the various bins. The roof sloped steeply down, and touched the walled-up earth outside. A layer of felt paper between the boards and the shingles which formed the thick roof, insured extra warmth. Two small chimney-like openings on the roof, with adjustable covers, provided ventilation, and at the western extremity, was a movable trap-door, three feet by two feet, which could be lifted in order to facilitate the storage of the coarser vegetables. Beets, onions, carrots, parsnips, potatoes, turnips, and apples are here stored in their sepa-

rate bins, together with roots for the farm animals, and the writer assures us that the cellar has never once frozen, although the thermometer sometimes registers 30° below zero outside. Double doors are provided, the first one opening onto steps leading down to the door of the cellar proper, which is made of upright plank covered with felt paper.

We would also suggest that the sawdust between the walls be moistened with a strong disinfectant, such as a saturated solution of copperas, or sulphate of zinc, as a protection against ants and other vermin.

Let the great annoyance of opening the outside door to a house cellar in the winter, and the disposal of debris by carrying out through the kitchen, be another argument in favor of an outside cellar.

TAKE CARE OF YOUR HEALTH.—One of the most foolish things that men and women can do is to kill themselves, or to exhaust their energies and wreck their health. No one is benefited by such imprudence; nor does any one ordinarily thank them for their pains. What you *are*, is more important to ordinary minds than what you have done. You may have performed immense labors; but if you are sickly and sour and dyspeptic and querulous, people will forget your services, and be attracted by the superior personality of others who may have accomplished far less than yourself.

But imprudent and exhausting endeavors do not promise the best results, even in the accomplishment of needed labors. The man or woman who labors moderately and judiciously, does more in a year and more in a lifetime than the person who rushes on with unreasoning haste, and, without the rest and recreation which his physical nature demands, does two weeks' work in one, and is sick a fortnight to pay for it; or accomplishes two years' work in one, and is then permanently disabled, and becomes a useless burden on the industry of others.

Take care of yourself. If you do not take care of yourself, no one will take care of you. No wife, or husband, or child, will thank you for killing yourself for them. No employer will bear your aches and pains, or pay your doctor's bills, or support you in the sickness which you have brought on yourself by overwork for his benefit. You are to remember that the body is the temple of the Holy Ghost, and that you are not your own, but are bought with a price. You have no more right to abuse your body and overtax your energies than you have to whip and abuse an overworked and borrowed horse; and yet there are persons who will work themselves twice as long as they

would think it right to work a dumb beast, and will urge their jaded energies to utter exhaustion and paralysis, and after all will accomplish less than they would had they labored carefully, and preserved clearness of mind, vigor of body, and fitness for careful and successful endeavor.

Work is Heaven's ordinance, but they who work without food, or intermission, or rest, violate the divine arrangement, and doom themselves to unknown and incalculable evils. The very persons who have profited by their unwise exertions will call them fools for their pains, and they will be obliged reluctantly to admit the appropriateness of the designation. On the other hand, those who are careful of health and strength, who provide things needful for the body, and who treat themselves as well as sensible men would treat a horse or an ox, will find in the end that they can do more work and better work than by the opposite plan; and that they will be prized, and loved, and honored, not only for what they have done, but for what they are; for their vigorous manhood and womanhood, their healthful personality which images forth the likeness of Him who hath made them.—*The Christian*.

“By the caution Sir Walter Raleigh took in smoking tobacco privately,” says some writer, “he did not intend it should be copied. But sitting one day in deep meditation, with a pipe in his mouth, he inadvertently called to his man to bring him a tankard of small beer. The fellow, coming into the room, threw all the liquor into his master's face, and, running down stairs, bawled out, ‘Fire, help! Sir Walter has studied till his head is on fire, and the smoke bursts out at his mouth and nose!’”

THE TRUE PRISON QUESTION.

THE true prison question is how best to dispose of, and deal with, the unfortunate classes among the people. By the word *unfortunate* I mean to include all who are improperly balanced, whether they be harmless or vicious; merely demented or criminally inclined; violent disturbers of the public peace, or offenders in any form against the good order of society.

Those who come under restraint are possessed of unbalanced minds. The character of brain and nerve substance, the arrangement of brain ganglia, the condition of the centers from which vital energy flows that prompts each thought, impulse, and act, make them just what they are. When their impulses drive them to disturb the public order, they should be put under restraint; in a word, imprisoned in some way.

It is a question, first, belonging to the science of government. It is purely a matter of business in government. There can be no government without order, there can be no order unless those who disturb it are placed where they cannot disturb it.

Secondarily, it is a question in social science. What is the best policy for the orderly class to pursue to protect itself against the disturbers of order?

Lastly, it is a matter in mental science. What is the cause of these ill-balanced mental organisms? how far is it possible to create a balance in them? and how can their production be checked or prevented?

The true prison question, then, involves propositions in the political, social, and mental sciences; and the discussion and solution of the problems involved in those propositions is the true prison question. When that solution shall have been accomplished, the matter of the management of prisons and those who are restrained in them will need less thought about reforming prisoners, about punishments, discipline, profit and loss, labor on State account, contract, piece-price, or any other plan. How to have order, useful industry, good health, and economy as to expense, will be the only questions in that direction; and an entirely new course of legislation with an entire new system of prisons will obtain.

It is a fact beyond argument that individuals cannot see, or think, or act beyond the limit of their perceptions. To learn and understand the limit of the perceptions of persons under restraint, is requisite in order to know what to do with them. The idea of penalties and punishment for offenses against

the public order, to be inflicted on the offender by the State, is an absurdity. It would be no more absurd to affix penalties and inflict punishment upon insane persons for violent demonstrations, or on one born with cross eyes or five fingers. One who disturbs the public order by any kind of act is limited in moral perception, and is unfit to be at large. Like a vicious bull or a mischievous dog, or other unfortunate creature unevenly balanced, he should be put under restraint. When under restraint, if he can be comprehended and any kind of treatment can give him a mental balance and such perceptions that his impulses will be to preserve order, he may be set at liberty. If he is of such a nature that it cannot be done, he must be kept under restraint and made harmless. . . .

Did you ever hear of a man, a society, or a State that reared colts from horses that had the glanders? Did you ever hear of a wool grower, or of the government farms, breeding sheep from a flock suffering with foot rot? Did you ever know a farmer, or the government on its experimental farms, to sow smutty wheat, or grain mixed with chess, or plant potatoes affected with rot, or save the larvæ of destructive insects and plant it among their grain, vegetables, and fruit? Did you ever hear of persons breeding from hogs with the cholera, or using the milk of cows which produces the milk sickness? I might go on indefinitely with like queries, and you would answer, "No."

Now turn and look at men and women, and ask a like series of questions as to diseased humanity, and what must be your answers? What would you think of a proposition to get rid of leprosy or smallpox by licensing those affected with these diseases to mingle with and inoculate others? The same statute book that defines crime and affixes penalties and establishes prisons, licenses criminals to marry. The same code of provisions that arrests, imprisons, and forces labor from tramps and vagabonds, licenses tramps and vagabonds to marry. The same legislative wisdom that enacts laws for protecting and supporting paupers and imbeciles, enacts laws to license paupers and imbeciles to marry. It protects all these classes in every way, and sanctions in every way the rapid multiplication of criminals, tramps, vagabonds, paupers, and imbeciles. With one hand it holds the lash over them, and with the other tenders license to increase and multiply and replenish the prisons and poorhouses, and fill the land with vicious blood and brains. . . .

Then the true reform and the only permanent reform is, to stop the production of these unbalanced classes, just as the law now prohibits the production of diseased animals, Canada thistles, the devil's flax, the selling of diseased meats, or unwholesome provisions, the spread of contagious diseases by means of quarantine and military cordons around infected districts, and the suppression of other minor evils. In all these and other cases of restrictive legislation, no thought is given to the matter of interference with personal rights. The evils forbidden are trifling

when compared with the fact of the constant production of diseased and deformed human beings from the very worst of stock. A check on that production can be very readily and easily effected, without any infringement on individual liberty and right, and with resulting benefits infinitely greater than any that result from the existing restraints and requirements that now fill no small portion of our statute books.—*Charles H. Reeve, Chairman Committee on Criminal Law Reform of National Prison Association.*

REMEDIES.

BY MRS. KATE BREARLEY FORD.

"Now, I tell yo," said old man Jones,
 "The very best med'cine for achin' bones
 Is sassaparilly. It's allus good
 For cleanin' out a body's blood.
 In my lifetime, as old as I be,
 I must 'a took—well, let me see—
 More'n a bar'l; and there's my wife—
 She's just lived onto it, all o' her life.

"Anything else? Why, I should say!
 If I had n't took somethin' every day
 For fifty year, I'd 'a been laid by;
 And, as it was, I come mighty nigh
 Bein' cut short right in my prime.
 But sassaparilly—'tain't no crime
 To say that that and pep'mint tea
 Hev more'n once been the savin' of me.

"Tobaker? Oh my! I let that go
 Along with liquor years ago;—
 But I stuck to the yarbs, 'n' my wife and I—
 Mandy, she's old, but she's drefful spry,—
 Gethered 'em down in the medder lot,
 Though you can't find pep'mint in every spot.
 Then we hung the lanches agin the wall,
 And we 've done jes' so every summer 'n' fall.

"I do n't like this new fangled stuff;
 Homopathy is well enough
 For folles that ain't sick when they think they be;
 But no such nonsense 'll do for me,
 I want my med'rine in teacups full,
 I jes' like sumthin' that can pull
 The fever 'n' ager right out of my bones
 And hit right hard, in spite o' my groans!"

WHAT IT COSTS TO SMOKE.—The following computation is upon the basis of a weekly expenditure of \$1, the amount (\$26) being brought in as capital at the end of every six months, at seven per cent per annum, compound interest. It amounts at the end of

5 years to.....	\$ 304 96	35 years to	\$ 7,511 08
10 " ".....	735 15	40 " ".....	10,900 07
15 " ".....	1,341 97	45 " ".....	15,680 59
20 " ".....	2,193 91	50 " ".....	22,423 98
25 " ".....	3,405 37	55 " ".....	31,936 19
30 " ".....	5,108 56	60 " ".....	44,354 11

A TEMPERANCE MOTHER.—A man from the new house near by came in at the alley gate and to the kitchen where a mother was working for the comfort of her family. He asked for a bucket. The men working on the brick wall were thirsty, and he would take them a drink. The bucket was brought. The lady, remarking on the discomfort of working in the hot sun that midsummer day, offered to fill the bucket at her well; the water was so cool, men from offices and stores near by often came or sent for water from that well. Reaching out for the bucket, the man declined the water, saying in a friendly tone that the men would like beer better than water, he only wanted a bucket to carry it in. Steadily the bucket was held back as the lady said: "I am sorry.

I cannot lend a bucket of mine for beer. Why, I dare not. I have three boys, and what would they think if I let beer be carried in anything from my kitchen? I am sorry you wanted it for that. Should my boys drink liquor when they are grown, they must not say they ever saw beer in anything belonging to their mother, not with her consent. Good-day."—*Temperance Record (Eng.).*

New Boarder— "I notice a very unhealthy odor round the house to-day. I think your drains must be out of order."

Farmer Rugg— "Can't be that, mister, fer ther' ain't a drain on the whole place."

Drummer— "Good morning, sir, I called on you to see if I could sell you one of our celebrated hot-water heaters."

Mr. Grouty— "No, sir, you cannot. I do not require a hot-water heater. I find that our hot water does not require heating. Now if you had called here with the intention of selling me a cold water heater, we might have done some business. Good morning."

THE ORGANISM OF MAN.

IN the human body there are about 200 bones. The muscles are about 500 in number. The length of the alimentary canal is about thirty-two feet. The amount of blood in an adult averages fourteen pounds, or fully one tenth of the entire weight. The heart is six inches in length and four inches in diameter, and beats seventy times per minute, 4200 times per hour, 100,800 per day, 36,792,000 times per year, 2,565,440,000 in three-score and ten; and at each beat two and a half ounces of blood are thrown out of it, one hundred and seventy-five ounces per minute, six hundred and fifty-six pounds per hour, seven and three fourth tons per day. All the blood in the body passes through the heart in three minutes. This little organ, by its ceaseless industry, pumps each day what is equal to lifting 122 tons one foot high, or one ton 122 feet high. The lungs of an average-sized person will contain about one gallon of air, at their usual degree of inflation.

We breathe on an average 1200 times per hour, inhale 600 gallons of air, or 24,000 per day. The aggregate surface of the air cells of the lungs exceeds

200,000 square inches, an area very nearly equal to the floor of a room forty feet square. The average weight of the brain of an adult male is three pounds eight ounces; of a female, two pounds four ounces. The nerves are all connected with it, directly, or by the spinal marrow. These nerves, together with their branches and minute ramifications, probably exceed 10,000,000 in number, forming a "body guard" outnumbering by far the greatest army ever marshaled.

The skin is composed of three layers, and varies from one fourth to one eighth of an inch in thickness. The atmospheric pressure being about fourteen pounds to the square inch, a person of medium size is subjected to a pressure of 40,000 pounds. Each square inch of skin contains 3500 sweating tubes, or perspiratory pores, each of which may be likened to a little drain pipe one fourth of an inch long, making an aggregate length in the entire surface of the body of 201,166 feet, or a tile ditch for draining the body almost forty miles long. Man is marvelously made. — *Scientific American*.

LIMEKILN CLUB SANITARY ITEMS.—The Secretary of the State Board of Health of Illinois wanted to know what progress, if any, the colored people of Michigan were making in sanitary matters. Brother Gardner said he would like a general discussion of the subject, and Sir Isaac Walpole arose to remark that he was making progress. Up to a year ago he did n't know that seven persons and a dog sleeping in an 8 x 10 room, with all the windows down and the doors closed, was injurious to the human system. He supposed that the feeling of languor was brought on by non-circulation of blood in the feet.

Whalebone Howker had also progressed. He had now learned the difference between the smell of gunpowder and sewer-gas, and the lives of his thirteen children were no longer in peril.

Pickles Smith used to wash his feet once in six months. Now he felt conscience-stricken if a week passed over his head that he did n't heat up a boiler of water and soak up his pedals. His five dogs used to sleep in the house. Now they either make their beds in the dooryard or stand up against the woodshed door.

Judge Chewso had slept in a room with six other persons, a barrel of soft soap, three dogs, an old codfish and a limburger cheese, but he had progressed.

He used to wake up in the morning and charge the Democratic party with seeking to poison him, but now he realized that it was his ignorance of sanitary precautions.

Several other members spoke in the same strain, and related vivid personal experiences, and the president finally said:—

"De Secretary will answer to de effect dat we ar' improvin' in sanitary matters in de rapidest manner, an' dat de time am purty nigh at hand when a black pusson sleepin' in de garret of a house durin' de hot nights of July an' August will werry probably remove de feather bed an' dispense wid about fo' comforters." — *Detroit Free Press*.

SANITATION A CHRISTIAN DUTY.—Prof. Drummond, among other exceedingly practical views which he holds regarding the manner in which a Christian should live, regards sanitation as manifestly a Christian duty, as evidenced by the following advice to one seeking the right, taken from his booklet, "The City without a Church":—

"Begin where you are. Make that one corner, room, house, as like heaven as you can. Begin with the paper on the walls, make that beautiful; with the air, keep it fresh; with the very drains, make them

sweet. Abolish whatsoever worketh abomination — in food, in drink, in luxury, in books, in art. . . . Then pass out into the city. Do all to it that you have done at home. Beautify it, ventilate it, drain it. Let nothing enter it that can defile the streets, . . . nothing that maketh a lie in its warehouses, its manufactories, its shops. . . . Provide for the poor, the sick, and the widow. So will you serve the city. . . . Be sure that, down to the last and pettiest detail, all that concerns a better world is the direct concern of Christ."

CLEANLINESS.—Most of the serious diseases to which human flesh is heir are due to filth, or are fostered and spread by filth. But it is the hardest thing in the world for the race to be cleanly. Personal cleanliness, for example, as understood by the Anglo-Saxon race, by the Dutch, and by the Japanese, is unknown to most other people. Cities go on for generations drawing their water supply from polluted sources, and lamenting at "visitations"—the impiety of it!—of fevers. Or they invite diphtheria by carelessness in regard to drainage, or reeking masses of filth in defective cesspools, filth out of sight is so generally out of mind. By and by an awful pestilence comes—through the "inscrutable providence" of the Almighty, as people used to say, reverently but at the same time impiously. It is a "providence," but no one thinks of it any more as inscrutable. It comes in the nature of things, as effect from cause. An immutable law is violated. Quick or slow, the inevitable retribution comes.

It is curious to reflect that this has been the usual course of the human race from the very earliest times; namely, to invite pestilence by filthiness; then, when the invited guest appears, attended by goodman Death, to charge his coming to divine wrath,—at something other than the true offense; and then, while seeking to appease the angered deity with sacrifice or increased devoutness in religious service, incidentally to clean the camp, or house, or city. One of the earliest pestilences on record was that which assailed the hosts of the Achæians beleaguering the city of Troy, which Homer describes in immortal verse in the first book of the Iliad. How far back of the dawn of history it was, we do not know, but how true to human life it all is after these thousands of years!

The Greeks, "child-minded men," were sure when the pestilence struck the camp, smiting mules and dogs as well as men, that the wrath of the gods had been kindled against them. A prophet was ready to recall that their most powerful chief had only a few

days before despitefully treated an aged priest of Apollo, who came, grief stricken, to the camp, bearing rich ransom, and piteously pleaded to be allowed to redeem his daughter. Agamemnon brusquely refused, and bade him go; and the old man had prayed for vengeance. Surely this was the cause of the pestilence! The only thing to do was to send the maid home to her father without ransom, and with her, rich gifts to the outraged god. The Greeks applauded the wisdom of their prophet; public opinion compelled the reluctant chief to accede, and maid and gifts were dispatched with due ceremony to the house of the insulted priest. That done, Homer naively adds, as though it were an after-thought: "Atreides bade the folk purify themselves. So they purified themselves, and cast the defilements into the sea, and did sacrifice to Apollo."

And so they rid themselves of the pestilence. We have reached the stage where we begin to clean up as soon as we hear that a pestilence is on the way, seeking for congenial filth. Sometime—sometime we shall have in us that belief which compels practice in the truth of the old adage, "Cleanliness is next to godliness" (on which side, the adage doth not say), and we shall keep clean all the time.—*Public Opinion.*

A PAINLESS DEATH.—Benjamin Ward Richardson says: "By the strict law of nature, man should die as unconscious of his death as of his birth. . . . This purely painless process, this descent by oblivious trance into oblivion, this natural physical death, is the true euthanasia; and it is the duty of those we call physicians to secure for man such good health as shall bear him in activity and happiness onward in his course to this goal. For euthanasia, though it be open to every one born of every race, is not to be had by any, save through obedience to those laws which it is the mission of the physician to learn, to teach, and to enforce. Euthanasia is the sequel of health, the happy death engrafted on the perfect life.

"When the physician has taught the world how this benign process of nature may be secured, and the world has accepted the lesson, death itself will be practically banished; it will be divested equally of fear, of sorrow, of suffering. It will come as a sleep."

BE GOOD TO YOURSELF.—Think deliberately of the house you live in, your body. Make up your mind firmly not to abuse it. Eat nothing that will hurt it, wear nothing that distorts or pains it. Do not overload it with victuals or drink or work. Give

yourself regular and abundant sleep. Keep your body warmly clad. At the first signal of danger from any of the thousand enemies that surround you, defend yourself. Do not take cold; guard yourself against it; if you feel the first symptoms, give yourself heroic treatment. Get into a fine glow of heat by exercise. Take a vigorous walk or run, then guard against a sudden attack of perspiration. This is the only body you will ever have in this world. A large share of pleasure and pain of life will come through the use you make of it. Study deeply and diligently the structure of it, the laws that should govern it, the pains and penalties that will surely follow a violation of every law of life or health.—*Sel.*

REV. H. L. HASTINGS ON ALCOHOL.—The venerable editor of the *Christian* thus speaks out regarding alcohol:—

“A minister is now and then found who speaks of alcohol as something which God has made, and which is therefore good, and some intelligent people seem to admit the premise laid down. But *has* God made alcohol?—No. When God made the world, there was not a drop of alcohol in it. No tree furnishes that kind of sap; no cow gives that kind of milk; no beast, bird, fish, plant, or mineral affords alcohol. How is alcohol produced?—Much as poison is produced in a dead body. A man may be perfectly healthy to-day; he dies; one week hence every portion of his body is so poisonous that the knife used in dissecting the dead body is as poisonous as the fang of a rattlesnake.

“No living thing contains alcohol; but when wheat, rye, corn, potatoes, grapes, apples, and other fruits begin to decay or rot, then alcohol is developed in the process of breaking down and destroying these things. But alcohol does not then exist by itself; it flies off into the air and is gone; but men, in the exercise of ‘the wisdom which is from beneath, which is earthly, sensual, and demoniacal,’ have contrived a way of taking these decaying substances that are thus made poisonous, and putting them over a fire, by the heat of which the alcohol is turned to vapor. This vapor passes upward from the still, and is turned down through a long worm or coiled pipe, which passes through a tub of cold water, thus condensing the vapor into drops, which drizzle out in a little stream of alcohol at the bottom. But this alcohol, if exposed to the air, would immediately evaporate, and fly away. It must be caught in a close vessel, and then tightly corked, or else it would quickly vanish into the air.

“This is the truth about alcohol. The Lord never made it; it was not created; and it does not grow; it never was found in nature. It is only developed in decay, and only the perverse ingenuity of man, distilling, condensing, and imprisoning it, enables him to provide himself with this deadly and devilish poison, which fills his soul with wickedness, his mind with madness, his body with disease, and his home with misery, want, and woe. The world was thousands of years old before any man knew how to collect and imprison this deadly substance. God made man upright, but he has sought out many inventions, and alcohol is one of the worst of all the inventions which the devil has helped him to contrive.”

MAKE THE BEST OF THINGS.—We excuse a man for an occasional depression; just as we endure a rainy day. But who could endure three hundred and sixty-five days of cold drizzle? Yet there are men who are, without cessation, somber, and charged with prognostication. We may be born with a melancholy temperament, but that is no reason why we should yield to it. There is a way of shuffling the burden. In the lottery of life there are more prizes drawn than blanks, and to one misfortune there are fifty advantages. . . . Let us stand off from despondencies. Listen for sweet notes rather than discords. In a world where God has put an exquisite tinge upon the shell washed in the surf, and planted a paradise of bloom in a child’s cheek, let us leave it to the owl to hoot, and the toad to croak, and the fault-finder to complain. Take outdoor exercise and avoid late suppers, if you would have a cheerful disposition. The habit of complaint finally drops into peevishness, and people become waspish and unapproachable.—*Sel.*

“How did you come to break both arms?” asked the sympathetic woman.

“It was homœopathy did it, ma’am,” replied the tramp. “I fell down and broke my right arm, and the doctor was one o’ them *similia similibus* fellers, so he broke the other.”—*Harper’s Bazaar.*

PROTECTION AGAINST SCRUBBING.—Toto stands in ecstatic contemplation in front of an india-rubber warehouse.

“Mamma, say, what’s that?”

“That’s a diver’s costume.”

“Oh, do buy me one, mamma, dear.”

“What for?”

“For when you wash me.”—*La Tribune.*



THE EFFECT OF EXERCISE UPON DIGESTION.

J. H. KELLOGG, M. D.

EXERCISE aids digestion in a great variety of ways, some of which are here enumerated:—

1. Exercise aids digestion by increasing the appetite. It creates an appetite by the removal of waste substances from the tissues, and by the consumption of the reserve tissues of the body, so that there is room for new material. Oxygen is the best of all appetizers, and as exercise increases the amount of oxygen taken into the system, it can be readily seen how it is an aid to digestion in this way.

2. Exercise aids digestion by stimulating the stomach to the production of a better quality and a greater quantity of digestive fluid. Oxygen itself is one of the most necessary elements of digestion; it is also required in the production of the digestive fluids.

3. Exercise very materially aids digestion through the healthful influence of the increased respiratory movements acting directly upon the digestive organs. By respiration, an expansion of the chest is produced, which creates a partial vacuum within the chest, or rather a diminished pressure, and this diminished pressure created within the chest-cavity is communicated to the large bloodvessels in the chest, and thus produces a suctional force acting in the direction of the heart. So with every act of inspiration, the blood is drawn into the chest. The liver and the stomach lie just below the diaphragm, so that the respiratory movement has the effect of drawing the blood into the stomach and liver, and thence into the portal circulation. Thus the portal circulation is promoted. Respiratory activity not only aids the stomach and liver, but it aids absorption by drawing the blood away from the

liver, and prepares the way for the fluids which are absorbed in the alimentary canal. And so digestion, you see, is aided in a variety of ways,—by the creation of appetite; by making room for new material; by supplying oxygen, the element essential to the production of digestive fluids; by stimulating the circulation so as to supply more blood; by stimulating the venous circulation by which effete elements are removed; and by emptying the bloodvessels and thereby aiding absorption. Thus the respiratory apparatus is a sort of pump by which the digested food is pumped into the bloodvessels of the stomach, from which it is drawn through the liver, and thus the whole digestive process depends upon the movements of the chest. There is another way in which the circulation through the abdominal organs is aided by the respiratory movements. As the diaphragm contracts, it compresses the stomach and the liver between the diaphragm and the abdominal walls; the tense abdominal walls hold the organs in place, while the diaphragm contracts and presses the blood out, as you would squeeze water out of a sponge.

4. Exercise aids digestion by creating a thirst for fluids. After a person has been exercising, if he then drinks as much as he pleases, the amount of fluid absorbed is so great that the weight that had been lost through perspiration will be more than balanced by the fluids taken in; so that a person's weight will be greater after exercise than before.

The advantage of exercise has not been fully recognized. A quaint old doctor has said that sawdust pills were the best remedy for dyspepsia that he knew of, provided the patient made them himself. Dr. Boerhaave, an old Dutch physician living some

two hundred years ago, says that for a dyspeptic, climbing a bitterwood tree is better than taking a decoction of its leaves. There is no doubt but that exercise is one of the best remedies for disease.

5. Another way in which digestion is specially aided, is by the quickening of intestinal activity, which is accomplished by exercise. The food circulates through about twenty-five feet of the small intestine, and it is very likely to become stagnant in some part of the alimentary canal; hence by inducing intestinal activity, exercise stimulates the intestines to action, and by that means promotes digestion.

6. Exercise also aids digestion by increasing the development of the abdominal muscles. When the abdominal muscles become weak and relaxed, so much so that they allow the stomach, bowels, liver, kidneys, spleen, and pancreas to drop down out of place, they very quickly become diseased. Pro-lapsed stomach, liver, and bowels are the result of this relaxation of the abdominal muscles, and this is certain to produce serious trouble in a variety of ways; sometimes the liver is so distorted that it folds upon itself.

In this state of general prolapse there is a continual strain upon the nerves which connect the organs with the abdominal walls; the roots of the nerves remain fixed, so when the organs drop down out of position, the nerves are continually upon a stretch. This is the same as if your arm or any other part of the body were constantly kept on a stretch by a heavy weight; the result is pain in various parts of the body. These pains are often attributed to a wrong cause, but they are due to a prolapse of some of these internal viscera, as the result of weakness of the abdominal muscles.

A knowledge of the effect of exercise upon the excretory organs, particularly of the skin and the kidneys, is very important. It is found that exercise always increases perspiration. There is a constant relation between the fluid that is thrown off through the kidneys and that thrown off through the skin,—the ordinary relation is about as 2 to 1; that is, the amount of fluid removed from the body in twenty-four hours by the kidneys, is about twice as great as that removed by the skin; but, as the result of active exercise, this relation may be reversed, so that the amount of fluid thrown off by the skin may be two and one half times as great as that thrown off by the kidneys. The amount of fluid thrown off by the skin does not necessarily indicate the amount of poisonous matter removed; for the poisonous matter could scarcely be two and one half times as great as that removed by the kidneys.

Only the more important poisons in the secretions of the skin have been recognized by chemists, but that these poisons are of a very deadly character, is known.

It is found by experiment that when an animal is varnished, its temperature gradually falls, the elimination through the skin is destroyed, and it soon dies. It was formerly supposed that death in these cases was due to a too rapid radiation of heat from the body; but recent discoveries have shown that the real cause of the fall of temperature is the interference with the action of the skin, causing an accumulation of poisons in the body. It is found that when a particular poison which has been separated from the perspiration is injected into the skin of an animal, the temperature is lowered. So the accumulation of this poison in the body checks heat production and lowers the temperature.

The purpose of the action of the skin, is to regulate the temperature of the body, as well as to dispose of poisons produced in the body. With the skin in a normal condition, when the temperature of the body becomes too high, exercise will cause the skin to perspire freely, and throw off a large quantity of water, which evaporates and cools the skin, and by this means the temperature is lowered; so the skin is a regulator of heat. When exercising violently, the temperature of the body would rise to a dangerously high degree in a short time, if nature did not obviate the danger by increasing the amount of perspiration.

The chief purpose, as I have said, of the increased elimination of water by the skin, is to lower the temperature. This effect continues after a person ceases to exercise. During exercise, there is little danger of taking cold, because there is an increased production of heat; but after the exercise is discontinued, and there is no activity of the muscles, the increased production of heat ceases; but the increased heat-elimination through the cooling of the body still goes on, and there is great danger that the body will become abnormally cool. That is why there is so much danger of taking cold after exercise.

It is found by careful study and experimentation, as regards the action of the kidneys, that the amount of uric acid and other poisonous substances thrown off by the kidneys is not increased by exercise in one who is accustomed to exercise. Suppose a person has been accustomed to rowing several miles an hour: if he is in good training, the exercise does not increase the amount of uric acid or of waste matters thrown off by the kidneys, probably because the increased amount of oxygen taken into the system

completely burns up the poisons and carries them off as carbon dioxide. There is a great increase of carbon dioxide, or CO_2 , during exercise, but there is not an increase of nitrogenous waste. However, if a person takes exercise to which he is not accustomed, and becomes greatly fatigued in consequence of the urates and other poisonous substances produced, the amount of these substances thrown off may be greatly increased, especially under diseased conditions. It is because of diseased conditions that persons who take severe exercise find themselves suffering the next day from stiffness of the joints and muscles. The poisons which have been produced have been precipitated into the tissues, and an inflammation has been set up there.

Prof. Bouchard has shown by experimentation the

(To be continued.)

DR. TALMAGE says: "It seems to me outrageous that men, through neglect, should allow their physical health to go down beyond repair, spending the rest of their life, not in some great enterprise for God and the world, but in studying what is the best thing to take for dyspepsia! A ship which ought, with all sail set and every man at his post, to be carrying a rich cargo for eternity, employing all its men in stopping up leakages! When you may, through the gymnasium, work off your spleen and your querulousness and one half of your physical and mental ailments, do not turn your back upon such a grand medicament."

ARE HUMAN BEINGS NATURALLY RIGHT-HANDED?

—Any one who has ever watched a monkey or a bear in the handy use of their extremities, must have been specially impressed with the entire absence of anything at all akin to the right-handedness commonly met with among civilized human beings. Among savages and semi-civilized people, ambidextrousness seems also to be generally prevalent. In Japan, according to Sir Edwin Arnold, children are taught to write with equal facility with both hands. That the left hand of civilized human beings is equally capable of acquiring the art of writing, is fully demonstrated by the readiness with which even adults learn to write with the left hand after having lost the use of the right hand. Would it not be a wonderful advantage to any man or woman to be able to use both hands equally well in writing, as well as in other exercises in which the skilled use of the hands is required? A person suffering from some serious affection, such as writer's cramp, would be very grateful indeed to find himself able to

use his left hand in writing, if compelled to depend upon himself for work of this character. The only objection we have ever seen urged against the practice of writing with both hands, is one suggested by the *American Journal of Education*, namely, that the left-hand chirography is different decidedly from that of the right hand, so that a man who uses both hands would really have two hand-writings, a fact which might be a source of embarrassment in legal cases requiring the identification of penmanship.

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THE SOURCE OF WOMAN'S BEAUTY.—A charming chapter on women's physical beauty is that written by Richard Jeffries, the English naturalist, a close student of nature and outdoor life, from which we make the following extracts:—

"It takes," he says, "a hundred and fifty years to make a beauty—a hundred and fifty years out-of-doors. Open air, hard manual labor or continuous exercise, good food, good clothing, some degree of comfort—all of these, but most especially open air, must play their part for five generations before a beautiful woman can appear." He traces the descent of such a one for a hundred and fifty years: "The immense strength and agility of the yeoman, gained by hard work, hard but plentiful fare, and athletic sports, married to a woman as strong," and thus continues:—

"Even since I can recollect, the work done by ladies in country houses was something astonishing—ladies by right of well-to-do parents, by right of education and manners. . . . Healthy children sprung from such parents tend toward a refinement of the features. In the fifth generation beauty appears, with the features so molded and softened by

time, so worked and refined and sweetened, so delicate, yet so rich in blood, that she seems like a new creation that has suddenly started into being. The fisherman's daughter ere now has reached high in the scale of beauty. Hardihood is the fisherman's talent; the wind, washed by the sea, enriches his blood; he is tribal in his ways, his settlements are almost exclusive, and his descent pure. Here are the same constant factors, the stationary home-keeping, the family intact, the outdoor life, the air, the sea, the sun. . . . The young thing walks in the glory of young life; she is really centuries old. A hundred and fifty years at least from all enchanted things of earth and air this preciousness has been drawn. From the south wind, that breathes over the green wheat; from the perfume of the growing grasses, waving over honey-laden clover and laughing veronica, hiding the greenfinches, baffling the bees. A hundred years of cowslips, bluebells, violets; purple spring and golden autumn; sunshine, shower, and dewy morning; the night immortal; the rhythm of time unrolling. A chronicle unwritten and past all power of writing; who shall preserve a record of the petals that fell from the roses a century ago? The swallows to the housetop three hundred times—think a moment of that. The loveliness of seventeen is centuries old."

EXERCISE SHOULD NOT BE A TASK.—It is not by reason of overwork that Americans in the prime of life break down and die. It is because they do not work intelligently and systematically. An intelligent system of work provides also for a system of recreation. Englishmen work as hard as Americans, and last much longer. This is because, to Englishmen, a certain season of exercise out-of-doors is as much a part of the routine of their lives as their meals. They walk, or ride, or fell trees, or what not, as part of their day's work. The English climate allows one to be abroad more hours in the day and more days in the year than any other.

Exercise to which a man goes as to a task, does little good. It must be something that occupies his mind as well as his body. A New Yorker whose physician prescribed a horse for him, and who procured a gentle one that permitted him to worry with business during his rides, experienced no benefit until a lay adviser prescribed a horse that should be a 'handful;' and upon taking this latter prescription, he began to improve. If black Care sits behind the horseman, his riding will do him no good. The busy man who declares that he cannot afford the time for daily exercise and recreation, and

for an occasional holiday, is a very poor economist. By attention during all his working hours to sedentary business, he comes in time to a breakdown, most commonly preceded by insomnia, and finally by complete collapse. Then he is ordered to a vacation longer than the sum of those that he 'could not afford' to take, and he takes it, not with refreshment, but in a dispirited state that makes enjoyment impossible, and he returns to his work just able to resume, but not able to enjoy it. This is the story of thousands of men who think they are overworked. If they would diminish their daily work by an hour or two for physical exercise and recreation, they would do more work in what remained than now, and they would enjoy it. If one enjoys his labor, it will keep him young far longer than either a feverish and harassed activity or than an inactivity that leaves him no interest in life.—*Sez*.

Papa—"Well, how do you like your new bicycle, Horace?"

Horace—"I like it very much, but I wish it was as easy to get on as it is to get off!"—*Harper's Young People*.

A VALID ARGUMENT.—"I approve, sir, of physical education in our schools, for I know there is nothing better for boys and men than good, healthy exercise."

"That may be, and yet our fathers never spent any time at gymnastic exercise."

"I know it. And what's the consequence? Are n't they all dead to-day?"—*Paris Figaro*.

WILLIAM BLAIKIE ON WALKING.—Walking, when properly engaged in, is of great benefit to all those who lead sedentary lives, and should be practiced every day in the year in order to keep the system in good order and full working condition. If young men and women would stop for a moment, cast their eyes around them, and behold how many people there are who are simply weakening their constitution by degrees, from the lack of knowing how, when, and where to walk, it would not be a great while before every man, woman, and child would resolve to make an effort to walk aright, and gain in a great measure that buoyancy, freshness, and vigor which comes to all who endeavor to take up their burden anew and walk in the right way.

HARD work is the very bloom of health, but worry is a grim grave-digger's spade.—*Sez*.



Home Culture

CHILD-TRAINING.

[A lecture delivered before the Missionary Mothers' Class, by J. H. Kellogg, M. D.]

FIRST, let us consider what a child is, mentally, morally, and physically. Oliver Wendell Holmes, the eminent philosopher and physician, remarks that each one of us is the summing up of a long column of figures reaching back to Adam. By this, the Doctor simply meant that we are the summing up of a long series of influences reaching from Adam down to our present selves, and that we are fundamentally and primarily, what surrounding conditions and our ancestors have made us. We are not accidents; we are not simply the creatures of circumstance or luck, but the result of the action of positive and definite causes. We do not understand all these causes and influences, but they have been at work for six thousand years, and have finally resulted in ourselves. Each one of us represents a series of converging lines. Coming from many sources, these lines all converge to a certain point, and that point is you or I. Each one of us is the focus of a special series of these lines.

At a certain point in life, each individual starts, and the lines of influence converge into him; he carries the result down to another individual, other lines of influence converge into him; he carries this result down to another individual, and by and by all these influences and conditions are embodied in one human being,—it is you, or I, or some other person.

Dr. Holmes again acutely remarks, "Each human being is an omnibus in which ride all his ancestors." This is putting the same thought in another way. If you go back even to the third generation, you will see by counting that there are fourteen persons who enter into your composition. Thus there are a good many people and a good many circumstances summed up in one individual.

Now, what an individual is, depends upon the kind of people there are in his "omnibus," upon the kind of people that constitute these figures running back to the beginning of time. If there are many poor figures or ciphers in his column, the result is correspondingly bad. The sum depends upon the value of the digits in the column.

It is always a great misfortune for a person to have a drunkard, or a thief, or a vagabond, or a sluggard riding in his omnibus. And yet there is probably no one who has not some of that kind of influence in his make-up. Still there are some who, in spite of this fact, boast of their "blue blood." There is nothing in blue blood to boast of. Blood is blue because it is bad blood; good blood is red. The descendants of nobility are well said to be the "degenerate sons of heroic ancestors." There is nothing to be proud of in that kind of pedigree. The thing that one might be proud of in his pedigree, would be ancestors who were well, ancestors in whose blood there was no scrofula nor any specific impure disease, nor any insanity; nothing that was in any way indicative of a degeneration in the mental structures, or which in any way indicated a deterioration in his ancestry. The thing that is injurious is the thing that is evil; and there is enough that is bad in every human being to lead him into evil, sin, and iniquity; it is only the opportunity that is lacking.

It is evident that every human being needs to be trained, in order that these undesirable traits in his character may be overcome. We sometimes see very remarkable things occur as the result of heredity. Here, for instance, is a family in which all the children but one are good. There is one "black sheep" in the flock. What is the matter with him? He needed better training than the rest. The condi-

tions which were good enough to make the rest of the family reputable and decent members of society, were not sufficient for him. He required better surroundings and better conditions than the others. It may be that none of them had the best of conditions, but this one (the "black sheep") required more favorable conditions than the others. Perhaps away back in his ancestry, the great-great-grandfather was not a good man; he may have been a thief, or a drunkard and a profligate.

Another boy in the same family has taken after his mother, and is good. The first boy, instead of inheriting the character of his father or mother, has received characteristics from his great-great-grandfather. You will sometimes see a boy or a girl in a family, for instance, who has blue eyes, while every other member of the family has brown eyes. How did it happen that that one child had blue eyes while all the rest of the family had brown eyes?—The child took after some remote ancestor. This is a case of what is called "atavism,"—a case in which a child leaps over one or two generations, and takes after a great-great-grandfather, and sometimes even after still more remote ancestors. The same thing occurs in the heredity of plants and animals. It accounts for the occasional remarkable superiority of one child over his brothers and sisters and parents; and it occurs on the unfavorable as well as the favorable side of ancestry. We are informed in the Scriptures that sins are visited on the third and fourth generations, but there is nothing said about the second generation. Investigations of heredity show this to be particularly true. There is enough good, it seems, in the first and second generations to antagonize and overcome the evil of the first, so it develops in the third and fourth generations. By this time, the good of the first and second generations has run out, and the evil becomes predominant, so that the good is not sufficient to withstand it and to overcome it.

Now, in consequence of this powerful influence working in human beings, working not only upon the mental and moral faculties, but also upon the anatomy and physiology,—upon the actual structure of every human being,—every man and woman is born more or less deformed, physically, mentally, and morally. It is astonishing how much deformity there is in human beings. As an illustration of this, I will mention a fact recently referred to in the newspapers: The citizens of Montana propose to represent their State at the World's Fair by a statue composed of solid silver. A Montana woman was advertised for, to pose as the model for this statue.

A certain woman had received a prize for feminine beauty and perfection of form, and was selected to pose as the model after which this goddess was to be made. An artist in writing of this said it was foolish to suppose that a perfect woman could be found; that it would be necessary to take the head of one woman for a model, the arms of another woman, and the chest of another, enumerating as many as a dozen different women who were noted for special beauty of some particular portion of the body, in order to make a goddess representing a perfect woman from an anatomical standpoint. The reason for the method suggested by the artist is, that we are all more or less deformed, and when one comes to measure people, he will be astonished to see how extensive this deformity is; for example, in the matter of proportion: the stretch of the arms ought to be the same as the height, but this is not generally true. The girth of the chest should be one half the height; but it is very rare to find all these proportions exact in any one person.

I found, in measuring North American Indians, that in a certain tribe the arms were two or three inches too long, and I found a good reason for that. These Indians are accustomed to riding on ponies instead of walking. Down in Patagonia, this fact is so marked that the natives have the appearance of being giants while riding upon horses. The sailors who first visited the Patagonians described them as being eight feet tall, this opinion having been formed from seeing them upon horses. When they get off their horses, they are said to be no taller than other men. In consequence of their living so much on horseback, their legs have not grown to the proportionate length, and this makes them deformed.

These physical disproportions are very common. We see flat chests, hollow chests, crooked spines, one shoulder lower than the other, making one side of the body seem lower than the other side, one side of the head smaller than the other side, crooked noses, etc.

These deformities are, however, comparatively slight and insignificant when compared with the mental and moral deformities which are so universally encountered. They exist just as positively and really as do physical deformities, and they often differ very greatly in character. One boy is born with his bump of combativeness greatly developed. It is difficult to restrain such a boy from developing into a pugilist, or to antagonize this propensity with one that is good. Another child may be highly developed in his spiritual nature,—at least he may have an opportunity for high development by having

a tendency in that direction, but perhaps he has not energy enough. Another person may be filled with "the milk of human kindness,"—ready to give away everything he has, and leave nothing for himself; he is an impractical man. One man is over-cautious, while another is not cautious enough. The heredity of such a person is such that he is born unequal, both mentally and morally.

Now the training of children is necessary, in order that faculties which are too weak may be developed, and that faculties which are too strong may be restrained. The organs of a child need to be moulded and developed. Take a boy born with a flat chest, or with a very small chest. He needs a special opportunity to develop his chest. Such deficiencies should be taken into account in the education and training of a child. A child born with a large, flat chest will probably get lung development enough.

The fact that a person is naturally possessed of a large organ, leads him to desire to use that organ; he loves to exercise and develop it. The boy who has a small, narrow chest, puny arms, and spindling legs, must be encouraged to exercise while his body is forming. Perhaps his brain is large, and he loves to read and study; he must take physical exercise to balance his physical powers. The other boy, who has large organs and strong muscles, loves to exercise his muscles; he feels his superiority in that direction, and he loves all kinds of vigorous, athletic sports; it may be that he will need to be restrained in that direction.

Every child has inequalities of some sort that need to be evened up, in order that he may be properly balanced. This pertains to the morals, as well as to the physical parts of the body. So we see there is great need of child training.

(To be continued.)

SAFEGUARDS TO PURITY.

THERE are parents who think they can bring up their children, and especially their daughters, in a large degree ignorant of the evil that is in the world. As the king in the fairy tale banished all spinning wheels from his dominions that his daughter might not wound her fingers with a spindle, and realize the prophecy of the spiteful fairy at her christening; even so mothers withhold useful and necessary knowledge from their daughters, lest with it may be mingled something leading to harm. And even as this charming princess, notwithstanding every precaution, by accident came upon the only spinning wheel in the realm, was wounded by the spindle, and fell into her hundred-years' slumber, so often does the young girl unawares stumble upon experiences of whose possible existence she never dreamed, and which are even more disastrous to her than those that befell the Sleeping Beauty.

Boys and girls as they grow up will learn the ins and outs of this wicked world. If their parents do not give them this knowledge, somebody else will; and the manner in which this information is given is in all moral respects vastly more important than the matter. The parent may instruct the child in everything it should know, satisfy its curiosity within

proper limits, and thus preoccupy the ground that would otherwise be sown by chance cultivators more with tares of vice than with the wheat of knowledge.

It is simply astonishing how some young children pick up slang words, vile words, profane words, and attach to them meaning. Objectionable words and phrases seem armed with hooked burrs, and cling tenaciously to the mind they catch hold of. It is equally surprising how instinctively they conceal all this knowledge from their parents.

It is not possible for the mother to cultivate too great intimacy with her child. She should have the juvenile heart spread out before her as a mirror, reflecting every thought, every feeling, every passion of the child. Thus she will be able judiciously to administer antidotes to vice and build up safeguards to virtue. When there is a perfect understanding between parents and children; when the daughter feels that she can carry every thought and desire to her mother, and the son is in full sympathy and counsel with his father, there is little danger that the happiness of Christian parents will be wrecked by the profligacy of their children, little danger that the children will wander far from approved lines of conduct.—*Sel.*

It is said that all the dresses and robes Queen Victoria has ever worn are kept stored and laid by. None are either sold or given away. Not only are those used for her coronation, her bridal, and her af-

fairs of state put carefully into the large cabinets at Windsor Castle, but the homely gowns for every-day use are all preserved, even after the wearer has well-nigh forgotten their existence.

SLOYD WITHIN A CIRCLE.—NO. 3.

BY MRS. M. F. STEARNS.

WHOSE fault is it when the buttons come off, when the dress rips, when the shoes crack, when books unbind, when furniture breaks, when houses "settle;" in short, whose fault is it that there is so much slipshod work passed off on the world?

While being pulled up a steep mountain side, one can but wonder how much conscience the harness-maker has put into the harness, and what sort of workman it was who put the tires on the wheels; and as the iron horses pull us over heights and depths, over the ground, and through the ground, one cannot fail to consider the workmanship that makes all this possible without loss of life, and one is made to appreciate the fact that our lives are being continually saved by good work, and injured if not lost by poor work. Yet the popular desire tends to half doing many things rather than well doing one thing.

We are confronted everywhere by Jacks-at-all-trades. They cook our food, and make our clothing, and build our houses, till one is reminded of that famous old house that must have been built by one of their ancestors,— "the house that Jack built," so prominent in nursery lore. The old story has more sense in it than it is usually credited with. The house is described to the children solely by giving them a look at its shiftless group of inmates, and what more effective picture could they have to create in them a distaste for thriftlessness?

"The man all tattered and torn," "the maiden all forlorn," the "cow with a crumpled horn," "the dog that worried the cat," etc.,— all are distressingly



FIG. 5.—FIRST DRAWING FOR MODELS NOS. 3 AND 4.

out of order, and quite in keeping with "the house that Jack built."

It is the little things of life that educate the children. So the bearing of all life's details upon their characters should be carefully considered. If their

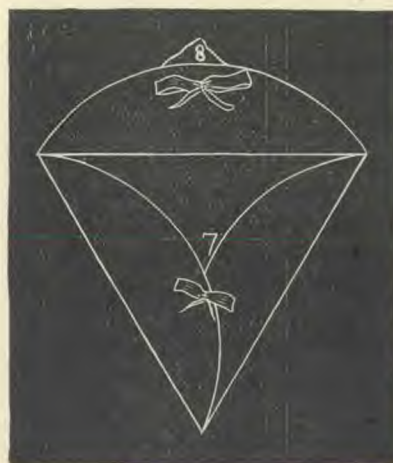


FIG. 6.—MODEL NO. 3 FOLDED.

taste is brought up to a high standard by the study of perfect work, they will be content with nothing short of it, and will become masters of whatever they undertake, and will never grow into a "Jack-at-any-trade."

The mother does not think, when she lets her child finish a piece of work, leaving the side that is not to show, poorly finished, that she is laying the foundation for deceit in its nature; and that when a child's manners, as well as its best clothes, are saved for "company," she is teaching it that it is only the side of life which is seen that is of any importance, and so that the value of anything lies in the appearance made. With so much of such unconscious teaching as there has been, is it any wonder that the world is so full of "wrong sides"?

How important that we make the children see how the Great Worker has done his work! The tiniest flower that he has fashioned, to spend its sweetness and beauty on some mountain top, far above the sight of men, is as exquisitely formed and colored as those suited to growth in more habitable parts of the country. Let them see for themselves, by the use of good microscopes, the perfection of detail that characterizes everything in nature, and they will

soon realize that in all God has made there are only "right sides."

If Sloyd work is properly taught, it will be a great advantage to children in forming habits of thoroughness in thought and work, and in developing the inventive faculty.

Before giving models Nos. 3 and 4 to the children, let them experiment in seeing what forms they can make with the circle.

Models Nos. 3 and 4 are made by describing twelve-inch circles with the compass, and fixing the radius, by dividing the circles into six equal parts; then equilateral triangles are formed in each, by connecting points 1, 2, and 3. Model No. 3 is com-

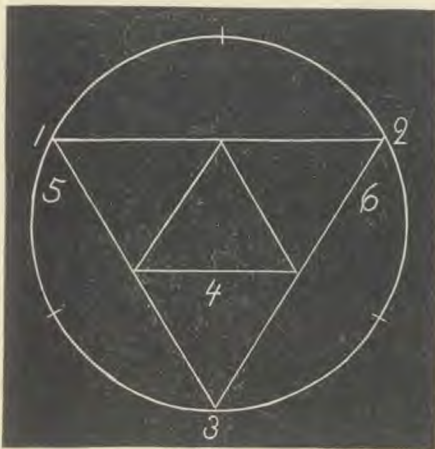


FIG. 7.—SECOND DRAWING FOR MODEL NO. 4.

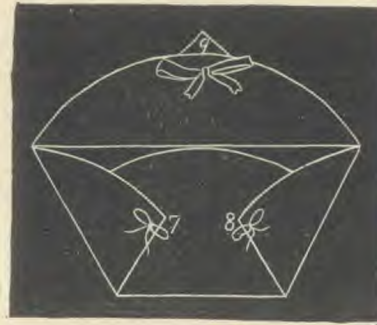


FIG. 8.—MODEL NO. 4 FOLDED.

pleted by folding the arcs 4 and 5, and tying with embroidery silk at point 7. Make a loop of silk at point 8, and a neat little wall pocket, useful for twine, is finished.

Model No. 4, convenient as a hair receiver, is made by finding the center of the lines 1-2, 2-3, 3-1; connect the points, and three small equilateral triangles are given; fold the circle on line 4, then fold on lines 5 and 6 to points 7 and 8, and tie with embroidery silk; also make a loop at point 9 for hanging up.

The paper for these models should be the prettily tinted, heavy quality, that printers use for programs, and they should be tied with heavy embroidery silk of a color that will blend with the paper. The child's preference should be consulted in point of color, and yet guided in the right direction by calling his attention to nature's coloring, as previously suggested.

THE VIRTUE OF ENDURANCE.

At the present time so much is said about the duty of manifesting sympathy, especially toward children in the little misfortunes which seem to them so great, that we are led to wonder whether there is not danger of showing too much pity; whether our too free and ready expressions of compassion or sympathy may not tend to weaken the resolution and force which are essential to a heroic character; and to consider if heroism be not too grand a quality to be thus imperiled.

A little girl of four years, the granddaughter of a once famous American statesman, was playing in the parlor of his fine, old-fashioned country house. The yawning fireplace of more ancient days had been filled in with brick, in order that a modern stove might be used. Against a lower corner of this brickwork rested a piece of polished iron about eighteen inches square and nearly an inch thick. What was behind that piece of iron had often puzzled the child,

and the answer that it "covered the opening left in the brickwork, so that straw could be thrust up the chimney and lighted to burn it out without removing the stove," conveyed no meaning to her perplexed mind. In her eyes the queer square of iron covered the entrance to some enchanted region where little girls must necessarily delight to go.

Accordingly, with all her little strength, she tugged away at the barrier. She saw an irregular opening, and caught a gleam of sunlight filtering down the flue. She sought to look farther; but the iron was too heavy, and fell from the tiny fingers upon the tiny toes with crushing weight. The stately old grandfather raised the iron, and took the silent child upon his knee. Kissing her, he said kindly:—

"It must have hurt you very much, my pet."

The little face was all a-quiver with pain, tears stood in the brave, brown eyes, and the words faltered as they came:—

"I dess it's on'y for a 'ittle w'ile."

"That's right, darling," said the child's mother, gently removing shoe and stocking from the little foot, now found to have been seriously hurt; "that's right! Mother's brave little girl knows that crying only makes the hurt last longer."

The poor baby could not keep the tears from running down her little cheeks, pale from the suffering; but she did refrain from making the least outcry, or even moan.

After she had been carried away in her mother's arms, to sleep away the exhaustion of pain, her grandfather with tears of pity and admiration in his eyes, said, emphatically:—

"I have always loved my daughter-in-law, but never have I admired her so much as to-day. She is teaching her children to be heroes! That child will make her mark in the world some day, God bless her!"

The grandsire was right. The child became a woman of marked character and ability. She was

but nineteen at the outbreak of our Civil War, but such was her ardor and enthusiasm, tempered by reason and strengthened by courage, that she was among the first to enter hospital service, working until carried off by a fever almost at the close of the war.

How much of future strength depends upon early training in the exercise of true courage, comparatively few seem to remember. It is so easy to pity, caress, and openly sympathize with a sobbing child; so hard to treat its hurts—whether moral or physical—with a touch as firm as tender, being brave, that the child may also be brave. Yet it is as undoubtedly a duty to teach fortitude as it is to teach truthfulness. Truthfulness itself is largely dependent upon courage. A naturally timid person may, indeed, be also naturally honest; yet it seems almost impossible for such a person to retain absolute honesty of word and act; and the most unhappy of mortals are those who have not the courage to support the real truthfulness of their natures.—*Helen Evertson Smith, in N. Y. Independent.*

DANGER IN TRAILS.—The uncleanliness of the practice of wearing dress skirts that trail upon the ground is not its greatest objection. There is absolute danger of infection from the germs which swarm in the filth of the streets, and which will cling to the clothing if they have the opportunity. A thoughtful physician said recently to the mother of four fashionable daughters: "Let me advise you to have the trailing skirts cleaned in the open air immediately after coming in from the street. You may not understand that in the filth, dust, and dirt collected on the hosiery, shoes, and underwear by the trailing, flopping skirt, there is enough germ life to sicken your whole family. If you were in my family and ad-

dicted to this fashion, I should make you play Turk and leave your shoes, stockings, and trailing robes outside the door."—*Home and Farm.*

THE French are waging war on the sale of indecent books and pictures. The court recently condemned an offender to fifteen months' imprisonment and a fine. Eight hundred thousand unchaste photographs had been circulated by him and his assistant.

LET us hope that in the good time coming independence of fashion may itself become fashionable among women.—*Henry B. Blackwell.*

CONTRIBUTED RECIPES.

Scalloped Cabbage.—Chop a nice head of cabbage, or shave it fine, and put it into a pudding dish, with alternate layers of bread or zwieback crumbs. Turn over it enough rich milk, to which a little salt has been added, if desired, to half cover it. Let it boil up once, and then set where it will stew slowly till the cabbage is tender, but *no longer*.

MRS. IDA FORD.

Vanilla Chestnuts.—Pour boiling water over shelled Italian chestnuts, let them stand for an hour or longer, according to age. Remove the remaining brown skin. Stew rather slowly until mealy. A short time before they are done, flavor the water

with a little vanilla flavoring powder, and let this water all boil away. If desired, a little honey may be added at the same time as the vanilla.

Raisin Chestnuts.—Prepare the chestnuts as in the above recipe. When about half done, add an equal quantity of good raisins, and let them cook until no water remains.

Vegetable Pea Soup.—Cook 1 pint of split peas until dissolved. When nearly done, put to cooking 1½ pints of sliced potato and 1 medium-sized onion, sliced thin. When tender, rub all through a colander, add water to make of the consistency of thin cream, and salt to taste. **EVORA BUCKNUM.**

GOOD HEALTH

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

BATTLE CREEK, MICHIGAN.

EATING WHEN TIRED.

THIS is one of the most certain causes of derangement of digestion, and one to which a very large number of cases of dyspepsia may be traced. The third meal of the day is almost always taken when the system is exhausted with the day's labor. The whole body is tired, the stomach as well as the rest. The idea that by the taking of food, the stomach or any other part of the system will be strengthened, is a mistake. When the stomach "feels faint and tired" at night, as many people complain, what it wants is not food, but rest. An eminent writer on indigestion says very truthfully, "A tired stomach is a weak stomach." When the stomach feels "weak and faint," rest is what is demanded, and is the only thing that will do it good; yet many people insist on putting more food into it, thus compelling it to work when it ought to be allowed to remain inactive until rested. The arm wearies by constant exercise, and so does the stomach, which is largely composed of muscles, as well as the arm. Both secretion and muscular activity are much lessened in a tired stomach, and the habitual disregard of this fact must be disastrous to the best digestion.

Violent exercise at any time, just before or just after eating, is inimical to good digestion, for the reason already assigned, when the exercise is taken just before the meal; and because the vital energies are diverted to other parts, thus robbing the stomach of its necessary share, when the exercise is taken immediately after eating. An English physiologist performed an experiment which well illustrates the truth of this position. Having fed a dog his usual allowance of meat one morning, he took him out upon a fox hunt, and kept him racing over the country until night, when, having killed the animal, he examined his stomach at once and found the meat in the same condition in which it entered his

stomach, no digestion having taken place. In another dog, fed with the same kind of food, but left quiet at home, digestion was found to be complete.

The hurry and press of business among Americans is allowed to override every consideration of health. It seems never to enter the thoughts of the average business man that any time is required for digestion. Rushing to his dinner from the plow, the workshop, or the counting-room, he swallows his food with all possible dispatch, and rushes back to his work again, begrudging every moment spent in meeting the requirements of nature. Many years ago, it was a custom in Edinburgh to suspend all business in the middle of the day for two hours, so as to allow ample time for meals. A similar custom once prevailed in Switzerland, we have been informed; but we presume that such a sensible custom is now considered too old-fashioned to be tolerated.

It should be remarked that severe mental labor, immediately before or after, and especially during meals, is even more injurious than physical employment. The habit many business men have of regularly scanning the newspapers during their meals, and when going to and from their places of business, is a bad one. A full hour at least should be taken for the midday meal; and if an hour's rest can be secured before eating, improved digestion would well repay the time spent in re-inforcing the vital energies. For persons of weak digestion, the rest before eating is in most cases indispensable. The celebrated "*L'Homme*" serpent (man snake), of Paris, who astonished the world by his agility and wonderful contortions, ate but two meals a day, of vegetable food, and invariably abstained from food for twelve hours before performing; a plan which was undoubtedly mutually advantageous to his muscles and his stomach, as his exercises required great muscular effort.

MOVABLE OR FLOATING KIDNEY.

THE frequency with which one or both kidneys become loosened from their normal positions and float about in the abdominal cavity, is very much more common than is generally supposed. The mode of dress among civilized women, and the bad position while sitting, especially among young girls and women who spend much time in rocking chairs, result in compression of the trunk at its weakest part, that portion which is commonly called the waist. In the line of the waist are to be found the stomach, spleen, pancreas,—indeed, all the most important viscera of the abdomen. Compression results in downward displacement of these organs, especially of the stomach and liver, and consequently of the organs lying beneath them. The right kidney is particularly liable to be displaced in this way, as it is overlapped by the liver in such a manner that any downward movement of the liver is sure to result in crowding the kidney out of its bed, and thus starting it off on its wanderings, which may become so extensive that it will be found, as the writer has often observed, several inches away from its normal position.

Movable or floating kidney is much more common in women than in men. From a physical

examination of several thousand women, the writer has found this condition present in so high a proportion as twenty per cent in several long series of cases. A displaced kidney is usually productive of much pain, and not infrequently of much disturbance of the digestive functions, through dragging upon the solar plexus, thus producing irritation of the sympathetic ganglia, which in a great measure controls the digestive processes.

In a few cases which we have met, of movable kidney in men, there has been waist compression by means of a belt. In one instance, an army officer had produced displacement of the abdominal viscera by carrying a heavy sword many hours daily for months in succession, suspended by a belt tied rather tightly about the waist. In another instance, the kidney displacement was the result of wearing a belt to suspend the pantaloons while engaged in ordinary labor upon a farm. In still another case, a blacksmith had produced displacement of the right kidney by tying his apron-strings tightly about his waist to support his pantaloons, so that greater freedom of the shoulders might be secured, dispensing with the use of suspenders.

PEROXIDE OF HYDROGEN.

PEROXIDE of hydrogen, known to the chemists as H_2O_2 , was discovered by chemists many years ago, but it remained for Mr. Charles Marchand to produce this remarkable substance commercially, so as to make it accessible to every home.

The peculiar characteristic of peroxide of hydrogen is its wonderful affinity for all substances capable of oxidation or combustion by a combination with active oxygen at ordinary temperature. All kinds of decomposing substances belong to this class. Dead animal and vegetable tissues and vegetable cells are readily destroyed by it, as the peroxide has the property of giving off nascent oxygen, which is active at ordinary temperatures. These properties give to peroxide of hydrogen a value to the physician and surgeon which can scarcely be estimated. They are possessed by no other known substance which is not at the same time corrosive and destructive to living cells; while the peroxide has no effect whatever upon living animal cells, at least in solutions of the strength ordinarily employed. When a solution of peroxide of hydrogen is poured into an abscess or applied to a discharging ulcer, a brisk effervescence occurs, re-

sulting in the production of foam. This is due to the action of the peroxide upon the pus, which it completely destroys, while not acting upon healthy tissues.

There is no remedy so valuable in the treatment of old ulcers, abscesses, and of all conditions in which a disinfecting agent is required, and in which the use of a poisonous substance, such as corrosive sublimate, is objectionable. Experience has shown its great value in diphtheria, in the treatment of which disease we shall certainly continue to use it, notwithstanding the recent condemnation of its use by certain physicians, who seem to have been actuated by something besides a scientific spirit in their denunciations of this valuable remedy and of its manufacturer.

Thousands of the most eminent physicians are ready to testify to the merits of peroxide of hydrogen, and it is unquestionably one of the most important additions to *materia medica* that has been made within recent years. The manufacturer has conferred a boon upon suffering humanity, in making it accessible to thousands of people who otherwise might have been unable to obtain it, and doubtless many lives are annually saved by its proper administration.

ELECTRICAL QUACKERY.

At the present time, the interest which is manifested in the results of electrical science, such as electrical lighting, electrical railways, electrical belts, and in fact electrical devices for facilitating work in almost every department of human life, is so great that it is not a matter of wonder that charlatans should have seized upon the term "electrical" as a magic word to conjure with, in the nefarious business of emptying their patrons' pockets to fill their own. Electrical insoles, electrical pads, electrical garments, even electrical hair-brushes, are offered as panaceas for almost every human ill. A large share of these so-called electrical appliances furnish no electricity at all. The *Manufacturer and Builder* says some good things upon this subject in the following paragraphs:—

"There is something mysterious and awesome about *electricity* that excites the imagination of the untaught multitude, and prepares it to accept anything as possible, when this protean agent is called upon to stand sponsor for it. It is, therefore, the most natural thing in the world that the electric field should be the very stronghold of quackery.

"It is most unfortunate that this should be the case, for, legitimately employed, electricity is at once one of the most powerful as well as beneficent curative agents known to the physician and surgeon. In several classes of physical ailments, notably in those affecting the nervous system and in rheumatic affections, at once the most obscure in their origin and the most difficult to cure, it is almost unanimously agreed that the application of mild electric currents of an interrupted character affords relief, and sometimes brings about a permanent cure where medication has signally failed. The forms of ap-

paratus devised for the application of the electric current have been greatly improved and brought to a condition of high efficiency, and only the prevailing ignorance of the first principles of electric science, and the pernicious habit among a large class of the people of self-doctoring, are responsible for the electrical quackery that flourishes in our midst.

"In this classification belong the innumerable (so-called) electrical appliances for wearing upon the body—electrical pads for various organs, magnetic belts and chains, electro-magnetic shoes, and the like, to say nothing of electric combs and brushes, all and singular, claimed to possess the power of reviving the vital forces and rejuvenating the wearer. To those who may be disposed to lend a willing ear to the marvelous claims made for these paraphernalia of quackery, or to be deluded by the pictures of male and female persons bedecked with appliances from which electric sparks are being emitted with dazzling effect, we would give the advice of *Punch*—Don't! They are humbugs, and absolutely worthless.

"We are fully prepared to admit that instances may be cited where some apparent benefit has been derived from these things, but such cases can be explained most rationally to be due to the influence of the imagination, and the same result would have been reached by other and equally worthless agencies, such as the wearing of amulets, talismans, and the like, which is extensively practiced among the ignorant and credulous. The safe course to all who know nothing about electricity and its laws and manifestations, and who may be tempted by the glowing accounts issued in behalf of such trumpery humbugs as those above enumerated, is to ask medical advice before yielding to temptation."

A POWERFUL PERSONAGE.—We do not refer to some throned monarch or savage chieftain, but to the individual who reigns in the kitchen; and by regulating at will the material of which the brains, bones, muscles, and nerves of civilized human beings are composed, determines to a degree little appreciated, the destinies of men and of nations, and makes or mars the happiness of millions of human beings for both this world and the next. From ancient times the cook has maintained this autocratic supremacy. The student of history will remember that it was the plainness of the bill of fare, when Cincinnatus was found in his simple cottage eating his supper of turnips, that convinced the would-be

bribers of the Roman Dictator, that a man who could content himself with such a simple meal must be proof against any bribe. It was a hard fried chop which upset an imperial stomach on the eve of Waterloo, and thus changed the destinies of Europe. It was doubtless a bad cook who was responsible for the death of poor Servetus, whom the great theologian Calvin sent to the stake while suffering from the pangs of indigestion.

The business of the cook should be to prepare food in such a manner as to render it highly palatable and attractive, and at the same time, easy as possible of digestion. The fact that there are now more than 100 pupils in the Sanitarium Training-school of Cook-

ery, is an indication of the interest in rational and scientific modes of cookery. Missionary cooking-schools are as much needed as gospel meetings, in every civilized community. The old saw, "There is religion in a loaf of bread," provided that the bread is good, or at least its converse, that "there is perdition in old cheese and fried sausage," is verified in the every-day experience of thousands of physicians. A thorough reformation in cooks and cookery would do more toward ushering in the wished-for millennium than would be accomplished by half the preachers in Christendom in trying to evangelize men and women who subsist upon a worse than heathen diet, and whose bad hearts are largely born of bad food and bad blood. Total depravity is, in at least a large proportion of cases, synonymous with total indigestion. In their efforts to reform men and women, philanthropists seldom reach the root of the difficulty. Nothing is more needed at the present time than a vigorous crusade against bad food and bad cookery.

CONSUMPTION COMMUNICATED BY BEDBUGS. — It has long been known that fleas are sometimes carriers of hospital gangrene and erysipelas, by conveying upon their bodies the infection from diseased wounds to healthy ones; and it has also been shown that the mosquito is a means of introducing infection when withdrawing blood from the body.

A German physician recently reported the case of a youth of eighteen who contracted consumption through inoculation by means of bedbug bites, while living with a brother who died with the disease. On examination of the bugs found in the house in which the young man lived, six per cent were found to contain tubercle bacilli. Three guinea-pigs injected with a filtered solution of the crushed bodies of the bugs, died of tuberculosis.

This observation is an important one, as it not only brings forward another means by which diseases are communicated, but also furnishes an explanation of some of the mysterious and untimely deaths which are so frequently charged to an inscrutable Providence, and teaches in the most emphatic manner the duty of cleanliness, and the danger of contact with vermin of any sort. Vermin are not only an evidence of filth, but are of themselves dangerous enemies to life and health.

THE APPLE AS A FOOD. — More attention is perhaps being given at the present time to the food value of fruits and other vegetable products, than at any other time since the days when Pythagoras preached vegetarianism at Krotoma. Eminent German chem-

ists have recently been making a careful analysis of the apple, and pronounce it to be the most nutritious of all fruits. It is said to contain more phosphates than any other vegetable. Without adopting this theory, we are quite ready to recommend the apple as one of the very best of fruits, and well calculated to aid in maintaining good digestion, especially in persons of sedentary habits. Not infrequently, persons whose stomachs are very delicate are able to digest ripe sweet or sub-acid apples, without serious inconvenience, though unable to eat any other kind of fruit. The malic acid of the apple is excellent for persons who are chronic sufferers from biliousness, though, singular as it may seem, it does not add to the acidity in cases of acid dyspepsia, but rather has a tendency to diminish acidity.

DISINFECTION OF CABS. — This is a subject which has received surprisingly little attention compared to its importance. Typhoid fever patients, patients sick with diphtheria, pneumonia, and other infectious diseases, are not infrequently transported from hotels and boarding houses to State hospitals, especially in the large cities, and sometimes are carried from railway trains to their homes, or the reverse. It requires no argument to emphasize the danger to which well persons are exposed in riding in hacks after they have been used for the conveyance of persons suffering from infectious disorders. It is certainly important that city ordinances should exist requiring the thorough disinfection of all public conveyances, whether hack, omnibus, or railway car, which have been used in transporting persons suffering from an infectious disease.

DEATH FROM TEA DRINKING. — The *British Medical Journal* recently reported the death of a boy from drinking hot tea. The tea had been left in the oven some time, so that it had become a strong decoction. Everybody ought to know that tea is a poison, and that the only reason why the ordinary use of tea does not produce poisonous symptoms is that the dose in which it is usually taken is not sufficient, although the exhilaration and wakefulness produced by its use are really as much evidence of poisonous effects as the more pronounced symptoms, which follow the swallowing of a larger dose. Tea, coffee, tobacco, and the various alcoholic drinks, are all poisons, each producing its own characteristic effects, and are alike damaging when used for any considerable length of time, even in small doses, and are alike capable of producing death when used in large doses.



DANGER IN THE USE OF TONICS.

A READY resort to tonics in the great variety of cases in which there is lack of energy, lowered nerve-tone, mental or physical depression, weak digestion, sexual weakness, and similar morbid conditions indicating low nerve tone, is often productive of the greatest mischief. Suppose, for example, a man is suffering from depression as the result of excessive work, either mental or physical: a tonic preparation containing strychnia or nux vomica will give him increased power of activity; in other words, by increasing the excitability of the nerve-cells of the brain and spinal cord, the disposition for activity is increased, and consequently the patient not only continues his over-work, but may actually increase his daily expenditures of energy. What must be the necessary result? The drug administered, diminishes oxidation, and hence lessens tissue-change and force-production, while at the same time, through the deceptive sensation of increased capacity for work which it produces, it is increasing the amount of force expended. There can be but one result; sooner or later the patient finds himself completely bankrupt in energy, and in a worse condition than before. The writer's professional experience has brought him in contact with a large number of just this class of cases. The patient had hoped much from every tonic employed, including the use of strychnia, which had often been pushed almost to the point of actual poisoning, and the constant observation has been that no real headway was made toward *permanent* recovery, so long as the patient was kept in a state of artificial excitability by the use of tonics. The bad effects of this unscientific method in therapeutics is most apparent in cases of sexual debility, in which strychnia and other powerful tonics have been used for their aphrodisiac effect. Under the influence of the drug, the patient is made to believe that his sexual powers have been fully restored, and is thus led to

further indulgence of the very kind which has led to his diseased condition.

Alcohol produces an apparent increase of strength; we say apparent, because the experiments of Parkes and others have shown that the actual amount of work done by a person under the influence of liquor, is less than without it. That the effect of alcohol (which is essentially the same as that of other stimulants) is only that of excitation, an effect which is very transient in its influence, was well shown by experiments made upon the soldiers of the British army during the Ashantee campaign. It was found (quoting Lauder Brunton, italics ours) that "when a ration of rum was served out, the soldier at first marched more briskly, but after about three miles had been traversed, the effect of it seemed to be worn off, and he then *lagged more than before.*" These experiments, as well as many other similar ones, show clearly that the effect of a stimulant is simply to increase the evolution of energy, but not to replenish the sources of energy in the body. In connection with the experiment referred to, experiments were also made in the use of beef-tea, which was shown, to use Dr. Brunton's words "to have as great a stimulating power as rum."

Now what is the effect of strychnia? Again quoting Dr. Brunton, who is as good authority as can be mentioned in connection with the subject: "The most marked feature in the general action of strychnia, is the great increase which it produces in the *reflex excitability* of the spinal cord and other reflex nerve-centers. . . . When the dose is large, this increase is so great as to cause convulsions and death. . . . The drug lessens oxidation of protoplasm and oxidation taking place in the blood." It is evident, then, that strychnia lessens the process by which energy is naturally developed within the body, while at the same time increasing the excitability of the

nerve-elements, and thus leading to an increase in the expenditure of the energy stored up within the body. In other words, strychnia, like alcohol, increases the expenditure of energy, without increasing its production, but on the contrary, lessening those tissue-changes upon which the development of energy depends. It is also noticeable that the effect of strychnia, when used in small doses, is precisely the same as that produced by doses sufficiently large to cause death, only less in degree.

A careful study of the matter will convince any candid person that the only real difference between the drugs called stimulants and those called tonics, is, that the reaction following the excitation produced by those called tonics, is less immediate, and hence less apparent than in the case of those drugs which are termed stimulants. One reason for this, in the case of strychnia, is in the fact that the drug is slowly eliminated. This characteristic of the drug should always be kept in mind in its use, since it gives to strychnia a cumulative effect which sometimes results disastrously through the failure of the kidneys to eliminate the poison with the usual degree of activity. Strychnia seems to be one of the most lethal of drugs, in consequence of the fact that the only outlet for the poison is through the kidneys. One of its most marked properties, when taken in a large dose, or when its cumulative effects are experienced, is to cause contraction of the arteries of the kidneys, thus lessening their activity, and, in extreme cases, causing complete suppression of the renal functions. A case recently came under our professional care, in which convulsions had been produced by ordinary

medicinal doses of the drug, these ill effects doubtless being the result of lessened activity of the kidneys.

In the case of mineral tonics, the slowness of their elimination is often a source of great mischief to the system. Mercury, which in small doses is held to be a tonic, iron, and all the metallic salts are to a considerable extent taken out of the general circulation and stored up in the liver. The same occurs in a lesser degree in some other structures of the body. Doubtless great mischief sometimes results to the liver through this fact. An inactive liver is not likely to be greatly benefited by the accumulation within its structures of a mineral substance, which, in the case of mercury at least, must be highly detrimental to the vital activity of the cells. The vast quantities of iron used in this country, as a tonic, must be responsible for an enormous amount of liver inactivity.

The fact is indisputable that great mischief is done to vast numbers of patients through reliance placed upon tonics as a means of restoration to health. Tonics are sometimes undoubtedly useful as a means of temporarily relieving conditions of depression, especially when the depression is of such a nature as to ~~cause the patient to become dispirited and melancholy~~; but when used in such cases, the reliance upon the tonics should only be temporary, and the greatest care should be taken to see that the causes which have induced the depressed condition are removed, otherwise the tonic will be likely to do more harm than good.—“J. H. K.,” in *Bacteriological World and Modern Medicine*.

WASHING CHILDREN'S EARS.—The foundation of chronic deafness is often laid in early childhood. Few ailments are more common among children than earache. Most mothers are unconscious of the fact that they are themselves the cause of much suffering in their children by attacks of this painful malady. In her anxiety that her children's ears shall be thoroughly clean, the mother endeavors to remove every particle of ear wax from the inner portion of the ear, by boring it out with a hairpin or other sharp instrument, covered with a towel, or with the corner of a towel twisted to a point. Nature knows how to care for these hidden recesses far better than does the most accomplished mother. This portion of the ear requires no attention. Nature takes care of it in the most admirable manner. The membrane lining the canal of the ear contains a great number of little glands which secrete a waxy substance hav-

ing an intensely bitter taste. The purpose of this is to prevent the entrance of insects and to keep the ear clean, as the layer of wax dries in scales, which rapidly fall away, thus removing with them any particle of dust or other foreign matters which may have found entrance to the ear. Nothing more irritating than a few drops of olive oil, warmed to a temperature a little above blood heat, should ever be placed in the ear.

LEMON JUICE AS A GERMICIDE.—Recent experiments conducted at the Pasteur Institute, in Paris, have shown that drinking water may be completely freed of cholera bacilli, by the addition of fifteen grains of citric acid to a quart of water. As citric acid is an acid of lemon juice, it would appear that strong lemonade would answer the purpose equally well.

NEW MODE OF APPLYING MEDICINES TO THE NOSE.—An English journal describes a method of applying medicaments to the nasal cavity, invented by a German physician, which, from observations made during many years in the special treatment of this disease, we should judge to be of practical utility in a considerable number of cases of nasal catarrh. Instead of employing a nasal douche for removing crusts or hardened secretions from the nasal cavity, the physician, in harmony with the new method, adopts the following plan:—

A long, thin mass of absorbent cotton is twisted upon a slender probe (a knitting-needle will do), and introduced into the nose; unless the cotton has been twisted too tightly upon the needle, it will adhere to the sides of the cavity, and the needle may be withdrawn, leaving the cotton in the nose. This is repeated until one side of the nasal cavity is entirely filled; the other side is then treated in the same manner. In ten or fifteen minutes, so profuse a secretion will be thrown off by the mucous membrane of the nose that the crusts will be softened, and the cotton will come away, bringing with it the softened masses discharged by the nose. After being thus cleansed, the nose is prepared to receive whatever medicament may be considered especially adapted to the case.

We may perhaps mention, incidentally, that harsh remedies should never be used in the nose, except for the destruction of morbid growths. Instead, mild and soothing remedies of an antiseptic character are almost universally applicable. Solutions of menthol, thymol, cinnamon, wintergreen, and a similar substance of fluid vaseline, are among the best known remedies for chronic nasal catarrh.

TO BREAK UP A COLD.—At this season of the year, a cold is one of the most common of accidents. An ordinary cold is usually cured in from two to six weeks, but not infrequently a hard cold leaves behind it relics, recovery from which may require months or even years. Sometimes a fatal disease finds its beginning in a neglected cold. One of the best means of breaking up a cold, especially if taken by getting the feet wet, is to take a hot mustard footbath, which may be made by adding a tablespoonful of ground mustard to two gallons of water as hot as can be borne, in an ordinary footbath or a wooden pail. The bath should be continued fifteen to thirty minutes, or until the skin is well reddened and tingling.

While taking the footbath, swallow one or two pints of hot water or hot tea of some sort,—catnip, wintergreen, cinnamon, or almost any herb tea will

answer the purpose. It is, of course, the hot water that produces the effect, so that it is a matter of small consequence what is used as flavoring.

After the footbath, dry the feet quickly, go to bed, and have applied over the part in which the cold seems settled, an ordinary towel wrung out of cold water, sufficiently dry so that it will not drip, and cover it with several thicknesses of flannel or sheet cotton, so as to keep it warm during the night.

If the seat of the cold seems to be in the lungs, the compress should be applied over the chest, and also the back of the shoulders. The compress should be large enough to cover the whole surface of the chest, that is, the whole of the upper part of the trunk, or that portion in which the ribs lie.

If the attack is a severe one, so that a serious illness is threatened, the patient should stay in bed for one or two days, or in bad cases, for a longer time, as may be indicated. The footbath and the hot drink should be repeated each day until the patient is relieved, and the cold compress should be renewed night and morning.

In case the compress becomes cold during the night, it should be covered with oil muslin or rubber cloth, so as to prevent evaporation. If the bowels are inactive, empty them by means of a large colocyser of hot water, as hot as can be borne. The diet should be sparing; it should consist of fruits and grains. Hot water should be taken plentifully. At least two or three quarts should be taken in the course of twenty-four hours.

INCONTINENCE OF URINE.—This complaint, often exceedingly troublesome in young children, and sometimes met with in those who have nearly reached the adult age, as well as in older persons suffering from enlargement of the prostate gland or paralysis of the bladder, is, in young boys, usually due to the entrance of the urine into the urethra from the relaxed condition of the muscles which occurs during profound sleep. This is the reason why the difficulty may be almost wholly prevented by avoiding sleeping upon the back. When a position upon the side is taken, the pressure of the accumulated urine upon the outlet of the bladder is less, and hence the urine does not encroach upon the urethra, as when lying upon the back. A good way to prevent sleeping upon the back is to attach a large marble to a towel, and fasten about the body in such a way that the marble will be placed at the small of the back, so that if a position upon the back is assumed during sleep, the pressure upon the marble will arouse the sleeper and cause a change of position.

ANSWERS TO CORRESPONDENTS.

ALABASTINE.—O. S., Ind., asks, "How often should alabastine as a coating for inside walls be renewed?"

Ans.—Whenever it becomes dingy.

UMBILICAL HERNIA IN A CHILD.—Mrs. M. K., Minn., has a little daughter of eleven months, who has umbilical hernia. The mother noticed it when the child was three months old. Has never done anything for it because she did not know what to do. Would be grateful for information.

Ans.—A proper truss should be adjusted. In quite a proportion of cases, a cure may be effected by wearing a proper truss, if the truss is adjusted while the child is young. A radical cure may be effected by an operation.

FILTERS—BOILED HARD WATER.—G. E. R., Kans., wants to know the best filter for soft water, and also asks, "If hard water be boiled, is it then unhealthful to drink?"

Ans.—1. The question of filters is an important one. The old-fashioned Kedzie or charcoal filter was an efficient means of removing coloring matters from rain-water, and to a considerable extent diminished organic impurities; but such a filter has no value as a means of removing microbes, which are the most dangerous impurities found in water. No filter except the porcelain filter is of any material value in the removal of germs. Even the porcelain filters must be frequently purified by thorough washing and roasting in an oven at a temperature of 300° or 400°.

2. Hard water is greatly improved by boiling, a great portion of the lime and other impurities being precipitated. But pure soft water is preferable even to boiled hard water.

THE BEST POSITION IN WHICH TO SLEEP—RUBBING THE LIMBS TOWARD THE BODY.—A subscriber wishes to know the best position in which to lie when sleeping, and whether the head should be toward the north. He also says, "As I see that you recommend rubbing the limbs toward the body, I would like to understand the reason for it."

Ans.—1. The position of the body in relation to the points of the compass is immaterial; it is only necessary that the position should be a comfortable one. The head should not be raised so high as to cause curvature of the spine. In cases of congestion of

the brain, the head or the head of the bed should be raised. In the opposite conditions, in which sleeplessness is the result of anæmia of the brain, the head may profitably be placed lower than the feet. 2. The course of the blood in the veins is toward the center of the body. Rubbing the limbs is most commonly useful in aiding the venous circulation, consequently the movement should be toward the center of the body.

SILVER RICE, TAPIOCA, AND SAGO, AS FOOD—CRANBERRIES VS. GOOSEBERRIES, ETC.—L. P., North Dak., asks as follows: "1. What do you think of 'silver rice' (made from corn) as food? 2. Do you consider cranberries any better than gooseberries? 3. When food has been cooked in tin, and tastes of the tin, is that evidence that it contains poisons? 4. Are tomatoes put up in tin cans fit to eat? 5. What are lentils?"

Ans.—1. We are not familiar with this food preparation. It is probably a trade name. It is not a recognized botanical term. 2. No. 3. Yes. 4. Not if they taste of the can; otherwise they may be wholesome. 5. Lentils are leguminous seeds closely related to peas and beans. They are the principal food of the natives in Egypt, are largely cultivated in Germany, and their cultivation has recently been introduced in this country, particularly in Wisconsin.

HOW TO REFORM A DRUNKARD.—F. A. S., New Jersey, has a friend who is addicted to drink and wants to give it up, but seems powerless to do so. He asks what counsel we would give under the circumstances.

Ans.—The only cure for the drink habit is to stop drinking. If the drunkard is not able to resist temptation, he would better be removed to some place where he will not be surrounded by temptation.

FISTULA IN ANO.—G. H. S., Wis., asks concerning the use of peroxide of hydrogen in *fistula in ano*: "1. Would it cause much pain? 2. Would it change the foul discharge to a healthy one? 3. Where could I obtain it?"

Ans.—1. Yes. 2. There is no such thing as a healthy discharge. All discharges are purulent, unhealthy. 3. Peroxide of hydrogen (Marchand's) can be obtained from almost any druggist. We cannot recommend this method of curing *fistula in ano*; it is not likely to be successful.

RELIEF DEPARTMENT.

[THIS department has been organized in the interest of two classes:—

1. Young orphan children.
2. The worthy sick poor.

The purposes of this department, as regards these two classes, are as follows:—

1. To obtain intelligence respecting young and friendless orphan children, and to find suitable homes for them.
2. To obtain information respecting persons in indigent or very limited circumstances who are suffering from serious, though curable, maladies, but are unable to obtain the skilled medical attention which their cases may require, and to secure for them an opportunity to obtain relief by visiting the Sanitarium Hospital. The generous policy of the managers of the Medical and Surgical Sanitarium has provided in the Hospital connected with this institution a number of beds, in which suitable cases are treated without charge for the medical services rendered. Hundreds have already enjoyed the advantages of this beneficent work, and it is hoped that many thousands more may participate in these advantages. Cases belonging to either class may be reported in writing to the editor of this journal.

The following list contains the names and addresses of persons who have kindly consented to act as agents for us in this work, and who have been duly authorized to do so. Facts communicated to any of our local agents in person will be duly forwarded to us.

It should be plainly stated and clearly understood that neither orphan children nor sick persons should be sent to the Sanitarium or to Battle Creek with the expectation of being received by us, unless previous arrangement has been made by correspondence or otherwise; as it is not infrequently the case that our accommodations are filled to their utmost capacity, and hence additional cases cannot be received until special provision has been made.

Persons desiring further information concerning cases mentioned in this department, or wishing to present cases for notice in these columns, should address their communications to the editor, Dr. J. H. Kellogg, Battle Creek, Mich.]

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Harrington, Mrs. Jennie, Clermont, Slife, N. A., Paralta, Linn Co.
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Holliday, Mrs. Honor, Coon Rapids.

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inaw Co. Perrine, Geo. C., Eaton Rapids.
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Johnson, C., Marquam. Wait, V. O., Albany.
Logan, L. A., Elk City.

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Bowersox, A. S., New Columbia. Spencer, Anthony, Canton.
Butzer, J. L., Spartansburg. Voorhees, L. W., Singlehouse.
Howe, Mrs. L. A., Titusville. Williams, I. N., Washington.
Kagarise, J. S., Salemville, Bed- Williamson, C. H., Washington.
ford Co. Zeidler, W. H., 23rd Ward, Pittsburg.
Matteson, Mrs. A. J., Mill Village.

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Rickard, H. E., Fitch Bay.

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WYOMING.

Worth, Mrs. Prudie, Buffalo.

TEMPORARY HOMES.—It is often necessary to find temporary homes for children, while waiting for permanent homes. We are glad to announce that the following persons have volunteered to take such needy ones in case of emergency. We shall be glad to add to the list. All correspondence should be conducted through this office.

Dennis, Dr. J. D., Michigan.
Van Essen, E., Michigan.
Kirk, Wm., Michigan.
Snyder, Anthony, Michigan.
Snyder, F. D., Michigan.
Snyder, Henry, Michigan.
Wallace, John, Michigan.
Staines, J., Michigan.
Haysmer, Mrs. Anna, Michigan.

PERMANENT HOMES FOR CHILDREN.—There are thousands of childless homes in the United States, where one or more children would be a blessing. It is the purpose of this department to find these homes, and also to find the little ones to fill them. There are thousands of such little ones within the territory in which this journal circulates, and we shall be glad to know about them, and to be instrumental in finding homes for them. The following persons are ready to receive such children:—

Miss Corgan, of Michigan, offers a home to a little girl of eight years.

Mr. David Ferguson, of Illinois, offers a home to a little girl whom they will treat as their own child. They will give her a Christian education and a good opportunity at school. They have no children of their own, and are in good circumstances.

Mr. Hough, of Pennsylvania, offers a home to two boys eleven and twelve years of age. He will teach them a trade.

Ellen C. Jessup, of Michigan, will give a home to a little girl.

Mrs. M. J. Modill, of Ontario, will give a home to a little girl.

Mr. Wilkins, of Michigan, offers a home to a girl of thirteen years.

Mr. Rooney, of Michigan, offers a home to a boy of fifteen. Will teach him the harness trade. The boy must be right-handed, bright, industrious, and reliable.

T. E. Bowen, of West Virginia, wishes to adopt a ten-year-old boy.

Mrs. W. H. Parker, of Minnesota, will take a little girl three to five years of age.

Mrs. M. J. Post, of North Dakota, would take one of the boys already advertised, and also a little girl from seven to ten years old.

A gentleman in Colorado offers a home to a little girl about three years old.

TWO BOYS WHO NEED A TEMPORARY HOME.—A widowed mother asks for homes for her two boys, Carlos, aged 12, and Willie, aged 9. They are strong, healthy boys, but are living where they have no school privileges. The mother has her aged parents to care for, and is willing to clothe her boys, but is very anxious for them to be where they can have religious training and the advantages of school.

A FRIENDLESS BOY.—A little boy about 8 years old, needs a home where he can have good Christian care and love. Left an orphan, he has no one in the wide world to look out for him; and is at present in the care of the town authorities, who have secured for him board and lodging, but not a *home*.

TURNED ADRIFT.—Another little boy, aged 14, is left without a home because his stepfather refuses to

support him. The one who writes of him says, "He is a very nice little fellow, with a good education for his years, and of good morals." Will not some one be willing to have their home made brighter by his presence?

SINCE the opening of this department, there have been scores of letters received in answer to our calls. So far we have had more letters from persons offering homes to children, than we have found children to fill them. All letters, however, are kept on file, and will receive attention as soon as possible.

TWO LITTLE CRIPPLES.—Mr. W. W. Addison writes from Illinois of two little boys who are cripples from club foot, asking that their cases be assisted through this department. We have asked for further information respecting these boys, through a physician's statement, and trust their cases are such as can be relieved.

A LITTLE GIRL WHO NEEDS A TEMPORARY HOME.—A touching case has just been presented which appeals strongly to our sympathies. A young mother was left a widow after the prolonged illness of her husband, which left her, at his death, stripped of all means of support. She could provide for herself and her seven-year-old daughter by hard physical labor; but now her aged and helpless father and mother claim her care. She must not only nurse them, but support them while they live. She does not wish to give up all claim to her child, for she hopes sometime to be able to undertake its support again. The child is a healthy, merry little girl not quite eight years old. Who will help this struggling mother by giving her little one a home for a few years, or until she can make a way to take her again, which may be in a shorter time?

A MOTHERLY HEART.—A member of the health missionary class has just received a letter from a friend who wants to take one or more children, if she can arrange to do so. She writes: "I have just received my January GOOD HEALTH, and looking it over saw notices of several children who need homes. I would so much like that little girl of eight, or the other one, if she is nearer. Mr. — needs just such a boy as is mentioned, and I know he would be kind to one if he had him. As for the little girl, I am all ready to take her to my heart." She further asks her friend to make the necessary inquiries and arrangements, and adds, "I would not mind having a whole family of little ones around me, if I were able to care for them."

LITERARY NOTICES.

THE *March Arena* is particularly inviting to persons interested in vital social problems, and to liberal thinkers. Among the important social and economic problems ably discussed are papers by Alfred Russell Wallace, D. C. S., Helen Campbell, and the editor of the *Arena*. Dr. Wallace presents a powerful contribution on "The Social Quagmire and the Way Out of It." Helen Campbell continues her series of wonderful papers on "Women Wage-Earners of Europe and America." Mr. Flower, under the title, "A Pilgrimage and a Vision," deals most vividly with social contrasts in Boston, and shows what might be done if capital were a little less grasping, selfish, and short-sighted. The *Arena* Publishing Co., Boston, Mass.

Good Housekeeping for March has a rich table of contents, many of its best contributors being represented by able and timely articles. Among the prose writers may be mentioned Miss Maria Parloa, H. Annette Poole, E. C. Gardner, Ruth Hall, Mrs. Oliver Bell Bunce, Helena Rowe, Mona Fargher Purdy, with many others of similar excellence, some of whom hide their individuality under more or less transparent pen names. No journal of its class is more widely quoted than *Good Housekeeping*, largely because it avoids the sensational, frivolous, and transient, striving to give its readers that which is of present interest while at the same time permanently valuable. Clark W. Bryan Co., Springfield, Mass.

PERHAPS the most notable special article in the *March St. Nicholas* is that of Mr. Talcott Williams upon "Philadelphia." This paper is one of a series, describing the more important cities of the United States. The article is fully illustrated. A very charming paper is that entitled, "The Garret at Grandfather's," a reminiscence by Mary Hallock Foote. Other longer articles are a description of the fac-simile "Caravels of Columbus," with drawings from photographs; "A Tournament of Roses," held at midwinter in California, as told by Charles Frederick Holder; and a college-settlement story, "Kitty's Christmas Stocking," by Kate V. Thompson—all three papers fully illustrated.

THE *Song Friend* for February is at hand with its wealth of vocal and instrumental music and its bright, interesting, and instructive paragraphs and articles on Church and Instrumental Music, Voice Culture, Theory, Musical News, etc. Among the

pieces of choice music in this number are "Turnham Toll," a beautiful vocal solo; "Sounds from the North," a charming piano solo, and S. W. Straub's latest sacred songs, "I Would thy Disciple Be," and "The Tender Arms of Jesus." The *Song Friend* is a 32-page journal of rare excellence. The subscription price is only \$1 a year, with a premium of three pieces of select music. The publishers, S. W. Straub and Co., 245 State street, Chicago, offer to send one sample copy for 10 cents.

THE *Century* for March contains a unique feature in an account from the manuscript of Captain Thomas Ussher, R. N., of "Napoleon's Deportation to Elba," in which is given a familiar account of all the circumstances of the trip, and a careful report of Napoleon's frank comments on men and events. The article is preceded by a portrait and a short sketch of Captain Ussher, who was the officer in charge, and the frontispiece of the magazine is appropriately an engraving from the bas-relief of Napoleon by Boizot, which was the property of Joseph Bonaparte, and is now in the possession of the Pennsylvania Historical Society. Napoleon's comments on Blücher, and on the proposed invasion of England, are particularly interesting. The paper bears evidences of being a careful contemporary record, and has accordingly historical value as well as popular interest.

Scribner's Magazine for March contains several remarkable articles in the line of "Personal Reminiscences and Memoirs," which were announced to be one of the features of the year. One of these is, "Audubon's Story of his Youth," a charming bit of biography written by the great naturalist for his children, and accidentally found in an old calfskin bound volume, where it had been hidden for many years. Another striking article of personal reminiscence appears in the Historic Moments' series, and is a description of "The Death of John Quincy Adams in the Capitol," by the Hon. Robert C. Winthrop of Massachusetts, who was speaker of the House of Representatives forty-five years ago, when Adams rose to speak and fell back unconscious. The recent completion of "The Jaffa and Jerusalem Railway," and the running of the first train over the road in August last, is described by Selah Merrill, United States Consul at Jerusalem, who was an eye-witness of that event. The story which he tells us is one of the strangest in the history of modern railway building.

PUBLISHERS' DEPARTMENT.

ARRANGEMENTS have been made for a World's Congress on Social Purity in connection with the World's Fair Auxiliary. The Congress will meet in the month of June. Among the subjects considered, will be: "Industrial Training as a Moral Factor;" "Children's Rights and Teachers' Duties;" "What shall be Taught? and Who shall Teach It?" "The Mother's Privilege;" "Causes which Lead to Immoral Lives;" "Hereditry in its Relation to Immorality;" "Purity in Literature;" "Marriage and Divorce;" "Police Matrons;" "Rescue Work of the Salvation Army;" "Reception Home for Ex-convicts;" "The Origin and Progress of the White Cross in America," by Rev. Dr. B. F. De Costa; "The White Cross in Great Britain;" "The Supreme Need of the White Cross;" "Single Moral Standard for Men and Women;" "Wages and Morality;" "White Cross in Relation to Other Reforms;" "Amusements and Morals," etc.

The chairman of the committee having this Congress in charge, is A. M. Powell, P. O. Box 2554, New York City. The date of the Congress has been fixed for June 2 and 3.

* *

SANITARIUM LECTURES.—The Sanitarium guests have been greatly favored with lectures in the last few weeks. Among them was one by Col. R. Findley Smiley, of Flint, on the duty of Americans from a non-partizan and non-sectarian standpoint. Col. Findley is a very eloquent and flowery speaker, with ready wit, and he also understands the art of story telling.

Dr. A. N. Tracy, the well-known Kentucky temperance evangelist, gave a talk in the parlors one afternoon upon his special theme, and a few days later he invited the Schumann Quartet, who travel in company with him, to give us a few of their songs. They have very fine voices, and the artistic rendering of their beautiful selections was highly appreciated.

Mrs. Clara Bewick Colby, the talented editor of the *Woman's Tribune*, published in Washington, D. C., gave a very bright and interesting talk on equal suffrage, taking Ibsen's "Doll's House," as her theme. It will be remembered that she and her husband, General Colby, adopted a Sioux baby, the only survivor in that terrible massacre of the little Big Horn River. The child is now over two years old, and Mrs. Colby speaks of her as a bright, affectionate child, and a regular little missionary for her race to all who meet her.

Mr. Isaac Adams, a young Persian student in Mr. Moody's missionary training school in Chicago, gave a very interesting lecture on the manners and customs of his native land, himself being dressed in picturesque native costume. He had with him a Bible written in the Chaldaic language, which he claimed was 850 years old. It was parchment, bound in leather.

* *

MISS EMMA DRYER, whose work as Bible reader, evangelist, and teacher has been widely known in Chicago and elsewhere for many years, recently made a brief sojourn at the Sanitarium. One Sunday evening she gave a Bible reading on the subject of the "Resurrection." Miss Dryer is a pleasant lady, with gray hair, a sweet, clear voice, and a modest, winning manner. She is at present in charge of the Chicago Bible work, having the training and personal supervision of the workers. Her life of arduous and unselfish toil has told on her physical strength, and she now needs a longer rest than she feels that she can take.

ELD. S. N. HASKELL, an all-around-the-world missionary, recently lectured upon India and its mission interests. As it is not a year since his return, what he had to say had an added attractiveness as coming direct from one fresh from that great field of labor.

* *

ELD. G. C. TENNEY, who was identified with the interests of the Sanitarium fourteen years ago, as chaplain, spoke in the grand parlor upon Palestine a short time since. He has been living in Australia for the past five years, and on his way to Battle Creek to attend the Conference of the Seventh-day Adventists, he visited India, Egypt, and the Holy Land. He promises us the further treat of another lecture, illustrated with stereopticon views, in the near future.

* *

A CHILDREN'S BUILDING AT THE WORLD'S FAIR.—Through the energetic efforts of Mrs. Geo. L. Dunlap, a \$20,000 building is being erected to be devoted to the interests of children at the World's Fair. The purpose of this building is to take care of children while their mothers are visiting the fair, and at the same time to give the public an idea of rational methods of instructing and interesting young children. Physical culture classes, stereopticon lectures, the games and toys of the children of all nations, and a variety of other interesting exhibits, will be found in this building. Ten thousand dollars is yet needed to complete paying for the building, which is being erected wholly by private enterprise. Contributions should be sent to Mrs. Geo. L. Dunlap, Treasurer and Chairman of Children's Building Committee, 328 Dearborn Ave., Chicago.

* *

THERE is no better means of reaching St. Louis, Minneapolis, Omaha, and Sioux City from Chicago, than via the Chicago, Milwaukee & St. Paul R. R. Its elegant sleepers and dining-room cars, with every possible modern improvement for securing the comfort and safety of passengers, makes a traveler over this road feel perfectly at home, or perhaps feel as secure and comfortable as though at home or resting in the luxurious parlor of a metropolitan hotel. Passengers by this route may leave Chicago at 6 p. m. and arrive at their destination in the morning, ready for breakfast and business. For further particulars, address Harry Mercer, Western Pass. Agt., Detroit, Mich.

* *

WHERE TO LOCATE NEW FACTORIES.

THIS is the title of a 150-page pamphlet recently published by the Passenger Department of the Illinois Central Railroad, and should be read by every mechanic, capitalist, and manufacturer. It describes in detail the manufacturing advantages of the principal cities and towns on the line of the Southern Division of the Illinois Central, and the Louisville, New Orleans, and Texas Railroads, and indicates the character and amount of substantial aid each city or town is willing to contribute. It furnishes conclusive proof that the South possesses advantages for the establishment of every kind of factory, working wool, cotton, wood, or clay. For a free copy of this illustrated pamphlet, address C. C. Power, Foreign Representative, 58 Michigan Ave., Chicago, Ill.

PUBLISHERS' DEPARTMENT.

SMALLPOX IN WALL PAPER.—“Many years ago a person was sick of smallpox in a farmhouse in the country town of Groton, and after the patient recovered, the dwelling was fumigated and repapered. Ira Chester and family now dwell in the house.

“The paper was removed a week or so ago, and presently Mr. Chester's daughter was stricken with smallpox. In the opinion of the physician, the germs of the disease were dormant in the walls of the room. In no other way is the child's sickness to be accounted for, since she had not been otherwise exposed to the malady.”

We are forcibly reminded by the above clipping from the *Cincinnati Enquirer* of the claims made by the sanitarians, which are, no doubt, true to a certain extent, that all disease germs find a hiding place and culture ground best adapted to their nature, and to help them along in their mission in life, in wall paper, with its vegetable paste to hold it on the wall, and its animal glue to hold its colors; that these, to say the least, are not the best materials with which to cover so much space around us as the walls in which we live and sleep; and that paper and glue are great absorbents of moisture, of which every person throws off a certain number of ounces in exhalation every day; and that such decaying material as glue and paste gives off deleterious gases in such small quantities that we do not discover them, but those who study the subject can smell it in most papered rooms,

and especially where a number of layers of paper have been pasted one upon another, a “common nasty practice.”

They claim that these conditions have more to do with our ill health than we are aware of; that such a state of things in the room in which we live affects us more for better or worse than does a change of climate, which so many seek when they find themselves failing in health; that it would be cheaper, at least, to try a change of room or one coated with some non-decaying material, before going to the expense and trouble of a change of climate. Those who live in such rooms are not usually made sick unto death, but it is claimed that they do not enjoy as good health as they otherwise might.

* *

THE COLUMBIA DAILY CALENDAR.—The Pope Mfg. Co., of Boston, again deserves the credit of presenting the most practical business and professional calendar for the year. For eight consecutive years, this company has issued what is known as the Columbia Desk Calendar and Stand, consisting of a pad of 366 leaves, one for each day in the year, and one for the entire year. Upon each leaf are short sermons on the gospel of “Out-of-door Happiness and Health,” with authoritative advice on national road making by the most eminent experts. The pad rests upon a metallic stand, arranged to take up very little room, and is indeed an indispensable article for the desk.

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DR. J. LEWIS SMITH.—DR. J. MOUNT BLEYER.—DR. W. B. DEWEES, and many others.

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Science in the Kitchen.

By **MRS. E. E. KELLOGG, A. M.,**

Superintendent of the Sanitarium Experimental Kitchen and Cooking School, and of the Bay View Assembly Cooking School, Superintendent of Mothers' Meetings for the N. W. C. T. U., and Chairman of the World's Fair Committee on Food Supplies for Michigan.

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experimentation, but is the result of carefully directed researches carried on in the light of the most modern knowledge upon the mixture of food and the hygiene of dietetics. *This work is the product of many long years of patient toil and experimental inquiry.* The large opportunities for observation, research, and experience which Mrs. Kellogg has had in the constant supervision of the cuisine of the Sanitarium and the Sanitarium Hospital, and the ever increasing necessity for new methods and original recipes to supply the growing needs of an immense health institution numbering always from 500 to 700 inmates, have served to develop an altogether New System of Cookery, the outcome of which is this valuable work that we now offer to the public. **Agents wanted everywhere to introduce this popular and rapidly selling work.**

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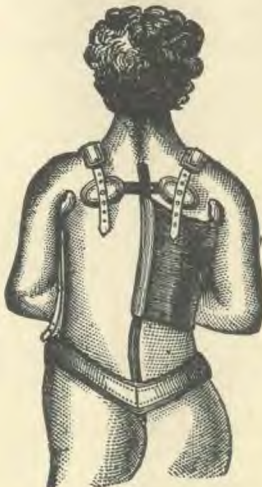
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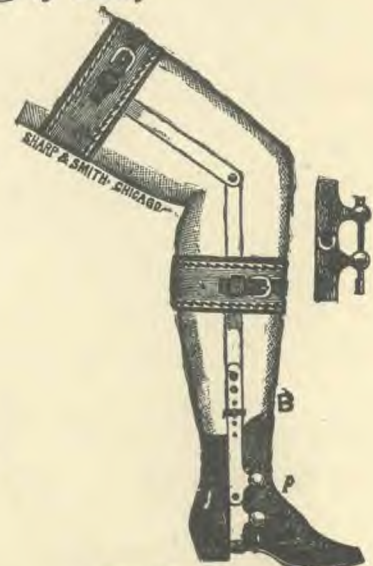
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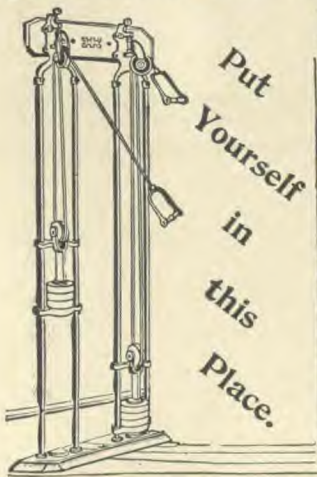
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THE SANITARIAN.

1873.—Twenty-First Year.—1893.

THE SANITARIAN is a monthly magazine devoted to the promotion of the art and science of sanitation, mentally and physically, in all their relations; by the investigation, presentation, and discussion of all subjects in this large domain, as related to personal and household hygiene, domicile soil and climate, food and drink, mental and physical culture, habit and exercise, occupation, vital statistics, sanitary organizations and laws,—in short, everything promotive of, or in conflict with, health, with the purpose of rendering sanitation a popular theme of study and universally practical.

THE SANITARIAN is filled with articles of scientific interest and practical value. It would be difficult to plan a better professional magazine than this, which is to the medical world what the *Scientific American* is to the artisan world. It deserves a greatly increased circulation. — *Baltimore Methodist.*

THE SANITARIAN is not only an interesting magazine to the specialist and the medical man, but it is of high value to thickly settled communities, to homes, to general readers, to city authorities—indeed, we would place the journal, for public good, in the hands of every adult, believing that misery and suffering would thereby be lessened and human happiness augmented by the knowledge the journal disseminates. — *Sacramento Record-Union.*

TERMS:

\$4.00 a year, in advance; 35 cents a number; sample copies, 20 cents—ten two-cent postage stamps.

The SANITARIAN is published as hitherto, in New York. THE AMERICAN NEWS COMPANY, General Agents. Newsdealers will get their supplies from them.

All correspondence and exchanges with the SANITARIAN, and all publications for review, should be addressed to the editor,—

Dr. A. N. BELL, Brooklyn, N. Y.



Chicago & Grand Trunk R. R.

Time Table, in Effect June 26, 1892.

GOING WEST.				STATIONS.		GOING EAST.			
p m	p m	a m	p m			a m	p m	a m	p m
7.15	8.00	11.00	7.00	.....	Boston.....	7.00	8.00	9.25	.....
a m	p m	p m	p m	.....	New York.....	9.55	7.40	5.07	.....
9.45	5.00	6.30	8.00	.....	Buffalo.....	8.40	5.50	4.20	.....
a m	a m	a m	p m	.....	Niagara Falls.....	7.30	4.10	8.10	.....
12.10	6.20	6.25	1.00	.....	Boston.....	8.05	9.50	.....	.....
a m	a m	a m	p m	.....	Montreal.....	8.00	7.00	.....	.....
1.35	7.45	8.00	2.45	.....	Toronto.....	8.35	6.25	.....	.....
a m	p m	noon	.....	.....	Detroit.....	9.25	7.45	9.25	.....
8.30	.....	3.00	12.00	.....	Dep.	.....	.....	.....	.....
a m	p m	.....	.....	.....	Arr.	.....	.....	.....	.....
9.30	8.40	.....	.....	.....	Port Huron.....	10.01	.....	.....	12.10
p m	.....	p m	.....	.....	Port Huron Tunnel.....	9.55	12.35	7.30	8.50
11.30	.....	1.00	.....	.....	Lapeer.....	8.15	11.20	6.15	7.35
.....	.....	.....	.....	.....	Flint.....	7.30	10.47	5.40	7.05
.....	.....	.....	.....	.....	Detroit.....	9.25	.....	7.45	9.25
.....	.....	.....	.....	.....	Bay City.....	8.37	.....	7.15	8.37
.....	.....	.....	.....	.....	Saginaw.....	8.00	.....	6.40	8.00
.....	.....	.....	.....	.....	Darand.....	6.50	10.20	5.08	6.35
.....	.....	.....	.....	.....	Lansing.....	5.10	9.30	4.00	5.40
.....	.....	.....	.....	.....	Charlotte.....	4.34	9.01	3.25	5.11
.....	.....	.....	.....	.....	Battle Creek.....	3.40	8.23	2.40	4.30
.....	.....	.....	.....	.....	Vicksburg.....	2.33	7.40	1.48	.....
.....	.....	.....	.....	.....	Schoolcraft.....	2.21	.....	.....	.....
.....	.....	.....	.....	.....	Cassopolis.....	1.29	6.53	12.45	3.07
.....	.....	.....	.....	.....	South Bend.....	12.45	6.20	12.00	2.35
.....	.....	.....	.....	.....	Valparaiso.....	11.10	5.00	10.30	1.20
.....	.....	.....	.....	.....	Chicago.....	8.40	3.00	5.15	11.25
.....	.....	.....	.....	.....	Dep.	.....	.....	.....	.....
.....	.....	.....	.....	.....	Arr.	.....	.....	.....	.....

Where no time is given, train does not stop.
 Trains run by Central Standard Time.
 Valparaiso Accommodation, Battle Creek Passenger, Port Huron Passenger, and Mail trains, daily except Sunday.
 Pacific, Limited, Day, and Atlantic Expresses, daily.
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W. E. DAVIS, Gen. Pass. and Ticket Agt., Chicago.
A. S. PARKER, Ticket Agt., Battle Creek.

MICHIGAN CENTRAL

"The Niagara Falls Route."

Corrected Nov. 20, 1892.

EAST.		† Day Express.	* N. Shore Limited.	* N. Y. Express.	* N. Fall & Buffalo Special.	† Night Express.	† Detroit Accom'n	* Atlantic Express
STATIONS.								
Chicago.....	am 9.00	pm 12.20	pm 3.10	pm 4.55	pm 9.30			pm 11.45
Michigan City	10.58	2.05	4.56	6.39	11.25			am 1.42
Niles.....	pm 12.40	2.57	5.48	7.31	am 12.30			2.50
Kalamazoo.....	2.05	4.00	7.04	8.57	1.57	am 7.10		4.28
Battle Creek.....	2.45	4.30	7.37	9.28	2.35	7.52		5.20
Jackson.....	4.30	5.28	8.52	10.42	4.05	9.40		6.45
Ann Arbor.....	5.30	6.27	9.45	11.27	5.38	10.40		8.05
Detroit.....	6.45	7.25	10.45	am 12.30	7.10	11.52		9.35
Buffalo.....	am 3.00	am 6.25	7.35				pm 7.40	am 5.00
Rochester.....		5.50	9.55	11.20				8.20
Syracuse.....		7.50	pm 12.15	pm 2.10				10.20
New York.....	pm 3.45	8.50					am 8.45	am 7.00
Boston.....	6.05	11.05	am 6.15					10.50
WEST.								
STATIONS.								
Boston.....	am 8.30	pm 2.00	pm 3.00			pm 6.45		
New York.....	10.30	4.30	6.00		pm 8.00	9.15		am 8.30
Syracuse.....	pm 7.30	11.35	am 2.10	am 3.50	am 7.20	pm 2.20		6.10
Rochester.....	9.35	am 1.25	4.20	5.55	9.55	5.10		7.45
Buffalo.....	11.00	2.20	5.30	9.00	11.50	7.45		8.25
Detroit.....	am 8.20	am 7.30	9.05	pm 1.20	pm 4.40	pm 3.00	am 2.15	
Ann Arbor.....	9.37	8.27	9.59	2.19	5.48	10.27	3.08	
Jackson.....	11.35	9.35	10.58	3.17	7.15	am 12.01	4.10	
Battle Creek.....	pm 1.18	10.48	pm 12.02	4.30	5.47	1.20	5.20	
Kalamazoo.....	2.05	11.30	12.39	5.05	9.45	2.18	5.59	
Niles.....	4.00	pm 12.40	1.48	5.17		4.15	7.15	
Michigan City.....	5.20	2.00	2.45	7.20		5.35	8.28	
Chicago.....	7.35	3.55	4.30	9.00		7.55	10.15	

* Daily. † Daily except Sunday. ‡ Except Saturday.
 Accommodation Mail train goes East at 1.18 p. m. daily except Sunday.
 Night Express goes West at 12.05 a. m. daily except Monday.
 Trains on Battle Creek Division depart at 8.03 a. m. and 4.35 p. m., and arrive at 11.40 a. m. and 6.45 p. m. daily except Sunday.
O. W. RUGGLES, General Pass. & Ticket Agent, Chicago.
GEO. J. SADLER, Ticket Agent, Battle Creek.

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