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# CONTENTS.

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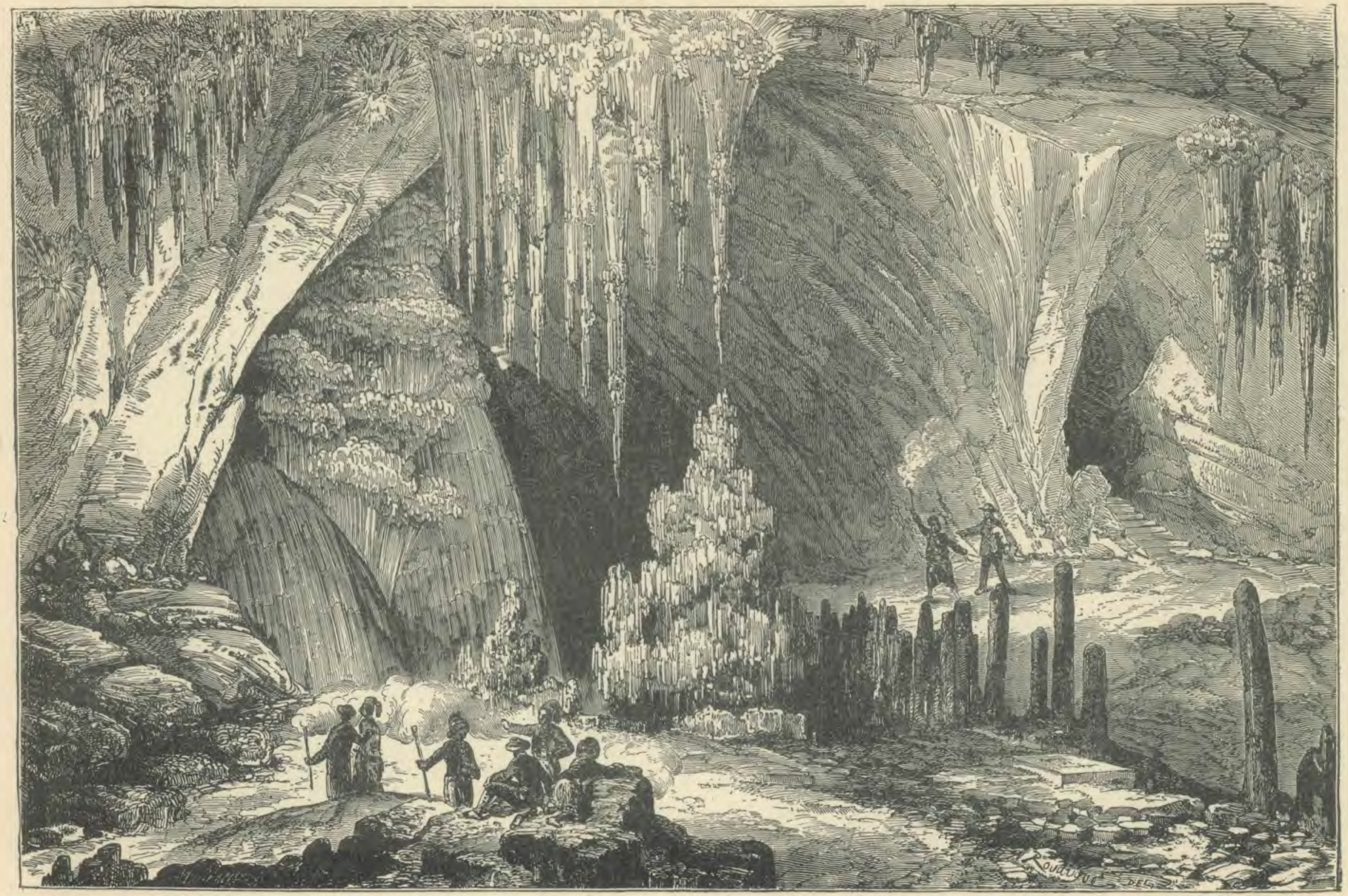

INNER VIEW OF THE GROTTO OF ANTIPARO (AN ISLAND IN GRECIAN ARCHIPELAGO).

GOOD HEALTH
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# INTERNATIONAL HEALTH STUDIES.

BY FELIX L. OSWALD, M. D.
Author of "Physical Education," "The Bible of Nature," Etc.

## 43.—Nova Scotia.

NOVA SCOTIA and New Brunswick are considered the healthiest of the British colonies in North America. On the Mexican border, home-seekers are often advised to stick to the neighborhood of the old Spanish missions, because the Jesuit fathers rarely made a mistake in locating their stations. The missionaries who followed De Monts to the Bay of Fundy, made it equally evident that they knew what they were about. Acadia, as they called the peninsula east of the bay shore, is a little too cold to derive its name from the Grecian shepherd's Eden, but rivals it in abundance of woods and pure springs, and has one great advantage over other coast lands of the northern Atlantic: its shore line for hundreds of miles is planted with hills, and is absolutely free from the hideous swamps that gird our Eastern States, from Jersey to Florida. Ponce de Leon came prepared to take dragons and giants, but the mosquito fens sapped his enthusiasm; and if he had followed the coast northward instead of eastward, the infernal whine of the little vampires would not have ceased to ring in his ears till he had crossed the mouth of the Penobscot River. Gnat-bogs are found here and there, even in Northern Maine; but on the Bay of Fundy there is rest, and a party of tourists who fished at Margaretsville, west of Berwick, last summer, camped in open tents from July to September without ever finding it necessary to use their mosquito bars.

When the peninsula was ceded to Great Britain, in 1713, the original French settlers were treated very much like the Dutch colonists of Southern Africa, and after repeated rebellions, were "removed"—often in the Charles Guiteau sense of that word, by being shot down at sight to create vacancies. Others were shipped back to Europe, but their deserted homes were apt to be filled by new trespassers from Eastern Canada. A general *razzia* had already been planned, when the news from Bunker Hill gave a new turn to the state of affairs, and when the independence of the new republic was formally recognized, thousands of poor Gallo-Americans must have received the announcement as a condemned criminal receives an unexpected reprieve.

Race jealousies still continued, but Great Britain could not afford to lose any more colonists in Eastern America, and the surviving descendants of the Acadians were suffered to remain; nay, British immigration agents before long went to the other extreme, and endeavored to attract international colonists by the dissemination of pamphlets resembling the "Banana-zone Circular" of the Northern Pacific R. R. Company.

Nova Scotia was described as an Arcadia indeed, a land flowing with milk and honey and oyster-soup, not to mention cheap apple brandy, and uniting every advantage of soil and natural resources with the finest climate on earth. By the counter-reports of disappointed settlers those publications ultimately defeated their own purpose, but some of their glaring misstatements continued to bias the geographical literature of our continent, and even crept into such works as the "American Cyclopedia of General Knowledge," which informs its readers that "in the western counties of the peninsula the thermometer rarely falls below zero." The farmers of Digby and

UPLAND LAKE.

Cumberland counties would stare at announcements of that sort. The moderate rainfall makes the summers very pleasant, but it does get cold in winter, so often, indeed, that few of the old settlers would begin to growl till the mercury gets under ten below, and the ice on the inland lakes more than four feet thick. Snow-falls of three feet on a level are nothing exceptional, but, as in Northern Michigan, spring comes in force when it does come, and after the middle of May the rapid progress of vegetation makes up for lost time.

The short summer is warm enough to ripen Indian corn, and the south counties revel in apples, cherries, and plums, besides an abundance of wild-growing berries, including a species of blueberries that literally cover the ground in June, and tempted the aborigines to manufacture a sort of wine, which they improved by the addition of maple syrup. On holidays, especially after a treaty of peace, that stimulant was used in such quantities that the "Gode Wineland" of the Scandinavian sea-rovers may possibly have been the east shore of Acadia. Traces of their visits have been found in Queens and Shelbourne counties, and on the inlet known as Lunenburg Bay, where several mediæval copper coins were dug out of a *tumulus* a few years ago.

The neglect of those early settlements is not easy to explain, except on the theory that the aborigines were wise enough to oppose the invader in time; for the vigor of the climate can hardly be supposed to have deterred those hardy seafarers. On the contrary, Prof. Alafson, of Gothenburg, calls attention to the close resemblance between the south coasts of Sweden and the beech-covered shore hills of Nova Scotia, which in his opinion would make an ideal colony for the poor frost-tortured Icelanders, whose pluck and frugal habits have maintained the struggle for existence against cruel odds for now more than half a thousand years.

The discovery of our continent, indeed, involves paradoxes more astonishing than the passive resistance opposed to the enterprise of the immortal Genoese. Genoa and Venice both resorted to pitiful subterfuges in declining a venture that would have established their prestige for a series of centuries; but they had other resources, and were far from being reduced to the extremity of the Iceland fishermen, who had to fight the battle of life against pirates, lava-floods, and landslides, besides frost and snow-tornadoes. Yet, with the record of the great discovery preserved in circumstantial chronicles and fire-side traditions, those amazing islanders starved on, for century after century, when a southwest trip of a week and a half would have brought them to a land of abundance. The French colonists preferred Acadia to the swamp-delta of the Mississippi, and statistics show that their descendants still outlive the English settlers.

The first squatters arrived in 1620, thus giving their offspring plenty of time for getting acclimatized.

CAPE BRETON COAST RANGE.

Intermarriages with the aborigines, too, may in certain respects have improved the race, but their superior longevity (of which there seems to be no doubt) admits of still another explanation. They have few wants, and consequently few cares. Worry, combined with hard work, burns the candle of life at both ends, not only by exhausting the reserve stores of vital energy, but by favoring the development of special diseases which otherwise might have been kept in abeyance. The father of Napoleon the Great undoubtedly transmitted to his children a tendency to a fatal disorder, but only his second son worked and worried himself into a premature development of that disease, though originally he was on the whole the most vigorous of six stout brothers. Lazy Louis and easy-going Jerome attained a good old age; Joseph (the eldest) outlived his great brother by twenty-three years. The frugality and practical stoicism of King José may, indeed, be surpassed by many an Anglo-American farmer, but "all goodness is comparative," and the slumbers of the French squatter who prays only for food, clothing, and a raintight roof, are less apt to be disturbed than those of his British neighbor, who besides has set his heart on books, pianos, and a college education for his bright boy.

In the matter of boys, too, the French settler is apt to get ahead of his competitor. The "celibacy of vice" which is said to explain the slow progress of population in France, is unknown in French America. Nine out of ten rustics in Nova Scotia Gallica, marry young, and live to see a house full of children and children's children, so often, in fact, that, like the Celts of New England, they can foresee the time when they will outvote their Anglican rivals.

For habits of industry and thrift, the Saxon settlers of the peninsula compare favorably with the natives of Connecticut, and as a consequence, actual poverty is rather rare, but the well-fed toilers are stinted in fun; the prohibitive Blue Laws are very severe, and may partly account for the fact that mental disorders prevail to a degree somewhat out of proportion to the scant population and the prevalence of intemperance and crime. Judging by the statistics of the representative city (Halifax), the number of lunatics is five times as large as that of deaf and dumb and blind taken together, and nearly twenty times as large as that of penitentiary convicts.

The fierceness of competition for all the prizes of modern life would certainly be a less fruitful cause of mental derangements if the strain of overwork were oftener relaxed by popular amusements — *diversions*, as they are suggestively called, from their tendency to divert the mind temporarily from the burden of daily drudgery. In a very ingenious treatise on the "Causes of Insanity," the philosopher, Schoperhauer, demonstrates that the eclipse of reason is a merciful expedient by which nature palliates evils for which she has no better remedy, whenever the sorrows of life outweigh its pleasures beyond a certain endurable degree. The worship of joy precludes that necessity in many countries not overblest with creature comforts; before the time of the Russian conquest, insanity was almost unknown among the sport-loving Circassians, and is still very rare in Turkey and the semi-Christianized border-lands of the lower Danube, but increases steadily with the increasing influence of a doctrine that inculcates the wickedness of physical enjoyments. In the era of the self-torturing anchorites and flagellants, lunatics must have been as common as March-hares, if we shall credit the accounts of whole convents going crazy *en masse*. The terror of the French Revolution led to a similar result, but without any catastrophic causes of excitement. Mental diseases, two hundred years ago, were twice more frequent in penance-haunted Scotland than in dance-loving France. If self-destruction always implies a certain degree of mental derangement, it might even be considered a suggestive circumstance that suicides are most frequent in small country towns which lack the amusements of the larger cities as well as the primitive sports of a free wilderness.

The conciliating policy of the British government has enabled a number of Indians to survive the inroads of civilization. In Nova Scotia and Cape Breton (the large island on the east coast of the peninsula) there are some eighty families of the Micmac tribe, and about one hundred and twenty families of of Malicetes, both of them preferring hunting to agriculture, though in some other respects they have adopted the habits of their Caucasian neighbors. They wear boots (snowshoes in winter), and have found that coal is a more effective medium of artificial warmth than rain-soaked beechwood. The coal mines of Nova Scotia are remarkably accessible, being near the surface, or exposed by river-channels, as in the Digby hills, where beautiful cross-sections of coal strata, from eight to fifteen feet thick, can be traced for miles along the cliffs. In the neighborhood of these ready-made mines every Indian wigwam includes an oven, often a mere hole in the ground, with a chimney-like superstructure of unhewn stones, but affording draught enough to keep a bushel of bituminous coal ablaze, and warm the adjoining hovel through a cold winter night of fourteen or fifteen hours. No-

body hinders those infringements of the pre-emption laws. Nominally, the mines are all included in the registered real estate, but the supply enormously exceeds the demand and all present or prospective chances of export.

Superfluous land, too, is still very abundant. The wooded uplands of the Ardoise range are abandoned to the Indian trappers, and large tracts of uncultivated slopes extend on both sides of the Bay of Fundy, — a veritable trap of the ocean currents, the tide rising often to a height of seventy feet above the low-water mark, while in Halifax harbor the difference is less than ten feet. The tide-swept hill-sides are not wholly barren, but of course would not repay cultivation, and with few exceptions are haunted only by seal-fishers and egg-hunters. Fishermen can ply their trade in almost every township, especially in the southern half of the peninsula, where the surface of the country is studded with countless lakes, varying in size from an acre to half a hundred square miles, but mostly prettily framed in a border of wooded cliffs, and all abounding in fish. There is no lack of game either; deer, rabbits, and foxes are found everywhere in the hills, and sharpshooters can earn a few extra dollars by tracking wolves, which in cold winters come now and then across from the pine woods of New Brunswick.

Sea birds in myriads still flit about the cliffs, and the Indians are naturally loth to leave such a hunters' Eden, though the government has repeatedly offered them free transportation to the reservations of Northern Canada. They have a tradition that their forefathers reached the peninsula after long wanderings through deserts of snow and ice, but that they originally came from a better land beyond the sea — Corea perhaps, or Eastern Japan, since the people of the Micmacs strongly suggest a Mongolian descent. Like their forefathers, they have no permanent abode, but wander about all summer and fall till the first hard frost admonishes them that they must pitch their tents in the neighborhood of a coal-pit.

The poor nomads have renounced the use of firewater, and would be perfectly harmless if they could be cured of the habit of sharing their dried fish with an army of vicious dogs, that supplement their Lenten fare by raiding the neighboring poultry farms, and after dark out-yelp a horde of Nubian jackals.

(To be continued.)

## THE MADDENING, MISBECOMING MUMPS.

Oh, how can I laugh, or how can I sing,
Or eat, or drink, or do anything?
I 'd rather be down with the doleful dumps,
But I must confess it, I have the mumps —
The miserable, mean, unmaidenly mumps.

I know what pain is in tooth and ear;
I frequently suffer from doubt or fear;
I have often been blessed by bruises and bumps
But nothing can half compare with the mumps —
The melancholy, mouth-filling mumps.

Oh, I wish that a friend or two could share
This anguish that seems beyond compare;
But I 'm doomed alone to endure the thumps
Of this dreadful disease, the malignant mumps —
These matter-of-fact, maliferous mumps.

I would like it if, once or twice in a while,
My face could put on a diminutive smile;
But if I attempt it, these wretched lumps
Remind me I 'm entertaining the mumps —
The unmagnifiable, mournful mumps.

Oh, would I were patient as Job of old, —
His wonderful story I 'm often told, —
But the world now-a-days is full of gumps
Who refuse to enjoy these matchless mumps —
These miscellaneous, moping mumps.

I 'd fain find relief in poem or prose,
If but for an hour, from some of my woes;
But I 'm shaken all day by violent jumps,
The work of these masterful, mischievous mumps —
These misanthropic, monstrous mumps.

I believe I will hide myself away
From the unsympathetic light of day;
My life seems naught but a series of slumps,
While my countenance wears these misfitting mumps —
These marvelous, most metamorphic mumps.

*Detroit, Mich.* Mrs. Kate Brearley Ford.

The Same Fare that his Family Had. — The following story used to be related by the late John Gough, the temperance advocate: —

A woman once entered a bar-room where her husband was sitting with some boon companions. Placing a covered dish which she had brought with her upon the table, she said: "Presuming, husband, that you are too busy to come home to dinner, I have brought you yours." She then departed.

With a forced laugh the husband invited his friend to dine with him, but on removing the cover from the dish, found only a slip of paper, on which was written: "I hope you will enjoy your meal: it is the same your family have at home."

It is said that that man never entered a public-house again.

## THE HYGIENE OF INSTRUCTION.

THE following paragraphs from a paper on School Hygiene, by Dr. A. G. Young, Secretary of the State Board of Health of Maine, form excellent food for thought for all persons interested in the health and education of the young.

The age at which a child has legal admission to the public schools in five States of the Union is four years; in fifteen others, the school age is five years; in twenty-two it is six years; in three, seven years; and in one of the States it is eight years.

Why admission to the public schools should not begin at an age so close to babyhood as the age of four, there are many weighty reasons.

"At the age of four the brain of the child is in no condition to engage in study, nor to receive continuous instruction for more than very short intervals of time, even when conducted in accordance with a rational system of training. But unfortunately, these children of four or five, sent to the ungraded country schools, are generally subjected to methods neither rational nor hygienic. Many of these schools are taught by teachers who know but little of the noble profession of teaching, and less of the physiological necessities of early childhood; consequently the pathetic spectacle is often presented of children at very early ages shut up in their school prisons for three hours in the forenoon and the same length of time in the afternoon, with but little commutation from the full daily sentence on account of infantile years.

"To these little ones muscular activity is a necessity, and quietude enforced for more than a short period at a time is harmful and cruel. The only rational system of teaching applicable to them is one in which short sessions of instruction are alternated with frequent intervals of play, or in which the teacher leads them to instruction which has to them the semblance of play, as in the kindergarten method, wholly unavailable in nearly all of the schools of the State.

"As to what age children should be sent to school, Dr. A. N. Bell remarks: —

"'To fix upon the age at which school life may be commenced involves the consideration of the kind of school life as well as the adaptation of the child. The first and central fact to be constantly kept in view in conducting school life is the plastic property of the child's mind. This fact being always uppermost, healthy children at the age of seven years may safely begin to learn the alphabet, spelling, and figures on the kindergarten system, giving them not more than two or three hours' application daily, with not less than half of the time, at equal intervals, for play; provided always, the sanitary conditions of the schoolroom are duly regarded.

"'In proportion as the sum of the sensations is increased, by the progressive development of the brain, with increasing age, the organic functions are strengthened, the sensations and motions which were at the first confused and uncertain, acquire increased accuracy and direction, and at the age of about ten years, systematic education may be commenced. But up to the age of puberty the school time should not be more than six hours daily, and no child should be required to devote more than half of the time of school hours to study, or more than forty minutes at a time to close application; and no recitation or blackboard exercise, which imposes the greatest exertion of the mind, should be longer than fifteen minutes.'

"The foregoing is intended as an argument against subjecting children of early years to educational processes ill adapted to their stage of brain development; not against beginning instruction at an early age if the teaching can be given in accordance with a rational plan. That children of tender years may be taught, even from books, without physical ill, has been shown in many instances.

"In England a commission was appointed in 1833 to examine into the condition of children employed in factories. It was found that, generally, the children were worked far beyond a reasonable time, eleven, twelve, or more hours daily, and the commission condemned this practice as being economically as wasteful as it would be on a farm to work young colts to the same extent as adult horses. This condition of long-time labor practically excluded the children from school. To mitigate the physical, intellectual, and moral evils of such a system, the commission commended a bill which became a law. It provided that these children should be sent to school three hours every day, and as this was one half of the usual school day at that time, these scholars were called half-school timers. Years after this half-time system had become operative, Mr. (later Sir) Edwin Chadwick, who had been a member of this commission, gave the reason for its suggestion and described the results attained by it, in the following words: —

"'It is a psychological law that the capacity of attention grows with the body, and that at all stages of bodily growth the capacity is increased by the

skillful teacher's cultivation. Very young children can only receive lessons of one or two minutes' length. With increasing growth and cultivation, their capacity of attention is increased to five minutes, then to ten, and at from five to seven years of age, to fifteen minutes. With growth and cultivation, by the tenth year a bright voluntary attention may be got to a lesson of twenty minutes; at about twelve years of age, to twenty-five minutes; and from thence to fifteen years, about half an hour: that is to say, of lessons requiring mental effort, as arithmetic, not carried beyond the point at which the mind is fatigued, with the average of children and with good teaching. By very skillful teachers and with very interesting lessons, the attention may be sustained for longer periods; but it is declared by skillful observers that prolonged attention beyond average limits is generally at the expense of succeeding lessons.

"'The preponderant testimony which has been received in the course of some inquiries into educational subjects, is that with children of about the average age of ten or eleven or a little more, the capacity of bright voluntary attention, which is the only profitable attention, is exhausted by four varied lessons to subjects and exercises requiring mental effort of half an hour each in the forenoon, with intervals of relief. After the midday meal the capacity of voluntary attention is generally reduced by one half, and not more than two half-hour lessons requiring mental effort can be given with profit.

"'The capacity of attention is found to be greater in cold weather than in hot, in winter than in summer.

"'Experienced teachers have testified to me that they can and do exhaust the capacity of attention, to lessons requiring mental effort, of the great average of children attending the primary schools in England, in less than three hours of daily book instruction, namely, two hours in the morning, and one hour after the midday meal.

"'It may be stated generally that the psychological limits of the capacity of attention and of profitable mental labor is about one half the common school time of children, and that beyond that limit instruction is profitless.

"'This I establish in this way. Under the Factories Act, while much of the instruction is of an inferior character and effect, from the frustrations of the provisions of the original bill, there are now numerous voluntary schools, in which the instruction is efficient. The limit of the time of instruction required by the statute in these half-time schools for factory children, is three hours of daily school teaching, the common average being six in summer and five in winter. There are also pauper district industrial schools, where the same hours, three daily, or eighteen in the week, or the half-time instruction, are prescribed; which regulation is, in some instances, carried out on alternate days of school teaching and on alternate days of industrial occupation. Throughout the country there are now mixed schools, where the girls are employed a part of the day in needle-work and a part of the day in book instruction.

"'The testimony of good inspectors and of school teachers alike indicates that the girls fully equal in book attainments the boys who are occupied the whole day in book instruction. The preponderant testimony is that in the same schools, where the half-time factory pupils are instructed with the full-time day scholars, the book attainments of the half-time scholars are fully equal to those of the full-time scholars, *i. e.*, the three hours are as productive as the six hours' mental labor daily. The like results are obtained in the district pauper schools.

"'In one large establishment, containing about six hundred children, half girls and half boys, the means of industrial occupation were gained for the girls before any were obtained for the boys. The girls were, therefore, put upon half-time tuition, that is to say, their time of book instruction was reduced from thirty-six hours to eighteen hours per week, given on the three alternate days of their industrial occupation, the boys remaining at full school time of thirty-six hours per week — the teaching being the same, on the same system, and by the same teachers, with the same school attendance in weeks and years in both cases.

"'On the periodical examination of this school, surprise was expressed by the inspectors at finding how much more alert, mentally, the girls were than the boys, and how much advanced in book attainments. Subsequently, industrial occupation was found for the boys, when their time of book instruction was reduced from thirty-six hours a week to eighteen; and after awhile the boys were proved upon examination to have obtained their relative position, which was in advance of the girls. The chief circumstances effecting this result, as respects the boys, were the introduction of active bodily exercises, the naval and the military drill, and the reduction of the duration of the school teaching to within what appears to me to be the psychological limits of the capacity of voluntary attention.

"'When book instruction is given under circumstances combining bodily with mental exercises, not

only are the book attainments of the half-time scholars proved to be more than equal to those of the full-time scholars, but their aptitudes for applying them are superior, and they are preferred by employers for their superior alertness and efficiency.

"'In the common course of book instruction, and in the average of small but well-managed long-time schools, children, after leaving an infant school, are occupied on the average six years in learning to read, write, and spell fairly, and in acquiring proficiency in arithmetic up to decimal fractions. In the larger half-time schools, with a subdivision of educational labor, the same elementary branches of instruction are taught better in three years, and at about half the annual expense for superior educational power.

"'The general results stated have been collected from the experience during a period of from twelve to fifteen years of schools, comprising altogether between ten and twelve thousand pupils. From such experience it appears that the general average school time is in excess full double of the psychological limits of the capacities of the average of children for lessons requiring mental effort.' . . .

"According to Dr. Lincoln: 'In high schools during the period of rapid growth and sexual development, it seems certain that five hours, or under the most favorable circumstances, six, are all that should be required. The ages usually range from twelve to seventeen. Below the age of twelve years, four hours are probably sufficient; below ten years, three or three and a half; below seven years, two and a half or three hours.' . . .

"'I am constantly told by teachers, when conversing on this subject,' says Dr. J. C. Reeve, 'that children of this age do not *study* during all the six hours they are in school. I as constantly reply that the fact that they are there is enough; the confinement to the schoolroom six hours a day is too much for any child under twelve years of age.

"'Whenever the scholars appear tired, and are restless and inattentive, the fresh air and the playground are better places for them than the schoolroom. Pupils should be encouraged and habituated to do their tasks in the shortest possible time, to work while they work and play while they play.

"'A great master has said, concerning the education of little boys, "Great care is taken that no boy shall, at any moment of the day, be obliged to sit in idleness, under any pretext whatever; when the stated quantity of labor is performed, he goes to play; but while he remains in the schoolroom, he has no right to be an instant unemployed. The reward of industry, a short cessation from labor, is immediate; so that a lively boy is not doomed to 'count the slow clock, and play at noon.' On the contrary, instead of watching with feverish impatience to see both the hands culminate, he employs himself ardently at his task; the instant he has accomplished it, constraint ceases, and he breathes empyreal air."'

"In drawing up a rational program of schoolroom study, considerations of how much mental work can be accomplished in the schoolroom during the pupil's school course should not alone prevail. This complicated social life of ours has, even upon children, multifarious claims. The laws of health claim inexorably abundant time for sleep, for taking food, and for free play and rest. . . . Then, again, the claims of home and social life are almost as imperious. Music and other private instruction, household work, nervousness or fretfulness of the mother, visits, dancing lessons, Sabbath-school,—all these add to the strain. In this direction the educator has to decide how far a compromise can be effected between the school and the family,—how far the excessive demands of the home may be brought to give way to those of the school. Upon the answer to this question will depend, to some extent, the number of hours of school work daily or weekly, that may be imposed upon the children without incurring the danger of strain. The condition in many homes will undoubtedly suggest the desirability of bringing educational influences to bear upon the parents."

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*Smith*— You say he left no money?

*Jones*— No. You see he lost his health getting wealthy, and then lost his wealth trying to get healthy. — *Sel.*

DOMESTIC skeletons are very often formed of the bones of contention.

*Teacher*— "What little boy can tell me where is the home of the swallow?"

*Bobby*— "I kin, please."

*Teacher*— "Well, Bobby?"

*Bobby*— "The home of the swallow is the stummick."

## THE TRAINING TABLE.

THERE are, in some of our colleges, large dining rooms where the students take their meals. Memorial Hall at Harvard is one example. In these college dining rooms may sometimes be found special tables set apart for the students who wish a certain bill of fare. These are known as the "training tables," and at the frugal repast laid upon these boards sit the men who are "in training for the college athletic contests and events."

One of the most curious things about the great newspapers of our cities is the very large space given to the so-called "sports." Columns are filled with accounts of the sayings and doings of professional boxers, wrestlers, and pugilists. The reading matter is of itself rather dull reading. It is the indirect evidence it gives of the general public interest in the purely physical arts of boxing and wrestling that makes it so curious. . . .

A glance over the "sporting editions" shows the frequent use of the words "trainer" and "training." This celebrated pugilist is said to have "gone into training" in some remote and obscure town, in the care of his equally celebrated trainers, John D. and Jack K.

Much has been written concerning the great dining room at Vassar, the hundredweights of flapjacks consumed at a sitting, the immensity of hot rolls and golden rivers of coffee, and yet common report does not tell us that there is a "training table" at Vassar, at Wellesley, or at Smith. The fair alumnæ may reply that they are not in training for "events," and that there is no need of a special table for collegiate Amazons. The historic flapjacks of Vassar would seem to dispute this, and lead the lay mind to wonder why there are no training tables at the women's colleges. If there are none — more's the pity. Why is not every man's table a training table? Why are not all, men, women, and children together, in training? Why is not every governess and schoolma'am a trainer?

The general public interest in professional and amateur sports has a deeper meaning than many imagine. It is not wholly a brutal instinct. It is not alone a general savage love of fighting that inspires the universal interest in the pugilist. The civilized man carries, in a dim, obscure way, the wild habits of the prehistoric man, just as the modern house-dog turns around on the hearth rug before he sleeps, because the prehistoric dog thus flattened the grass that made his bed. We are in part the sum of the tree dweller, the cave man, and all who have lived between us and the savage. At the same time, we are civilized, and thus apparently universal interest in pugilists and athletes does not spring wholly from a love of fighting. If we were all athletes, if we were all, both men and women, in magnificent physical condition at all times, we should care very little for our present heroes of the ring and the oval. It is because we are not athletes that we admire the perfect man, vigorous, able, enduring, triumphant in deeds of strength and skill. We secretly wish we were like him, were it only for the grand joy of the ancients in life. It is a pleasure to be able to do something with our arms and legs. To live in perfect health and vigor is a pleasure. Mere exercise is a pleasure — else why do children and kittens play?

We are here to live, and the majority of us imagine we are living here only for the sake of getting ready to live somewhere else when we have ceased to live here. Would we not get more of the higher life if we had better tools to work with? A man's body is the great tool he uses to work out his salvation. The better the tool, the finer the result. The trouble is we are too mediæval. The world once went insane because only the best men retired to the monasteries and left only the feeble to continue the race. Historians call these the Dark Ages. It was the eclipse of the love of sports and public health. This love of the modern athletics is the wholesome rebellion against the insanity of the Middle Ages.

We are, therefore, wise if we take a lesson from the pugilist and athlete. The study of the fighter in training is a worthy study for all of us. First of all, the training is almost invariably in the country. William Muldoon, the most celebrated trainer in this country, lives upon a farm near the village of Belfast, New York. Here he trains his pupils and patients. The pupils are the fighting men and athletes. The patients are the professional men, merchants, and others, who go into training under Mr. Muldoon's care, for the purpose of gaining strength and health, and with no intention of following "sports." We may fancy that city life, late hours, the noise, the demands of social and business life, do not harm. The trainer will have none of these things. He insists upon the country life, the quiet for sleep, the open air of the fields for exercise, the early hours, the regular and simple habits of a rural home, and above all, the perfect ventilation of the sleeping and work rooms. Only in the country can he command these things, and it is these that make for perfect health.

The man in training must eschew tobacco and liquor. To quote Mr. Muldoon's own words: "To begin with (after having got my man on the farm), I insist there shall be no abuse of the use of tobacco and liquor." Every well man, whether pupil training for a fighter or the broken-down merchant training to recover his broken-down health, must stop the use of both. A cigarette? — Never! The man may say he will surely die unless he has one. Very well, — die. There does not appear to be any particular reason why any such creature should live. Stop. That is the rule. The man goes through a terrific experience (in his own estimation), but he never dies."

The temperance advocate has never found a better argument than this: the athlete in training to become a perfect man does not drink or smoke. . . .

A certain doctor once said to a young man of uncertain health, "You must be a minuteman." By this he meant that all things, sleep, meals, work, should be done regularly — on the minute. So at the Muldoon home there is absolutely unvarying precision and regularity. Nine o'clock — candles. Nine o'clock! Why, the night has just begun! Society has hardly finished dinner. Young and tender girls are just starting out for the evening's pleasure. All the same — nine o'clock. Society is not wisdom.

The bed is in a sweet, clean room, with the doors and windows open to the pure air of the fields. Open to "night air"? — Yes. Is the dreaded "night air" of the grandmothers poisonous? — Not a bit of it. But certain paternal grandparents poisoned their babies in air-tight chambers. "She bore seven, but raised only one," — familiar domestic tragedy of old New England.

Nine hours' solid sleep — then up promptly at six. No lingering naps, no turning over for a little more slumber. . . . It is the day again. Arise, the path waits.

The first duty of the man in training is a little light exercise, then the bath and rubbing down. Like a horse? — Precisely. A horse is kept in magnificent health by rubbing down. Why not the superior animal? Then breakfast at eight. Fruit, oatmeal or cracked wheat, eggs, baked potatoes, stale bread or toast, very little water, no greasy or fat food, no pastry. Then rest — absolute total rest, bodily and mental, for one hour and a half. Sit about, read (not study), talk, do nothing. It is not the rest it seems. The entire vital force is being spent on the work of digestion. Then why work? Your pale schoolgirl, hurrying from her awful flapjacks to the room to cram for the impending lesson hour, is indignant at her miserable health. The conductor who eats at railroad speed with eye on clock to catch his train, the lunch-counter patron who gives nine minutes to his noonday meal and then tears through the streets to conclude one more bargain, wonder at the strange "act of God" that bids them prepare their wills at forty. Let them look to this training-table habit of complete and total idleness after each meal. An hour and a half after breakfast, two hours after the noonday dinner, an hour's rest after supper — four hours and a half lost every day. Yes, "lost," if mere money-getting is all of life. Yes, lost, if you do n't care to live in decent health, if you prefer to go to the cemetery or crematory before your natural time. Save four hours of rest, if you will, but do n't complain of dyspepsia, because that 's the price of the time "lost." . . .

Much has been written in regard to diet in training. The bill of fare at college training tables is marked by great simplicity. There is no stint — always an abundance, for your athlete appears to be a good "feeder," and all is, of its kind, the best the market affords. No gravies, no fried or sweet dishes, no salads or desserts.

Experts differ as to the special diet for men in training. Amateurs are certainly far less strict than professional pugilists. By some it is not thought advisable to depart very much from the ordinary fare of a well-ordered household, except to avoid pastry, sweets, and liquors. All agree, however, in two things, — simplicity, and the avoiding of fats and greasy dishes. All agree that the average hotel and restaurant table is not adapted to the needs of a man who wishes to be in the best possible condition. The higher the "style" and prices at the restaurant, the less valuable its bill of fare, from an athletic point of view. — *Charles Barnard, in Chautauquan.*

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I PRAY you, O excellent wife! cumber not yourself and me to get a curiously rich dinner for this man and woman who have just alighted at our gate. . . . These things, if they are desirous of them, they can get for a few shillings at any village inn; but rather let that stranger see, if he will, in your looks, accents, and behavior, your heart and earnestness, your thought and will, that which he cannot buy at any price in any city, and which he may travel miles and dine sparely and sleep hardly to behold. — *Emerson.*

## A COMMON SIN.

It is one of the most disastrous effects of the mediæval misconception and degradation of the body that men and women abuse and misuse their bodies without any sense of criminality. There never was a worse heresy than the shame put upon God's glorious handiwork by a shallow and inadequate conception of the nature and universality of the divine; it has led to all kinds of mischievous errors, and to all manner of violent reactions. Not until men comprehend that the body is a divine creation, can they rightly value the spirit. The body shares the sanctity of the spirit. . . . There are many who would lose a right arm sooner than violate a law of the spirit, who constantly violate the laws of the body. Ignorance of the laws of physical life was not long since so universal and so dense that there was, if not an excuse, an explanation of this anomaly of conscientious obedience to one set of divine laws and flagrant violation of another set. In these days, however, no intelligent person can plead ignorance as a justification of disobedience. Knowledge of the conditions of bodily well-being is accessible to every one.

What is now needed is the education of the conscience to the point of realizing that a sin against the body is a sin against the soul, and that to misuse or abuse the body is to commit a sin as heinous as theft or falsehood. The man or woman who goes on working to the point of breaking down, in face of knowledge and experience, is guilty of a grave sin against the Maker of the body. It is not a matter of personal loss only, a piece of individual folly to be paid for by well-deserved individual suffering; it is an act of gross impiety, which betrays mental dullness and moral obtuseness. It is high time that these crimes against the body, so prevalent in our times, should be called by their right names. They are sins as distinctly as the grosser offenses against good morals. The man or woman who, in face of those notifications which the abused body always gives, persists in driving the physical forces to the breaking point, is a law-breaker in the sight of God, and the terrible physical penalties which follow attest the divine wrath against the moral anarchist. It is sometimes necessary to sacrifice the body by the slow martyrdom of overwork, as it is sometimes necessary to give one's life in a swift and noble sacrifice; but the vast majority of those who overwork are not martyrs, they are deliberate and persistent violators of their own natures. In most cases, it is no exaggeration to say that nervous prostration is the physical penalty of a moral offense. The man who drives recklessly over the precipice opening in his path is not more foolish or more criminal than the man who keeps on the road of overwork after the danger signals have begun to multiply. The waste of spiritual and moral force through overwork is incalculable: for the mind and the spirit are the real sufferers when the body ceases to keep them in harmonious relation with the world, and to furnish them with a superb instrument for work and growth. There could be no greater act of vandalism than breaking the pipes of a noble organ and wrecking its keyboard; but the man who destroys the sanity and harmony of his body, adds sacrilege to vandalism; he lays his hand on the only real temple of God in the world. — *Christian Union.*

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Work for Middle-aged Women. — The woman who breaks down and becomes a chronic invalid at the age of fifty, is robbing the world of her ripest wisdom and most useful service. She is also depriving herself of what should be some of the dearest privileges of her life. The woman who has given due heed to the care of her physical frame during her earlier years, who knows what to eat and how to dress, and has learned the value of fresh air and exercise, will enter upon this "youth of old age" with undiminished powers, instead of being laid aside as useless. This period should and might be a much more leisurely time than it often is. I have known mothers to delve in the kitchen and bear all the burdens of a large household, when they had three or four grown daughters at home, who served merely as parlor or society ornaments. It is not always the fault of the daughters that such a sad state of domestic affairs exists; the lack has been in their training and education. I remember hearing two girls lamenting the fact that "mother was not feeling very well, and had a bad headache," yet neither of them thought of leaving the piano or the embroidery frame that they might relieve the poor sick woman of her cares.

A woman who has lived well through fifty years of life, is a treasure-house of valuable experiences and practical wisdom, which should be expended for the

benefit of the world. It is the most favorable period for a woman to enter upon literary work, and it is the time when many of our most successful literary women have done their best work. It is also a woman's time for going into public life, if so be that her home cares have slipped from her and set her free. The temperance cause needs women of mature experience and ripened intellect. Every town in the land affords a field of labor of this kind, and the younger women need leaders who are wise and motherly. What is true of the temperance cause is also true of church work, where "mothers in Israel" can perform holy offices of ministration to those whose feet are newly turned into paths of righteousness, and also in guiding and encouraging the young. Young men and young girls away from home need the friendship and assistance which a woman of fifty years can best give.

Social purity work, in particular, should be under the direction of matronly women. Inexperienced young girls, although capable of a great work among companions of their own age, are less fitted to go into the slums or visit jails. It is sensible, motherly, sympathetic woman who can safely reach a helping hand to her fallen sister, and who, more often than any one else, can reclaim a fallen brother.

The woman of fifty can do much for the rising generation by giving to young mothers the benefit of wisdom gleaned, it may be, amid tears and heartaches. She can caution the young girl who through the glamour of false lights named pleasure, is setting her feet in slippery paths, and what work will have greater reward?

But invalidism is the bar which holds many and many a woman of advancing years from availing herself of these exalted privileges. It is a sin and shame for her to become a wreck, physically and consequently to a great degree mentally, and thus rob society, yea, let us say rob God, of her most exalted service.— *Kate Lindsay, M. D.*

## WILD OATS.

You see aged men about us at eighty, erect, agile, splendid, grand old men. How much wild oats did they sow between eighteen and thirty? None, absolutely none. God does not very often honor with old age those who have in early life sacrificed swine on the altar of the bodily temple. Trembling and staggering along these streets to-day are men, all bent and decayed, prematurely old for the reason that they are paying for liens they put upon their physical estate before they were thirty. By early dissipation they put upon their body a first mortgage and a second mortgage to the devil, and these mortgages are now being foreclosed, and all that remains of their earthly estate the undertaker will soon put out of sight. Let a flock of sins settle on your heart before you get to be twenty-five years of age, and they will in all probability keep possession of it. What! Will a man's body never completely recover from early dissipation in this world? — Never! How about the world to come? Perhaps God will fix it up in the resurrection body so that it will not have to go limping through all eternity.— *Dr. Talmage.*

One day last week a friend of mine walked down Piccadilly behind a lady who was wearing a dress fitted with the long train now in vogue. Opposite St. James' Club she got into a cab. She consequently left behind her on the pavement all the rubbish which her skirt had collected as it swept down Piccadilly. My friend, being of a scientific turn, proceeded to make an inventory of the collection, and he has been good enough to send it to me for publication. I give it below. In the days when germs and microbes play such an important part in social life, I question very much whether these trains should be permitted by law. This lady left her street sweepings on the curbstone; but it must be remembered that many convey them into their own or their friends' houses: —

2 cigar ends.
9 cigarette do.
A portion of a pork pie.
4 toothpicks.
2 hairpins.
3 fragments of orange peel.
1 slice of cat's meat.
Half the sole of a boot.
1 plug of tobacco (chewed).

Straw, mud, scraps of paper, and miscellaneous street refuse, *ad. lib.* — *The Arena.*


## EXERCISE AND FATIGUE.

J. H. KELLOGG, M. D.

FATIGUE is one of the interesting phenomena connected with muscular activity. What is the cause of fatigue in a muscle? A muscular fiber as we have before learned, has the property of storing up two things, glycogen and oxygen. Fatigue is in part the result of the destruction of this stored-up oxygen or glycogen. In ordinary fatigue, neither the glycogen nor the oxygen is entirely consumed, for if these elements, or either one of them, were entirely consumed, the muscle would be completely paralyzed; but in ordinary fatigue, the muscle is not absolutely paralyzed; its capacity for work is lessened, but not entirely destroyed.

There is another element of fatigue, and that is the formation in the muscle of a substance which is a poison to the muscle. This poisonous substance has been studied. Some years ago, a number of Italian soldiers had been violently exercised by a very long march, and some of them were found to be sick as the result of this extreme exercise; they had a rise of temperature, and a disease which is now recognized as "fatigue-fever." A physician and physiologist examined the blood of these soldiers, and removed from the blood a substance which he injected into some dogs, and immediately upon application of the injection, the dogs became fatigued the same as the soldiers had been. This shows that there is produced in the blood, as the result of muscular action, a poison which is the real cause of fatigue. A fatigued muscle is one which has been poisoned by self-generated poisons, substances which have developed in the muscle itself as the result of activity, just as we have poisonous gases left after an explosion of gunpowder, or in fact, of any explosive substance.

The fact that loss of oxygen is a cause of fatigue in a muscle, is evidenced by the experiment of cutting off the blood-supply of a muscle. It is found that when an artery which supplies a muscle with blood is tied, the muscle loses power in a short time, because the oxygen is no longer brought to it, and because the blood no longer carries away the toxic substance by which the muscle is being poisoned.

Some very interesting experiments have been made with frogs' muscles, which retain their vitality for some time even when separated from the animal. When such a frog's muscle has been stimulated by electricity, and made to lift a weight until it has become tired and works very feebly, it is found that by washing the vessels of the muscle out with pure blood it quickly recovers. Even washing the muscle with a weak salt solution has the same effect, whereas a long time must elapse for the muscle to recover itself if it is not washed in this way.

Another interesting experiment has been made with the muscles of a frog. It is found that if a solution of the extract of beef is passed through the bloodvessels of a muscle when it is fresh and active and ready to work, the muscles become fatigued immediately. This very interesting fact shows that there is a poison in the tissues which has a paralyzing effect upon the muscles. This may account, in part, pernaps, for the lethargy exhibited by carnivorous animals after they have eaten a large quantity of flesh.

During periods of inactivity or rest, the energy of the muscles is restored. Why? — During rest, oxygen is absorbed and glycogen is stored up, and the poisonous substances which had accumulated during activity are washed out by the blood circulating

through it, and so the muscle recovers. It is found that the application of massage to a muscle when it is exhausted, recovers it more quickly. Why? — Because massage facilitates the circulation of the blood, and thus the poisonous matters are removed more rapidly. It is always found that a galvanic current passed lengthwise through a muscle will cause it to recover much more quickly from fatigue than simple rest, perhaps because the electric current stimulates the circulation and aids the nutritive processes by which oxygen is absorbed and glycogen stored, and the process by which poisonous elements are oxydized and removed.

It ought to be remembered that fatigue involves the nerve centers as well as the muscles. When a person is fatigued from exercise, it is not simply his muscles that are exhausted, but the nerve centers which control the muscles; and perhaps also the nerves which transmit impulses to the muscles. This is doubtless the reason why a person whose legs are fatigued, finds that his arms are tired also, and that he cannot lift so much as he could before. Not only the hands and arms, but also the internal organs are exhausted under the same circumstances. That is the reason it is well not to eat after violent exercise, because the stomach as well as other organs of the body, is fatigued as the result of severe muscular effort. Doubtless the reason of this feeling of fatigue is because the store of oxygen in the body has been diminished by exercise, and not only that, but the whole system has been saturated to a greater or less extent with the poisons generated by the muscles during activity.

It is found by noticing the effects of exercise of different kinds, that an easy exercise to which a person has not been accustomed, is more fatiguing than one which is more difficult, to which he has been trained, even when the work required to be done in the latter case is much greater than in the former. The amount of fatigue is more directly proportioned to the difficulty of the work than to the amount of work done. As an illustration of this, suppose a person is made to walk a line: it is no more labor to carry the body on a line or on a narrow fence-top than it is to walk on the sidewalk. The same weight is moved through the same space; and yet, if you try the experiment by walking, for instance, upon a railroad iron for half a mile, you will find that it will be found more tiresome than walking upon a broad path, where no effort is required to keep the balance. Why is this? — It is because the nervous energy is used up in maintaining the balance; the coördinating effort exhausts the system by the strain upon the nerve centers; this is the reason why the nerve centers enter into the element of fatigue.

There is another interesting matter which is observed in reference to fatigue: the same amount of work done in a few slow but severe efforts, is much more fatiguing than if done in a larger number of brief but easier efforts, — efforts less severe, because less force is expended. For instance, emtying a tub of marbles by taking out a few at a time is much easier than lifting the tub when filled with marbles and emptying it in that way. Of course, the amount of work actually done would be greater if the marbles were lifted out one by one, for the weight of the hand must be carried each time; but the work would not be so fatiguing. This principle applies in a practical way to many of the activities in which we engage.

As previously remarked, the internal organs become fatigued when the body in general is fatigued. One notices, after violent exercise, that a person sighs. This sighing is an evidence of respiratory fatigue, or exhaustion of the muscles of respiration.

A very interesting fact has been noticed by some recent experimenters, of which we made a record in GOOD HEALTH some months ago, — the fact that in ordinary labor, the store of oxygen which is supplied to the body gradually grows less; that is, there is less oxygen taken in than is used up during work, so that after a number of days, a person has lost a considerable portion of his store of oxygen, thus requiring a day of rest, so that there is a sort of physical law for a sabbath. This law does not determine how often a sabbath should come, — whether once in seven days or once in ten days. It might be possible for a person so to arrange his work that he would not use up any more oxygen each day than he absorbed. If he had the right proportion of work and rest each day, there would be no loss of the store of oxygen. But in ordinary labor, as society is constituted at the present time, an ordinary laboring man expends more oxygen than he receives each day, so that a rest-day is actually required. It is quite possible that this was the design of the Creator respecting man in commanding him to earn his bread "by the sweat of his brow," thus expending daily, by the amount of labor done, more oxygen than he receives, making a day of rest necessary.

Permanent injury of the muscles may be produced by excessive labor, and in various ways. It may result from excessive work and habitual fatigue. In the first place, the stores of oxygen and nutrient material which the body contains may be gradually exhausted; and, as the result of this in young per-

sons, we may have a stunting of the growth. If the amount of oxygen which the body contains, a large portion of which is necessary for the vital processes which maintain growth, digestion, circulation, etc., is reduced so much by exercise that there is not sufficient left to carry on the process of tissue building, then of course the child will not grow properly. This is the reason that children who are overtaxed while young are usually dwarfed. The same thing is true of young animals. If they are made to work steadily and laboriously, they do not develop as they should, in consequence of the unusual and unnatural consumption of nutrient material in work which should have been used in building up the body.

(To be continued.)

## A NEW APPARATUS FOR THE DEVELOPMENT OF THE MUSCLES OF THE TRUNK.

THE accompanying illustration presents a new form of exercise apparatus devised by the writer, which has been in use in the Sanitarium gymnasium for nearly ten years, and which has proved to be a very efficient means of developing the muscles of the arms, trunk, and shoulders. The apparatus consists of two hollow cylinders attached to a movable bar and counterbalanced by a weight from the opposite end of the bar, the box in which the bar slides being attached to an axis placed at right angles with it, which is made to rotate by means of a crank, the arm of which can be lengthened or shortened at will. Two of these devices, one arranged the reverse of the other, constitute the apparatus.

NEW APPARATUS FOR DEVELOPING THE MUSCLES OF THE TRUNK.

The patient places himself upon a seat adjusted the proper height between the two standards, and grasps the crank handles, the arms of which are then adjusted to correspond with the length of the forearm, thus placing the elbow at the center of the circle through which the hand moves in using the apparatus.

The most novel feature of the apparatus is the hollow cylinder which is filled with water saturated with salt, to one-half or two-thirds its capacity. At starting, the fluid is at the bottom of the cylinder. As the handles are raised, the fluid flows toward the upper end. By this means, the amount of weight lifted is continually changing to correspond with the varying ability of the muscles of the arm to lift. The lifting ability of the muscle diminishes as it shortens. By means of this equalizing effect, the danger of straining the muscles by overaction is greatly lessened.

The need of a device of this sort must be recognized by all experienced teachers of gymnastics or physical culture. Nothing is more common in a gymnasium than to see some one making repeated attempts to find a dumb-bell or weight that is adapted to his strength for the movements which he wishes to execute through the whole extent. A dumb-bell or weight of any sort which may be easily lifted at the beginning of a movement may, through the changing of the position of the

arm, modify its relation as a lever with the weight and fulcrum as well as the shortening of active muscles, becoming much too heavy to be lifted without undue and injurious strain. By the aid of this device, this difficulty is obviated automatically.

Mercury or any other liquid can be used in the cylinder as well as water. Of course the heavier the liquid, the smaller the cylinder may be.

The principle involved in this apparatus, as will readily be seen, may be applied in gymnasium apparatus in a great variety of ways.

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NATURE REGRETS A WASTE OF FORCE. — Athletic training has now become so general that hardly a youth or young girl in the land but is having muscles and sinews hardened and strenthened, and health and constitution improved by some process. This is excellent indeed, and it has already produced an improvement in the race of American youth. They are stronger and in consequence more self-reliant, and it is very probable that they will make better citizens and better fathers and mothers than the race which preceded them.

But every boy and girl cannot attend a gymnastic school, nor afford the services of a professor in the calisthenic art. Every one cannot, indeed, find time or opportunity to pursue a set system of exercising, such as is usually demanded in the schools, and by the books on the subject, and by the teachers. To all such, however, a course in athletic training is easily opened with but few and simple rules of guidance. A sharp walk every morning at daybreak is excellent. Indeed, walking is the very best form of exercise. It brings all the muscles of the body into play. It is far better in this respect than horseback riding or driving. Carriage riding is not a form of exercise at all. It is merely easy airing, good for the health and spirits, but no aid to muscular development. Running, jumping, swimming, climbing, are all excellent forms of athletic exercise.

But thrifty Dame Nature has after all allied a usefulness to her very best forms of such exercise, and looks with something of regret upon the waste of force which is implied in mere exercising for pleasure or development. Perhaps if she could assert her view of the noblest and most remunerative form of such athletics, she would put it at sawing wood. The lad who takes his athletic exercises every morning in sawing wood for his mother, has Dame Nature's kindliest indorsement. If he could only believe that it was not work, and would do it as cheerfully as he would take a run of a mile, he would find it would go quite as far toward strengthening his muscles and making his body sturdy. The regular chores about the house, which the mother can hardly find strength to do, the lifting, the water carrying, the sweeping, — all these tend as fairly toward a stronger body as the dumb-bells and the Indian clubs and the elastic pulleys. The good genius that makes certain forms of athletics so popular as play, may well aim at some early period to popularize and render fashionable for both our boys and girls the homely hard work about the house. — *N. Y. Tribune.*

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TOO MUCH THE MATTER WITH HER. — According to a musical company, a lady from the rural districts took her daughter to town, and after consulting a number of professors respecting her musical abilities, returned home very much discouraged, and reported to her husband the result of her expedition, as follows : —

"The first professor said that Almiry sings too much with her borax. If she keeps on, she will get digestion on the lungs. He said she ought to try the abominable breathing. Then the next teacher told her that she ought to sing with her diagram, and not smother her voice in the sarcophagus. The next, he poked a looking-glass down her throat, and said that the phalanx was too small, and the typhoid bone and the polyglottis were in a bad way ; and I never knew that Almiry had so many things the matter with her, and I 'm afraid to let her sing any more ! "

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THERE is no gymnasium in the world which is better to secure excellent results from exercise than the kitchen, the wash-room, and the garden. These are nature's gymnasia. They require no outlay for special appliances, and are always fitted up for use. *Mens sana in corpore sano* was the motto of the ancient Greeks ; and the experience of every day shows that the person with strong muscles and good digestion, with fair intellectual abilities, is the one who wins the goals in the strifes for wealth and fame and all that men seek after, and the same is also true of women. "A sound mind in a sound body" is as necessary for assured success in life in the nineteenth century as when the sentiment was first inscribed upon the gates of the temples in ancient Greece. — *Ladies' Guide.*


## A BIT OF AUTOBIOGRAPHY.

I WAS a well-grown, healthy girl of nearly fourteen, before I went into the permanent thralldom of long skirts. Until that age we had lived principally in the country, where I had enjoyed the freedom of the woods and fields, and indulged a passion for horse-back-riding, in which exercise, untrammeled by a cumbrous riding dress, I gained exceptional skill. I had a fearless, free foot, and a "level head" for climbing rocks and trees. I was a tireless "bushwhacker" in search of wild flowers and berries and nuts, in spring, summer, and autumn, while in winter I was a slider, skater, and snowballer, worthy of a better fate than the feminine. But when we moved into the city, I "put away childish things," and put on long skirts. How they hampered, "cribbed, and confined" me at first! How they tripped and entangled my wayward feet!

In pleasant weather I often had unchastened longings to run and jump and climb, and in stormy weather I lamented and execrated my bedraggled condition; but I tried to console myself with my added dignity of incipient young ladyhood. Besides, there were about us no wild flowers or berries, no hills to scale, not even trees to climb, unless I was ambitious to measure agility with the disgusting "measuring worm." But I was still, in spite of the drawback of elongated gown and petticoat, singularly lithe and active, and took pride in certain startling gymnastic exploits. Indeed, had I kept on, I am confident that I could have made a daring trapeze performer, or a brilliant contortionist. But all ambition for an athletic career had to give way when I entered on the second stage of my thralldom, the wearing of corsets.

I had long importuned my mother for permission to don this fatal article of womanly attire, and she had always said I was too young, though I was taller than she, and twice as "forth-putting." She had her doubts, for she was a sensible woman, about corsets being a hygienic institution; but at last, knowing my unconquerable aversion to any sort of difficult work with scissors and needle, she consented to my having a pair, "on condition," she said, "that you cut out and make, wholly without assistance, your own strait-jacket, and that your work be as neat and elegant as your model."

Now my model, belonging to a fashionable relative, was an elaborate work of art, one mass of fine cording and delicate stitching, in colored silk. In those days corsets were made stiff by cords and stitching, with one thin strip of oak, called a "busk," in front. They were laced behind, were guiltless of steels, and mostly of whalebones; but you could lace yourself, perhaps, tighter, for all that. I sighed as I regarded that hopeless model, but my mother smiled, as foreseeing my defeat. That smile stung me. She little knew what inspiration there could be in the idea of a wasp waist. I copied that pair of corsets with absolute Chinese exactness, though with woful waste of good material in the cutting out. I was enthusiastic over my difficult task, neglecting for it study, play, exercise, never realizing that, while I was running those cords into the linen, I was preparing to cord up my trunk in a way to leave no room for vital expansion, that every stitch of that elaborate outward ornamentation would be repeated inwardly by a "stitch in the side."

I finished the pretty, barbarous thing, and I wore it. It hurt me, but I gave no sign. I continued to grow, but unequally. I had, finally, sideaches and palpitations of the heart. I went to sleep exhausted and woke up tired; but I had lost my country color and shape, and was pale and poetic, and "so willowy." I took to writing elegiac poetry, in consequence, perhaps, of a "churchyard cough." In school, it was noticed, I grew a little round-shouldered over my desk, in spite of the support of my "busk;" but my slenderness was admired. No

girl in the physiology class had so small a waist. The "chunky," corsetless girls measured it with envy. I had occasional fainting fits which rendered me interesting. For these and that ugly pain in the side, the cough and palpitations, physicians were called in. If they *thought* corsets, they did not mention them. Doctors were delicate in those days. Not knowing what to do, they bled me.

From the weakness consequent on too much vital compression and too little free, open-air exercise, I took cold easily; had bronchitis, pneumonia, and various ills of the sort till, even before my own people realized it, I, who had been a singularly healthy child, had grown into a slender, nervous girl, with unreliable lungs, a mutinous stomach, a lazy liver, a skittish heart. How, thus handicapped, I have been able to accomplish so much of my life-race — running the gauntlet between doctors and diseases — I can scarcely understand, except that I was, in the beginning, of good blood, with no end of spirit and staying power. But I ought to have carried less weight.

I honestly believe that many of the illnesses and hindrances of my life can be traced back to my first corset, perversely followed by many of its kind — inventions inspired primarily by some woman-hating demon. He lives still, this master of the fine art of fashionable torture, and dressmakers, male and female, are in league with him. . . .

What can be done? Little, I fear, until women of the world (the better class) unite, and combine with women of intellectual power and commanding reputation, as authors, artists, scholars, physiologists, and humanitarians, and quietly inaugurate a reform in woman's dress — for the emancipation of our sex and the salvation of the race. Here and there noble women have done much — Lady Harberton in the divided skirt, and Mrs. Jenness Miller in her lovely æsthetic costumes. Yet when Mrs. Jenness Miller appears in society, moving serene and symmetrical, in one of her exquisite costumes, it is as likely to beget discouragement as emulation, being something so peculiar and individual as only to seem fitted to her graceful figure, style, and movement. Still, her pretty inventions, though not suitable for all women, are hopeful new departures. Her charming gowns do not cramp the chest, or impound the heart, or trespass on the stomach. They begin well, but, I think, keep on too long. A little more brevity of skirts, dear madam! even at some sacrifice of æsthetic effect.

I hope that within the new century, at latest, a reformed, easy, sensible, unburdensome, unshackling dress for women may come in, and come to stay; and I believe that before the new century is old, French and American corsets and English stays will be forgotten barbarisms, only to be found in museums, classed with "ancient instruments of torture." — *Grace Greenwood, in the Arena.*

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A NEW "EMANCIPATION DAY."— At last there has dawned a day to be hailed with delight by every woman who has deplored the shackles of fashionable dress. Of this, Frances E. Russell says: —

To avoid unpleasant personal notoriety or individual social martyrdom, it is proposed to appoint, when enough women seem ready, a day of general emancipation. If great numbers of women appear in unusual costume simultaneously, they can easily capture the situation, and break the force of the strongest objection to a reasonable dress for women — its oddity and the discomfort of being conspicuous. It is another demand for exercise of the golden rule, to do something, for which perhaps no personal need is felt, for others' sake, for the sake of working girls, of hard-working women. Unborn children demand that this heavy burden of woman's useless toggery should be lifted from off the human race, that all coming generations may have a better chance to be well born, a better opportunity for "life, liberty, and the pursuit of happiness." Why delay?

This movement is religious and patriotic. Though really a great revolution, with far-reaching results, it can be speedily accomplished when once the idea of *concerted action* takes possession of the majority of women. Remember no one is called upon to step out alone, and "set an example" by striking oddity in her own apparel. It is a work of self-emancipation for every woman, but one in which all are needed by each one.

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A CONTEMPORARY very truly and sensibly says that "any woman is too tightly dressed who cannot raise her arms straight above her head and clasp her hands; who cannot stoop to tie her shoe, or pick up a pin, without heightened color."

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ALL hail to the day when we shall have a reasonable and beautiful dress, that shall encourage exercise on the road and in the field; that shall lease us the free use of our limbs; that shall keep and not hinder our perfect development. — *Elizabeth Smith Miller.*


## WORK AS A PREVENTIVE MEASURE AGAINST IMPURITY.

MRS. E. E. KELLOGG.

IMPURITY is a sin so broad in its connections that it may be likened to a highway toward which innumerable byways and side paths tend. The parents who hope to keep their children from impurity must study to understand the hundreds of different avenues by which its influence may reach even the most sheltered homes of our land. It is blindness to moral danger which often invites disaster. We cannot ignore these perils if we would rightly fortify our children to meet the depraving influences and temptations sooner or later to assail them. Prevention is always better than cure, and in our work for purity our aims must be to intercept temptation, to build up bulwarks against vice by right training, correct habits, and home influences. In order to be able properly to do preventive work, we need to study the question of purity in all its bearings, and especially to study the many byways which lead down to the broad road of impurity. One of these, and one very commonly overlooked, is the custom of permitting children, especially girls, to grow up to maturity in aimlessness and idleness, with no fixed purpose in life, no special employment, and no love of work for work's sake.

The notion is far too prevalent that work, unless a necessity as a means of obtaining a livelihood, is not a very important factor in the education of children; that unless they are obliged to work, it is not particularly necessary for them to do so, at least for the first score years of their lives. Childhood and youth are looked upon as a season when cares and responsibilities should be as few as possible, and when play, pleasure, and attendance upon school are the prime things of importance. Mothers say, "I want my children to have a good time and enjoy life while they are young; they will have trouble enough as they grow older," never realizing that the very way to make their life burdensome as they grow older is this very plan of allowing them to grow up with so much unoccupied time. Much of the danger to young girls lies in their lack of systematic home training. Unoccupied and uninterested at home, they drift outside of home for entertainment and amusement; they walk the streets, frequent the depots and parks, go anywhere and everywhere where something can be found to occupy their time and attention, while, as one writer upon the subject has said, "the mistaken mother, engrossed with home duties, her time fully occupied in work, does not realize how much her daughter's active mind craves employment, and thus sacrifices her daughter's best good to secure to her the very leisure which is so dangerous. Instead of training her to the habitual thoughtfulness which industry naturally cultivates, she supplies her with all the money she can obtain, and all the freedom her self-sacrifice can secure for her, and lets her drift about, on the cars, in the stores, to concerts, dances, and the theater, with no object in life but to pass the hours in pleasure-seeking. It may be that the daughter is unwilling to share the home cares, but this, too, is the mother's fault, and the result is the same; and so these young girls, without the balance wheel of deep thought in any direction, without the habit of systematic action in any line, fall easy victims to the influence of a stronger mind." The wonder is not that so many fall, but that any escape.

Mrs. Mary A. Livermore, writing upon this subject, says: "Lack of industrial training not only makes dependent and inefficient women of our daughters, but it puts them in fearful peril morally. Indolence is always demoralizing. It ruins health, destroys beauty, and enfeebles the will. When temptation comes in the prospect of a life of ease, although coupled with dishonor, it is potent to allure an indolent, light-hearted, frivolous young woman, unless nature has endowed her with superior moral instinct."

"Out of two thousand fallen women in the city of New York, eighteen hundred and eighty had been brought up to do nothing, five hundred and twenty-five pleaded destitution as the cause of their sad life, and all but fifty-one had been religiously educated."

Idleness is a plain invitation to vice. All will agree that corner loafers and street loiterers represent

one of the most depraved classes among young men. The boy that is busy from the time he is old enough to work and study, will not be very likely to wander into the paths of vice, unless exposed to some special temptation.

The late Dean Stanley once said: "Leisure misused, an idle hour waiting to be employed, idle hands with no occupation, idle and empty minds with nothing to think, — these are the main temptations to evil. Fill up that empty void, employ those vacant hours, occupy those listless hands; the evil will depart because it has no place to enter in, because it is conquered by good. It is a simple fact, and well known, that if a cup is full, it can hold no more; and likewise the child whose time is fully occupied with good and useful occupation, will have no time for the sins which Satan always finds for idle hands to do. Idleness is an active as well as a passive evil. God made the child to be busy; and if it is not busy with good, it will be busy with evil."

Let a love of work for work's sake be created, then idleness will not seem pleasurable; and with mind and hands well occupied, the opportunities for evil will be greatly lessened and temptations easier to overcome. The training in this direction needs to be begun in the earliest childhood, with such simple occupation and tasks as are suited to the child's age and strength; not those of an irksome character, but such as will fill his time with helpful, interesting, and enjoyable occupations, tending to instill into his character a desire for usefulness and a love of employment.

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AIDS TO PURITY FOR BOYS. — In a recent magazine article Miss Frances Willard offers the following excellent suggestions to mothers as a help in training their boys to pure and noble lives: —

"Give your boy simple food — fish, grains, vegetables, fruit. He can be trained, if you begin from the beginning, to like these better than pastry, meat, and rich gravies. Banish pepper-sauce and condiments from your table; also tea and coffee. Tell him that athletes use none of these things. Tell him the splendid soldiers of Rome carried a bag of wheat across their shoulders, chewing as they marched. Habituate him to a fondness for the daily bath. Take particularly good care of his room, and if you have a pretty picture or a bunch of posies, put them there to prove to him your confidence in his appreciation of whatever is lovely and pure. Share in his fun; have a good romp with him when he comes home from school; make him your escort to pleasant places where you will meet good and true people. Guard his companionship with other boys — not so much by warning him against this one, as by cultivating the presence of that other better one.

"It is always a favorite opinion of mine that boys should be trained to play with dolls; and the most successful mothers I know say that by nature a boy takes as kindly to a doll as a girl does. The gentler qualities are thus cultivated, and fatherliness — than which manhood has no nobler attribute, nor one that more strongly allies it to God — is early developed to match motherliness in the hearts of girls. . . .

"Finally, we must remember that just as walking is defined by scientists to be a succession of perpetually interrupted falls forward, so in a boy's life it often seems as if that which may really be a forward movement is danger to him; and danger it might prove had he not learned by discipline herein suggested, just when to bring up the other foot so as to pace off evenly on the highway of success."

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THE MOTHER'S INFLUENCE. — While the struggle for purity is taking place, and associations of men and women are formed with the object of raising the moral tone throughout society, one section of the community must not be passed over. I mean the rising generation, the young sons of the upper classes, whose social position constitutes them the leaders of the masses. In them we have the source of the river, which, in time, will flow from end to end of our land. Is this source to be pure? or is it to be polluted? The importance of this question has never been denied, but the answer remains in abeyance. This is partly due to the extreme difficulty with which the subject is surrounded, and partly to the fact that there is but one channel through which young boys can be properly approached. There is no really effective agency available but that of the parent, and no influence to compare with that of the mother. Whether this great mother-power is to be utilized for this purpose remains for her to decide. She may shrink from so difficult a task, but there is no other to whom she can or ought to transfer her burden of responsibility. The tact, the fine perception, which instinctively avoids all that can possibly wound or distress is the distinctive gift of women, and specially adapts the mother for the task. Then again, if she be the channel, the boy's thoughts through life will associate the subject with an ideal of womanly purity which is centered in his mother, an association which cannot fail to be a safeguard to him. — *Sel.*


A WONDERFUL ELECTRICAL CURE.— The absurdity of the claims made by the much-vaunted electrical appliances, patent medicines, etc., so plentifully hawked about now-a-days under various delusive titles, such as "Electric Bitters," "Electropoise," "Magnetic Garments," etc., is well illustrated by the following story told in his inimitable way by Hon. Chauncey M. Depew. Two Jews meeting in Chicago one day, the following dialogue occurred : —

*Mr. Rothschild :* "Goot morning, Mr. Goldstein ! Und how does de vorld use you ?"

*Mr. Goldstein :* "Goot morning, Mr. Rothschild ! I am very sorry to say dat de vorld uses me fery pad, — fery pad indeet."

*Mr. R.:* "So ? Und how vas dat ?'

*Mr. G.:* "O, I haf lost all my broberty ; mine greditors sheated me out of it. De vorld uses me very pad indeet,— und you ?"

*Mr. R.:* "Ya, de vorld uses me fery pad, auch."

*Mr. G.:* "So ? Und how vas dat ?"

*Mr. R.:* "Vell, you see it vas dis vay : I hat a fery fine peesniss,— fery pig indeet, but no capital, und mine greditors shust come von day und sheated me of mine peesniss aus."

*Mr. G.:* "Vell, vat now you do ? "

*Mr. R.:* "I goes to vork to vonce to get me anodder peesniss quick. I haf made von great discovery ; in von year I shall be a rich man. I haf discovered a batent medicine dat vill gure eferytings."

*Mr. G.:* "O dat ist goot ! Ich haf discovered ein badent medicine auch, und I vill be rich in dwo veeks. Goot morning, Mr. Rothschild ! "

*Mr. R.:* "Goot morning, Mr Goldstein."

(Two weeks later.)

*Mr. R.:* "Goot morning, Mr. Goldstein ! Und how does de vorld use you now ? "

*Mr. G.:* "O, fery well indeet. Und you ? "

*Mr. R.:* "Und me auch. Mine batent medicine is von great success. It gures eferybody und eferytings, und it is so sheap. It costs me for von bottle, vone cent, und I sharge for von bottle, von tollar, und das ist 999 per cent brofit. I haf tousands of destimonials,— here is von : —

"'Mine Tear Mr. Rothschilds :

"'I write to tell you vat goot your "New Nerve Invigorator" has done me. I hat been baralyzed for dwenty years ; I hat not valked vone step in all dat time ; mine pody vas govered mit sores from head to foot ; I vas so baralyzed, I could move neither hand nor foot ; I could only vink mit mine eyes, hence I vas an easy brey to sherms great und small, und to insects of efery kind. I haf taken two bottles of your medicine, und now mine skin is whole. I can stand upon my feet ; I can brush de flies off my nose mit my thumb, und I feel that I am again a man among men. Tanks to your vonderful medicine, for vich I shall bless you to my dying day.'

"Und I haf hunderts more, shust like dat. A vagon load of letters gomes mit efery mail, asking for more of mine batent medicine."

*Mr. G. :* "O, dat is fery goot indeet ; but I haf discovered a batent medicine dat ist a hundert dimes so better as dat. Here ist a letter I haf shust receifed, an unsolicited destimonial : —

"'Tear Mr. Goldstein :

"'I write to tank you for your vonderful medicine, und to dell you vat it has done for me. De doctors hat given me up for a hopeless case. Vone doctor said mine lungs vas gone ; anoder said mine heart vas good for noddings ; anoder, dat mine stomach vas busted ; anoder, dat mine lifer vas dried up. So you see I hat neither heart, stomach, lifer, nor lights. I haf now taken only tree bottles of your medicine, and haf a new heart, a good stomach, a sound lifer, and *electric lights,* all of vich I owe to your vonderful batent medicine."

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A LIVING TESTIMONIAL.— *Stranger* — "And so you believe in Prof. Chloride's cure for drunkenness ? "

*Red-nosed Enthusiast* — "Believe in it ! How can I help believing in it ? I've been cured six times ! " — *Life.*

OBESITY PILLS. — A short time ago a patient handed us for examination, a small bottle containing about one hundred minute homœopathic globules, respecting which we copy the following from the label : —

"The cure and prevention of obesity, dyspepsia, rheumatism, nervous and kidney difficulties. Directions : Take eight globules immediately before or after each meal, and vary if desired. After ten days increase to ten. Absolutely harmless, sweet, and easy to take. Made from the waters of the German Imperial Springs, Government Ownership. Price $1.50 per bottle. Loring & Co., Gen. Agts., 10 Hamilton Place, Boston, Mass."

The lady had been induced to purchase this remedy, and to take a quantity of the pills for relief of obesity, and desired to know whether there was any potency in the medicine. The investigation made by a skilled chemist in the Sanitarium Laboratory of Hygiene showed that the pills contained not a particle of saline substance, demonstrating the absolute falsehood of the assertion that the pills are made from the waters of the "German Imperial Springs," since all spring waters contain more or less salts. No other ingredient could be discovered in these pills than simple sugar! Certainly they contained nothing which could by any possibility afford the slightest relief to a person suffering from obesity, rheumatism, or any other of the maladies mentioned.

The quantity of these fraudulent medicines patiently swallowed by the credulous public every day is almost incredible. Mercenary men do not hesitate to take advantage of the nervous anxiety of the sick man seeking to acquire health and relief from suffering, and enrich themselves by selling at enormous prices drugs of an absolutely inert and worthless character, the cost of which, as in the case to which we have called attention, is often less than one per cent of the price charged.

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KEELEY'S SECRET FOR SALE. — That great philanthropist, Dr. Keeley, of Dwight, Ill., has at last decided to offer his secret, as his circular says, to selected "physicians of good repute for the sum of $100 and a royalty of $5 per patient." Dr. Keeley, according to the disclosure of his circular, is at last becoming appalled at the awful crime of keeping within his own selfish grasp a secret of such untold value to the human race as his remarkable "bichloride of gold" discovery is supposed to be; and so he now offers to disclose the secret to a selected few as he explains, "for the sake of suffering humanity, to prevent the formula from falling into the hands of unreliable practitioners, who might use it to the detriment of humanity rather than for their benefit." We are glad to see that suffering humanity has at last touched the great heart of Dr. Keeley, but the fact that the sum of $100 is required for the disclosure of the secret, and a fee of $5 for each patient treated, leaves some room for suspicion as to what particular part or parcel of humanity is suffering.

The *Medical News* suggests that, possibly, Dr. Keeley may be the sufferer, in which case the poor man's suffering must be immense, for his circular states that he has made from his secret during the last year the handsome sum of $1,400,000, and still his suffering is not relieved. His sufferings in behalf of drunkards are so acute that $5 a head is required as a balm to soothe his troubled soul.

It is to be hoped that the magnificent offer of his circular will be appreciated to its full value by the magnanimous public who are laboring so hard to relieve the terrible sufferings of poor Dr. Keeley.

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THE well-known practice of Dr. Keeley, of keeping a barrel of whisky on tap for his patients, who are at full liberty to drink as much as they please of it, has at last come to the notice of the Revenue Department, which has decided that the doctor is a retail dealer in liquor, and liable to the regular government tax. A whisky dealer who was asked not long ago by a friend, if he did n't think there was danger that Keeley's "Gold-Cure" would destroy the liquor business, replied, in effect, "Certainly not." The assurance that anybody and everybody can be cured, leads a great many men to indulge in liquor drinking, who otherwise would not venture, for fear of losing their health or their business.

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THE KEELEY-CURE CRAZE. — The popular craze which has been aptly termed "Keeleyism" seems to be waning, if, indeed, it is not already dead, and the only practical result left behind seems to be the enrichment of Mr. Keeley's pocket, which has made him a millionaire. The fondness of the American people for being humbugged is something phenomenal; nevertheless, the American love of quackery is an actual and existing fact, and one not likely to disappear until the lay public has been sufficiently educated in medical matters to be able to distinguish between the truly scientific physician and the charlatan, and between remedies which have no other material basis than human imagination and those which are based upon physiological laws and scientific research.

GOOD HEALTH
J. H. KELLOGG, M. D., EDITOR.
BATTLE CREEK, MICHIGAN.

## BENEFITS DERIVED FROM THE PUBLIC HEALTH SERVICE.

MANY people whose avocations occupy their full attention, so that they know very little about public affairs, and think little on questions relating to the general welfare of States, cities, or communities, occasionally place themselves in opposition to those charged with public duties, their action being wholly the result of ignorance or misconception of the aims and purposes of the official or office which they oppose. This is perhaps more likely to be the case with reference to sanitary offices or officials than in any other department of the public service. The idea seems to be quite generally prevalent that if a man chooses to be sick, he may do so, and it is a matter of no concern to the public, or indeed to any one but himself; and that a man certainly has the right to take his own chances as regards getting sick, without interference from anybody. It is this feeling which gives rise to the opposition to quarantine laws, and rules and regulations respecting the restriction of the spread of smallpox, scarlet fever, diphtheria, and various contagious maladies.

More deliberate thought upon this question, however, must convince any intelligent man that there is no department of the public health service so beneficent in its purposes and so worthy of the support of every good citizen, as the public health service. The value of an efficient public health service is well shown by the comparison of the mortality tables of England and Italy, recently made by Mr. Lord, in the *Nineteenth Century*. According to Mr. Lord, the death rate in Italy is something tremendous. This is especially true of deaths from contagious and infectious diseases, the facts respecting which are given with reference to the more common disorders, as follows: The comparative number of deaths from scarlet fever in Italy and England, the population of the two countries being about the same, is 2 to 1; diphtheria, 3½ to 1; typhoid fever, 5 to 1; malarial fever, 100 to 1; cholera, 7 to 1; and smallpox, 32 to 1.

In the above statement the number of deaths in England from each of the causes mentioned is taken as 1. The average would be 25 to 1. In other words, the risk of dying from a contagious or an infectious disease is just twenty-five times as great in Italy as it is in England. The lesson taught by the above facts is too obvious to require emphasis.

## PUTRID FOODS.

THE recent investigations of bacteriologists have explained in the clearest manner possible the cause of the numerous mysterious cases of sudden illness and death which have long been noted as occurring after the use of cheese, sausage, canned meats, fish, oysters and other shellfish, blood puddings, and sometimes game. It has been established beyond room for doubt that the sudden sickness occurring in these cases is due to poisoning by means of toxic substances formed by certain species of germs which grow readily in animal matters of all sorts.

Those who partake of flesh with a *hautgout* or gamy flavor, in doing so, probably do not stop to reflect that the peculiar flavor that they so much relish is due to the products of putrefaction resulting from the growth of microbes upon which ordinary putrefactive processes depend.

The extent to which putrid articles of food are used, even in civilized lands, is almost incredible. Quails, venison, and various other wild game found in the market, are almost invariably in an advanced state of decay, as is sufficiently evidenced by the greenish

color of the flesh as well as the evidence of decay afforded to the nostrils by the strong odor.

Oysters and various other shellfish always contain more or less of these putrid matters, as shown by Brieger, in the form of a very deadly poison termed by him mitylotoxin, which has been paraphrased "mighty-low-toxin." The oyster and his various bivalve relatives are certainly the very lowest down in the scale of beings, performing the office of scavengers in the slime and ooze of the sea, and hence subsisting upon substances far advanced in putrefaction.

Cheese is another article commonly used as food, which is always eaten in a state of decay. New cheese has much the consistency of leather, and would be to the average palate about as palatable as buckskin or sole leather. The decomposition soon sets in, and the coagulated caseine gradually becomes friable, and in due time becomes "ripe and mellow," which means that it is far advanced in a state of decay, and has acquired the savory property by the development of various substances through the action of numerous microbes which are retained from the milk.

Dr. John Harley, one of the most eminent medical authorities of London, England, referring to the eating of putrid animal substances as one of the causes of typhoid fever, remarks, "There is nothing, for example, so essentially putrid as the decomposed cheese with which many persons habitually indulge their appetites."

A bill of fare formed with reference to the requirements of health rather than the dictates of a perverted taste will exclude all articles of the sort named, and will consist chiefly of fruits, grains, and other products of the vegetable kingdom, and a moderate allowance of milk and cream.

Even eggs must be regarded with suspicion, unless known to be perfectly fresh. Violent vomiting and purging often follow the use of eggs, the flavor of which was not sufficiently changed to warn the eater of their condition. A dead egg will undergo decay with almost the same readiness as the flesh of an animal, its nature being essentially the same as that of an animal, with perhaps even greater aptitude to take on the process of decay.

## THE CIGARETTE BLIGHT.

THE extent to which the cigarette habit is growing in this country is a very just cause for alarm. Tobacco using in the ordinary forms of cigar and pipe smoking, chewing, snuffing, and snuff dipping, is bad enough, but in the use of the cigarette the poisonous properties of tobacco are re-inforced by those of half a dozen other deadly drugs. Each manufacturer of cigarettes has his own formula of poisons, which he adds to the cheap tobacco from which his cigarettes are manufactured, so that the user of a particular brand soon finds himself wedded to it through the contraction of a drug habit, thus making him a steady customer. It would seem that nothing could be more fiendish than such a scheme for creating business.

Opium, the fascinating powers of which are well known, is perhaps more largely used in this way than any other one drug, but quite a number of other drugs are employed. The opium habit, the liquor habit, the cocaine habit, and other poisonous habits, owe their origin, in numerous cases, to the use of the cigarette. Being made of cheap tobacco, flavored with various essential oils, and dosed in such a way as to render them productive of intensely exhilarating and other agreeable effects, cigarettes are indulged in to a great extent by small boys, and parents not infrequently look upon their use as a sort of small tippling, sustaining about the same relation to the tobacco habit that the drinking of cider a few days old or sarsaparilla beer sustains to the liquor habit. This is the greatest possible mistake. Even regarded as small tippling, cigarette smoking would be dangerous enough; but as a matter of fact, the cigarette is the most pernicious and the most dangerous form of tobacco using. It is also the most fascinating. The cigarette habitué finds himself inthralled by a poison habit as difficult to escape from as the terrible opium habit, which, indeed, as before intimated, is often formed under the guise of cigarette smoking.

While we are bestowing so much time and money upon the work of reforming drunkards, and caring for the human wrecks produced by liquor, opium, and other poisons, in asylums, jails, penitentiaries, and poor-houses, let us also give a little attention to that ounce of prevention which is worth more than a pound of cure. Every boy who smokes cigarettes may be regarded as a prospective drunkard, or, if not to be a drunkard, certainly an opium slave or a lunatic. No man can indulge long in this fascinating and pernicious habit without becoming wrecked in mind and body thereby.

## A CHINESE DOCTOR'S PRESCRIPTION.

SOME years ago, when visiting Chinatown, San Francisco, we observed, conspicuously displayed upon a corner in the heart of this Mongolian settlement, a sign bearing the words, "Don Sang's Herb Sanitarium." Entering, we found Mr. Don Sang, a quiet, affable, elderly Chinese gentleman, able to speak a little English, and with a face denoting rather more than ordinary intelligence, surrounded by festoons of leaves of many kinds, strung upon long stems and suspended in great bunches from the walls and ceiling, in all parts of the room, and various parts of plants of every description. We learned from the interpreter that Mr. Don Sang enjoyed a very liberal patronage, not only from his own countrymen, but from Americans as well, and that he charged very large fees for his services. Mr. Don Sang has recently come to the East, and is pursuing his profession in various parts of the country, and, it is claimed, with a considerable degree of success. We were informed recently that he had carried away $20,000 from a large city in which he was located for a few months. His usual fee, we were told, is $14, for which he gives his patient a few small herb pills, or a quantity of leaves from which he is to make a decoction, and a little card bearing the following directions, which a Chinaman who obtained the prescription from him recently, allowed us to copy from his prescription card : —

INSTRUCTIONS FOR DIETING UNDER DR. DON SANG'S TREATMENT.

MUST NOT EAT

Fish, oysters, lobsters, or any kind of fish food, duck, or goose. Do not eat uncooked fruits, except oranges and figs, or use ice-cream, lemon juice, or vinegar.

MUST NOT DRINK

Cold water or cold drinks of any kind, acid drinks, soda drinks, liquors, beer, or wine.

MUST NOT USE

Opiates in any form, chew tobacco, or smoke cigarettes. May smoke pipe or cigars, but not more than two or three times a day.

DO NOT CHEW

Gum or anything else that will cause saliva to flow between the meals.

DR. DON SANG, *Crown Point, Ind.*

It is evident that Mr. Don Sang is an acute observer, and that he has discovered that some of the chief roots of disease lie in the almost universal indigestion which prevails among the American people ; and very likely his excellent diet prescription would cure the majority of his patients without the use of the powder decoctions of the roots, leaves, and woods which he requires them to swallow with it.

## "TUBBING."

A NEWSPAPER writer thus describes the difficulties which the well-bred Englishman sometimes encounters, who has been reared to habits of personal cleanliness, and considers his morning bath as essential as his breakfast: An English attaché at the court of Hanover, searched the town for a portable bath tub, and was forced to take up with two butcher's trays. The next morning he stood like the Colossus of Rhodes, with one leg in each, and sponged himself. The water ran over and through the floor ; the tenant below was indignant, and the angry landlord ordered the Englishman to quit, saying : —

"I will never have another Englishman in my house. They are so dirty that they require a great deal of water, and it 's nothing but vash, vash, splash, splash, every morning, to the injury of my furniture and the disturbance of the tenants beneath them.

"Besides, they will hang their enormous bath-sponges out of the window to dry, and the passers-by make unpleasant remarks at the unseemly sight."

The English clergyman who tells this story was formerly chaplain to King Ernest, of Hanover. In narrating his personal experience of the German indifference to water, he says : —

"I traveled once on a beaten track up a valley in a mountainous district, and the first morning after I left the highroad I had for my toilet a pie-dish for a basin and a quart pot of water.

"The second morning, farther up the valley, I had for my ablutions a plate, with a half-pint glass of water ; and the third morning, farther still, there was no apparatus whatever for my toilet. When I asked for water to wash with, the landlord led me to the pump, and gave me a table napkin as fine and small as a lady's handkerchief."

A friend of this clergyman, who asked his landlady for a tub, was answered that she had no bath tub, but "would do her best for him." After several days, during which he had pressed his demand, a blue-and-white Delftware utensil with two handles was placed in his room. Though it was the largest dish in the house, he could hardly get one of his feet in it. To his horror, at his first Sunday dinner, the utensil appeared on the table as the soup tureen.

A baroness of Hanover once told the clergyman's wife that she never used anything but snow water to wash in, as it was better for her complexion than pump water. She bottled the snow in March, and used a little of the water in a cup every morning, and so made it last through the summer.

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THE HEREDITY OF MUTILATIONS. — Whether or not deformities resulting from mutilations may be transmitted by heredity is a question which has been much discussed by biologists, and has been made the subject of some experiments. The balance of opinion has been rather against the view that deformities artificially produced could be transmitted from parent to child, or from one generation to another, but it appears from recent experiments made by Mr. A. J. S. Studdell, of Lexington, Ky., that the experiments upon which a disbelief of the possibility of a transmission of the consequences of mutilation by heredity has been based, were insufficient. Mr. Studdell has repeated these experiments upon white mice, which breed every thirty days, and when thirty days old, are able to reproduce themselves, thus affording a very convenient means of studying the effects of heredity. He gives the following account of his experiments : —

"In breeding their tails off, I selected a pair and put them in a cage by themselves, and when they had young, I took the young and clipped their tails off. When old enough to breed, I selected a pair from the young and bred them together, and when they had young I clipped their tails. I continued this breeding in-and-in, clipping each generation, and selecting a pair of the last young each time, in seven generations. Some of the young came without tails, until I got a perfect breed of tailless mice. I then took one with a tail and one without a tail and bred them together, and by changing the sexes each time — a male without a tail, a female with a tail, and next a female without a tail and a male with a tail — I was finally rewarded with all-tail mice."

Our purpose in calling attention to the above experiments is to place before the thousands of mothers into whose hands this journal goes each month, the startling fact that in the wearing of tight shoes, or constriction of the waist by corsets or tight bands, and the acquirement of various weaknesses and deformities by neglecting to develop the body, and the cultivation of incorrect habits, especially in sitting, they are accumulating physical defects which may be transmitted to their children as inherited deformities.

The responsibility of a mother who deliberately goes about the work of deforming her God-given body, imagining that she can improve upon the Creator's masterpiece, is certainly a most tremendous one. How few mothers appreciate it! We hope each feminine reader who peruses these lines will from this moment onward recall, whenever she tightens her corset strings or compresses her waist to bring together the ends of a band three inches too short, or obtains a shoe two sizes smaller than her foot requires, the fact that the mischievous deformities resulting from such abuses of the body do not end with herself, but may be passed down as hereditary weaknesses to her children and her children's children.

What a portentous truth is that expressed in the Scripture words, "The fathers [and mothers as well] have eaten sour grapes, and the children's teeth are set on edge," and in that clause of the great Decalogue which says the iniquities of the parents are visited "upon the children unto the third and fourth generation."

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MUNICIPAL DRUNKARD MAKING. — According to a recent dispatch published in the newspapers, the city of Sioux Falls, South Dakota, has gone into the business of drunkard making, having undertaken to run its own saloons. A saloon is provided for each ward ; the barkeeper and his assistant are hired by the month, and a good quality of liquor is guaranteed. This is an admirable arrangement for making business for all public officers, for doubtless the common council of this municipality will fill the saloon positions, as well as the police offices, with their friends and relatives, and will thus do a flourishing business, the saloon officers making drunkards, and the police officers arresting and fining them. It will be interesting to note the results of this first attempt at municipal saloon keeping.

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THE late Rev. C. H. Spurgeon was an earnest advocate of vegetarianism. Of a sumptuous luncheon given in his honor while traveling in Italy, he is reported to have said it deserved the grace, "Lord, we thank thee we do not often eat such a meal, or else we should be ill."

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A PERFECT balance of one's powers constitutes perfect health.


## TO GO, OR NOT TO GO.

This is a question which many invalids are asking themselves just at the present time: "Shall I go to Florida, New Mexico, California, Old Mexico, the Bahamas, the Riviera, or some other sunny clime to spend the winter? or shall I bravely face the frosty air of the Northern States during the months of December, January, February, and early March?"

The proper answer to this question depends upon the condition which requires or suggests any change. If the individual requires simply recreation, relief from business cares or household worries, a trip anywhere will accomplish what is required. If it is thought that a climatic change is necessary for some specific purpose, this question must be carefully studied.

Climate does far less for the sick than is commonly supposed. Persons suffering from chronic malarial poisoning will do well to seek a more salubrious clime. Persons in the incipient stages of pulmonary consumption find great advantage in a change of residence to a cool, dry, elevated climate; but there are very few persons indeed who should make a change of climate to hot weather from cold weather. Jack Frost is one of the invalid's best friends. This fact was particularly impressed upon the writer's mind some years ago by the following circumstances: —

While stopping temporarily at Tampa, Fla., in the course of a short tour in the South to study the health conditions of that section of the country during the cold months, the writer was constantly informed by the old residents that the climate of that country was most delightful; that frost and snow were unknown; that the winter was simply a continual summer; that one might indulge in a sea-bath in the warm waters of the Gulf during the whole of the winter, etc. A year later, yellow fever made its appearance in Tampa, and it was interesting to note the anxiety with which the inhabitants of that sunny town waited, hoped, and prayed for the appearance of the first frost in the early winter months. They knew well that Jack Frost is no friend of Yellow Jack, and that a hard frost would be more benefit to the yellow-fever epidemic than the most efficient quarantine; hence their anxiety for a cold snap. When the first frost made its appearance, the papers recorded a universal rejoicing at Tampa.

This circumstance is mentioned only as an illustration of the fact that in a frostless country, disease conditions exist which are seldom or never met in a country where frost and snow prevail during at least a portion of the year. A winterless climate is one favorable for the development and diffusion of germs great and small, and of every description. The first appearance of frost in Northern climates marks the rapid decline of typhoid fever, bowel disorders, malarial fevers, and all kindred ailments. A snow-covered earth sends into the air no germ-carrying dust. In the frozen soil no putrefactive processes are in operation. Even refuse heaps, garbage barrels, and other sources of germs and foul gases, cease to contaminate the air as soon as cold weather makes its annual advent.

The disadvantages connected with a change of climate, from a health standpoint, must be taken into consideration. In those sections of the country most visited by invalids during the cold season of the year, it is rare to find hotels or other establishments that afford anything like the same comforts to which the patient has been accustomed at home. Bad diet, bad ventilation, and often bad sanitary surroundings, are the common conditions encountered. Localities much frequented by consumptives are not infrequently positively dangerous to the well,

and even to consumptives who may be recovering from disease.

It has long been noticed that the localities which have once been famous for their immunity from tubercular disease, the native inhabitants being entirely free from the malady, cease to enjoy their original freedom from this dreaded germ disease after they come to be frequented by persons suffering from this disorder. The reason for this is, not that the air or the soil of the country becomes infected, but that, owing to the lack of proper precautionary measures, hotels, boarding-houses, sleeping-cars, public halls, churches, post-offices, stores, and dwelling-places, where multitudes gather, become infected with the germs of the disease through the expectorations of tubercular patients. This is a danger of no small proportions. Its gravity has been recognized by sanitarians to such an extent that numerous sanitary bodies have seriously contemplated the urging of quarantine measures against persons infected with this disease. A few years ago, the State Board of Health of California proposed to quarantine that State against the free influx of consumptives attracted there by the genial climate of the Pacific coast.

A very small proportion of those who seek benefit through a change of climate are really benefited thereby. A large proportion, indeed, are injured rather than benefited. The depressing and debilitating influence of a continuous life in a climate at a summer temperature is well illustrated in the continuation of feebleness and general lack of stamina exhibited by most of the natives of tropical and subtropical climates.

A large proportion of those who run away from cold weather during the winter months are really damaged by their self-imposed banishment. Cold is one of the best of nature's tonics. If not taken in too strong doses, it is a most invigorating agent. In a properly constructed home or sanitarium, it is possible to secure any climate desired. This cannot be accomplished during the summer months, but during the cold season of the year, when doors and windows must be closed, by the aid of ventilators and proper appliances, climates may be made to order. In one room we may have the dry, cool climate of the Rocky Mountain region ; in the next, the moist, warm climate of Florida or Louisiana, minus the malaria and other miasms, germs and germ products, which are included in the climate of the last-named localities. It is simply a question of expense for fuel, caretaking in the regulation of air-supplies, and the addition of more or less moisture to the dry atmosphere of the winter months.

All those who are contemplating a trip to the South, or to some warm climate during the winter months, should consider well whether it would not be more profitable to remain at home, and cultivate right habits of living, eating, drinking, exercise, and sleeping, using temperance in all things. Those who have not at home the most wholesome conditions for the winter months, can easily find them in a high degree of perfection in some well-organized and thoroughly equipped sanitarium.

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THE SINUSOIDAL CURRENT.— One of the editors of this journal read a paper upon this subject at the annual meeting of the American Electro-Therapeutic Association, held at the Academy of Medicine in New York City, Oct. 4 to 6, 1892, the following brief abstract of which appeared in the *Electrical Engineer* : —

"Dr. J. H. Kellogg, of Battle Creek, Mich., read a paper on 'The Physiological Effects of Magneto-Electricity of Regular Variations' or sinusoidal current. The author began by referring to M. D'Arsonval's studies upon the physiological effects of the alternating magneto-electric current, and quoted his statment that 'The intensity of the motor, or sensory, reaction is proportionate to the variation of the potential at the point excited.' The author some years ago experimented with a small magneto-electrical apparatus, or telegraph generator, and found that this machine produced powerful but painless muscular contractions. He then made an apparatus for graphically representing currents, from which many tracings from the machine referred to, and also various forms of faradic machines, were made. A number of these curves were shown. That due to the faradic current was uneven with respect to the zero line, while that of the magneto-electric machine corresponded exactly with those obtained by D'Arsonval. The comparative painlessness and great penetrating power of the sinusoidal current were especially emphasized. An induced current capable of producing equally strong contraction is so painful as to be almost intolerable, and the same is true with currents from a static machine. Experiments upon the effect of this current on the sense of taste, the olfactory sense, and the auditory sense, are now in progress. The effect upon the optic nerve is attributed to its remarkable power of diffusion or penetration. Dr. Kellogg's device for the graphic

representation of the curves, consists of an electro-magnet arranged to form an annular field in which a delicate solenoid is made to move by an alternating current. This solenoid, acting on the short arm of a delicate lever, compels the long arm to scribe its movements upon a rotating cylinder covered with smoked paper."— *Bact. World and Modern Medicine.*

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Hot Blanket Packs in Fevers.— The success of the cold-water method of treating fevers has sometimes led to its employment in cases to which it was not adapted, and has led, in some instances, to such serious disaster as to bring into disrepute the use of this valuable remedy. The writer knows of a case in which a New York doctor of eminence employed cold-water treatment in a case of pneumonia in which the patient's temperature was not dangerously high, by putting the patient in a bath at about 60°, and keeping him in the bath for about three hours, at the end of which time he was taken out, blue and shivering. The patient died in a few hours afterward, and the doctor publicly condemned the use of cold water as a dangerous proceeding, especially in pneumonia. The practice of hydrotherapy ought not to be undertaken by any one who is not at least sufficiently familiar with the physiological properties of water, and its proper application in cases of disease, to enable him to avoid so serious a blunder as that of the New York professor referred to.

While cold water is useful as a means of reducing a high temperature in fever, there are many cases of fever accompanied by a high temperature, in which the use of cold water must be forbidden as not only harmful, but actually dangerous. It is not very difficult to distinguish between cases in which cold water may be useful, and those in which it should not be employed. It is only necessary to remember that in fever there may be, and usually are, two forms of disturbance in relation to the heat-functions of the body: The rise of temperature, or fever, may be due either to an increased production of heat, or a diminished elimination of heat, or to both these causes combined. When excessive heat-production is the cause of the rise of temperature, the skin will be found hot and flushed, and the patient's temperature will remain above normal notwithstanding this fact, and even in the presence of profuse perspiration. If the rise of temperature is due in whole or in a large part to the diminution of elimination, the surface of the skin will be cold, or at least not hot, and its appearance will be likely to be more or less shrunken and purplish, indicating a diminished activity of the circulation in the skin. This condition is likely to occur in the later stages of severe febrile disease, especially in typhoid fever in the second or third week. It also occurs in rheumatic fever, and in typho-malarial fever, also sometimes in erysipelas and other febrile disorders. In such a case, the application of cold would not only demand circulation of the skin still further, and so increase the rise of temperature in the interior of the body, but it might do serious and even permanent or fatal injury, by producing an intense degree of congestion in the liver, lungs, nerve-centers, and other internal organs. A short, warm bath, sponging the surface with hot water, the application of fomentations to the spine, a large hot enema, and in severe cases, best of all, the hot blanket pack, afford suitable means for bringing the blood to the surface, and thus increasing the elimination of heat and lowering the temperature.

Some years ago the writer was called to see a little girl of four years suffering from an acute infectious disease. The child was found unconscious; had been in a state of stupor from which it could not be raised, for several hours. Its face was pale; breathing heavy, the skin cold, and the child seemed to be in a state of almost complete collapse, from the intense poisoning occasioned by the ptomaine peculiar to the disease. Notwithstanding the temperature was found to be 104.5°, no antiphlogistic measures were employed, but instead, the child was enveloped in a woolen blanket wrung from water as hot as could be safely applied, wrapped outside with moist blankets, then wrapped in dry woolen blankets, and left in the pack thus applied for an hour. At the end of this time a hot enema was administered, and fomentations were applied to the spine. A profuse perspiration appeared; the temperature rapidly fell, so that at the end of two and one half hours, it had nearly reached 101°, and in a few days the child was well. If the mistake of applying cold water had been made, the child would doubtless have been buried instead. The writer has observed many similar cases, in which the application of heat, or some of the means above suggested, has been a most efficient means of lowering high temperature.

Whether or not we have to deal with a condition of exaggerated heat elimination or heat production, is a very important question to be settled in each individual case. In some instances we may have diminished heat elimination and increased heat production combined. In such a case, we should still employ measures for the promotion of heat elimination, as nothing can compensate for nature's own method of getting rid of surplus bodily heat.

## ANSWERS TO CORRESPONDENTS.

PALPITATION OF THE HEART, ETC.— "Janette," Wisconsin, writes that for a long time she has had palpitation with pain in the region of the heart, and left side under lower rib,— a fierce, clutching pain at the heart, sometimes at night when she has gone to sleep on the left side, which is at once relieved when she turns. Has also pain in and under the shoulders. Her age is fifty-five years, and her habits of life are all simple and regular. Would be grateful to learn what the trouble is, and for any advice as to treatment.

*Ans.*— The patient is probably suffering from disordered digestion.

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HIVES.— C. S., Mass., asks, "What is a cure for hives?"

*Ans.*— This question was answered in the May number of this journal, on page 157.

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TREATMENT FOR KIDNEY COMPLAINTS.— C. F. R., Col., asks the following questions: "1. What is the best treatment for weak and sensitive kidneys? 2. What kind of food is best suited to such trouble? 3. What kind of food is most harmful in such a case?"

*Ans.*— 1. We are not quite clear as to what pathological condition is meant by "weak and sensitive kidneys." For deficient action of the kidneys, the best treatment is the abundant use of liquids, such as hot water, hot lemonade, and fruit juices. Fomentations applied across the region of the kidneys, duly followed by a moist compress well covered with dry flannels and oiled muslin, to be worn during the rest of the day, is a very excellent remedy in cases of deficient functional activity of the kidneys. Not infrequently the kidneys are thought to be diseased in some way when the fault is wholly due to some other organ.

2. A diet consisting of fruits or grains and a moderate allowance of milk is best suited for such cases.

3. Condiments, alcoholic liquors, and the free use of flesh foods are the most harmful of all things for persons suffering from disease of the kidneys.

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"A TIRED FEELING" — FLATULENCY. — A subscriber asks: "1. What causes a continual tired feeling, with desire to drop into a seat at every convenient place? 2. What is the cause of flatulency of the stomach and bowels? 3. What is the remedy?"

*Ans.* — 1. Gastric neurasthenia and disorder of the stomach, usually accompanied by dilatation of the stomach. 2. Fermentation of the food. 3. The exact condition of the stomach must be ascertained, and the cause removed. As a rule, excessive eating; neglect to masticate the food thoroughly; the use of food containing germs, such as butter, cheese, and meat; too frequent eating; and the use of cold liquids at meals, or excessive liquids of any sort, constitute the most potent causes of the disorder referred to. The remedy will be found in removing these causes. Food should be taken dry, and be well masticated. Indigestible food should be avoided. A hot bag applied over the stomach half an hour after each meal, is generally useful. A moist abdominal bandage worn at night, well covered, so as to retain heat, is another very useful measure. Abundance of out-of-door exercise, and cool bathing on rising in the morning, are highly valuable aids to recovery.

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LIME-WATER.— A subscriber inquires why lime-water is recommended for certain conditions of the stomach when the use of hard water is condemned as harmful.

*Ans.*— Lime-water would not be wholesome for a regular diet under any conditions, but it differs from hard water in the fact that in hard water the lime is neutralized by carbonic acid gas, making chalk, so that the lime is deprived of its lime properties, which render it valuable as a means of preventing the formation of large, hard curds when mixed with milk, and which probably also render it of some service in the stomach, thus aiding in the digestion of caseine.

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HEALTH FOODS — STERILIZER.— Miss M. C., Louisiana, asks: "1. What health foods are best for a person suffering from nervous dyspepsia, catarrh of the stomach, and anæmia? 2. What is the price of your sterilizing apparatus?"

*Ans.* — 1. Granola, wheatena, zwieback, gofio, whole-wheat wafers, gluten biscuit No. 2, are some of the foods best suited to such a case. 2. $5.

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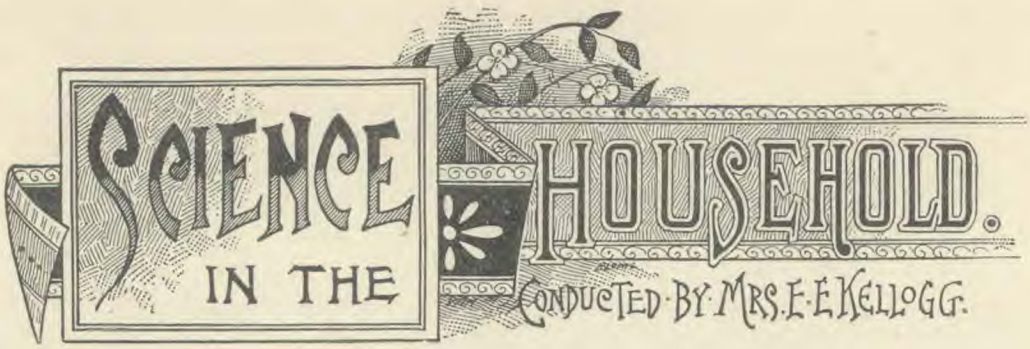
MENTHOL.— A correspondent wishes to be informed of the nature of menthol, and for what uses it can be safely recommended.

*Ans.*— Menthol is a crystalline substance somewhat similar to camphor, obtained from the oil of peppermint. It is an excellent remedy for relieving pain, is a good germicide, and is useful in catarrh, especially in the early stages of the disease.




## BEVERAGES.

THE use of beverages in quantities with food at mealtime is prejudicial to digestion, because they delay the action of the gastric juice upon solid foods. The practice of washing down food by copious draughts of water, tea, or coffee is detrimental, not only because it introduces large quantities of fluid into the stomach, which must be absorbed before digestion can begin, but also because it offers temptation to careless and imperfect mastication, while tea and coffee also serve as a vehicle for an excessive use of sugar, thus becoming a potent cause of indigestion and dyspepsia. It is best to drink but sparingly, if at all, at mealtimes. Consideration should also be given to the nature of the beverage, since many in common use are far from wholesome. Very cold fluids, like iced water, iced tea, and iced milk, are harmful, because they cool the contents of the stomach to a degree at which digestion is checked. If drunk at all, they should be taken only in small sips and retained in the mouth until partly warmed.

Tea is often spoken of as the "cup that cheers but not inebriates." "The cup that may cheer yet does injury" would be nearer the truth, for there is every evidence to prove that this common beverage is exceedingly harmful, and that the evils of its excessive use are second only to those of tobacco and alcohol. Tea contains two harmful substances, theine and tannin,— from three to six per cent of the former, and more than one fourth its weight of the latter.

Theine is a poison belonging to the same class of poisonous alkaloids, and is closely allied to cocaine. It is a much more powerful poison than alcohol, producing death in less than one hundredth part the deadly dose of alcohol; and when taken in any but the smallest doses, it produces all the symtoms of intoxication. Tannin is an astringent exercising a powerful effect in delaying salivary and stomach digestion, thus becoming one of the most common causes of digestive disorders. It is also a matter of frequent observation that sleeplessness, palpitation of the heart, and various disorders of the nervous system frequently follow the prolonged use of tea. Both theine and tannin are more abundant in green than in black tea.

The dependence of the habitual tea-drinker upon the beverage, and the sense of loss experienced when deprived of it, are among the strongest proofs of its evil effects, and should be warnings against its use. No such physical discomfort is experienced when deprived of any article of ordinary food. The use of tea makes one feel bright and fresh when really exhausted; but, like all other stimulants., it is by exciting vital action above the normal without supplying extra force to support the extra expenditure. The fact that a person feels tired is evidence that the system demands rest, that his body is worn and needs repair; but the relief experienced after a cup of tea is not recuperation. Instead, it indicates that his nerves are paralyzed so that they are insensible to fatigue.

Some people suppose the manner of preparing tea has much to do with its deleterious effects, and that by infusion for two or three minutes only, the evils resulting from the tannin will be greatly lessened. This, however, is a delusion, if the same amount of tea be used proportionate to the water; for tannin in its free state — the condition in which it is found in tea — is one of the most readily soluble of substances; and tea infused for two minutes is likely to hold nearly as much tannin in solution as that infused for a longer period.

Tea is not a food, and can in no wise take the place of food, as so many people attempt to make it, without detriment to health in every respect.

Coffee, cocoa, and chocolate rank in the same category with tea, as beverages which are more or

less harmful. Coffee contains caffeine, a principle identical with theine and a modified form of tannin, though in less quantity than tea. Cocoa and chocolate contain substances similar to theine and equally harmful, though usually present in much less proportion than in tea.

Custom has made the use of these beverages so common that most people seldom stop to inquire into their nature. Doubtless the question arises in many minds, If these beverages contain such poisons, why do they not more commonly produce fatal results? — Because a tolerance of the poison is established in the system by use, as in the case of tobacco and other narcotics and stimulants; but that the poisons surely though insidiously are doing their work is attested by the prevalence of numerous disorders of the digestive and nervous systems, directly attributable to the common and often excessive use of these beverages.

Both tea and coffee are largely adulterated with other harmful substances, thus adding another reason why their use should be discarded. It is stated on good authority that is it almost impossible to obtain unadulterated ground coffee.

In view of all these facts, it certainly seems wisest, if a beverage is considered essential, to make use of one less harmful. Hot milk, hot water, hot lemonade, caramel coffee, or some of the various grain coffees, recipes for which are given in this number, are all excellent substitutes for tea and coffee, if a hot drink is desired. —*Mrs. E. E. Kellogg, in "Science in the Kitchen."*

## SEASONABLE RECIPES.

CARAMEL COFFEE. — Take three quarts best bran, one quart corn meal, three tablespoonfuls of molasses; mix and brown in the oven like ordinary coffee. For every cup of coffee required, use one heaping tablespoonful of the caramel. Pour boiling water over it, and steep, not boil, for fifteen or twenty minutes.

COCOANUT CARAMEL COFFEE. — Prepare the coffee as directed in the preceding recipe. About five minutes before it is ready to serve, add to it, of shredded or desiccated cocoanut a spoonful or two, more or less, according to the strength of flavor desired.

PARCHED GRAIN COFFEE. — Brown in the oven some perfectly sound wheat, sweet corn, barley, or rice, as you would the coffee berry. If desired, a mixture of grains may be used. Pound or grind fine. Mix the white of an egg with three tablespoonfuls of the ground grain, and pour over it a quart of boiling water. Allow it to come just to the boiling point, steep slowly for twelve or fifteen minutes, and serve.

WHEAT, OATS, AND BARLEY COFFEE. — Mix together equal quantities of these grains, brown in the oven like ordinary coffee, and grind. To one quart of boiling water take three tablespoonfuls of the prepared coffee mixed with the white of an egg, and steep in boiling water ten or fifteen minutes.

SALT and vinegar will clean the mica in stove doors.

DISPOSAL OF GARBAGE. — A writer in the Milwaukee *Daily News* gives the readers of that paper the benefit of her experience in disposing of kitchen refuse, or garbage. She says: —

"To avoid the nuisance of the garbage barrel, we take an old dripping pan, kept clean for the purpose, and place in it everything in the shape of culinary waste which accumulates in the kitchen between breakfast and dinner, from cabbage leaves and corn husks to coffee grounds, which, by the way, are scraped to one side in the kitchen sink to drain before adding to the pan; and as soon as the last dish is taken from the oven at noon, we set this pan inside, close the oven door about fifteen minutes, to thoroughly dry the whole mass; then we take it out and empty everything into the fire, and in a few moments it is all consumed.

"Housekeepers who use gas or oil stoves may dry all of their vegetable refuse in the ovens which come with such stoves, and if it is well dried, it can be kept in a clean galvanized iron pail and disposed of by the city. We have kept house nearly thirty years, and have always burned all accumulation of waste vegetable matter which people generally throw into a barrel on the premises to putrify."

# LITERARY NOTICES.

THE *Arena* for November closes its sixth volume with a table of contents at once strong, varied, and of general interest. This review continues to grow in favor without lessening in a jot its bold assault on conventional shams and wrongs of the age. Nor does it show any sign of being less hospitable to new, progressive, and reformative thought. In the November issue Rev. Thomas P. Hughes, D. D., discusses "Lord Salisbury's Afghan Policy." Professor J. R. Buchanan writes ably on "The Practical Application of the New Education." Hamlin Garland contributes a paper of marked interest and value on "The West in Literature." Rev. M. J. Savage discusses in a critical manner "Psychical Research: Its Present Status and Theories." "Asiatic Cholera, with Practical Suggestions," is an admirable and timely paper by Dr. Henry Sheffield. Dr. Henry A. Hartt writes at length to prove that Bible wine was alcoholic. The *Arena* is a review which should find its way to the table of all persons who are in touch with the new thought of our times, or who sympathize with reformative and progressive ideas.

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*St. Nicholas* begins a new volume — the 20th — with the November number, and is fortunate enough to have an exquisite poem by Whittier to show at the threshold. Among other good things may be noted an interesting biography of a Young Marsh Hawk, a new serial by Kate Douglass Wiggin, and the usual variety of bright and interesting sketches.

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*Our Little Men and Women* for November has two good Thanksgiving stories. There is likewise the story of two Poland donkeys, with fine illustrations, and a Tiptoe March with a pretty picture. A Boy and a Girl, The Studio Dolls, and Talks by Queer Folks, are as interesting as can be. Joker and his Relations do some very strange things. Home, Sweet Home is a sweet story which points an excellent moral. With its large and small pictures, verses, and rhymes, *Little Men and Women* is as charming as ever. Price $1 a year; 10 cents a number. D. Lothrop Co., Publishers, Boston.

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THE *Pansy* for November is at hand, in a bright new cover, suggestive of the Columbian year and its interests. With this number the *Pansy* magazine enters upon a new year, and judging by the good things included in the present contents, it begins in good earnest. Mrs. Isabella M. Alden (Pansy) and Margaret Sidney each have a new serial, the latter being Columbian Year Sketches. Shorter stories and sketches, poems, anecdotes, etc., all by our brightest and best writers, with the popular Junior Christian Endeavor Department, constitute an excellent number of an excellent magazine. Price $1 a year; 10 cents a number. D. Lothrop Co., Publishers, Boston.

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*Harper's Weekly*, souvenir number. The next number of *Harper's Weekly* (published October 26) will be a superb number, with especial cover beautifully designed in red, white, and blue, and with especially excellent illustrations, including a four-page panorama of Chicago. The best artists and a corps of photographers and a staff of writers have made this number of *Harper's Weekly* what might be called the official souvenir of the celebration. As a large number of extra copies will be wanted, the publishers request that early orders be sent to the jobber from whom you obtain your supplies, or direct to Harper & Brothers, New York.

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THE November *Century* is the first number of the forty-fifth volume and of the twenty-third year of this magazine, which, while preserving the general characteristics which have given it vogue, is striking out freshly into new paths. Articles which strike into the midst of current discussions are, "Plain Words to Workingmen," by one of them, Fred Woodrow; "Does the Bible Contain Scientific Errors?" by Prof. Charles W. Shields, of Princeton; and "Some Exposition Uses of Sunday," by Bishop Potter, in further discussion of the question of opening the World's Fair for the entire week. The last topic is also discussed editorially, and by Dr. Washington Gladden in an Open Letter. For the Thanksgiving season there is an illustrated story by Hezekiah Butterworth, "An Old-Fashioned Thanksgiving;" and verse by Richard Lew Dawson, entitled "A Thanksgiving Dozen." Last but not least of the principal contributions is the first paper of "Letters of Two Brothers," being passages from the correspondence of General and Senator Sherman, of whom portraits are here printed. The letters were written before the war, and are curious as showing different trends of opinion and interesting prophecies of future events by both correspondents.

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HOME LIFE OF DICKENS.— The series of reminiscent articles of "My Father as I Recall Him," by Mamie Dickens, the oldest and favorite daughter of Charles Dickens, is begun in the issue of the November *Ladies' Home Journal*, by an entertaining narration of Dickens's personal habits, and an inner glimpse of his home life.

# PUBLISHERS' DEPARTMENT.

THE guests and workers at the Sanitarium recently enjoyed a visit from Rev. D. H. Davis, of Shanghai, China, who has been spending a few months in this country, improving his health. Mr. Davis has for some years had charge of the Seventh-day Baptist mission at Shanghai, and expects to return to his work in about one month. This mission is the first and only one of its kind in China. A medical department has been maintained in connection with the mission for several years, and recently a hospital capable of accommodating thirty or forty beds has been added to the mission. Mr. Davis delivered four public addresses during the twenty-four hours of his stay, and created great interest in the success of medical missionary work in China.

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EXHIBITION BY THE SANITARIUM TRAINING SCHOOL FOR NURSES.— A few days ago an exhibition of exercises by the Sanitarium Training School for Missionary Nurses was held in the Sanitarium gymnasium, at which twenty-six young men and women graduated into the ranks of the Sanitarium corps of medical missionaries, now numbering some fifty.

We copy the following from the report of these exercises which appeared in the Battle Creek *Journal* :—

"An exhibition was given Tuesday evening in the Sanitarium gymnasium, by the nurses of the Sanitarium Medical Missionary Training School, who had just completed two years of their work and studies. The class numbers eleven young men and fifteen young women. Their course, practical and theoretical, has included all that is usually taught in a training school for nurses, but as these are all pledged for missionary work at home or abroad for at least five years, and most of them look to it as their life work, they will, during the next two or three years, take up much in a post-graduate course, which belongs more particularly to the medical student. Of the graduates of previous classes, there are twenty-three more who are pledged to the same noble endeavor, and there are additionally about fifty who have just completed the first year of their course with the same aim. Originally, the Sanitarium Training School for nurses was conducted on much the same plan as ordinary training schools; but a few years ago the demand for missionary nurses became so urgent that the Sanitarium managers resolved to convert their schools into a missionary enterprise, and no candidates are received except those who will pledge themselves to at least five years of such work under the Sanitarium direction.

"Already, as has been previously mentioned in the *Journal*, one member of this same class of '92 is laboring in the slums of Chicago, having assigned to her by the District Visiting Nurses' Association, the Clark street region, well known as one of the most wicked and wretched in darkest Chicago. Yet the white cross which that association of nurses wear upon the left shoulder, is ample protection from insult or injury by day or by night, as they go about ministering to the sick poor. It is the design, as soon as the numbers trained will warrant their being spared from the work in the Sanitarium, to send out many such into the large cities and also into foreign missionary work. The difference between the ordinary nurse and the missionary nurse is of course very great as to motive and field of work. The former naturally seeks a good paying patronage, and avoids, when she can, contagious and loathsome diseases. The missionary nurse goes where most needed, where her services command no remuneration, and she endeavors to teach a better mode of life and nobler aspirations to the degraded and down-trodden among whom she labors.

"The program on Monday evening was under general charge of Mrs. M. S. Foy, and was very fine. Dr. Kellogg presided, and made a short address, explanatory of the work for which the class stood; Dr. Kate Lindsay spoke briefly on the "Outlook for Missionary Nurses;" there were two dialogues pertaining to microbes, contagion, and ventilation; Mr. A. N. Yates had a paper on the "Value to a Trained Nurse of a Knowledge of Scientific Cookery," and this was followed by a practical exhibition of their work in this line. The matron of the surgical ward, Mrs. S. M. Baker, prepared a bandaging drill, timed to music; and most delightful of all was a Delsartean pantomime, which portrayed the poetry of motion to perfection. The lights were turned off from the audience room, and a white electric light thrown on the stage, which showed to the best advantage the eight young ladies in their artistic Greek gowns, who in perfect unison moved with the measures of the music. This was led by Miss Jeanne Whitney, who has charge of the physical culture department in the Sanitarium, and who is rarely accomplished in that difficult and desirable branch.

"The class song was written by Mrs. Ella K. Vincent, a patient from Iowa, and was set to music and published in sheet form as a souvenir for the class. This gifted lady has been confined to her bed for two years, and yet she finds a way to do a great deal to brighten the lives of others, with an unselfish devotion beautiful to see.

"Toward the close, the alumni were called upon the stage, and several of them made two-minute speeches as to their motives, their success, their rewards, etc. The benediction was pronounced by Eld. U. Smith, who also gave the invocation."

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SANITARIUM MEDICAL MISSIONARY SCHOOL.— For some years the Sanitarium has been conducting a medical missionary school at Battle Creek. The school has three departments,—

1. A preparatory medical school, in which young men and women receive their preliminary medical training, after which they are sent to some good medical college for the completion of their medical course, their vacations being occupied at the Sanitarium in practical medical work.

2. A department for the training of missionary nurses, which comprises a course of training more comprehensive and thorough than that of any other training school for nurses in the country. Some hundreds of young men and women have been trained in this department, many of whom have dedicated their lives to missionary work. At the present time there are connected with the institution some fifty young men and women who have taken this course of training, and have entered the ranks of medical missionaries. Recently a class of twenty-six was added to the number who had previously dedicated themselves to the missionary work.

3. A department for the education of health missionaries. In this department, young men and women are trained for public labor of various sorts in the promulgation of sanitary principles.

An additional course of study has recently been provided for those who have completed the first two years in the Training School for Missionary Nurses, which really increases the course from two to five years. In addition to the fifty who have completed the two years' instruction, there are now in the Sanitarium nearly one hundred students in the various branches of the school, who are pursuing a course of instruction preparatory to entering upon some line of missionary work.

It is gratifying to see so large a number of young men and women educating themselves for philanthropic work. A large share of missionary work done in all large cities is practically without result,— at least the results are so small as to be most

discouraging. Any one who has made a study of this subject must have been impressed with the thought that the element of weakness in missionary work as conducted in cities at the present time, is the lack of attention to the physical well-being of those who are subjects of missionary labor. Medical missionary work conducted in the spirit of Christian philanthropy is the only missionary work that can be considered thoroughly symmetrical, thorough-going in its methods, and really successful in its results. There is great room for this kind of philanthropic effort, not only in the large cities, but in the small cities, and even in almost every village and town in the country.

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TO OUR SUBSCRIBERS.— We have formerly been in the habit of cutting off our subscription list those of our subscribers who did not promptly renew their subscription to this journal when their time had expired, but as an experiment, we have recently adopted the plan of sending GOOD HEALTH along for a few months over time, believing, from the constant good words which are spoken of it on every side, that the journal has become too much of a household necessity in most cases, to be given up, and for that reason a renewal will be sent us sooner or later; thus our subscribers will be spared the vexatious loss or delay of one or more numbers, and the office will be saved the trouble of cutting off and also of re-entering such names. In view of this we would ask our subscribers, each and all, kindly to examine the date upon their GOOD HEALTH address label, and ascertain whether their subscription has expired, and if so, write us, sending a renewal.

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THE MEDICAL MISSIONARY INSTITUTE AT ST. HELENA, CAL. — The spirit of medical missionary work seems to be in the air. A very successful missionary institute, lasting six weeks, was recently held in connection with the Sanitarium at St. Helena, Cal. The institute was organized and presided over by Eld. S. N. Haskell, Drs. W. H. and H. S. Maxson, and M. G. Kellogg. Miss Laura Bee and other teachers shared with Eld. Haskell in imparting instruction. We understand that the effort was a very great success. Between thirty and forty persons were present, of whom thirty expressed themselves as anxious to enter upon a more extended course of preparation for medical missionary work. This course of instruction was given as preliminary to a longer course, which will probably begin next spring, if not sooner. We are glad to hear that the Sanitarium at Helena is in a prosperous condition, and that important improvements of various sorts are in progress.

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MEETING OF THE AMERICAN PUBLIC HEALTH ASSOCIATION. —This Association will hold its next annual session from November 29 to December 2, in the city of Mexico. Extensive preparations are being made for the meeting, and it will probably be one of the most important and interesting meetings the Association has ever held. This is the first meeting of the Association which has ever been held in Mexico; one meeting was held in Canada, a few years ago. It will doubtless do our Southern neighbors good to learn some American lessons of sanity, and hence is a sort of missionary effort on the part of the Association. Mexico is making a serious effort to raise her head above the mists of ignorance and superstition which have held this unfortunate country in such a firm grasp during many dynasties of misrule and religious intolerance, and our more fortunate country ought to offer every possible aid and encouragement in the direction of improvement and reform.

MEDICAL MISSIONARY WORK IN CHICAGO.— We recently had the pleasure of taking a little glimpse of medical missionary work in Chicago. Aside from the great hospitals, which are doing a noble work in the interest of suffering humanity, there is no more beneficent work done in the line of philanthropic effort than the one that is carried on by the Visiting Nurses' Association of Chicago, under the presidency of Mrs. Dudley, wife of Dr. E. C. Dudley, the eminent surgeon of St. Luke's Hospital. This Association supplies nurses, who visit the homes of the poor, the tenement-house districts, and the poorest portions of the city, which afford a very fertile field for missionary work. The first object of the nurse is to relieve physical suffering. Sick mothers and children are the special objects of care in the mission. They improve the opportunity, however, to give salutary lessons in cleanliness, order, sobriety, and all that goes to make a home wholesome and happy. The work is indeed a great and noble enterprise, and those who are engaged in it find an ample reward in the gratitude of the recipients of their kindness, many of whom, through this means, receive their first glimpse of the "better way" of living, and are stimulated to make successful efforts to escape from the dark places into which they have fallen, and to work their way up to a higher social and moral level. The Sanitarium has taken a hand in this noble work by furnishing one of its most capable nurses to work under the direction of the Association. Miss Emily Schranz, the nurse selected for this work, recently made a short visit to the Sanitarium. By her accounts of the work, which she declares to be "the most beautiful work on earth," she created so great a degree of enthusiasm on the part of many of the nurses here, that it will be impossible much longer to restrain some of them from engaging in the same line of humanitarian effort in Chicago or elsewhere.

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IT may be interesting to know that when excursion rates are made to Chicago for people who live in the East, to enable them to attend the World's Fair next year, it is contemplated by the Western roads to make also excursion rates from Chicago to all principal business and tourist points in the West, Northwest, and Southwest, so that those who desire to spend a few weeks among their friends in the great West, may have an opportunity of so doing without incurring much additional expense. It may be well to consider this subject in advance of actual time of starting, and the Chicago, Milwaukee & St. Paul Railway Co. has issued maps and time-tables and other instructive reading matter, which it will be glad to furnish free of expense upon application by postal-card addressed to Harry Mercer, Michigan Passenger Agent, 82 Griswold St., Detroit, Mich., or to Geo. H. Heafford, General Passenger Agent, Chicago, Ill.

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## 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.

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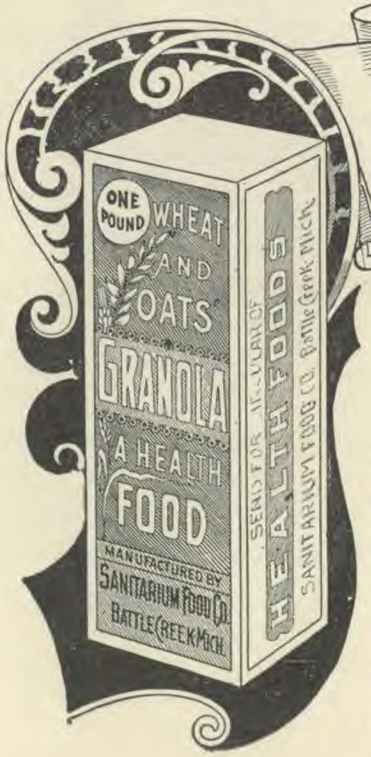


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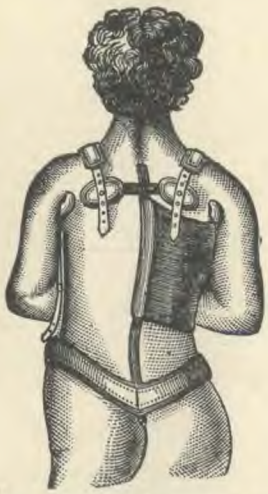

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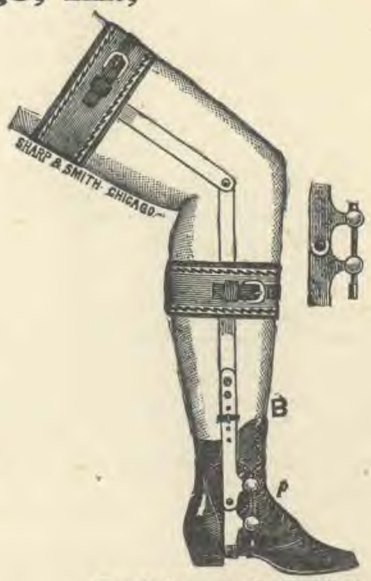


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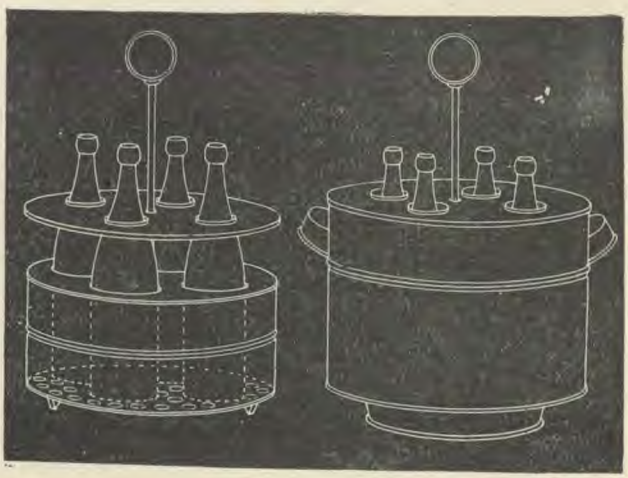

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# BOOKS THAT SELL.


THE sale of books by canvassing agents, looked upon a few years ago as a sort of peddling business, has almost reached the dignity of a profession, and at the present time quite a considerable portion of the reading public depend upon the traveling salesman for their supplies of recent choice literature. No publishing house thinks of presenting its most valuable works to the public in any other way. **There is no more pleasant, no more useful, and no more profitable business** in which a young man or woman of ability can engage, and **none which brings such large and quick returns** to the energetic worker, as the sale of a good book in good territory, prosecuted by a good agent employing good methods, and putting energy, enterprise, and industry into his work.

The man or woman who engages in the introduction of a good book, — one calculated to instruct, elevate, and materially benefit all who become acquainted with its contents, — is as genuine a missionary as the man or woman who engages in missionary work in the wilds of Africa or the distant islands of the sea. The good book as well as the good impression which a good agent leaves behind him in each of his successful efforts, is a permanent source of salutary influence to the household which receives it.

The undersigned have for many years been engaged in the publication of books for the million, and several hundred thousand copies of their bound volumes are to be found scattered among the households of the United States and other English-speaking countries, although comparatively little effort has been made to push the sale of their publications. They are now organizing a vigorous campaign for the introduction of their various works in all parts of the United States, Canada, and the West Indies. **Liberal commissions are offered agents, splendid territory, and books, the selling qualities of which are not excelled by any subscription books offered by any publishing house in the world,** as will be seen by the following reports of work done within the last few weeks in different parts of the United States: —

John P. Neff, a college student less than twenty-one years of age, now at work in a Western State to earn money to pay his expenses during the next college year, has sold of the two works advertised on this page, books to the following amounts, for seven successive weeks consecutively: —

| | | | |
|---|---|---|---|
| First week (4½ days) | $240 | | |
| Second week | $244 | Fifth week | $440 |
| Third " | 280 | Sixth " | 230 |
| Fourth " | 370 | | |

This same agent sold *$180 worth of books in one day.*

Another agent (C. C. Nicola) sold 65 books in one week; amount of sales, nearly $300.

F. A. Shaver, an agent working in Wisconsin, took orders for over 200 books, and delivered nearly all of them, in three weeks.

Another agent working in Vermont, when able to put in full time, has averaged nearly $100 per week

A lady made 25 canvasses in one day and took 21 orders, amount, $95.

A young lady in Dakota reported Sept. 9, 1892, 83 calls, 52 orders, amount, over $200. *Good for 5 days' work.*

A young man took orders amounting to **$458 in 57 hours. In one day of 12 hours he sold 36 copies** of "Man, the Masterpiece" and "Ladies' Guide," **netting a profit of $99** at usual commission.


Scores of cases might be cited in which agents are making from $25 to $50 clear, weekly. No agent of average ability in average territory can fail to succeed with these works, and many who have failed with other works succeed with these. A wide-awake agent, with plenty of pluck and perseverance, is certain to make a success almost from the start, when he has had a proper preparation for the work. For terms and other information, address,

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BATTLE CREEK, MICH.

# THE NORTH-WESTERN LINE

C. & N. W. RY

# SOLID VESTIBULED TRAINS

BETWEEN

## CHICAGO

AND

## St. Paul, Minneapolis, Council Bluffs, Omaha, Denver, and Portland.

## THROUGH PALACE SLEEPING CARS

**Between CHICAGO and St. Paul, Minneapolis, Duluth, Council Bluffs, Omaha, Sioux City, Denver, Portland, San Francisco, and the Principal Cities of the WEST and NORTHWEST.**

## FREE RECLINING CHAIR CARS. SUPERB DINING CARS.

ALL AGENTS SELL TICKETS VIA THE

## CHICAGO & NORTHWESTERN RY.,

W. H. NEWMAN, *3d Vice-President.*

J. M. WHITMAN, *Gen'l Manager.*

W. A. THRALL, *Gen'l Pass. and Ticket Agent.*

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# MICHIGAN CENTRAL

*"The Niagara Falls Route."*

Corrected Nov. 20, 1892.

| EAST. | †Day Express. | *N. Shore Limited. | *N. Y. Express. | *N. Fall's & Buffalo Special. | ‡Night Express. | †Detroit Accom'n | *All'ntic 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 | 5.38 | 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 | pm 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. | †Mail. | ‡Day Express. | *N. Shore Limited. | *Chicago Express. | †Kal. Accom'n | *Pacific Express. | *Chic. Special. |
|---|---|---|---|---|---|---|---|
| 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 8.50 | am 7.20 | pm 2.20 |
| Rochester | | 9.35 | am 1.25 | 4.20 | 5.55 | 9.55 | 5.10 |
| Buffalo | | 11.00 | 2.20 | 5.30 | 9.00 | 11.50 | 7.45 |
| Detroit | am 8.20 | am 7.30 | 9.05 | pm 1.20 | pm 4.40 | pm 9.00 | 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 | 10.43 | pm 12.02 | 4.30 | 8.47 | 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 | 6.17 | | 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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# CHICAGO & GRAND TRUNK R. R.

Time Table, in Effect June 26, 1892.

| GOING WEST. | | | | | | STATIONS. | GOING EAST. | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| pm | pm | am | pm | | | | | am | pm | | |
| 7.15 | 3.00 | 11.00 | 7.00 | ..... | ..... | Boston | ..... | 7.00 | 8.00 | 9.25 | ..... |
| am | pm | pm | pm | | | | | pm | am | pm | |
| 9.45 | 5.00 | 6.30 | 8.00 | ..... | ..... | New York | ..... | 9.55 | 7.40 | 5.07 | ..... |
| am | am | am | pm | | | | | am | pm | am | |
| 12.10 | 6.20 | 6.25 | 1.00 | ..... | ..... | Buffalo | ..... | 8.40 | 5.50 | 4.20 | ..... |
| am | am | am | pm | | | | | am | pm | am | |
| 1.35 | 7.45 | 8.00 | 2.45 | ..... | ..... | Niagara Falls | ..... | 7.30 | 4.10 | 3.10 | ..... |
| am | | pm | noon | | | | | | am | pm | |
| 8.30 | ..... | 3.00 | 12.00 | ..... | ..... | Boston | ..... | 8.05 | 9.50 | ..... | ..... |
| am | pm | | | | | | | pm | am | | |
| 9.30 | 8.40 | ..... | ..... | ..... | ..... | Montreal | ..... | 8.00 | 7.00 | ..... | ..... |
| pm | | | pm | | | | | am | pm | | |
| 11.30 | ..... | ..... | 1.00 | ..... | ..... | Toronto | ..... | 9.35 | 5.25 | ..... | ..... |
| | | | pm | | | | | am | | | |
| ..... | ..... | ..... | 8.00 | ..... | ..... | Detroit | ..... | 9.25 | ..... | 7.45 | 9.25 | ..... |
| Day Exp. | B. C. Pass. | Lmtd Exp | Pacific Exp. | | Mail Exp. | | Mail. | Lmtd Exp. | Adtic Exp. | Day Exp. | Pr'fic Pass. |
| am | pm | pm | pm | | am | Dep. Arr. | pm | am | am | pm | am |
| ..... | 3.44 | ..... | ..... | ..... | 6.19 | Port Huron | 10.01 | ..... | ..... | ..... | 12.10 |
| 6.50 | 3.49 | 12.22 | 8.40 | ..... | 6.25 | Port Huron Tunnel | 9.56 | 12.35 | 7.30 | 8.50 | 12.05 |
| 8.05 | 5.10 | 1.27 | 10.07 | ..... | 7.49 | Lapeer | 8.15 | 11.20 | 6.15 | 7.35 | 10.45 |
| 8.35 | 5.47 | 1.55 | 10.47 | ..... | 8.35 | Flint | 7.30 | 10.47 | 5.40 | 7.05 | 10.05 |
| ..... | 4.05 | ..... | 8.00 | ..... | 6.50 | Detroit | 9.25 | ..... | 7.45 | 9.25 | 11.50 |
| 7.15 | 4.40 | ..... | 8.25 | ..... | 7.15 | Bay City | 8.37 | ..... | 7.15 | 8.37 | 11.30 |
| 7.50 | 5.17 | ..... | 9.00 | ..... | 7.50 | Saginaw | 8.00 | ..... | 6.40 | 8.00 | 10.43 |
| 9.05 | 6.50 | 2.22 | 11.20 | ..... | 9.35 | Durand | 6.50 | 10.20 | 5.03 | 6.35 | 9.30 |
| 10.02 | 7.55 | 3.07 | 12.20 | ..... | 10.40 | Lansing | 5.10 | 9.30 | 4.00 | 5.40 | 8.20 |
| 10.29 | 8.30 | 3.34 | 12.52 | ..... | 11.15 | Charlotte | 4.34 | 9.01 | 3.25 | 5.11 | 7.47 |
| 11.15 | 9.25 | 4.15 | 1.50 | ..... | 12.25 | BATTLE CREEK | 3.40 | 8.20 | 2.40 | 4.30 | 7.00 |
| 11.53 | pm | ..... | 2.35 | ..... | 1.08 | Vicksburg | 2.33 | 7.40 | 1.48 | ..... | am |
| ..... | ..... | ..... | ..... | ..... | 1.19 | Schoolcraft | 2.21 | ..... | ..... | ..... | ..... |
| 12.40 | ..... | 5.45 | 3.30 | ..... | 2.06 | Cassopolis | 1.29 | 6.58 | 12.45 | 3.07 | ..... |
| 1.20 | ..... | 6.20 | 4.10 | ..... | 2.50 | South Bend | 12.45 | 6.20 | 12.00 | 2.35 | ..... |
| 2.45 | ..... | 7.35 | 5.45 | ..... | 4.30 | Valparaiso | 11.10 | 5.00 | 10.30 | 1.20 | ..... |
| 4.50 | ..... | 9.30 | 8.00 | ..... | 7.00 | Chicago | 8.40 | 3.00 | 8.15 | 11.25 | ..... |
| p m | ..... | pm | am | ..... | pm | Arr. Dep. | am | pm | pm | am | |

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.

Meals served in C. & G. T. Dining Cars on all through trains.

W. E. DAVIS, *Gen. Pass. and Ticket Agt., Chicago.*

A. S. PARKER, *Ticket Agt., Battle Creek.*

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