OCTOBER, 1894.

GOOD HEALTH

CONDUCTED BY

J. H. KELLOGG M.D.

Subscription price $1.75
(Including Companion Volume)

PUBLISHED MONTHLY.

GOOD HEALTH, VOL. 29, NO. 10.

CONTENTS.

BATTLE CREEK, MICH., October, 1894.

AN AFRICAN FEMALE PORTER.

GOOD HEALTH
A JOURNAL OF HYGIENE
MENS SANA IN CORPORE SANO
VOL. XXIX. NUMBER 10.
BATTLE CREEK, MICHIGAN. OCTOBER, 1894.

BIOGRAPHICAL HEALTH STUDIES.

BY F. L. OSWALD, M. D.,
Author of "Physical Education," "The Bible of Nature," etc.

9. Bishop Hervey.

IN a suggestive article on "Desirable Books," Prof. Carl Vogt a few years ago recommended the publication of a work on the right use of statistics, and quoted the case of a wag who proved by an elaborate array of figures that modern civilization is founded on the manufacture of "stovepipe" hats.

The tendency to mistake a concomitant for a cause is, indeed, at the bottom of numerous fallacies, and has given rise to the popular impression that preaching must be a healthful pursuit, because clergymen have a first-class chance of longevity. Their prospects of long life outrank those of all other mortals, classified by their mode of employment, the foresters (game keepers and guardians of government woodlands) of the German empire alone excepted; but the truth seems to be that they enjoy that distinction in spite, rather than because, of their distinctive functions. Vocal effort in an atmosphere often filled with the germs of lung diseases is as unpropitious to special length of life as sick-room visits and home-missions; but their baneful tendency is, on the whole, more than outweighed by the three following factors of moral and physical health:—

1. Tranquillity, and leisure for such placid pursuits as horticulture and the outdoor study of nature.

2. The constant gratification of the instinct of approbativeness. A popular, revered, and beloved official is apt to outlive his maligned neighbor, as a petted child is likely to survive an ill-treated one; and the remarkable mortality of saloon-keepers and gamblers may have a good deal to do with the influence of social ostracism.

3. The restraining tendency of the *officium hierophantis*,—the necessity of making personal conduct a commentary on a doctrine of moral regeneration. Evil passions of all sorts are thus kept in check, though progressive vices, like the alcohol habit, may occasionally overmaster the power of self-control.

Moreover, the ordination of a European clergyman is generally a guarantee against the risk of destitution in sickness and old age. The installment in the pulpit of a comfortable country parsonage operates like a moral sedative; and when young Arthur Hervey was presented to the living of Ickworth-with-Horringer, in Suffolk, his personal habits underwent a marked change. As a theological student at Cambridge, he had been noted for his restless disposition, as well as an insatiable thrist for miscellaneous knowledge. Troubled with doubts, and with sore misgivings about his proper vocation, he often devoted the night to meditations and his holidays to long, solitary rambles, and distressed his friend Gladstone with repeated confessions of a temptation to relinquish his studies, and take passage to America. It was the storm and stress period of the reaction against the anti-French conservatism of the Wellington and Castlereagh era, and England was shaken by waves of the political earthquake that overthrew the throne of the Bourbons. The intense national excitement in favor of the Reform Bill turned Cambridge into a camp of factions; and, but for the urgent protest of a near relative, young Hervey would have left Cambridge even after the result of a classical prize-com-

petition had already guaranteed him the success of his graduation.

Early in March, 1832, he was ordained by the bishop of Norwich, and three months after was appointed assistant to the rector of Ickworth — a palsied old man who before the end of the same year resigned his office into the hands of his coadjutor. An elder sister undertook the management of his household affairs, and the new rector soon became a model clergyman of the jovial, conservative type. Suffolk, with its green pasture-hills and orthodox population, is a very paradise of pastoral beatitude in both senses of the adjective. The climate holds a happy mean between the humid warmth of the south coast and the wintry rigor of North Britain, and here the Cistercian monks, with their keen eye for topographical advantages, founded the abbeys of Melford and Bury St. Edmonds. The Ickworth parsonage is an ivy-shrouded old manse, with a beech grove and a large pond; and in less than a year the new incumbent had got the better of his nervous headaches and fits of sleeplessness.

According to his own statement in a letter to his friend Pritchard, he gained thirty pounds in weight in half as many months, and ascribed the improvement of his digestive vigor chiefly to sound sleep, favored by the cool nights and quiet morning hours of the old manse. The former martyr to insomnia became an emphatic advocate of nature's sweet restorer in liberal allowance; and in his subsequent work on "Educational Reform" he could hardly find words strong enough to condemn the folly and cruelty of forcing school children to leave their warm beds three hours before the rise of the winter sun. "And as for rising with the earth in midsummer," he quotes from Charles Lamb, "we have found it a luxury to be paid for in headaches and listlessness all the long hours after. We are no longer ambitious of being the sun's courtiers, to attend at his morning levees. We hold the good hours of the dawn too sacred to waste them upon such observances, which have in them, besides, something pagan and Persic."

The change of sanitary and moral hygienic tenets within the short period of six decades is, indeed, curiously illustrated by the fact that a clergyman, a representative prelate of the established Church of England, denounced the educational system of Christ's Hospital (a sort of charity boarding school of the British metropolis) as a *ne plus ultra* of brutal abuses and mulish mediæval mismanagement, calculated to crush the spirit of a sensitive lad, and goad a stubborn one to savage rebellion. In his zeal for reform, the clerical humanitarian goes to the other extreme of condemning punishment even in the form of the humiliating publicity of competitive examinations, and advising teachers to stimulate their pupils merely by appeals to their sense of duty, at the risk of having to postpone their advancement to the higher branches of study to years of discretion. On a similar principle he depreciates the excessive fasts of monastic self-educators, and supplements the gospel of muscular Christianity with a chapter on eupeptic virtue — the promotion of moral and mental, as well as physical, health by good living.

Rector Hervey remained at Ickworth for thirty-seven years. In 1850 he published two volumes of parochial sermons, and three years later a work intended to reconcile the conflicting genealogies of Christ; but about that time his theological ambition seems to have abated, and he turned his attention to natural history. Like Pastor White, of Selborne, he studied the birds of the woods and the waterfowl of the moor lakes, but with a more definite purpose. He had a theory that the shyness of our dumb fellow creatures is something altogether abnormal, and that it is a shame to see animals play unconcernedly about a bull or a boar, but flee panic-stricken at the approach of a Christian gentleman. Common humanity, he held, would soon restore the lost confidence of our fellow beings; and with the pleasure of a hobby-rider adducing a proof of his hypothesis, he used to take his text from the letter of a missionary, who described a family of Hindoo peasants enjoying the evening hour under a tree swarming with gambolling monkeys of half a dozen different species, — a free zoölogical circus, with constant changes of program.

He also collected specimens of beetles and butterflies, and the museum-like appearance of his study completed the veneration of his parishioners, who consulted him in all sorts of physical and spiritual emergencies. He became a village oracle, and the next ten years (1850–60) were, on the whole, the happiest of his long and prosperous life. His income was more than sufficient for his simple wants, and he enjoyed almost perfect health — a tendency to corpulence having been overcome by the simple plan of outdoor work in warm weather, and the temporary renunciation of fermented liquors.

Hervey was never a total abstainer, but his was one of the placid, tranquil temperaments that can resist the progressive tendency of a stimulant habit by divesting the temptation of its strongest ally; viz., the recklessness that seeks to drown disappointment in the Lethe of a chemical narcotic. Anger-proof men of that kind may use alcohol or, like the philosopher

Haller, even opiates, and perhaps remain safe while they are fortunate in all the affairs of life; but the first serious reverse of fortune is apt to turn what has been used as a luxury into a body and soul enslaving habit. The key to the enchanted house of oblivion, at first perhaps welcomed only as a talisman against the thought of suicide, will soon be used as a refuge from every petty annoyance of the daily life. Prince Metternich, in his cynical memoirs, regrets the circumstance that the "satanic Corsican" had his appetite under such perfect control, because else, after the disasters of the Russian campaign, he would have drowned himself in strong liquor, like the father of Frederic the Great, and thus saved Europe the expense of Leipsic and Waterloo.

Hervey was strongly opposed to the liberal views of what he called the "compromise party between faith and rationalism," but his conservative principles did not extend to secondary issues. He renounced ritualism, and never rested till he pursuaded his parishoners to establish an out-of-town cemetery at Barrow Ness, a river promontory with a fine view of the surrounding valleys. Graveyards, he held, have no business in the heart of a town, unless we should adopt the plan of the old Romans, who, indeed, lined their highways with tombs, but buried only the ashes of their dead. On a secluded spot of the Ness (from the Saxon *naes*, a cliff, a headland) he planted shade trees to shelter his own grave, in case he should end his days in Ickworth parish. His father had died at the age of sixty-four years, having been found dead one day in his armchair, like one sleeping; and Hervey expected that the same euthanasia would be granted to him in his afternoon slumbers, and perhaps at the same period of life.

A sojourn of thirty-seven years in a Suffolk country parish would, indeed, suffice to reconcile most men to the prospect of departure at any terms; but the author of the "Genealogies" and "Advent Sermons" had not been entirely forgotten, and in 1862 he was appointed archdeacon of Sudbury on the Stour, twenty miles west of Ipswich. Frequent conference trips to Ipswich and London gave him a chance to renew old acquaintances, and in 1869 his Eton schoolfellow, Gladstone, nominated him to the bishopric of Bath and Wells. Wells, at the foot of the Mendip Hills and almost in sight of the Bristol Channel, is in the very garden-spot of Western England. In point of climate it is as different from the swampy east coast as West Virginia is from New Jersey; and the scenery of the neighboring highlands rivals that of Pembroke and Glamorgan, on the other side of the Channel. Its ecclesiastical buildings are hoary with age. The grand cathedral dates from the time of Henry III, and contains the tomb of Ina, the old warrior-king of Wessex. The bishop's see was erected in 905 — nearly a thousand years ago — and has been filled by Archbishop Laud and Cardinal Wolsey, the British Richelieu. On St. Thomas's Day, 1869, the new prelate was consecrated in Westminster Abbey, and the transfer of his residence to the Episcopal palace of the Somerset mountain town seems to have given him a new lease of life.

He had already completed his sixty-first year, but his activity during the next quarter of a century was that of an enthusiast in the prime of his vigor. Within a year and a half he had familiarized himself with the topography, the social characteristics, and chief needs of every parish in his double diocese, and made the rounds of the country parsonages as he had visited the homes of his parishioners at Ickworth-with-Horringer. There was an ample field for reform; parish schools had to be remodeled on sanitary principles, parish churches to be enlarged and repaired, the collection of tithes to be re-organized on a more regular and equitable basis. He was one of the originators and most zealous supporters of the Augmentation of Benefices plan; and in the meantime he never hesitated to relieve clerical distress from his private resources.

In politics he was a strong Unionist, and fought administrative secession with a persistency that made him enjoy the defeat of the Home Rule Bill as a personal triumph. In his seventy-eighth year he resumed his Hebrew studies, to qualify himself for his duties as a member of the Committee of Scriptural Revision.

With so many different and success-promising enterprises on his hands, it is no wonder that he felt himself too busy to die. His appearance in the House of Lords during the last five years of his life never failed to excite general attention. No such model of a hale Saxon octogenarian had been seen since the days of Walpole and Warburton, and Bishop Arthur Hervey in his eighty-fourth year might, indeed, have passed as the representative prelate of a church that can boast of having achieved the farthest departure from the self-torturing asceticism of the patristic era.

He died at Wells, in an alcove-chair of his library, after an illness of only two days.

(To be continued.)

THE PILGRIMAGE TO MECCA.

BY J. H. KELLOGG, M. D.

THE annual pilgrimage of the disciples of Mohammed to Mecca has come to be a matter of great importance to all civilized lands, as well as to the half-civilized followers of the prophet, since each of these pilgrimages is the starting point for an epidemic of cholera, which frequently extends its ravages not only to the whole of Europe, but even to the United States. The recent threatened outbreak of this disease in this country, which is liable to be renewed with far more fatal results the coming summer, will perhaps give interest to the following account of the Mecca pilgrimage, which we translate from the *Revue D'Hygiene:*—

The Arrival at Djeddah.—Since the construction of the Suez Canal opened the waters of the Red Sea, and afforded navigation to the steam vessels of the Mediterranean, the majority of pilgrims travel by water. Caravans have become less numerous, and at the present time there are left only the great caravans of Egypt and Syria, which depart at a fixed date, with great religious ceremonies; and those of Bagdad and Yymen, of less importance, and diminishing each year. Djeddah, the port of the Red Sea at which nearly all the pilgrims land, is a city of 35,000 inhabitants. It is surrounded by a flat country devoid of all appearance of vegetation. Under an open sky, illuminated by a brilliant sun, the eye seeks in vain for a blade of grass. Nothing but dust is to be seen. The horizon is bordered by a band of mountains, the monotonous sterility of which detracts nothing from the desolate aspect of the village and its surroundings. Not the smallest stream of water is to be seen. This spot of earth is perhaps the most arid of any upon the whole globe. The port of Djeddah is difficult of entrance. In its narrow channels the sailors have for their guide only four small buoys, the bad placing of which strongly diminishes the chances of success. For this reason, ships, even of medium tonnage, prefer to anchor at a distance of two miles from the town rather than to run the risk of coming in contact with the great banks of coral along the shore. After their landing, the pilgrims, having complied with the sanitary regulations, direct themselves, some to the Arabic inns, and others to the public squares of the city or the unoccupied lands surrounding it, where they encamp in the open air.

The Tomb of Eve.—After arranging their camps, the hadjis piously hasten to visit the tomb of Eve, which is near by. The tomb of "Our Mother Eve," *Umma Eouwa;* is about a mile and a quarter northeast from the village, in the middle of a cemetery where only the rich families of Djeddah bury their dead, the lots being very expensive. This burial-place consists of a rectangular space, longer than wide, surrounded with a great wall. In the center there is an elevated platform ten feet long by eight feet wide, over which rises a dome fifteen feet in height. This place is entered by a low door on a level with the floor, which is always open for the devotions of the faithful. Some mats thrown upon the platform, copper lamps hanging from the ceiling, a chair placed toward the rising sun—these constitute the only ornaments of this venerated place. The center is occcupied by a sort of catafalque, which is taller than broad. Each pilgrim prostrates himself before this structure, which incloses the "*ssara.*" The *ssara* is a large black ærolite. Musselman superstition has converted this stone into a relic, and venerates it as the petrified umbilicus of mother Eve. According to the dimensions of this umbilicus, our *Umma Eouwa* must have had a height truly colossal—500 feet at least. The hadjis bow to this granite stone, then pass out of the chapel, kneeling to it every ten steps, and go to a point 130 yards to the left to pay their devotions to the head of Eve, represented by a circle of stones. The eyes, the nose, and the mouth are indicated by tufts of plant grasses; and shortly after, the hadji renews his genuflexions and his prayers before the breast of our ancestor, indicated by some stones piled to the height of a man. He terminates his pious peregrinations over the different parts of the body of mother Eve, by worshiping the feet, which touch one of the walls of the inclosure. At this end of the cemetery may be noticed a dilapidated tomb—that of the mother of Sultan Abdul Medjid, the grandmother of the present sultan, who died while making a pilgrimage. A few steps to the left, another tomb, also dilapidated, but more respected by the faithful, is that of the founder of the Ottoman dynasty, the famous Osman.

Mecca.—The pilgrimage to Mecca was rendered obligatory by Mohammed, who made it one of the fundamental points of the Musselman's religion,—prayer and fasting constituting the other important points. This pilgrimage is considered a divine requirement. Better to die a Jew or a Christian than to have not,

either purposely or by chance, performed at least once in his life, this religious act (Koran, chap. 11).

There is another pilgrimage which the faithful must make before or after that to Mecca. It is to Medina, where is to be found the tomb of the prophet. But this is only a *canonical* obligation. Having arrived at the border of the sacred territory, the pilgrims divest themselves of their clothing, purify themselves by repeated ablutions, and put on their penitential gown, formed of two pieces of white cloth, without seam. The hadji envelopes himself with his *ikram* in such a manner as to allow his right arm and shoulder to be uncovered. His head is bare, and he is not allowed to cover it with a veil of any sort, but must walk with it exposed to the merciless rays of the sun, and without shoes for his feet, women and children alone being permitted to wear sandals of a particular form. The pilgrim advances toward Mecca, reciting prayers. Mecca is thirteen hours distant from Djeddah. Two nights suffice for the caravans to cover this space, as they do not travel during the day. The holy city presently appears on the horizon. The city, with its mosques flanked by minarets, is hailed by cries of joy,—*Labik! Labik!*

La Kaaba.—The first care of the pilgrim is to direct himself to the Kaaba, and there prostrate himself before the black stone which forms one of the angles of the holy temple. According to tradition, this block of stone fell from heaven with Adam, and was carried by the children of Gabriel and Abraham, who placed it where it now is. This stone was the birthplace of Ishmael, from whom the Arab family has descended. When Abraham constructed the temple, this aërolite served him as a scaffold, lowering or elevating itself according to the needs of his work. The hadjis crowd with frenzy about the black stone, covering it with kisses, especially childless mothers, who believe that touching the stone upon which Ishmael was born will cure their sterility.

Before leaving Mecca, the pilgrim must make the tour of the Kaaba seven times. Thence, going out by the gate of *ssara*, he directs himself toward a column of the same name, and passes seven times through the valley of Merouat, in remembrance of Abraham's despair in the search for a spring with which to refresh Hagar and Ishmael, when a prey to the horrors of thirst.

The hadjis arrive next at the wells of Zemzem, the water of which is supposed to purify both the body and the soul, and to insure happiness in the future life. But in spite of the holiness of the place, everything at Mecca is made the object of speculation, and the wells of Zemzem bring fine revenues to the religious castes who devote themselves to the distribution of the waters. The tomb of Ishmael, in the neighborhood of the Kaaba, is also the object of special devotions. The same is true of the stone where the faithful believe that they see a print left by the foot of Abraham when the patriarch, with his son, was preparing the mortar which served for the erection of the temple.

Mount Ararat.—The eighth day of the month Zihlidje, immediately after morning prayers, long lines of hadjis take their way toward the valley of Muna. Arriving at this valley, the devotees gather each seven small stones, which they will, the next day, throw about them in remembrance of the stones which Abraham threw at the demon who tempted him when he traversed this place on the way to offer up Isaac.

Mount Ararat overlooks the valley of Muna, where, during seven days, there assemble a wretched crowd of men of all ages, and of all conditions in life, from the rich Mussulman of Stamboul to the Hindoo beggar. Dancers, charmers of serpents, musicians, singers, beggars of low degree, transform this sacred round into a *field de foire*. The crowd jostles, moves, shouts; the mountain appears to be a human ant-hill. One might think himself to be present at an assemblage of demons. Thus passes the eighth of Zihlidje. On the ninth, at the rising of the sun, some rounds of artillery announce the feasts of Beiram. After morning prayers, the pilgrims begin the ascent of Mount Ararat, which has an altitude of 3000 feet. The prophet came often to pray upon this mount of mercy, where Allah appeared to him. The sermons which he there preached, and of which there have been preserved for us many passages, are the preludes of the present ceremonies. The pilgrim scales this mountain with the greatest rapidity possible, for the nearer he can approach to the little eminence of earth upon which may be seen the officer in charge of these grand stones, the more sure will he be to obtain the remission of his sins.

About 3 o'clock in the afternoon the grand sheriff commences the ceremony, which consists simply of a sermon, interspersed with pauses. In the pauses of his discourse the preacher shakes a green cloth, which gives the signal for tears and lamentations. A cry of desolation, thousands and thousands of times repeated, responds to this appeal: "*Labik, Allah! huma labik.*"—"Do with us what you will, Lord,—do with us what you will." The sermon continues for three hours.

As the sun approaches the horizon, a great number

of the pilgrims may be seen taking their way along the paths through which the crowd must pass; then, when the sun has completely disappeared, when the last signal for lamentations has been given, and the cry of "*labik, labik,*" has died away, the multitude becomes a tumultuous mob. There is a strife to see who shall be first at the foot of the mountain, for it is considered meritorious to arrive first. There is a foot-race of panting bipeds, who engage in bloody battles along the course. Wounded persons, even dead bodies, choke the way. If the one who arrives first draws his last breath in attaining his object, he will go straight to heaven. The houris of paradise will receive him with open arms.

The Last Sermon.— The next day the pilgrims continue their pious exercises. At early dawn, after the usual prayers, they direct themselves in masses toward the valley of the Ouadi-Muna, an hour's walk from the village, and proceed to the ceremony of "throwing stones at the demon." Abraham was assailed at this place by the devil Thlis, and it was only with the seventh stone thrown at the tempter that he was persuaded to take his flight. It is in memory of this battle that each pilgrim throws seven stones against a little hillock, where, according to tradition, the demon appeared to Abraham. In the heat of the action, the stones are not accurately aimed, and many of them strike the unhappy hadjis. Allah will take account of the wounds they have received in this holy riot.

After this ceremony, succeeds one of the most important feasts of Islam. The ordinary victims slain are sheep, and sometimes beeves. The sacrificer turns the head of the animal toward the Kaaba, and cuts it off while pronouncing the sacred words, "*Bismellat-el-Rahman-Ul-Rehim! Allah Akbar!*" — In the name of the almighty and merciful God; God is good.

For many years these sacrifices were practiced with no police regulation. The earth was covered with rubbish and animal matter in process of putrefaction. The air was pestiferous. Beggars fought for the fragments of meat, desiring to make provision for their journey. Since the cholera scourge of 1865, some measures, though imperfect, have been taken for the purpose of avoiding the development of epidemics from this mass of corruption. This year more than 120,000 sheep have been killed, and nearly 300,000 pilgrims were assembled at Ararat. A Mussulman, a member of the Superior Council of Health of Constantinople, is sent along as a missionary to support, by his high authority, the necessary hygienic measures in the course of the pilgrimage, and especially at the time of the feasts. This official, in spite of all his zeal, is prevented by the inherent difficulties of the country, from the perfect fulfillment of his task, but is sure of the satisfaction of having one pilgrimage to his own account, and of being able to balance his private budget by the addition of 500 Turkish pounds ($2400) which is given him by the imperial government.

The fatal and critical time is always that of Muna, the day of sacrifices. The valley of Ouadi-Muna is now walled in, little swept by winds, deprived of water, and continually overheated by the rays of an ardent sun. Here is where the greatest multitudes of pilgrims assemble. In this narrow valley the propitiatory victims are slain. For all these reasons the valley of Muna is unhealthy, and furnishes to the cholera all the means necessary for rapid dissemination. It may be added that when the ceremonies are terminated, this crowd, weakened by previous privations, hasten to give themselves up to pleasure, to exercises of all sorts, and sometimes forget, in their orgies, the severe fast which they have undergone. It is thus easy to understand the ravages of cholera in such an assemblage of pilgrims.

After the sacrifices, the pilgrims return to throw a few stones at the devil, re-enter Mecca, again make the tour of the mosque seven times, and drink the water of the wells of Zemzem; it is then only that they shave the head and lay aside the penitential robe, *ikram*. They have acquired the sacred title of "hadji."

The pilgrims disperse after these ceremonies. Those who have already visited Medina return to Djeddah to take ship. Some, a small number, especially pilgrims from India and Java, install themselves at Mecca or at Djeddah, and attend the ceremonies the following year, by this means accomplishing two pilgrimages. The majority join the caravans of Syria and Egypt when they leave Mecca, and take their way with them to Medina.

From the foregoing description it is evident that the pilgrimages to Mecca afford the most favorable conditions possible for the development and wide diffusion of cholera. The water of the wells of Zemzem, from which every pilgrim must drink, and which is carried away in great quantities in bottles and all sorts of receptacles, was analyzed a few years ago, and was found to be contaminated with human excrement to such a degree as to be vile beyond description. Reliable statistics collected with reference to the mortality of the pilgrims on the occasion of the last pilgrimage, record more than 20,000 deaths. Some of the caravans lost nearly one half their number. It is evident that in returning to their homes

the pilgrims carry with them the seeds of this disease, thus perpetuating the existence of cholera in Egypt, Syria, Persia, Java, India, and all Mohammedan countries.

HOW TO LIVE LONG.

He who lives extensively, who avoids all stimulants, takes light and agreeable exercise, indulges no exhausting passions, feeds his mind and heart with no exciting material, has no debilitating pleasures, "keeps his accounts with God and man daily squared up," is sure, if he has a good organism, to spin out his life, barring accidents, to the longest possible limit.

The poet, William Cullen Bryant, when asked the secret of his health and vigor at upwards of eighty years, answered: "It is all summed up in one word, — *moderation.*" How many a young man squanders on a holiday or an evening's entertainment an amount of nervous energy which he will bitterly feel the want of when he is fifty. Even warm affections are prejudicial; they subject the owner to constant anxiety, and are as unnerving as the excitement produced by politics or gambling. Nothing is more exhausting than anxiety for a sick wife or child, or nursing a friend through a long sickness, unless you can truthfully say that you take no interest in the result. When a "fine old man" was mentioned in Swift's presence, he exclaimed angrily: "There 's no such thing; if his head or heart had been all right, they would have worn him out long ago!"

Our fine enthusiasms, if they rise into intensity, are costly, and lessen the number of moments we have to live. Some years ago a gentleman in England set about ascertaining the causes of the premature death of his acquaintances who had been cut off within twelve years. Of forty individuals, he found that twenty had died from excessive mental labor or excitement, and twelve of these were not intellectual laborers, but men of the world. Sydenham tells us that one of the severest fits of gout from which he ever suffered arose from great mental labor undergone in composing his treatise on that disease.

While all excess is injurious, it must not be inferred that hard brain work, apart from other causes, tends to shorten life. Mental labor, apart from griefs and fears, from forced or voluntary stinting of the body's needed supply of exercise, food, or sleep, and the mind's supply of social intercourse, rather prolongs life than cuts it short. Even overwork of the brain is probably far less injurious than underwork. Nine tenths of the students and professional men who are supposed to break down from intense toil, wear themselves out, not by repletion of study, but by a vicious misapplication of their normal physical or intellectual forces.

Lord Brougham lived eighty-nine years. Lord Lyndhurst wore out at ninety-one. Epimenides, the seventh of the wise men, is said to have lived to the age of one hundred and eighty-four. Hippocrates reached ninety-nine; Pythagoras lived to eighty, and was murdered. Dr. Franklin was eighty-four. Montgomery, the poet, lived to be eighty-two. Sydney Smith lived to seventy-six, and Sir Isaac Newton to eighty-five. The Right Hon. William E. Gladstone, who retired from the premiership of England only a short time ago, was eighty-four years old last December. Dr. Beard, of New York, in an able paper entitled, "The Longevity of Brain Workers," has proven beyond even the shadow of a doubt that the world's hardest workers, so far from being short-lived, show a very high average of life, — a far higher average than the world's drones, and those who have added nothing to its accumulated capital of happiness, knowledge, goodness, and truth. It is an established fact that not a few of the long-livers might materially lengthen their days by taking more exercise and sleep, and by economizing more carefully the expenditure of intellectual and moral energy.

It is known by every scholar that mental application is one of the most effective means of relieving bodily pain, and that it is especially fitted to soothe the ruffled spirit and to mitigate the asperity of corroding anxiety and care. Bacon, in his "History of Life and Death," is emphatic in declaring the religious and literary to be among the professions most conducive to longevity. "There are," says he, "in religious life, leisure, admiration and contemplation of heavenly things, joys not sensual, noble hopes, wholesome fears, sweet sorrows, continual renovations by observances, penances, and expiations, all of which are very powerful to the prolongation of life." There is a popular notion, which has long been deeply rooted, that precocity of intellect is unfavorable to longevity. It has been shown conclusively, that, as a rule, a brain of exceptional force is united to a constitution of exceptionally good fiber; and that precocity, so far from being premonitory of early decay and death, is almost a mark of vast un-

developed abilities, and of a prolonged existence crowded with triumphant usefulness.

Three of the most precocious geniuses of their day were Bishop Thirlwall, Lord Macaulay, and De Quincy; yet they lived to the ages respectively of seventy-eight, fifty-nine, and seventy-four. Of all the qualities of mind that conduce to longevity, none are more vitally essential than contentment, cheerfulness, and hope. Worry kills more men than the most exacting work, whether physical or mental. Legitimate work develops force, while worry checks its development and wastes what already exists. The physician should be engaged to protect the household and individuals from the assaults of disease, to detect and meet the first and very slightest indications of disorder; and thus we shall certainly see life prolonged.

There is no doubt that long life, if it be virtuously and happily spent, is a blessing most earnestly to be coveted. The mere lapse of years, however, is not life; "knowledge, truth, love, beauty, goodness, and faith give vitality to the mechanism of existence." The value of time is purely relative; and if we count it by heart beats, not by tickings of the clock, or the shadow of the dial; if "he lives longest," as Bailey says, "who knows the most, thinks the wisest, acts the best;" then many who were rich in years have really died young, while others whose lives, measured by the calendar, were cut short early, have been rich in life.

Shakespeare, who died at fifty-two, lived ten times as long as poor "old Parr," who could boast of his one hundred and fifty-two years. Old age, following an oyster-like existence during which one has droned away his life in his shell, never buffeting the waves for himself or others, is a questionable blessing; but the serene old age which is secured by temperance, sobriety, and the conquest of vicious appetites and passions,— the long mellow autumn of life, in which are harvested the fruits of years of useful toil,— is to be coveted and striven for by all. — *D. E. Nelson, M. D., in Journal of American Medical Association.*

The Weather and the Nervous System.—Very few persons recognize the sources of error that come directly from atmospheric conditions on experimenters and observers and others. In my own case I have been amazed at the faulty deductions and misconceptions which were made in damp, foggy weather, or on days in which the air was charged with electricity, and thunder storms were impending. What seemed clear to me at these times appeared later to be filled with error. An actuary in a large insurance company is obliged to stop work at such times, finding that he makes so many mistakes, which he is only conscious of later, that his work is useless. In a large factory from ten to twenty per cent less work is brought out on damp days and days of threatening storm.

The superintendent, in receiving orders to be delivered at a certain time, takes this factor into calculation. There is a theory among many persons in the fire insurance business, that in states of depressing atmosphere greater carelessness exists and more fires follow. Engineers of railway locomotives have some curious theories of trouble, accidents, and increased dangers in such periods, attributing it to the machinery. These are common illustrations, and may be confirmed in the experience of all thoughtful observers. If some one would gather up reliable facts in this field and tabulate them, no doubt some laws of mental activity would be found. In an inquiry among active brain workers in my circle I find a settled conviction that many very powerful forces coming from what is popularly called the weather, control the work and the success of each one. The psychology of the weather should be a most pregnant new field for study. — *T. D. Crothers, M. D., in Science.*

Children of Drinkers.—The London correspondent of the *American Practitioner and News*, writes that a distinguished English specialist in children's diseases has carefully noted the difference between twelve families of drinkers, and twelve families of temperate ones during a period of twelve years, with the result that he found the twelve drinking families produced in those years fifty-seven children, while the temperates were accountable for sixty-one. Of the drinkers, twenty-five children died in the first week of life, as against six on the other side. The latter deaths were from weakness, while the former were attributable to weakness, convulsive attacks, or to œdema of the brain and membranes. To this cheerful record is added five who were idiots, five so stunted in growth as to be really dwarfs; five when older became epileptics, one, a boy, had grave chorea ending in idiocy, five more were diseased and deformed, and two of the epilep-

tics became, by inheritance, drinkers. Ten only, therefore, of this fifty-seven, showed during life, normal disposition and development of body and mind. On the part of the temperates, as before stated, five died in the first week of weakness, while four in later years of childhood had curable nervous diseases. Two only showed inherited nervous defects. Thus fifty were normal, in every way sound in body and mind.

ABSTINENCE AND LONG LIFE.—The primitive Christians, whose food for twenty-four hours seldom exceeded twelve ounces of bread, washed down by water, lived to a great age. Upon such food St. Anthony lived 105 years; James the Hermit, 104; Arsenius, tutor of the Emperor Arcadius, 120; St. Epiphanius, 115; Simeon the Stylite, 112; and Romanul, 120. The noble Venetian, Cornaro, after all available means proved vain, so that his life was despaired of at forty, recovered, and lived to nearly 100, merely by adopting a diet of abstinence.

A HAPPY and vigorous old lady, when asked the secret of her eighty-three years of health and enjoyment, said: "I never allow myself to fret over things I cannot help. I take a nap, and sometimes two of them every day. I do not carry my washing, ironing, dressmaking, or baking to bed with me. And I try to oil all the friction out of my busy life by an implicit belief that there is a brain and a heart to this great universe, and that I can trust them both." This spirit is worthy of imitation. How many there are who worry and fret over things which do not go according to their liking in the office or in the household! The worst thing physically, mentally, and spiritually which one can do, is to fret. If the wheel slips a cog, fretting will not replace it or repair the damage.—*Evangelical Messenger.*

SELF-GOVERNMENT.—A late writer says that the importance of self-government as a factor in the preservation of health is but little recognized. A self-possessed, well-regulated, contented mind, true to itself, independent of changing opinions, fashions, and vanities of the world, goes far to fortify the body against disease, just as a mind of an opposite character tends to undermine physical health and predispose bodily organs to the inroads of disease of every kind. If there is one example of self-control in the broadest sense more worthy than another of imitation, in ancient or modern times, it is the earnest stoic, Marcus Aurelius, who records his indebtedness to one of his valued teachers thus: "I learned from Maximus to command myself and not to be too much drawn toward anything; to be full of spirits under sickness and misfortune; to appear with modesty, obligingness, and dignity of behavior; to turn off business smoothly as it arises, without drudging and complaint; not to be angry or suspicious, but ever ready to do good and to forgive, and speak the truth; and all this as one who seemed rather of himself to be straight and right than ever to have been rectified."

THE COST OF ALCOHOLIC PARALYSIS.—It is enough to say that the fell plague of paralysis is in the market; that half a million men are engaged in its manufacture and sale; that it is sold at a profit of 400 per cent; that the American people pay $1,200,000,000 every year in buying the palsy; and that the national government, most of the States, and a multitude of towns and cities look upon the spreading of this wasting paralysis among the people as one of the choicest sources of revenue; and that any attempt to stay the march of the disease is regarded as an infringement of personal liberty.

Across our land strides the grisly specter, reaching out his deadly hands for all our noble, beautiful boys,—the hope of the future of America and of the world. More than against the cholera that comes on the winds from afar, let us quarantine against the dread paralysis that is bred in the vat and the still, and sold over the bar within our own fair land. Let us make the quarantine wide as the nation, sustained by the true hearts and strong hands and pure ballots of all the good. That quarantine against alcoholic paralysis we call National Prohibition.—*Demorest's Magazine.*

THE cruel Sepoy rebellion has been traced back to the order of the English commander compelling the native soldiers to tear away with the teeth the lard-greased paper ends of cartridges.

ADDISON tells, in the *Spectator*, an old story of an emperor who had dyspepsia, and whose doctor ordered a hole bored in an ax-handle and some medicine poured into it instead of into his mouth. Then the emperor was ordered to use the ax in chopping till his hands became moist with sweat. This, it was said, would cause them to absorb the drug and produce a cure. The story goes that the prescription succeeded, and that his majesty became sound and well once more in his digestive organs.

LUNG GYMNASTICS.

CONSUMPTION begins with weak lungs. A hard cold, a pleurisy, a pneumonia, an attack of influenza or la grippe, leaves the lungs in a weak condition, unable to defend themselves against the microbes which cause consumption. These germs find a foothold, and thus the disease begins. Many persons, through lack of active muscular exercise, never develop proper lung vigor. A person who easily gets out of breath in going upstairs, or who cannot, without great inconvenience, run a few rods to catch a train or a street-car, has weak lungs, and ought to give the matter of lung development immediate attention. All persons who have suffered from pneumonia, pleurisy, or any other serious lung affection, should also give special attention to lung gymnastics. A person who has consumption in its incipient stages may find in lung gymnastics, perseveringly employed, a cure for this disease. Lung gymnastics afford, in fact, the most efficient of all means of combating this dread malady, and they are also of great value in diseases of the heart, stomach, liver, and in congestion of the brain.

How to Exercise the Lungs.— There are many ways of bringing the lungs into active play, as ordinary exercise, gymnastics, etc.; but the most efficient means of exercising the lungs is by use of the expiration tube, a recently devised instrument, a cut of which is herewith shown. The expiration tube consists of a hard rubber instrument through which the breath is expelled, the instrument being held in the mouth for the purpose. It is so arranged that the outlet for the breath can be regulated at will, and thus adapted to various conditions. The effect of its use is to expand the lungs, to increase the depth of respiration, and to strengthen the respiratory muscles. It is not destructible by use, and is of a convenient size to be carried in the pocket, so that it may be used several times a day. Its use does not interfere with any other occupation in which the person may be engaged at the time, except such as involve the use of the voice.

Both the expiratory and inspiratory muscles of respiration may be strengthened by using the expiration tube in the following manner: While lying upon the back and using the expiration tube in the usual manner, place a bag of shot weighing three or four pounds, a book of equal weight, or any similar object, upon the abdomen just below the pit of the stomach. In drawing in the air it will be necessary to lift this weight at each breath, and thus the inspiratory muscles will be strengthened, while the expiratory muscles are strengthened by breathing out through the expiration tube. This exercise should be taken for ten or fifteen minutes three or four times a day, and will have the effect of rapidly increasing the breathing capacity. In using the exhalation tube, care should be taken to practice full and deep respirations, expanding well the lower part of the chest. Care should also be taken to inhale through the nose instead of the mouth.

THE ART OF BREATHING.

THE *British Medical Journal* gives the following brief abstract of a lecture delivered by Surgeon-Captain A. L. Hoper Dixon, on "The Art of Breathing as Applied to Physical Development:"—

"On March 2, Surgeon-Captain A. L. Hoper Dixon gave a lecture at the Royal United Service Institution, on 'The Art of Breathing as Applied to Physical Development.' There can be no doubt that a man's capacity for exertion depends largely on his power of getting rid of the carbonic acid produced during the action of his muscles; that is, upon his respiratory capacity. And the training of the external muscles in all sorts of gymnastic exercises, while those of respiration are left to develop themselves in disorderly fashion, just as they happen to be led by want of breath, is very like putting the cart before the horse, for it is certainly a fact that men fail in athletics as much from want of 'wind' as from want of muscle. In a large number of cases this is due to false methods of breathing, hunching up the shoulders, and pushing out the sternum, instead of using the diaphragm and the abdominal muscles. *In ordinary respiration, expiration is entirely an elastic rebound, but for the forced respiration necessary in active exercise this is not sufficient; and by far the most effectual respiratory machinery is the alternating action of the diaphragm and the abdominal muscles, by means of which both inspiration and expiration are performed by muscular action, and are fully under control.* This machinery, however, requires to be trained and exercised like any other gymnastic movement, and it was rendered very clear by Surgeon-Captain Hoper Dixon that by such training not only can a man's 'wind' be greatly increased, but his physical development be much improved. It is quite clear that the ordinary drill-sergeant's teaching, to 'hold up the shoulders, push out the chest, and keep in the belly,' is exactly the opposite of what is requisite for good breathing; and it was pointed out in the discussion after the lecture that even while standing still in the position of 'attention,' a man might be almost deprived of breath by the rigid fixity of his respiratory muscles. The training required is very much what is now taught by some teachers of voice production; namely, a series of exercises calculated to develop the power and range of motion of the diaphragm and abdominal muscles, combined with certain movements performed during the process of expiration. Considerable emphasis was laid on the advantage of practicing abdominal respiration in the recumbent position while the abdomen is covered by an arrangement of weights, a sort of dumb-bell for the diaphragm, the total weight of which, however, should not exceed 3½ lbs. General Fielding, after the lecture, expressed a hope that Surgeon-Captain Dixon would be able to devise a simple breathing drill which might be found of easy general application."

We wish to call especial attention to the italicized portion of the above abstract. The italics are ours, as we wish to call especial attention to the fact noted by the editor of the *British Medical Journal*, that expiration is "entirely an elastic rebound." This being what for many years the writer has been trying to make clear, in writings, lectures, and otherwise, he is glad to find his views upon the subject supported by so eminent an authority as the *British Medical Journal*. The abdominal muscles are useful in respiration only by their muscular tone, which causes them to return to the position of rest after they have been stretched by the downward pressure of the diaphragm. By the return, the abdominal muscles lift the contents of the abdomen upward, thus crowding the diaphragm up into the chest in expiration. In forcible expiration, when exhausting the last portion of breath, the abdominal muscles are always used, and it is, of course, possible to use the abdominal muscles during the respiratory act as a reinforcement of the breath or the voice. The gymnastic exercise suggested, that of breathing with a weight applied to the abdomen while lying horizontally, is an excellent means of strengthening the diaphragm; but the natural effect would be to weaken the abdominal muscles if this exercise alone were employed, and the tendency would be to diminish the respiratory area by lessening the completeness of expiration. This tendency, however, may be counteracted by exhaling or breathing out through a small opening, as by closing the lips tightly or employing the breathing tube. The breathing tube described in another article will be found very excellent for this purpose.

HORSE-POWER OF THE WHALE.— Prof. Turner, of the University of Edinburgh, has recently calculated the power required to propel a whale at the rate of twelve miles an hour. The calculation was based upon a whale measuring eighty feet in length and weighing seventy-four tons. The force required was 145 horse-power.

HOW TO CULTIVATE THE BODY.

THE ancient Greeks gave the important subject of physical culture very careful attention, and were rigid in exacting for their youth a gymnastic training. Even the girls of Sparta were expected to be good gymnasts, and no young woman could marry unless she was proficient in various exercises. Consequently the bodies of both sexes were healthy, and beautifully developed. Their minds were also highly cultivated, but not at the expense of the body, as is generally the case nowadays. Grecian philosophers and physicians believed that the mind could not possibly be in a normal state unless the body was in perfect health, and acted accordingly. It would be well if with us it were compulsory for parents to give their offspring a course of physical training.

General physical exercise is the kind required for boys and girls, and it is essential that judicious systematic training be pursued. This can be had only at public or private schools where physical culture is obligatory, or at well conducted gymnasiums, where there is a system for training the body in a rational way. Many people think that a gymnasium is a place for sporting men. This is a mistake. Clergymen, doctors, students, clerks, governesses, and society people frequent respectable gymnasiums. The gymnasium of to-day is a very different place from that of fifty years ago. Formerly the aim of the gymnast was to turn out men who could lift heavy weights, and court death on the flying trapeze. Nowadays all this is changed; physical training is carried on in a scientific manner; men of ability have made physical culture a profession, and their object is to make pupils healthy, strong, and graceful. Most modern gymnasiums have appliances for the cultivation of every part of the body, and able instructors and physicians in attendance.

I advise all young and middle-aged men and women to spend an hour daily in earnest, systematic physical exercise. The best plan is to enter a gymnasium where some system is employed. There are several systems of physical training,— the Swedish, the German, the English, and the so-called American. The Swedish and the German are considered by competent judges to be the best. The teachers of the German system claim that it is the best because it aims at general physical culture, and that it keeps the mind as well as the body in wholesome activity. This system was founded by Jahn, in 1810. It embraces three departments,—school gymnastics, popular gymnastics, and military gymnastics. The founder's aim was to make the youth of Prussia strong and courageous to defend their country when needed, and from his idea the present German system of gymnastics has grown. The Swedish system was devised by Ling at the commencement of this century, and has been improved by his followers, who assert that it aims at a harmonious relation of body to mind, and that it is the best for the development of the fundamental functions. It is a system of voluntary movements arranged and executed with care. These exercises comprise leg movements, which increase circulation and regulate the action of the heart; back and chest movements, which strengthen and expand the lower part of the chest; heave movements, which strengthen the arms and the upper part of the chest; shoulder movements, to pull the shoulders back; respiratory movements, balance movements, abdominal exercises, etc. The English system of free athletic exercises has been tried with great success in France. No doubt it has a wonderful influence on the moral and social qualities of the young. The so-called American system is a mixture of the German and Swedish systems. Our teachers of physical culture take the best ideas from all systems, and find that the combination works well.

I do not advocate any particular system. My aim is to suggest practical means whereby the body can be cultivated. The Swedish, German, English, and American systems are all good, and either, judiciously followed, will bring about the desired result. Gymnastics should be directed toward promoting the healthy activity of the organs that make blood, to correcting defects, and to the perfection of the human figure. The most helpful movements are also the most beautiful. The Greeks cultivated the body as no other nation has done, with this result. In training, one should begin slowly and build up the weak parts first; then exercise should be taken so as to bring nearly all the muscles into action at the same time. This stimulates the action of the heart and lungs, besides increasing the circulation and respiration. Many muscles of the body, from lack of use, waste away. The technical term for this wasting is atrophy, and to avoid it every muscle in the body should be exercised regularly. Light, quick exercise is the best. Heavy dumb-bells or pulley-weights should not be used. One hour's vigorous exercise daily is all that is needed, and should always be followed by a tepid bath. Avoid every-

thing that throws extra strain upon the heart, and aim at the correction of errors of nutrition.

Those who are unable or unwilling to enter a gymnasium can by simple means build up and improve the body at home. For strengthening and developing the legs nothing can be better than walking.

For strengthening and developing the upper part of the body, a pair of light dumb-bells is all that is needed. Physical exercise should be taken regularly, and continued through life. It is a remedy against many of the diseases prevalent at the present time. I urge all who desire strength, health, and beauty to take plenty of outdoor exercise in addition to the home or gymnasium exercises.— *Wilton Tournier, in Lippincott's Magazine.*

AFRICAN FEMALE PORTERS.

In numerous savage countries the greater portion of the hard work is performed by women, and travelers assure us that, in some parts of Africa at least, the women are quite as well developed and as strong in body as the men. Works of foreign travel often picture native African women carrying huge loads upon their heads and shoulders. To the student of anthropometry or physical culture, the figures of these athletic women are an interesting study, indicating, as they do, a degree of physical vigor and stamina which is rarely met with among their sisters of civilized lands. The great disparity in strength which exists between men and women in civilized countries, amounting to a difference of several inches in height and to more than fifty per cent in strength, has given rise to the belief that woman is naturally much inferior to man in strength and endurance,— a belief which has come to be so universally accepted that the term "weaker vessel" is not infrequently used as a synonym for woman.

That this is really an unnatural state, resulting from the artificial conditions of our modern civilization, is clearly demonstrated by the vigorous development of the natives of Central Africa and many other portions of the savage world. Stanley tells us that he found the two hundred women who served him as porters on one of his expeditions in Africa the best porters he ever employed, and numerous other travelers have borne a like testimony. Woman deteriorates more rapidly than man in a state of high civilization, for the reason that upon her, more heavily than upon man, fall the degenerating influences imposed by the conditions of civilized life. The highly cultivated civilized woman, surrounded by all the conveniences and luxuries which wealth can supply, finds little occasion for muscular exertion. In consequence, that inexorable law of nature which punishes idleness with death, visits upon her the penalty for her neglect of active muscular exercise in placing upon her the stamp of physical inferiority.

That civilized women are capable of acquiring vigorous muscular development is evidenced by the occasional instances in which women born in civilization have from early childhood accustomed themselves to muscular pursuits. A conspicuous example of this sort is now before the public in the person of Miss Beckwith, of London, who, a few years ago, executed the daring feat of swimming across the English Channel in competition with two male champion swimmers, one of whom was Captain Webb. She came out second best in the contest, arriving only a few minutes behind Captain Webb, but ahead of her other competitor, having accomplished the arduous task in fourteen hours and a few minutes. Although so long in the water, she was not seriously exhausted, and suffered no injury whatever from her exploit.

Numerous other examples might be cited. Civilized woman is weak simply because she neglects to develop her muscles. This is especially true of American women, who are, as a class, probably the weakest women in the world. A national reform is needed. The public school is a good place for such a reform to begin. A gymnasium for girls ought to be attached to every public school and to every young ladies' seminary in the United States. Under the care of skilled trainers, the girls and women of the present generation might easily make such an advance in development as to become physically far superior to their mothers or grandmothers, notwithstanding the fact that the average young woman of the present day has much less endurance than the average woman of the generation which is just passing away. But to become strong, women must shake off the trammels of conventionalism in dress, and must set themselves to disprove those traditions which have come down from the sentimental chivalry of mediæval times, which stamp woman as the weaker vessel, and must give to the building up of their bodies a large part of the effort which is now bestowed upon accomplishments.

THE TRAINING OF PARENTS.

It is a strange fact that while there is no calling in life that can compare in importance with that of training a child, it is also true that parenthood is the only responsible position for which the world does not demand some special preparation. The person who builds our houses, cuts our clothes, runs the railway locomotive, takes charge of our cattle, teaches our schools, must have been specially prepared for his calling through years of study and training. It is only character building, — the giving of direction to human beings, who are given into our hands so plastic and impressible that they may be likened to clay in the hands of the potter — for which is demanded neither preparation nor a "knowledge of the business." To one who has given the matter thought, and has noted the many failures due to lack of knowledge on the part of parents, it will be evident that *they* need "training" quite as much as do the little ones given into their care. Mrs. Mulock-Craik, in her "Sermons Out of Church," speaks instructively upon this point: —

"It is sometimes said that children of the present day are made too much of. Perhaps so. They but follow the fashion of the age — anything but a heroic or ascetic age. No doubt they are a little 'spoiled.' So are we all. But the errors of the parents, from which theirs arise, are a much more serious matter. How to train up the parents in the way they should go is a necessity which, did it force itself upon the mind of any school-board, would be found quite as important as the education of the children.

"When we think of them, poor, helpless little creatures, who never asked to be born, who from birth upward are so utterly dependent upon the two other creatures to whom they owe their existence — a debt for which it is supposed they can never be sufficiently grateful — do not our hearts yearn over them with pity, or grow hot with indignation? . . .

"To be just is the very first lesson that a parent requires to learn. The rights of the little soul, which did not come into the world of its own accord, the rights of this offspring, physical, mental, and moral, are at once most obvious and least regarded. The new-born child is an interest, a delight, a pride; the parents exult over it as over any other luxury or amusement; but how seldom do they take to heart the solemn responsibility of it, or see a face divine, as it were, looking out at them from the innocent baby-face, or ponder the warning of Christ himself — 'Whoso shall offend one of these little ones which believe in me, it were better for him that a millstone were hanged about his neck, and that he were drowned in the depth of the sea.'

"There could hardly be a stronger expression of the way in which God views the relation between parents and children. Yet most young parents, who until now have been accustomed to think only of themselves or of one another, take the introduction of the unconscious third as their natural possession, never doubting that it is wholly theirs to bring up as they please, and that they are quite capable of so doing.

"Constantly one hears the remark, 'Oh! I would not take the responsibility of another person's child.' Does that imply that they feel at liberty to do as they like with their own? I fear it does; and that law and custom both appear to sanction this delusion. Nobody must 'interfere' between parent and child, at least not till the case comes within a degree or two of child-murder. The slow destruction of soul and body which, through ignorance or carelessness, goes on among hundreds of children, not only in humble, but in many respectable and well-regulated households, society never notices. I suppose even the most daring philanthropist would never venture to bring in a bill for claiming the children of unworthy parents, and snatching them from ruin

by annihilating all parental rights and making them children of the State.

"'Train up a child in the way he should go,' is the advice in everybody's mouth; but who thinks of training the parents? Does not everybody strictly hold that the mere fact of parenthood implies all that is necessary for the up-bringing of the child? — all the love, all the wisdom, all the self-denial? Does it ever occur to the average young man and young woman, bending together over the cradle of their first-born, that the little thing, whose teachers they are proudly constituting themselves to be, is much more likely to be the unconscious agent in teaching them?

"I have spoken of rights. This is the only instance I know in which they are not mutual, but entirely one-sided. The new-born babe owes absolutely nothing to the parents beyond the physical fact of existence. All moral claims are on its side alone. The parents are responsible for it, soul and body, for certainly the first twenty years; nor even after that is it easy to imagine circumstances which could wholly set them free. The most sorely tried father and mother could hardly cast adrift their erring offspring without a lurking uneasiness of conscience as to how far these errors were owing to themselves and their up-bringing. For, save in very rare cases, where far-back types crop out again, and are most difficult to deal with, there is seldom a 'black sheep' in any family without the parents having been to blame.

"'Why, I brought up my children all alike,' moans some virtuous progenitor of such. 'How does it happen that this one has turned out so different from the rest?'

"Just, my good friend, because you did bring them up all alike. You had not the sense to see that the same training which makes one, mars another; or else that in training them, it was necessary to train yourself first. Meaning to be a guide, you were only a finger-post, which points the way to others, but stands still itself.

"The very first lesson a parent has to learn is that whatever he attempts to teach, he must himself first practice. Whatever he wishes his child to avoid, he must make up his mind to renounce, and that from the very earliest stage of its existence, and down to the minutest things. In young children the imitative faculty is so enormous, the reasoning power so small, that one cannot be too careful, even with infants, to guard against indulging in a harsh tone, a brusque manner, a sad or angry look. As far as possible, the tender bud should live in an atmosphere of continual sunshine, under which it may safely and happily unfold, hour by hour and day by day. To effect this there is required from the parents, or those who stand in the parents' stead, an amount of self-control and self-denial which would be almost impossible had not Heaven implanted on the one side maternal instinct, on the other that extraordinary charm which there is about all young creatures, making us put up with their endless waywardness, and love them all the better the more trouble they give us. . . .

"Two thirds of paternal love is pure pride, and the remaining third, not seldom, pure egotism. . . .

"There is a class of women who consider that they have a higher destiny; that to help in the larger work of the world, to continue their own mental culture, is far more important than to bring up the next generation worthily.

"Both duties are excellent in their way, but there are plenty of unmarried, childless women, and women with no domestic instincts, to do the former — mothers alone can do the latter. True, it exacts the devotion of the entire life. . . .

"The mere fact of bringing eight or ten children into the world does not in the least imply true motherhood. If the mother leaves them to nurses and governesses; if she shirks any of the anxious cares, perpetual small worries, and endless self-abnegations which are her natural portion, the underside to her infinite blessings, she does not deserve to have husband nor children. Not every mother is born with the mother's heart; I have known many an old maid who had it, and I have heard of mothers of many children who owned to 'hating' every child as it came, and only learning to love the helpless innocent from a sense of duty. But duty often teaches love, and responsibility produces the capacity for it.

"Granting that the mother-love is there, is love sufficient? — Not always. It will not make up for the lack of common sense, self-control, accurate and orderly ways. Nor does the mere fact of parenthood by a sort of divine right constitute all parents infallible, as they are so apt to suppose, and by their conduct expect their children to believe.

"A parent, unlike a poet, is not born — he is made. There are certain things which he has at once to learn, or he will have no more influence over his child than as if he were a common stranger. First, he must institute between himself and his child that which is as important between child and parent as between man and God — the sense, not of absolute obedience, but of absolute reliance, which produces obedience. To gain obedience, you must first set yourself to deserve it. Whatever you promise your

little one, however small the thing may seem to you, and whatever trouble it costs you, perform it. Do not let the idea once enter that innocent mind that you say what you do not mean, or will not act up to what you say. Make as few prohibitory laws as you possibly can, but, once made, keep to them. In what is granted, as in what is denied, compel yourself, however weary or worried or impatient, to administer always even-handed justice. '*Fiat justitia, ruat cœlum*' is a system much more likely to secure your child's real affection than all the petting and humoring so generally indulged in, to give pleasure or save trouble, not to your little ones, but to yourself.

"A very wise woman once thus consoled an over tender mother, who was being blamed for 'spoiling' her little girl: 'Never mind. Love never spoiled any child. It is the alternations, the kiss on the one cheek and the blow on the other, which ruin.'

"It is not the preaching, not the teaching, not the continual worry of, 'Don't do that!' 'Why didn't you do this?' which makes children what we call 'good' children; that is, honest, truthful, obedient — troublesome, perhaps, but guilty of no meanness, deceitfulness, or willful mischievousness; it is the constant living example of those they are with. They get into the habit of being 'good,' which makes this line of conduct so natural that they never think of any other."

An American writer of note, Mrs. Amelia E. Barr, in a recent article remarks as follows concerning some of the obligations of parenthood: —

"There is something pitiful in the sight of a young, thoughtless mother with an unfolding soul and body to deal with. What no amount of knowledge is sufficient for, her inexperience accepts with a confident presumption. Is it any wonder that, without consideration, the natural emotions of children are checked, and their sense of right wounded? They are authoritatively forbidden to play, though play is the first poetry of life. They are told 'not to play with other children;' though only children — or good men and women — are fit to play with children. They are bidden to do things with either threats or bribes. They are told that medicine is not bitter, when it *is* bitter; or that something will not hurt, when it *does* hurt. Parents insist on their children's truthfulness, and yet set them constant examples of social and domestic equivocation. They are reproved for crying under pain, or for being angry under a sense of injustice, when every day they see their parents give place to unreasonable anger or impatience with trifling annoyances.

"Intellectually the ignorance of parents is frequently as fatal to the proper development of children. Primers are put into little hands that ought to know only the hoop or the skipping rope; for no child wants books until it has exhausted the wonders of the house, the streets, and the woods. What can a primer teach a child in comparison with a mother who answers patiently the never-ending questions of a curious child? Is she making bread? What a story she may tell of the wheat field and the mill! A pinch of salt may make a fairy tale of mines and miners. The log of wood, the bit of coal, the lump of sugar, the tea, the spice, the bunch of raisins — what wondrous things can be told of them! What does a child want with a book until these household tales are exhausted? And the store windows, and the men building houses, and the wonders of the seacoast? Truly, the mother is the only primer the child needs until it is at least seven years old, and yet how often its questions are met with an injunction 'not to bother' or a command to 'go to nurse.'

"And yet children are the hope of the world. They come to us bearing gifts for posterity. Is it possible, then, for fathers and mothers to be too sensible of the gravity and importance of their stewardship for the future?"

A KIND VOICE. — There is no power of love so hard to get and to keep as a kind voice. A kind hand is deaf and dumb. It may be rough in flesh and blood, yet do the work of a soft heart and do it with a soft touch. But there is no one thing that love so much needs as a sweet voice to tell what it means and feels; and it is hard to get and keep it in the right tone. One must start in youth, and be on the watch night and day, at work and at play, to get and keep a voice that shall speak at all times the thoughts of a kind heart. It is often in youth that one gets a voice or a tone that is sharp, and it sticks to him through life, and stirs up ill-will and grief, and falls like a drop of gall on the sweets of home. Watch it day by day as a pearl of great price, for it will be worth more to you in days to come than the best pearl hid in the seas. A kind voice is to the heart what light is to the eye. It is a light that sings as well as shines. — *Elihu Burritt.*

EVERY mother should set up in her household one standard of morality for sons and for daughters. There is no sex in guilt. It is as bad for a man to be immoral as for a woman.

BICYCLE DRESSES.

BY FRANCES M. STEELE.

SINCE the divided garment, or full knickerbockers, for bicycling is now authoritatively approved in Paris, it is likely to be commonly worn in our large cities, with the result that follows other fashionable innovations; that is, it will be agreeable or not, according to the skill with which it is adapted to the personality of the wearer. It recommends itself when gracefully worn by a graceful girl. It provokes ridicule when it is awkwardly made and awkwardly worn by an awkward woman. Such an one is ungainly in any dress, though it be made in the latest style and of the choicest fabrics.

A costume that is sure to be so severely scrutinized should offer no suggestion of pertness or self-complacency. It should be unobtrusive in color, and unpretending and straightforward in its expression. The hat or cap worn with it should shade the eyes, and be set upon the head near enough to the top of the ears to *appear* to shade the face. Some prefer velveteen or corduroy for the material. In that case, the color must be becoming, and either grave or gentle in its sentiment. Mrs. Elizabeth Pennell, who has traveled so far, to the delight of her readers, advises tweed as the most satisfactory for use. It may be had in cool grays or light browns more or less warm, as well as in dark tones. But whatever the fabric, it should be soft as well as heavy, — very soft, that the folds may be pliable, — and they should be well pressed. The fullness should fall together like the folds of a skirt when the wearer stands. Shirt waists, being now manufactured by the thousand, are conveniently provided as part of the costume; but, as commonly worn, they require a stiff corset and tight belt to prevent the upper and lower garments from pulling apart at the belt line. The woman whose taste is cultivated to discern the true standard of beauty of form finds it impossible to wear a corset. If the lower garment has a low, sleeveless waist like itself, suspending it from the shoulders, the shirt waist may be utilized.

The amount of fullness in the lower garment should be graduated to the needs of different forms. A stout woman should not wear too many folds about her thighs, nor a thin one too few. The pattern cannot determine this adjustment. If the jacket, so desirable to wear after exercise, has a skirt like a Russian blouse, or is a loose-fitting, well-hung coat, or a Norfolk sacque, with well-pressed box plaits back and front down to the belt line, the effect will be greatly improved for many possible wearers. As shoulder knots are common, the very low skeleton waist of the knickerbockers might be tied over the shoulders, or the waist might be cut to a low, square neck line back and front, like children's waists worn over *guimpes*. This waist, continuing the color and texture of the lower garment to the shoulders, not only adds the grace of suitable construction, but it prevents that horizontal division of the woman into sections of diverse color, which is the crying fault of most summer gowns. If gaiters are worn, they should match the color of the dress, that they may not make another horizontal division to diminish apparent height. If they are made of leather, it would be well to choose them to match the dress, or they might be made of the dress material. The ordinary dark stocking and high boot is an agreeable finish to the costume. Sleeves should not obscure the lines of the shoulder and upper arm. The whole should be close and compact, as the most important requisites of utility. Full sleeves of thin silk, that flutter in the wind and shimmer in the sun, are no addition to dignity nor simplicity.

Patterns for bicycling dresses will soon be offered, if they are not already, by the pattern dealers. No one should imagine that, having bought one, there is nothing further to do but to make it up in some convenient material. The pattern is first to be shorn of all masculine features, of any conventional enormity, and then to be adapted to one's own personality, setting off one's good points and concealing those not so good. This adaptation is the hardest task of all, but it is one that must be mastered, if the attire is to enhance the good influence of the soul behind it.

The covering for the head should be chosen with great care, for the attractiveness of the whole costume will greatly depend upon its becomingness. Jockey caps, with straight, deep visors, afford grateful shade, but they suggest the race course. There are Scotch caps, and Tam O' Shanters for cloudy or cold days. A boy's ordinary cap is often eminently becoming to young faces, and a traveling cap with visors before and behind, sometimes with ear-tabs that tie, is another good variety. Sailor hats are next best. They should be securely fastened, for they take the wind. Leghorns are grotesque with their flapping brims, and a large hat with feathers is fantastic and peculiarly out of place. Besides, there

are soft felt hats of different shapes and colors. The one that fits the breadth of the head at the top of the ears, and dwindles above to a truncated pyramid, should be avoided as lending a mean, unworthy expression even to comely faces and robust forms.

It is already proved that the costume is unpleasantly noticeable or not, for other reasons than its unusual shape. The woman who, with precision and primness marked all over her spare, angular form, rides along with a man's cap in miniature set on top of a coil of hair upon her crown, her knees and elbows sawing the air, and a conscious look of defiance upon her face — her whole appearance proclaiming, "I am very proper, and have *always* been very proper," excites irrepressible laughter. She believes she is ridiculed because she has dared to follow her best judgment, while she is undesirably prominent only because she has expressed a personality so graceless as to be funny. The woman whose lower garment is voluminous to a fault about her thighs, while it suddenly becomes scant at the knees, making her look like four spinning mutton legs, makes a comical show, not because she wears an unfamiliar garment, but because it violates the laws of proportion and harmony. Under other circumstances, she would probably dare to adopt the latest fashion in its most aggressive form, attracting quite as much unfavorable comment as now.

The woman who provides a dress that gives unwonted freedom to her lower limbs, should devise it, as well as every other, upon the principles of art, if she would recommend her appearance to people of good taste. The gowns already pictured as those worn at the World's Fair, and others recommended as a suit for business women, have often been modeled after the Syrian costume, which is faulty in itself, since the skirt is not, and does not appear to be, suspended from the shoulders. Copies of it have so far departed from the prototype that they have gathered sleeves very full at the top, and revers that make the woman's shoulders appear broad, instead of slightly drooping and comparatively narrow, as a woman's should be. Most of the wearers photographed seem unable to stand well. Indeed, the very same pattern, worn by different young girls, differs in effect as greatly as the physique of the girls. The thought always returns: There is no good dressing, there can be none, while the body is deformed or the dress simulates deformity, or while the wearer fails to be erect and graceful.

The wearing of pulled-back bell skirts, and later, umbrella skirts, which so ruthlessly expose the lower trunk and thighs, has doubtless prepared most people for the coming of the more modest skirt trousers. For the last few years women tourists in Europe have worn different forms of a garment clothing the lower limbs separately, and have indulged in mountain climbing and horseback riding with far greater facility. The use of the same garments for bicycling has so largely increased that no especial attention is directed to them in the parks of our large cities, and there are clubs whose members wear the divided skirt, and ride astride.

We are now told that loose trousers were invented by Queen Media for the women of her nation, and that when men appropriated similar garments, they were reproached as being "effeminate". So that, in resuming them, "women will merely return to a perfectly womanly, sensible fashion of her own original creation." One generation of classically formed and physically trained women might make the new costume always and everywhere delightful. It is quite possible that in the course of evolution it may be so elaborated as to be the accepted form of clothing for all active people, men and women alike.

Those women who have been impatient of the burden of skirts will find the present time a propitious one for indulging themselves in a liberty they have not hitherto dared to enjoy. To many it seems so hard to follow one's own convictions, even upon minor matters, unless the whole world besides is ready to do the same. Even for these, there is no longer need to delay in lightening the labor of domestic work. Many husbands, fathers, and brothers are already familiar with the sight of the new garments in public. Provided suits after the new pattern are adapted to individual peculiarities, are of a becoming color and suitable fabric, they will be just as presentable, and give as much pleasure, as the ordinary gown; far more, if the usual attire ignores the laws of beauty. A bicycle dress with mannish shoulders is as ugly as any conventional gown. No endless repetition of it can make it other than bad. The same careful consideration which makes draped costumes tasteful and artistic must be exercised to devise a kind of robing which more completely follows the lines of the figure. The woman who would adopt the new patterns should aim to make them thoroughly attractive, whether they are to be worn out of doors or not.

It is happy for those who are sensitive to comment, that the new garment has received such prompt recognition and acceptance. Now, many a woman will wear her bicycling dress before and after the exercise, as many a girl wore her knickerbockers at breakfast when her gymnastic class met at an early

hour. Many a housekeeper will be tempted to wear it at home for its convenience. The business woman, who has so long clamored for a suitable equipment for her duties, will probably be the last one to avail herself of the sensible innovation. But even she will not be blind to its good qualities when college students and women of leisure have made its use familiar.

CONTRIBUTED RECIPES.

FRUIT SOUP.—Take one quart of gluten stock, (prepared by boiling two cups of good wheat bran in three pints of water until reduced to one quart); one cup of dried apples, previously cut into small bits and stewed until tender and the juice evaporated; three fourths of a cup of currant juice, three fourths of a cup of pineapple juice; one tablespoonful of sugar, and a little grated lemon rind for flavoring.

FRUIT SOUP NO. 2.—One quart gluten stock prepared as above; one cup strawberry juice and one half cup of the berries; two tablespoonfuls of lemon juice; two tablespoonfuls of sugar; one tablespoonful each of dried currants and seedless raisins, and one half cup of dried apples prepared as in the preceding recipe.

PIGNOLIA MACARONI.—Take one cup of macaroni, add one pint of milk, two tablespoonfuls of flour, salt to taste, and six tablespoonfuls of pignolias roasted and chopped fine. Put into a shallow pudding dish, and bake in a moderate oven until nicely browned.

APPLES STEWED IN TOMATO.—Take stewed and strained tomato, and cook slightly tart apples in this as in water. Serve without the addition of sugar. The combination of the apple and tomato makes the sauce taste sweet. Salt may be added if desired.

EVORA BUCKNUM.

IT is said that the sultan of Turkey nearly always dines alone. Tables, plates, knives, and forks are eschewed. He uses only a spoon and his fingers, thus fishing out the food from little saucepans placed on the floor.

CARPET CLEANING.—After a carpet has become a little dingy, it may be considerably improved by sweeping it with a broom dampened with water to which a little ammonia has been added. Have the water in a pail, dip the broom in it, and shake off the drops of water. Sweep part of the carpet, and then dip the broom as before. When the water becomes dirty, change it for clean. If an old Brussels carpet is very much soiled, beat it thoroughly, and put it down upon the floor. Then wash it with warm water and fresh beef's gall, using one pint of the gall to one gallon of water; wash a small space at a time, rinse and wipe as dry as possible. Leave the windows of the room open, so that the carpet will dry quickly, and if it has been properly rinsed, the colors will look almost as bright as new.

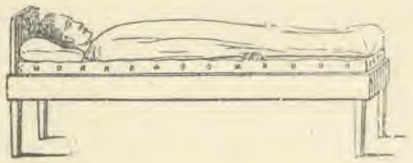
"PROBABLY few housekeepers or servants," says Dr. Cyrus Edson, "have any idea of what is meant by keeping the refrigerator clean. All refrigerators should be washed out thoroughly once a week with hot water in which soda has been dissolved. In the part where the food is kept, little particles of this are apt to adhere to the zinc. Unless these are removed, they will putrefy and produce a germ which will attack at once all fresh food put in, and cause it to become bad in a very short time. Almost every one is familiar with the stale smell in refrigerators, which is indicative of putrefying matter. Merely to wash out a refrigerator is not enough; it must be cleaned. This means that the corners must be scrubbed out, the waste pipe thoroughly cleansed. Then, before the ice is put into it, it should be well aired. The solution of soda should be washed out with fresh hot water."

A CORRESPONDENT, M. J., sends the following: "To take rosin off new tinware, put some lard or other grease into the tin and let it boil, rubbing the spots of rosin with a cloth aided by a stick."

HOW TO PREVENT LAMP CHIMNEYS FROM CRACKING.—Put them into cold water, heat it gradually until it boils, then let it cool as gradually. This treatment toughens the glass.

THE FULL PACK.

THE treatment known as the full pack consists in wrapping the whole body in either a moist, wet, or dry blanket or sheet. The water may be cold, tepid, warm, or hot, according to the symptoms and demands of the case. Where it is desired to reduce a fever, the cool or cold wet sheet, with the water simply squeezed (not wrung) out, is best, and the patient should not be too closely or heavily covered. When a soothing effect is desired, as in sleeplessness or nervous restlessness, the tepid or warm pack may prove most quieting. Where elimination of poisonous matter is required, as in malaria, Bright's disease of the kidneys, and the like, the hot blanket pack



will be most effective. The dry pack is very useful in warding off ague chills; it should be given an hour or two before the time for the chill to occur.

The outfit required in giving an ordinary wet sheet pack is an oilcloth, two comfortables, a blanket, and a sheet. A blanket pack requires an additional blanket. A pack is best given on a cot, but a bed will answer the purpose very well. The oilcloth should be laid on first, then the two comfortables, being careful to place them high enough up on the pillow to have plenty to tuck in snugly around the neck. The blanket is then laid smoothly above the comfortables. The sheet should be arranged in even folds lengthwise and dipped in a pail of water of proper temperature, 65° to 75° for a cold or cool pack, 85° to 95° for a tepid pack, 95° to 100° for a warm pack. Always grasp the sheet at both ends, so as to keep the folds even when wringing it. This facilitates arranging the sheet quickly and evenly on the blanket.

The patient who has been previously prepared by taking a warm foot bath, if the feet are cold, and having the clothing removed and the body wrapped in a blanket, now casts off the blanket and lies down on the smoothly arranged middle of the sheet, the longitudinal folds being still maintained at the edges. The patient raises the hands over the head, and the attendant quickly draws one side of the sheet over him, tucking the corner under the opposite shoulder, being careful to wrap the legs separately. The patient then crosses the hands over the sheet. Now grasp the other side of the wet sheet and pass over the arms, tucking it in snugly around the neck and shoulders, and making sure the sheet is evenly applied. The blanket is next brought over and tucked in, then the comfortables. If the feet have a tendency to be cold, a hot bag or bottle may be put to them. The head should be kept cool. The patient may drink a glass of water, either hot or cold, as most agreeable to his feelings.

The first sensation of a cold pack is that of a slight surface chill. The secondary effect should be a warm glow of the skin, and this is usually followed by a free perspiration. If the patient does not feel perfectly warm in the course of ten or fifteen minutes, hot water bottles may be put around him, between the comfortables and blankets; and if this does not bring about a reaction, he should be taken out, wiped, and vigorously rubbed until warm. When the reaction is prompt, and the patient is comfortable in a pack, he may remain for a half, three quarters, or even a full hour, without harm, but should never be allowed to become nervous or uneasy before being taken out. A person in a pack naturally feels very helpless, therefore should never be left alone for any length of time. The perspiration should be wiped from the face frequently, and the

flies kept off, as it is very annoying to feel perspiration trickling down the face or a fly tickling the nose, and be unable to use the hands. A spray, a pail pour, a wet sheet rub, a full bath, a soap and water shampoo, or a saline sponge, may be given after the pack. During the time the patient is in the pack, the room should be kept well ventilated and rather cool. Before unwrapping, raise the temperature five or ten degrees. Then begin by removing the comfortables. The dry blanket may be left in place over the wet one while a part of the body at a time is sponged and dried. When the entire surface of the body has been gone over, it should feel warm and glowing.

A cold, wet, or dripping pack is an effective measure for reducing high temperature. The sheet should not be wrung dry, as in the case of the moist pack, but the water simply squeezed out, and the patient wrapped in the sheet and lightly covered. When it becomes warm, cool water is sprinkled on it from a spray or watering pot. This is kept up for fifteen or twenty minutes or half an hour, until there is a decided reduction of the temperature. Then the patient is dried off, and allowed to rest. If the temperature rises, the pack may be repeated.

The hot wet blanket pack is a powerful eliminative bath. It is a useful means in the beginning of all fevers, malarial, typhoid, measles, scarlet fever, etc., also in torpidity of the liver and spleen, inactive, diseased kidneys, and in cases of chronic poisoning from lead, tobacco, and alcohol. The bed is prepared as before directed for a wet sheet pack, a blanket being substituted for the wet sheet, which is folded evenly and placed in very hot water, and passed quickly through a wringer. The sweating will be expedited by heating the comfortables and dry blankets thoroughly before using them. A patient should be closely watched while in the hot pack for symptoms of fainting, and the room should be kept cool. A glass of cold water may be given to drink, and the patient should always be removed from the pack if there is evidence of disturbed heart action. The same after treatment may be used as after the wet sheet pack, care being taken to cool the patient off well, so as to avoid his taking cold afterward. The dry pack is useful where periodical chills occur, and is given the same as the hot wet blanket pack, only a dry blanket is used in place of the wet one. The after treatment and care are the same.

A child may be wrapped in a sheet or small woolen blanket, using the cotton sheet when fever is high and temperature to be reduced, and the woolen when rapid perspiration is desired. After being wrapped, the child, covering and all, may be put into a cool, tepid, warm, or hot bath, and after remaining from three to five minutes in the water, be taken out, and the water allowed partially to drip off while the patient is still in its wet wraps. It may then be covered by dry blankets and held in arms or laid in a crib for twenty minutes or half an hour. This will often reduce the temperature, quiet restlessness, and secure refreshing sleep to the little one. A quiet nap of an hour or more in the wet wrappings will do the child no harm, and it may be safely allowed to sleep till it awakens before the pack is removed. A child who is nervous and afraid of water will often take this bath without any resistance; and by this simple means I have seen the temperature reduced several degrees, and the child become quiet and cease its restless tossing when suffering from the intense heat of eruptive fevers. Also in cases of pneumonia or bronchitis, when the temperature is high, a tepid pack will reduce the fever and relieve the labored breathing, often producing refreshing sleep and an improvement in all symptoms in less than an hour's time.

The pack, to be comfortable and quieting, must be properly given. Apply the wet sheet smoothly and evenly, having all parts in as close contact with the body as possible, as the parts which do not touch become cold, and cause unpleasant, chilly sensations. Do not bind the patient too tightly. Take care that the head does not become hot or the feet cold. Look after the face, and give plenty of drink, either hot or cold as is most agreeable to the patient. Keep the room cool and well ventilated, and do not allow him to become nervous before taking out. See that he is warm, dry, comfortable, and quiet after the pack; and the treatment will not only prove valuable as a remedy for disease but also be a real luxury and comfort to the sick and suffering.

DANGER ON THE HOUSE TOPS.— The causes of disease may lurk in filth on the roof as well as in the basement. Rotten shingles, overgrown with moss, eave troughs filled with dead leaves and other decaying organic matters,— dead bugs, worms, mice, and other small quadrupeds,— all tend more or less to contaminate the air of the house; and the broth of these abominable things flows into the cistern to be used by the family as water for domestic purposes. To successfully checkmate disease germs, we must have cleanliness at the bottom, the top, and between, and in the front and back yards as well.

DISCONTENT OFTEN A CAUSE OF ILLNESS IN CHILDREN.

THE health of children, like that of grown people, depends very much upon a happy, contented condition of mind. There is nothing sadder than to meet a discontented, selfish, fretful child, always conscious of its unhappy little self. The children thus afflicted are usually suffering from the over attention and pampering of their elders, or are compelled to think of themselves by the pains and discomforts due to disease. A healthy child in its natural state thinks as little about its body as the lambs that play among the hillocks. It is too intensely interested in this great, strange world to look inward in search of causes for unhappiness. By a judicious letting alone, and a chance to experiment and observe, it will become self-educated and self-reliant to a degree that the constantly trained and restrained child can never attain.

I once observed the behavior of two four-year-old boys. One was the petted darling of a fond and wealthy mother, always indulged, waited upon, restrained, protected—never allowed to stub his toes, bump his head, burn his fingers, or get any experimental knowledge whatever of the painful, disagreeable side of life. The other was the son of hard-working farmer people, left from babyhood to care more or less for himself; when he threw a toy out of his reach, there was no nurse near to pick it up—baby must just roll or creep after it himself. When he bumped his head on the corner of the table, it was a lesson to take care all through life, in passing cornered things, not to knock against them.

The two children were in the back yard of the farm-house. The little rustic — rosy-cheeked, sturdy-limbed, active and happy — was building houses and barns, and fencing fields with corn cobs, bits of stick and pieces of board; planting the green blades of grass for grain, and stocking his pasture and barnyards with a motley herd of beetles, bugs, and worms. The little city boy, pale and puny, wearing glasses for near-sightedness, was whining, crying, and fretting for fear the "nasty bugs" would bite him, and he would never dare to touch a cob or a stick for fear of soiling his hands or his clothing — an infantile dude! How much the ill health of this unfortunate child was due to constant self-consciousness and fear of contact with outside things which might perchance cause him passing pain or discomfort; and how much of the good nature and good health of the little country boy was due to utter unconsciousness of self, and the ability to extract pleasure from, and make a good use of, his surroundings, is a nice problem for philosophy to settle. In promoting the health and happiness of children, it is well to remember the power exerted over the bodily health by normal mental activity and emotions. To provide comfortably for the child is not the whole duty of the parent. It should be given a fair chance to help itself, and to get so acquainted with its surroundings that its health will not be injured and its nervous system shocked by fear lest contact with some innocent thing shall cause it bodily harm. Home nursing has many sides; parents need more training and experience than ordinary nurses.

WHY CHILDREN ARE RESTLESS SLEEPERS.

"MOTHER, I don't want to sleep with Fred any longer," said a bright-eyed boy of ten in my hearing a few months ago.

"Why, James, what has poor Freddie done to make you talk so?" replied the mother.

"Why, he just kicks and squirms so that I feel all pounded up and sore in the morning," said James, with a very much abused air.

Just then Fred came in, a boy four years younger than his brother, and much less robust and sturdy looking. It was four o'clock in the afternoon. The boys had had a hearty dinner at 1 P. M., yet they both went to the pantry and helped themselves to doughnuts and pie. An hour afterward they were both munching half-ripe windfalls in the orchard. At seven they, with their father and the hired men, ate a hearty supper, immediately after which the younger boy was sent to bed. The older lad went out with one of the men to catch a coon, not returning until late in the evening. The exercise and fresh air no doubt helped him to dispose of the surplus food, and he fell asleep as soon as his head touched the pillow.

At midnight the household was awakened by one piercing scream of terror after another coming from the boys' sleeping room, where poor Fred, suffering from an attack of night terrors, sat up in bed gazing wildly into vacancy, and furiously

fighting some dreadful specter. □When his mother put her arm around him, he clung to her with such fierceness that his nails cut into her flesh, almost causing her to cry out with pain. The fermenting mass of indigestible food in the stomach had produced intoxicant poisons, which disturbed and disordered the brain, and filled it with images similar to those of the drunkard's delirium.

Exciting games and perplexing studies in the evening often cause troubled dreams and disturbed sleep. If possible, avoid administering reproof or discipline to children in the evening. Send them quiet and happy to bed if you wish them to enjoy sound sleep. Nasal catarrh, compelling the child to sleep with the mouth open, often causes restlessness; the throat and mouth becoming parched, breathing is made difficult, and the child is compelled to awaken frequently to clear the throat of dried mucus. And so its sleep is broken, and it perhaps awakes tired and fretful. Enlarged tonsils have the same effect. A sweaty, dirty skin and the soiled garments of the day worn as night-robes make sleep unrefreshing, also chapped, feverish feet and hands, which, when left to the care of the barefooted boy or girl, are often carelessly washed. Among the children of fashionable parents, the strained, excited, unchildlike life of the little ones is an enemy of sound rest, and too often does away with the quiet, dreamless sleep of childhood.

Whenever restless sleep becomes habitual with a child, the cause should be sought for and removed. If it be late suppers and eating between meals, that habit should be stopped at once. If the respiratory passages are diseased, they should be treated for the removal of the obstructions; and all other sources of disturbance should receive attention, as a restless sleep, broken by bad dreams, gives the child no chance for healthy physical growth and mental development.

The appalling increase of insanity and other disorders of the brain and nervous system, and the numberless victims of persistent insomnia among adults, all admonish us to prepare the children for life's battles by helping them to become good, sound sleepers from infancy up. This habit, once formed, will be likely to continue in after life, proving a valuable safeguard against mental and nervous wreck when the individual is brought under some unusual mental or physical strain, as business reverses, loss of social position or of friends, long watching over the sick, etc., to say nothing of all the petty wear and tear, the perplexities and friction, of life in this hurrying age.

If one of the little ones runs a fishhook into the finger, do not attempt to draw it out backward. Cut the line quite clear from it, turn the point upward and push it through. Accidents with crotchet needles are constantly occurring, and if one be deeply pushed into the flesh, do not try to pull it out; the hook at the point will tear and inflame the part. A surgeon with proper instruments will take it out safely without difficulty. If you should be at a distance from a surgeon, the best thing to do is — first be quite sure which side the hook is, then push a smooth ivory knitting needle, or something of that kind down the wound until it touches the hook, then pull out both together. — *Sel.*

The Discomfort of Wearing Flannel next the Skin. — The use of flannel underwear has become almost universal for children, from infancy to maturity. It has superseded the cold clammy linen of a generation ago, and no doubt has saved many a delicate child a fatal croup or bronchitis; but, like most good things, it may be abused; and many sensitive children, with delicate skins, have suffered martyrdom from being compelled to endure the maddening irritation of woolen flannel worn for their innermost garments. In some it always causes a nettle rash, or urticaria; in others, a crop of small pustules; while in others, the restlessness is due to nerve irritation. The writer, when called to presribe some anodyne for these various disorders which were ruining baby's health and temper, has so often succeeded in giving complete relief by interposing a soft, thin muslin or cheese-cloth shirt between the skin and the flannel, that she feels like calling the attention of all mothers and others who have the care of fretful babies to the possibility of the flannel friction being at the bottom of baby's irritability. Do not discard the flannel; only keep it from direct contact with the skin, and you will often be surprised to find a crying baby becoming good-natured, and hives and pimples disappearing as if by magic.

Whenever a child is unruly, fretful, and hard to manage, it is either ill or tired, and should be given a bath and sent to bed to rest and recover from its state of nervous excitement.

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

UNSUSPECTED POISONING BY STERILIZED MEAT AND MILK OF TUBERCULOUS ANIMALS.

Dr. James Law, of Cornell University, Ithaca, N. Y., read at the fourth annual meeting of the New York State Veterinary and Medical Society, an interesting paper, which presents some new points in relation to the danger of the use of even the sterilized milk or flesh of animals affected by tuberculosis. Professor Law calls attention to the fact that, while the flesh of some portions of an animal may not contain tubercles, and hence not be likely to communicate disease, and while tuberculous flesh or milk which has been sterilized by means of heat is incapable of infecting a person with tuberculosis, there is, nevertheless, danger in the use of such articles as food. The danger exists in the presence in all the tissues and in the milk as well, of a cow suffering from tuberculosis, of the characteristic poison which is produced by the germs causing this disease, which is called by Professor Koch, tuberculin. It is this poison which produces the hectic fever in consumption, the profuse sweats, and other symptoms from which those affected by tuberculosis in its various forms, suffer. A small portion of this poison introduced into the system of a perfectly healthy person produces little apparent effect, and even in the system of a person in whom the formation of tubercles has but recently begun, it may give rise to no marked symptoms; but if one who is suffering from incipient tuberculosis receives even a very minute quantity of the poison tuberculin into his system, the results are very remarkable indeed. There are chills and a decided rise of temperature, and the tissues surrounding the point at which the germs are developing soon die. If this point happens to be located upon the surface of the body or in a portion of the lungs closely adjacent to the air passages, so that the dead tissues may be easily separated and thrown off, the patient may recover; but if tuberculous masses exist in interior organs which cannot communicate with the surface, then the setting free of the mass of germs by the destruction of the living wall of tissue by which it has previously been surrounded may give rise to a general infection of the whole body. It is in this way, as Professor Law suggests, that grave injury may be done by the use of tuberculous flesh.

The poisons characteristic of the disease, which are always to be found in the milk of a tuberculous animal, even after sterilization, may be the means of converting a simple and curable case of tuberculosis into an utterly hopeless one, leading to speedy death. We quote the following paragraphs from Professor Law's article, feeling sure that our readers will be interested and profited by becoming acquainted with some of the astonishing facts presented by this eminent authority: —

"Those who eat this meat and milk are taking in continually small doses of 'tuberculin;' and in case they are already the subjects of tuberculosis, in however slight a degree or however indolent a form, this continuous accession of the poison will rouse this morbid process into a greater activity and a more dangerous extension.

"If, now, we consider the prevalence of tuberculosis in the human population, and realize that *every eighth death is that of a tuberculous person*, we see what a fearful risk is being run by the utilization of the meat and milk of tuberculous animals, even if it could be shown that such meat and milk are themselves free from the living bacillus. Such reckless consumption of the products of tuberculous animals can only be looked upon as a direct means of sealing the fate of that large proportion of the community which is already slightly attacked with tuberculosis.

"The claim that the canning of tuberculous carcasses and the boiling or Pasteurizing of milk does

away with every element of danger, can no longer be entertained. Sterilization is not a restoration to a non-toxic condition; it does away with the possibility of infection, it is true, but it does not render the product innocuous.

"In my experience with tuberculous cows, cases have come to my knowledge in which invalids drinking the milk of such animals have suffered very obviously, but have improved after such milk was withheld. So, too, in the case of calves sucking phthisical cows; they have done badly and proved unthrifty, though they took the whole of the milk furnished by their respective nurses, but they throve better when weaned, and put upon solid food alone. I have followed some such calves until they grew up and were slaughtered, and have made post-mortem examinations, and found them bearing old calcified tubercles, pointing back to the time when they sucked the infected and poisonous milk. It is idle to say that such milk was merely lacking in nutritive principles; the calves in question had access to other food while following their nurses, and would not have been harmed by taking the same amount of pure water as they did of milk. Apart from the bacilli, which operated slowly, and which allowed these animals to live for years, and even to thrive, after they had ceased taking the milk, there was unquestionably in the milk a definite poison, which undermined the health and stimulated the progress of the tuberculous process.

"It may be safely held, as proved by analogy, observation, and experiment, that the soluble poisons of tuberculosis invariably operate by exaggerating any existing tuberculous process, and that blood and all animal fluids becoming charged with such poisons, always tend to further endanger the health, or even the life, of any person who may consume them while suffering from tuberculosis. We may freely allow that the transmission of the bacillus from *man to man* is far more common than from *beast to man*. But though the implanted seed may have been in many cases derived from a fellow man, its subsequent destructive progress may be due far more to the constant accessions of the soluble toxic products conveyed in the meat and milk of tuberculous animals. Without these constant doses of the soluble poisons of tubercle, the implanted germ would, in many cases, have proved comparatively harmless. Although it could be proved in regard to many cases that the cow had not contributed the seed of the disease, she is left little less responsible for the destructive progress and fatal result. The germ which might have remained comparatively dormant and harmless in the absence of the poisoned meat and milk, is by these stimulated to a more deadly energy.

"This hitherto unchallenged factor in the progress of tuberculosis opens up new and uncultivated fields for sanitary work. The great evil ventilated in this paper cannot be effectually met without the eradication of tuberculosis from every herd kept for supply of meat products for the public. Nothing short of this can be trusted to operate satisfactorily in putting a check upon the present fearful mortality from this disease. No inspection of dressed carcasses, nor of milk, butter, and cheese will furnish a guarantee. We must go to the herds and subject them, animal by animal, to a critical test, and only accept the products as safe when there is no longer a shadow of suspicion remaining.

"A professional examination of the most searching kind must be supplemented by the tuberculin test before a clean bill of health can be furnished. In my own experience with cattle, two thirds of the cases of tuberculosis sometimes escaped under the most critical professional examination, and were detected later by the tuberculin test. Often, when cattle were condemned by the 'tuberculin' test, have the owners pronounced them the most thrifty and the least suspected in the herd; and it was only after death, when the animals were opened and the caseated tubercle exposed, that they were satisfied that no mistake had been made. Recently, in a herd kept for the supply of high-priced milk of guaranteed soundness, the stock having been subjected to weekly examinations by a veterinarian, the 'tuberculin' test was applied, and *fifty per cent* of the herd demonstrated to be tuberculous. Without the 'tuberculin' test there is no guarantee possible for the products of the dairy, and the sanitary officers who will affect to deal with this disease in herds, without the aid of 'tuberculin,' are, at best, but pruning the tips of the branches of the evil tree. Public money ought not to be thrown away on such fruitless and ineffective work. The purification of a herd must be followed in every case by a thorough disinfection of contaminated buildings and places, and by a careful seclusion from new sources of infection. It is evident, therefore, that the non-tuberculous herd must be secured against the addition of fresh animals from any herd that has not been similarly attested sound, and that any necessary addition from another source must be tested by 'tuberculin' before it is added to the herd. Equally important is it to test all farm animals of whatever species, that live on the place and cohabit with the herd, and to see to it that no

human being suffering from tuberculosis is allowed to attend to the animals or to prepare their food. It is difficult to see how anything short of such a system can afford any guarantee of the absence of the soluble tubercle poisons from our milk, butter, and cheese.

"In the case of butchers' meats, a professional examination when slaughtered, covering all of the viscera as well as the carcass, will be essential, and the current doctrine of sound meat with localized tuberculosis must be abandoned. Every municipality must have its own public abattoir, in which alone its meat supplies should be butchered, and where every carcass should be systematically examined as it is opened. Private slaughter houses, controlled by individual owners, afford endless opportunities for the evasion of sanitary statutes, and ought to be abandoned as relics of an age when modern sanitary science was unknown.

"The question of dressed, canned, and salted meats is one that must be carefully considered. It is quite evident that such products must come to us with a sufficient guarantee, if allowed to compete with our home meats that have passed the municipal inspection. It is equally evident that no inspector paid by the packer or canner can furnish a certificate which will command public confidence.

"It will be argued that if the toxins in the meat and milk were as injurious as represented, we should see the evil results on every side, and that medical men would be universally cognizant of them. And yet, do we not see clearly to-day much that was never suspected twenty, thirty, or fifty years ago? How recent is the acceptance by the profession of the doctrine of contagion in tuberculosis, in tetanus, in pneumonia, in influenza, in glanders, etc. Are we to suppose that our forefathers were surrounded with fewer evidences of contagion, at a time when no precautions were taken to prevent it, than we are, with all the antiseptic and antizymotic provisions of the present day? The facts of contagion were doubtless more abundant in their days than in these, but their attention had never been drawn to them. So, now, let the attention of physicians and sanitarians be given to the morbid action of the soluble poisons of tubercle, and evidence of its evil will accumulate on all sides. It is the scrutiny and not the facts that are wanting.

"The economist will object to drastic measures for the suppression of tuberculosis, on the ground of expense. Who is to pay for the municipal abattoirs, the inspectorships, the disinfections and the indemities for slaughtered animals and condemned carcasses? In return let us ask who now pays for the constant losses of live stock which the proposed system would put a stop to; for the frequent infection of sound herds by unfortunate purchases of animals that prove to be tuberculous; for the losses to the nation, the community, and the family of the tuberculous one eighth of all deaths; for the loss of work, literary, scientific, manufacturing, commercial, domestic and manual,— of the great host of consumptives waiting all over the land to fill the places of this fatal eighth in coming mortality statistics; for the losses represented by the bills of the physician, nurse, and druggist for these invalids; and for the losses represented by the many migrations and exiles in search of health, and of the costly consumption hospitals and sanitariums? And who is to pay in the future for the endless harvest of similar fruits which the seeds, now sown through our supineness, must inevitably produce in the coming generation?"

In view of the startling facts presented by Professor Law in the above paragraphs, it must be evident to every reader that at the present time the only safe course is to abjure entirely the use of flesh food, and to use only the milk of cows which have been proven to be healthy by a most rigid examination.

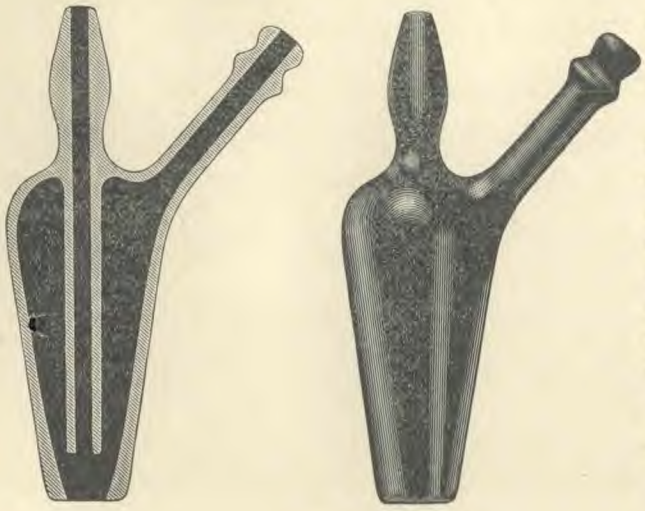
An examination was recently made of the several herds of cows which furnish milk for the Battle Creek Sanitarium, in accordance with the plan outlined by the author of the above paper. The examination was made under the auspices of the State Veterinarian, and included 115 cows. Fortunately, not a single animal among the entire number examined was found to be tuberculous, a fact which speaks well for the supervision of Mr. Richards, who has charge of the Sanitarium milk supply.

This fact also speaks well for the condition of the cattle of Central Michigan, and as the herds examined were composed of cows gathered from different regions near by, it is particularly evident that tuberculosis is not very widely dispersed among cows, at least in this part of Michigan. This fact would also seem to speak well for the salubrity of the climate of this State, or at least of this portion of the State, since anything like an excessive frequency of this disease among human beings is likely to be accompanied by conditions which would tend to give rise to the disease among animals.

The editor of this journal has recently contributed a paper to the discussion of this subject, at a convention of State Veterinarians and Live Stock Commissioners, held at Washington, D. C., portions of which will appear in forthcoming numbers of GOOD HEALTH.

EAR DOUCHE.

No remedy is so valuable in the relief of earache as a current of hot water passed into the canal of the ear. Many cases of inflammation of the ear resulting in perforation of the drum membrane and partial or complete destruction of hearing, might be prevented if the ear douche were employed early and perseveringly. Most of the deafness resulting from diphtheria and scarlet fever would be prevented by the proper employment of this simple means of treatment. The great obstacle to the use of the ear douche in general is the inconvenience of its application. A suitable tube may not be at hand, and even if that be in readiness, it is exceedingly inconvenient for the patient to sit or lie in the required position for the length of time required to accomplish good results. Then, too, even the best directed efforts of a skilled nurse do not always prevent the clothing of the patient from becoming wet about the neck and shoulders, and the subsequent chilling which results sometimes makes the patient worse than before.



EAR DOUCHE.

All these disadvantages are overcome by an ingeniously devised tube for the administration of the ear douche. The instrument is made of hard rubber, and consists, as will be seen by reference to the accompanying cuts, of an inner tube which conducts the water to the ear, while an outer tube conducts it out, and at the same time is so shaped as to completely close the opening of the ear. The water is conducted off into a receptacle by a rubber tube attached to the device. By the aid of this instrument a patient may lie in any position, and no attention to protection of the clothing is necessary. Thus the treatment may be kept up for several hours, if desirable, and in inflammation threatening complete destruction of hearing, the case may speedily be brought to a favorable termination.

Every family ought to possess this ingenious and useful instrument, which will be sent by the Sanitary and Electrical Supply Co., Battle Creek, Mich., postpaid, for the small sum of 75 cents.

WHAT TO EAT UNDER A TROPICAL SUN.— Some years ago the writer had under his personal care for a short time, a gentleman, who, with his wife, had been for some time a missionary in India, and had been obliged to return to this country on account of ill health. The gentleman stated that he expected to remain a year or two or until his health should be sufficiently recruited to enable him again to endure for a season the pernicious influences of a tropical climate. It was suggested to him that possibly the diet commonly indulged in by the English people in India and other tropical countries was the cause of

his ill health, rather than the climate of that country, as the natives of India and other tropical lands do not seem to suffer particularly from climatic influences. The deadly effects of this country are chiefly observed in English-speaking people, who carry with them from England or America the flesh-eating habits to which they have been addicted at home. After giving this matter some consideration, the gentleman became convinced that the use of flesh food had probably been the principal cause of his ill health in India; and instead of waiting a year or two to recruit his strength, as he had proposed to do, he returned at once. Six months later he reported that, with a vegetarian diet, he found India to be the most healthful climate in the world.

Emilio V. Monti, in writing to the *Dietetic Reformer*, from Kimberly, South Africa, speaks as follows with reference to diet in hot climates: —

"I would advise every one going into a hot country to use as much fruit and as little meat and hot fluids as possible. South Africa is perhaps one of the greatest meat-eating countries in the world, as far as relates to foreigners; and it would require one with far more medical knowledge than I possess, to examine into the causes of the various complaints prevalent here, and demonstrate the relation of diet to disease. I might, however, state that dyspepsia and rheumatism are very common, it being the exception to meet a colonist over thirty years of age without one or the other; and cancer is also very frequent. In such a dry and healthful climate as this, it is surely a striking proof that climate has nothing to do with causing rheumatism, else we should be quite free from this troublesome malady. It is a prevailing idea here that the system requires to be 'kept up' during hot weather by eating meat three times a day; and, as it is cheap, it is placed before one at every meal throughout the year. One result is that a good set of teeth is seldom seen, except among the natives, although this, no doubt, is partly caused by the large amount of hot tea and coffee consumed. I have noticed that those of the various native races who live with Europeans, and adopt our civilized (?) manner of living, soon lose the beautiful teeth for which negroes are celebrated the world over; while those who continue in their native state, living principally on Indian corn and meal, have fine teeth to a very advanced age. It is said that up to eighty and ninety years of age the Zulus have every tooth in a very good state of preservation."

ANSWERS TO CORRESPONDENTS.

PERSPIRATION — PURGATIVES — BLOOD PURIFIERS — ETC. — An "interested subscriber" wishes to know: "1. Is a perspiration caused by a pack or other hot treatment more desirable or effectual than a slow perspiration caused by aconite or some other antipyretic, taken for the purpose of breaking up a fever? If so, why? 2. Some physicians think that mild purgatives do more thorough work for the system than the enema; that is, that the enema only reaches the large intestine, whereas a purgative taken into the stomach cleanses the entire alimentary canal. Is this true? 3. Am troubled with cold sores and canker in throat, and every little scratch on the flesh suppurates. Is this because the blood is impure? 4. Ought I to take some so-called blood purifier? or would living hygienically be all that is needed? 5. What do the following symptoms indicate? A constant pain in the abdomen to the right of the umbilicus, and occasional bloating. 6. When it is possible to procure little or no fresh fruit, what dried fruits are best for use?"

Ans.— 1. Yes. Perspiration induced by either artificial heat or retained heat of the body is a natural process. Perspiration induced by aconite or any other drug is the result of the effort of the system to expel the drug; it is, in fact, the effect of a poison rather than a physiological process.

2. Yes. Nevertheless the purgative is an irritant, and should be used only in cases actually requiring it as a means of clearing the bowels. The enema is ordinarily greatly preferable to purgatives or laxatives of any sort.

3. Probably.

4. No. So-called "blood purifiers" do not purify the blood. The best means of doing so is copious water drinking, the use of a careful dietary excluding all unhygienic articles, abundant exercise in the open air, and eliminative baths.

5. Hyperæsthesia of the lumbar sympathetic nerve, decomposition of the intestinal contents, with formation of gas.

6. Prunes, apples, and figs.

KEEPING OF FOOD, ETC.— W. F. R., Penn., asks: "1. Ought foods which are left over from one meal to another, to be kept covered to prevent disease germs from getting into them? 2. By care in this way, and by eating only freshly cooked food, could cholera morbus and other summer complaints be prevented?"

Ans.— 1. Yes.

2. The precautions mentioned would certainly be of value. The real cause of cholera morbus, however, is probably bad water and contaminated milk, hence sterilizing of water and milk is a very important additional precaution.

BAD TASTE IN MOUTH — BOILED MILK, ETC.— D. F., Ill., asks the following questions: "1. What is the cause of a bad taste in the mouth upon awaking in the morning? 2. Does milk have a more constipating effect after having been boiled? 3. What is the best remedy for asthma?"

Ans.— 1. Germs growing upon the tongue.

2. Probably.

3. Asthma is often due to indigestion; it is sometimes due to bronchial catarrh. Cases of the first class require dietetic remedies. Cases of the second class usually require a change of climate, in addition to proper treatment.

PASKOLA.— Mrs. M. B. asks: "1. Is Paskola, advertised by the Pre-Digested Food Co., New York, what it is represented to be? 2. Is it injurious? 3. Please give its analysis."

Ans.— 1. Analyses of Paskola made by the government chemist show no foundation for the extravagant claim made by the manufacturers.

2. It is valueless.

3. We have the analysis in our possession, and will publish it in an early number of GOOD HEALTH.

CORNEAL ULCERS, ETC.— Mrs. E. J. R. inquires: "1. What is the cause of ulcers on the eyeballs? 2. What is the preventive treatment, if any? 3. What will best allay inflammation?"

Ans.— 1. Inflammation or impaired nutrition of the eyes. An impoverished state of the system is the frequent cause of these ulcers.

2. Obtain suitable treatment from a competent oculist, and improve the general health.

3. Inflammations involving the outer coverings of the eye are usually best relieved by cold applications. Inflammations involving the deeper structures of the eye are best relieved by hot applications. Corneal ulcers generally require fomentations, as there is frequently great irritation and also much inflammation.

COTTOLENE.— J. B. G. asks the following questions: "1. Is cottolene as manufactured by the N. K. Fairbank Co. a purely vegetable oil? 2. Is it a healthful article to use in cooking?"

Ans.— 1. It is claimed to be.

2. It is probably not more harmful than other free fats.

CLEANSING OF COTTON UNDERGARMENTS — TREATMENT OF UNFERMENTED BREAD, ETC.— Mrs. J. R. S. inquires: "1. Can cotton undergarments be cleansed sufficiently for health without being subjected to boiling? 2. Is there any scientific reason why unleavened dough may not stand over night before being baked? 3. A loaf is made by mixing cold mashed potato with graham or whole wheat flour and cornmeal stirred into sufficient milk; the mixture is then allowed to stand over night. It is steamed several hours, and when cooked, is served hot. Is this a healthful food?"

Ans.— 1. Boiling is requisite for thorough disinfection, although impurities other than germs can be removed by thorough washing without heat.

2. No, not if kept cool. Moistened flour will soon ferment, however, in a warm place, as it contains germs of fermentation derived from the air, even when no yeast has been added.

3. Under the conditions named, it is probable that the mass would sour, and consequently be more or less deteriorated in consequence; nevertheless, cooking would thoroughly destroy the germs present, and it cannot be said that the preparation would be decidedly unhealthful.

SYMPTOMS OF BRONCHIAL CATARRH — BICHROMATE OF POTASH, ETC.— A "ten years' subscriber," Cal., asks: "1. Is a continual itching and irritation of the bronchial tubes a symptom of bronchial catarrh? 2. What is a remedy? Have used inhaler described in "Home Handbook," with tinct. tolu, benzoin, eucalyptus, creosote, also menthol and camphor. The last two mentioned give temporary relief, but neither of the others have any effect. 3. Have seen bichromate of potash mentioned in medical journals in connection with bronchial troubles. What is a proper dose? 4. Will it be possible for you to indicate a line of home treatment? 5. Would a change of climate be beneficial?"

Ans.— 1. This symptom is sometimes present, but it is not alone sufficient to indicate bronchial catarrh.

2. The use of the volatilizer, with the proper solution, would doubtless give relief. A moist compress worn over the chest at night would also be beneficial.

3. We cannot recommend the drug.

4. A course of treatment at a first-class sanitarium is decidedly preferable to home treatment. Some suggestions for home treatment might be made which would doubtless prove beneficial.

5. The climate of this State is usually healthful in cases of this sort.

A TOBACCO CURE — LIQUOR SPECIFIC.— S. T. H. B., New Brunswick, asks: "1. Would you recommend the so-called specific advertised by the Rose Drug Co. as a cure for the tobacco habit? 2. Is there a sure cure for the liquor habit? 3. If so, what is it?"

Ans.— 1. No.

2. Yes.

3. The remedy is very simple; let liquor alone.

A REFORM DRESS.— Mrs. M. A. P., Nebraska, asks: "1 Please describe the style of dress which in your opinion is the true reform dress. 2. Where could patterns for the same be obtained?"

Ans.— 1. Such a dress as will be found described in a circular recently issued by the Sanitary Supply Co., Battle Creek, Mich.

2. Patterns can be obtained from the same address.

COLD MORNING BATH.— A subscriber writes as follows: "When I take a cold bath for several mornings, I have a lameness in my hips. Would like to know the cause."

Ans.— Probably a rheumatic tendency; the cold bath should be preceded by a warm bath.

THE GASTRIC JUICE — SALT — PERSPIRATION, ETC.— Mrs. B. P. R., Iowa, wishes to know: "1. How is the gastric juice formed without salt or the element chlorine? 2. If the taste for salt is not a natural one, why is it that animals will travel miles to a 'salt lick'? 3. Is the perspiration of persons not using salt saline in reaction? 4. Is there salt in the blood? 5. If so, how does it get there except from the system?"

Ans.— 1. The chlorine of the gastric juice is doubtless obtained from chloride of sodium.

2. All animals do not visit salt licks; in many parts of the world there are no salt licks.

3. Yes.

4. Yes.

5. There is a small quantity of chloride of sodium in all foods, — probably a sufficient amount. The objection to the use of salt is in the taking of an excess of this element into the system.

CARBOLIC ACID.— Mrs. M. G. G., Iowa, asks if there is danger in employing, as a gargle for the throat or as a vaginal douche or an enema, a solution of carbolic acid and water, the acid in the proportion of one drop to a tablespoonful of water?

Ans.— Carbolic acid may be safely used as a gargle or a vaginal douche in the proportions named, but should never be used as an enema. If used as an enema, poisonous effects might be the result.

RELIEF DEPARTMENT.

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

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

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

1. To obtain intelligence respecting young and friendless orphan children, and to find suitable homes for them.

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

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

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

☞He wishes especially to state that those who apply for children will be expected to accompany their applications by satisfactory letters of introduction or recommendations.]

No. 231 is another Michigan boy. He is but nine years old, and is left in the world with no one to care for him but the county authorities, as his mother is dead and his father has deserted him. He has dark blue eyes and brown hair, and is said to be kind, easily governed, and to have fine sensibilities. Who will offer a home to him who is worse than an orphan?

WORD has come from Colorado telling us of a thirteen-year-old boy (No. 232) whose father is dead. His mother desires to place him in some home, but does not wish to give up full control. He has brown eyes and hair, and has not been allowed to run the streets. Will some one offer this boy a home for a few years?

Is there not some good home in the Southern States where a twelve-year-old boy (No. 233) can find parents? This boy's father and mother are both dead, and just at this age he surely needs to be surrounded with good influences and to receive kind advice and encouragement, so that he may grow to be a useful man. He has black eyes, and is said to be intelligent and in good health.

NOS. 235, 236, AND 237.— The father of two girls and one boy, aged respectively twelve, eleven, and nine years, now living in Massachusetts, is anxious that his children may have such care and training as only some kind, motherly woman could give. He desires that homes be provided for them in the New England States. The children all have dark eyes and hair, are industrious, and have not been neglected.

No. 240.— A YOUNG girl sixteen years old has made application for a place to work where she can earn moderate wages and at the same time attend school, so as to obtain a good education. She wishes to follow the occupation of nursing as her life work, but owing to her age and lack of education she is not as yet prepared to enter the Training Class for Nurses. Will some one offer to assist this young girl to prepare herself for the noble work of laboring for suffering humanity?

No. 241.— A HALF orphan baby boy living in Michigan needs the care of some kind-hearted mother. He is but four months old, with blue eyes and dark hair. He will need kind attention, and the love which only a true mother can bestow. We doubt not that the friends who will take this little one into their home will be fully rewarded for the time spent in caring for him.

THE cases of Nos. 242 and 243, two boys five and seven years old, have been brought to our attention. A few months ago they were left fatherless, and their mother has no property, and no means of support except her hands. Working away from home ten hours a day, she has very little time left for the care of her children, so desires to place them in a family, probably on a farm, so that, when they are out of school, they will not have an opportunity to run the streets. These boys have brown eyes and hair, and are said to have good dispositions.

NO 244.— A LITTLE German boy, nine years old, is in need of a home. He has blue eyes and light brown hair, and is now living in Florida with his mother, who is unable to care for him. He is said to be kind-hearted, and we doubt not, if he is surrounded by good influences, and receives proper instruction, that he will be an honor to those who will thus direct his steps in the right path.

No. 245 is a little girl eleven years old, living in Michigan. Her father desires to place her in some

home where she will have good school advantages and kind motherly attention. The child is of a cheerful disposition, quick to learn, and has had good care. The father does not wish to give the little girl away, and will assist in supporting her. What he wishes is a home for her, as he is not keeping house. Will some one assist in this matter?

No. 246 — LITTLE Earl, a Michigan baby seven months old, is in need of some kind motherly body to care for him, who will give him the care and attention that is very necessary he should have at such a tender age. He is a pleasant and good natured child, with blue eyes and light hair. Here is another opportunity for some one to train a child for usefulness. Who will offer him a home?

Word has just been received concerning the little boy, No. 134, stating that he is very happy in his new home. He had been living in town previous to going to his country home, so was somewhat discontented at first. After having received a small wagon and a few such articles for a boy's pleasure, he has no desire to go to town often, as was his wish at first, but is now going to school, and is perfectly contented. At first he seemed to distrust every one, always asking other members of the family if the things told to him were true, but he has now learned that those who care for him do not try to deceive him, but always tell him the truth. When we see how the manifestation of love, and a few lessons in honesty are already molding his character, we are thankful that one more child has been started on the road to success. Although it may take some time, earnest thought, and prayer to train such a child, can we estimate the amount of good that may be thus done? Only when we compare the life of the man of honor with that of one who has been reared in the streets, can we realize the great benefit of surrounding a child with the proper influences.

It will probably be of interest to our readers to learn that over sixty children have been placed in homes since the opening of the Relief Department. Some of this work has been accomplished through our agents in different States, who have kindly assisted us by reporting cases, and also by helping to find homes for these children.

PERSONS making applications for children advertised in this department are requested to send with their applications the names and addresses of two or more persons as reference. If possible, these should be known, either personally or by reputation, to some member of the Board of Trustees.

VISITING DAYS AT THE HASKELL HOME.

PERSONS intending to visit the Haskell Home will please note that the visiting days are Sunday, 4 to 6 P. M., and Wednesday, 2 to 6 P. M. It is necessary to make this announcement, as so large a number of visitors have been calling at the Home that the very interest of the friends, which we have no desire to discourage, has been something of a hindrance to the workers. J. H. KELLOGG.

CLOTHING FOR THE POOR.

THE call for clothing of all kinds and the numerous offers to supply assistance of this sort, have led us to organize a Clothing Department to receive and properly distribute new or partly worn garments which can be utilized for the relief of the very poor. In connection with this work it is very important that a few points should be kept in mind and carefully observed: —

1. Clothes that are so badly worn that repairs will cost more in money or labor than the garment is worth, will of course be of no service. Garments that are old, though faded, or which may be easily repaired by sewing up seams, or made presentable by a few stitches judiciously taken at some point in which the fabric is nearly worn through, may be utilized to most excellent advantage. But garments so badly worn that they need extensive patching, or clothes which have become much soiled and grimy by long use in some dirty occupation, should find their way to the rag bag instead of the missionary box.

2. Freight must always be prepaid. It costs as much to send 25 pounds or any amount less than 100 pounds as to send the full 100 pounds; consequently it would be well for those who think of sending clothes to be used in this department, to put their contributions together in one shipment, so as to get the benefit of the 100-pound rates. *We are obliged to ask that freight should be prepaid as a means of preventing loss to the work in the payment of freight upon useless packages.*

3. Clothes that have been worn by patients suffering from any contagious disease — such as typhoid fever, erysipelas, consumption, and skin disorders of all sorts, as well as scarlet fever, measles, mumps, diphtheria, and smallpox — should not be sent. Infected clothes may be rendered safe by disinfection, but we cannot trust to the proper disinfection of such garments by those sending them, who, in the majority of cases, are quite inexperienced in such work; neither should those who unpack the clothes be exposed to the risk of contamination while preparing them for disinfection at this end of the line. Such clothes should, as a rule, be destroyed. If they are not destroyed, almost infinite pains is required to render their use perfectly safe.

4. All articles received here are carefully assorted and classified, and are then placed as called for, where they will do the most good.

5. Clothing intended for the Chicago Medical Mission should be sent to 40 Custom House Place, Chicago, Ill.

LITERARY NOTICES.

"THE BOOK OF THE FAIR," by Hubert Howe Bancroft. The Bancroft Company, Publishers, Auditorium Building, Chicago.

Of the several World's Fairs which have been held, little now remains in the way of description save what has been preserved in books. In due time, their purpose accomplished, most of the buildings of the present Exposition, these splendid edifices which have been reared to science, art and industry, and to which all the world has made its pilgrimage, will be taken apart and their contents removed. Then all that will be left of this brilliant spectacle will be in the minds of men, and in printer's ink. Many of the beneficial effects will remain, in garnered experiences and crystalizations of thought; much will be lost which were well worth preserving. The reproduction and record in book form will exercise an influence for good throughout the centuries. In this age of ideas, which in these splendid displays find such fitting expression, how greatly is civilization indebted to the printer's art, and how important it is that this art should be properly exercised, that the books written should be true to their great exemplar! The writing and publishing of a book which shall attempt to do justice to the subject offers a field for the highest ambition. It should be in the strictest sense a work of art as well as of material and moral instruction, and, above all, should faithfully reproduce this panorama of the nations, so brilliant and yet so transitory. It is the earnest hope of the author of "THE BOOK OF THE FAIR" that his task will not prove altogether unworthy of this greatest of human displays, but in some small degree will aid, like the Exposition itself, in promoting a broader sympathy and fellowship in humanity, and enable us somewhat further to fathom the undeveloped might of man.

THE value of *Littell's Living Age* as an educator cannot be easily over-estimated. It would be an interesting study, were it possible, to trace its exact influence during the fifty years of its existence in developing a refined and catholic taste. It certainly is not too much to say for it that it has from the first had a formative influence upon American thought, and upon the expression of that thought in American literature. And it increases in value as it grows older and as the number of foreign magazines increase. Recent issues contain some magnificent articles: notably, one by Gladstone, in the issue of Sept. 8, on "The Place of Heresy and Schism in the Modern Christian Church;" and "The Poetry of Robert Bridges," by Edward Dowden, in the No. dated August 25. "Alsace and Lorraine," "Competitive Examinations in China," "History of English Policy," "Iceland To-day," and many others equally good, testify to the undiminished luster of this brilliant eclectic, and prove it still the well-nigh indispensable friend of the intelligent and educated people of this busy age. No better opportunity was ever offered for subscribing to this magazine, for the publishers will send absolutely free the weekly issue for the remainder of this year to every new subscriber now remitting for the year 1895. Address, Littell & Co., Boston.

Scribner's Magazine for October contains the first of two articles on English railways, by H. G. Prout, editor of the *Railway Gazette*. Colonel Prout recently made a trip to England expressly for the magazine, to accumulate fresh material on a subject with which he was already familiar. He has in his articles preserved the open mind and the even judgment of a man who is thoroughly well-posted on the railroad problem in all countries. In this first article, which deals with "Railroad Travel in England and America," he compares the systems of the two countries, particularly as to safety, speed, cost, comfort, and construction. The clear and entertaining manner in which Colonel Prout develops the subject and the startling facts with which his article abounds will, for the first time, make plain to the unprofessional reader many things of which even the American railroad man is wofully ignorant. The article is richly illustrated by A. B. Frost and from photographs collected by the author.

"RED CAP AND BLUE JACKET."—A Tale of The Time of the French Revolution. By George Dunn. American Copyright Edition. 16 mo, cloth, $1.00, G. P. Putnam's Sons, New York City.

The story is laid in Scotland toward the close of the 18th century, when both England and Scotland were agitated by the principles of the French Revolution, which agitation is suggested in the story. It is extremely interesting and dramatic, and abounds in characteristic Scotch humor, which is delightful. The characters are clearly and forcibly presented, and the dialogues are uncommonly good. There is considerable Scotch dialect, but the author is skillful in his use of it, and it enhances rather than impairs the interest of the story. The author displays merit of a high order, and the interest increases as the story progresses.

PUBLISHERS' DEPARTMENT.

THE CHICAGO MEDICAL MISSION.

THE Chicago Medical Mission is still doing a good work for the indigent classes of Chicago. At the Mission at 40 Custom House Place, any one who chooses to call may see every forenoon such a unique gathering as will not be found in any other place on the continent,— men of every nationality, of all colors, of all occupations, gathered together waiting for the distribution of tickets which will entitle them to the privilege of getting clean. This class of patrons of the Mission numbers from seventy-five to one hundred and fifty daily. The men are not content with simply washing their shirts, but the majority wash their coats, vests, pantaloons, stockings, and sometimes even their hats or caps. It is astonishing to one unacquainted with this class of men, that they should be so much interested in making themselves clean; but the fact is, the tramp is not so bad a man as he is thought to be. He boils his clothes, sometimes, perhaps, not simply for the purpose of getting clean, but for the sake of his peace of body as well as of mind, which is seriously disturbed by the unwelcome companions that he gathers in vermin-infested lodging houses.

The following is a brief statement of the origin, object, and general plan of the work: —

Object. — The Chicago Medical Mission was formally opened June 25, 1893. Its object is to advance the cause of Christianity and to aid in uplifting the fallen, relieving the suffering, and improving the condition of the neglected classes. It is Christian, but entirely undenominational, in its work. It was established and is conducted under the auspices of the S. D. A. Medical Missionary and Benevolent Association, which has for many years conducted a self-supporting and philanthropic institution at Battle Creek, Mich., known as the Battle Creek Sanitarium. By the improvement of the finances of this institution, and through the aid of generous gifts from Mrs. C. E. Haskell and others, it has been enabled to establish medical missionary work in various lines and in different parts of this and other countries. Its principal branches are at St. Helena, Cal.; Guadalajara, Mexico; and Cape Town, South Africa. It also has a branch Sanitarium at 28 College Place, Chicago, the profits of which are devoted to the support of the Chicago Medical Mission, though inadequate to carry on that work, it having grown far beyond the expectations

---

of the projectors. The following are the principal lines of work undertaken in connection with the Chicago Medical Mission :—

Missionary Nursing.— For nearly a year before the formal opening of the Mission, a missionary nurse had been employed for the purpose of nursing the sick poor at their homes, and laboring for the improvement of the condition of the most indigent and neglected families to be found on Clark Street, Sherman Avenue, and in the wretched tenements of that vicinity. Since the opening of the Mission, a large number of nurses have been employed,— from half a dozen during the summer months to more than thirty at times during a portion of last winter. The work of a missionary nurse is evangelical as well as medical Since the opening of the Mission, now fifteen months, more than 4500 persons have been cared for by our missionary nurses.

Free Obstetric Service.— Since Oct. 8, 1893, a free obstetric service, under the charge of a competent physician with a corps of trained nurses, has been carried on in connection with the Mission, through which considerably more than one hundred lying-in women have been cared for. This service is conducted in a manner different from the work of the ordinary visiting, or missionary nurse, the nurse remaining with the patient as long as may be required by the necessities of either mother or child. Physicians and nurses are in constant readiness to answer calls to any part of the city.

Free Dispensary.— Since the formal opening of the Mission, a free dispensary service has been maintained. The poor of all classes are received daily at 40 Custom House Place, where medicines are dispensed, wounds dressed, and any other necessary treatment administered, including massage, electricity, and baths of every sort required, as well as medicinal prescriptions. The whole number of patients prescribed for and treated at the dispensary during the first year was 4169. This number has since been increased to nearly 6000. The number of treatments given the first year, including dressings supplied, but not ordinary baths, was 16,852, which has since been increased (fifteen months since opening), to over 20,000. The afternoons of Monday, Wednesday, and Friday are reserved for women exclusively. A female physician is in regular attendance on those days. A male physician is in attendance at the dispensary daily in the forenoon. Trained nurses are at the dispensary every day of the week, for attendance upon emergency cases.

Free Baths.— Provision for free baths was made at the opening of the Mission. Both shower and full baths are given, as well as such special baths as may be prescribed by the attending physicians. From the outset, the baths have been very liberally patronized, the daily number of baths administered averaging more than sixty, and sometimes reaching double that number. The total number given in the fifteen months since the opening is a little more than 23,000.

Free Laundry.— A feature of the Mission which is perhaps unique, is a free laundry, which is carried on in connection with the free baths. A large number of patrons of the Mission are men who have no regular home, no facilities for washing their clothing, and no money with which to pay for laundering. The laundry has been very liberally patronized from the beginning. It is fitted up with eight laundry tubs and a hot air dryer, and accommodates seventy-five to eighty persons daily. The whole number of persons who have used the laundry from the opening to the present time is something more than 17,000, or more than a thousand a month ; and this number would be very much increased if the facilities were more extensive, as it is constantly in use from early morning till late at night, and it is not an unusual thing for persons to come as early as 6 o'clock in the morning, so as to be sure of getting an opportunity to wash their clothing.

Penny Dinners.— Early last fall (in 1893) the hungry faces of those visiting the different departments of the Mission suggested the necessity of relieving, to some extent, the famishing multitudes left stranded in the city by the financial panic. Thus the plan of giving penny dinners was instituted. The dinner consisted of a large bowlful of nourishing and palatable soup, with zwieback or granola (health foods supplied gratuitously for the purpose by the Sanitarium Health Food Co., Battle Creek, Mich.). Books of one hundred tickets each were issued, and liberally purchased by business men and others. The number of penny dinners given daily rapidly increased from one or two hundred to fifteen hundred. When the public soup kitchens were opened a few weeks later, the sale of books of tickets was stopped, and the dinners distributed, as far as possible, to those unable to work. From this time on during the winter until May 1, 1894, when the dinners were discontinued for the summer, the number averaged from three to five hundred daily.

Financial Support.— The financial foundation of the Chicago Medical Mission was laid by Henry and Francis Wessels, of South Africa, friends of the enterprise, who contributed $40,000 for the purchase of a building to be used as a sanitarium conducted in connection with the Battle Creek Sanitarium, all the profits of the institution to be devoted to maintaining a medical mission in Chicago. The branch Sanitarium has been very prosperous from its opening ; but the work of the Mission has developed so rapidly that the necessary expenditures have been several thousand dollars beyond the earnings of the Sanitarium, so that a debt of several thousand dollars has accumulated. The deficit has been partially made up by friends of the work, and it is hoped that the balance may be met in the same way. Thus far, no charge has been made for any service rendered by the Mission. It is contemplated, however, hereafter to make a small charge for medicines and for soap, two items which amount to several hundred dollars a year— the charge not to exceed five cents.

Inquiries concerning the work should be addressed to J. H. Kellogg, M. D., Superintendent, 28 College Place, Chicago ; or Battle Creek, Mich.

* *
*

ALWAYS IN THE LEAD. — The handsomest illustrated brochure of the season has just been issued by the General Passenger Department of the Chicago, Milwaukee & St. Paul Railway, giving a woman's opinion of the compartment sleeping cars run on the solid vestibuled electric-lighted trains of that line between Chicago, Milwaukee, Kilbourn City (the Dells of Wisconsin), La Crosse, Winona, St. Paul, and Minneapolis. It contains time-table of express trains to and from points above named, as well as between Chicago, Cedar Rapids, Sioux City, Council Bluffs, and Omaha. Gives the sleeping and parlor car rates between Chicago and the principal cities west.

Write to Harry Mercer, Michigan Passenger Agent, 82 Griswold Street, Detroit, Mich., for one of these charming little brochures, and a new map of the United States, furnished free.

* *
*

" WHERE FARMING PAYS."— Is it in the Northwest, with wheat at less than 50 cents a bushel, with zero weather, and blizzards in winter and cyclones in summer ? — No ! Go to Virginia ; land is cheap, climate perfect all the year round. Ask any one who knows, and he will tell you that in the tidewater section one acre of land has produced as high as $2000 in one season.

It is worth looking into. Apply to C. H. Bovee, Gen'l Land and Excursion Agent, Coldwater, Mich., for pamphlet, " Facts for Farmers," free. No statements are made that are not corroborated by practical farmers who have grown rich on their Virginia farms

J. FEHR'S

"COMPOUND TALCUM"

"BABY POWDER,"

The "Hygienic Dermal Powder" for Infants and Adults.

Originally investigated and its therapeutic properties discovered in the year 1868 by Dr. Fehr and introduced to the Medical and the Pharmaceutical Professions in the year 1873.

COMPOSITION.—Silicate of Magnesia with Carbolic and **Salicylic Acid.**

PROPERTIES.—Antiseptic, Antizymotic, and Disinfectant.

USEFUL AS A GENERAL SPRINKLING POWDER,

With positive Hygienic, Prophylactic, and Therapeutic properties.

GOOD IN ALL AFFECTIONS OF THE SKIN.

Sold by the Drug Trade generally. Per Box, plain, 25c.; perfumed, 50c.; **Per** Dozen, plain, $1.75; perfumed, $3.50.

THE MANUFACTURER:

JULIUS FEHR, M. D., Ancient Pharmacist,

MOBOKEN, N. J.

Only advertised in Medical and Pharmaceutical prints.

The Volatilizer

A NEW INSTRUMENT FOR THE TREATMENT OF

CONSUMPTION, COLDS, COUGHS, NASAL CATARRH, AND ALL CHRONIC DISEASES OF THE NOSE, THROAT, AND LUNGS.

This instrument, which is the result of long experience in the use of medicaments in the treatment of various affections of the air passages, is intended for the purpose of applying medicated air to the nose, throat, lungs, eustachian tubes, and ears. It has been tested in the treatment of a large number of cases at the Battle Creek Sanitarium and elsewhere, and is believed to be the most effective instrument for the purpose which has been devised. It is comparatively inexpensive and durable, being made of nickeled copper, so it is scarcely possible for it to get out of order.

A Nebulizer and Volatilizer Combined.

A nebulizing tube accompanies the instrument, so that if for any reason the use of a Nebulizer is desired, the instrument can be used for this purpose also, so it is not only a Volatilizer but a Nebulizer as well.

A list of formulæ adapted to different conditions accompanies each instrument.

PRICES:

Spun Brass, Nickel Plated, Complete, -	$2.50
Without Bulb and Nebulizing Tube, -	1.50
When sent by mail, add for postage, -	.12
Solutions for use with Volatilizer, per oz.,	.20

SANITARY AND ELECTRICAL SUPPLY CO.,

BATTLE CREEK, MICHIGAN.

The BEST BOOK . . . FOR ITS PURPOSE . . . Ever PUBLISHED.

TWO YEARS IN AN ARCHITECT'S OFFICE

. . BY . .

MANLY L. CUTTER, Architect.

MAKING A BEAUTIFUL HOME

Is not merely a question of display and lavish expenditure. A tasteful result at limited cost can be produced by skill, study, and careful thought.

No better aid to house planning **can be found** than this book. Perspectives, floor plans, and descriptions are full and complete.

Over 200 large pages, 11 by 14 inches, of plans, exteriors, interiors, and descriptions, including cost of

HOUSES SUBURBAN AND COUNTRY.

A book invaluable to those who intend to build. It is thoroughly practical, and deals with facts. It is high-class in every respect. The half-tone interior views are an attractive feature.

CLOTH BINDING. SENT, EXPRESS PAID, ON RECEIPT OF $6.00.

A. L. Chatterton & Co., = = = = 78 Maiden Lane, New York.

Examine the Bearings.

We mean those *genuine* tool steel, oil tempered, *dust proof* bearings. When we say "dust proof," we are honest, and mean just what we say.

We have heard a good deal about tool steel and crucible steel in bearings that were claimed to be proof against dust. Did you ever examine them?

They are Dust Proof in

some cases. We have spent a great deal of time and money perfecting what we believe to be the most perfect, simplest, lightest, and easiest running bearing yet offered.

In—

THE NEW CLIPPERS,

Nos. 24-25, and Model X, nothing but the *finest* quality of tool steel is used for cones and cups. They are not the kind of "tool steel" that can be made on Automatic machinery, either.

We invite an impartial criticism of *Clipper Bearings*, as compared with any wheel now made. A feature of this is the simple device which prevents balls from escaping when wheel is taken apart.

GRAND RAPIDS CYCLE CO.,

Grand Rapids, Mich.

Non-Alcoholic Kumyss

AFTER careful and long-continued experiments, we have devised a method of preparing kumyss which is not only free from alcohol, but also possesses other advantages of a superior character. Ordinary kumyss contains a considerable amount of alcohol, due to the fermentation of cane sugar, which is added for the purpose of producing carbonic acid gas. The amount of alcohol depends, of course, upon the amount of sugar added and the age of the kumyss. The sugar is made to ferment by the addition of yeast. Kumyss made in this way contains yeast alcohol, and if the alcoholic fermentation is not complete, a variable quantity of cane sugar. In addition, ordinary kumyss contains a variety of toxic substances, resulting from the development of the miscellaneous microbes which are usually found in milk.

The improved form of kumyss which we offer is made from sterilized milk and by processes which render it absolutely uniform in quality. The method of manufacture is such that its constituents are definite and constant. It is more palatable than ordinary kumyss, in consequence of the absence of foreign microbes, and is particularly suited to cases in which milk in its ordinary form disagrees with the patient, and in which so-called "biliousness" is a troublesome symptom. Cases of hypopepsia are rapidly benefited by it. It is also of great service in the treatment of gastric neurasthenia, or nervous dyspepsia.

It is extensively used in some of the largest medical institutions in the country, and has received the highest commendation from those who have investigated its merits. This kumyss is put up in pint and quart bottles, and will be shipped to any address at the following price:—

Pint Bottles, per doz., = $2.00.

SANITARIUM HEALTH FOOD CO.,

BATTLE CREEK, MICH.

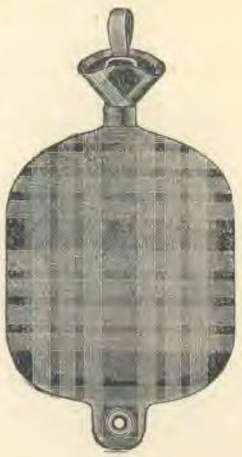
HOT-WATER BAGS.

Style A.
WHITE RUBBER.

As a foot-warmer, or for applications of either moist or dry heat, this bag is invaluable. For moist heat, wring a flannel cloth from hot water, and lay on the bag. It is a durable article, and one not willingly dispensed with after once using.

STYLE B. FLANNEL COVERED.

The same bag covered with flannel or sateen, which to many makes it much more agreeable as a foot-warmer.



Style B.
FLANNEL COVERED.

SPINE BAGS.

RUBBER SPINE BAGS. Very strong and durable; essential in the treatment of some forms of Dyspepsia, Spinal Irritation, and many nervous diseases.

- - - SEND FOR CATALOGUE - - -

SANITARY AND ELECTRICAL SUPPLY CO., Battle Creek, Mich.

RIGHT NOW YOU CAN BUY CHEAP Best Hammock Chair Made.

STRONG,
ROOMY,
EASY.

Changes to any position.
Very Ornamental.
No summer residence or camping outfit complete without them.
Solid comfort for solid people and a whole playhouse for children

By Express or Freight on Receipt of Price.

Chair Hammock and frame with canopy top, like cut . . . **$6.50**
Without canopy top **3.50**
Chair only, for porch **2.75**

Address, SEEDER & CHAIR HAMMOCK CO., Homer, Michigan.

CHICAGO & GRAND TRUNK R. R.

Time Table, in Effect June 3, 1894.

GOING EAST. Read Down.						STATIONS.	GOING WEST. Read up.					
10 Mail Ex.	8 Erie Lim.	4 L't'd Ex.	6 Atl. Ex.	42 Mixd Tr'n.	2 Pt. H Pass		11 Mail Ex.	1 Day Ex.	3 R'd L't'd	23 R. C. Pass.	7 Erie L't'd	9 P'fic Ex.
a m	a m	p m	p m				p m	p m	pm		p m	a m
8.40	11.25	3.10	8.15	a m	.....	..D.Chicago A..	7.28	4.50	9.10	.....	10.30	8.00
11.10	1.20	5.05	10.30	6.00	.....	...Valparaiso...	5.05	2.45	7.10	.....	8.30	5.45
p m												
12.40	2.35	6.30	12.00	10.05	.....	..South Bend..	3.10	1.20	5.44	.....	7.10	4.10
1.29	3.07	7.12	1.45	12.40	.....	...Cassopolis ..	2.15	12.40	5.18	.....	6.30	3.28
2.21	.....	.....	11.33	3.42	.....	...Schoolcraft..	1.20	12.02	.....	.....	.....	.....
2.33	.....	7.55	1.48	4.10	a m	...Vicksburg...	1.10	11.53	.....	p m	.....	2.37
3.40	4.30	8.36	2.40	6.20	7.00	..Battle Creek..	12.25	11.15	3.55	9.35	5.18	1.50
4.33	5.11	9.26	3.25	.....	7.47	....Charlotte...	11.14	10.29	3.07	8.40	4.33	12.53
5.10	5.40	9.55	4.00	.....	8.20	....Lansing....	10.40	10.02	2.40	8.00	4.03	12.20
6.30	6.30	10.45	5.03	.....	9.30	....Durand.....	9.35	9.05	1.55	6.50	3.20	11.28
7.30	7.05	11.17	5.40	.....	10.05	.....Flint.....	8.35	8.35	1.28	5.47	2.53	10.35
8.15	7.35	11.50	6.15	.....	10.43	.... Lapeer....	7.49	8.02	1.00	5.10	2.25	10.01
8.42	.....	a m	6.35	.....	11.06	...Imlay City...	7.28	.....	.....	4.48	.....	.....
9.50	8.45	1.00	7.30	.....	12.05	Pt. H'n Tunnel	6.25	6.50	11.55	3.50	1.20	8.45
	p m	p m					a m	a m	a m	p m	p m	p m
9.25	9.25	.....	.....	.....	.....	.... Detroit.....	.....	6.40	10.40	24.05	....	8.45
	a m	a m	p m					p m			a m	p m
.....	8.40	8.30	5.25	.....	.....	.... Toronto.....	.....	10.10	.....	.....	7.20	1.00
	p m	p m	a m					a m			p m	
.....	8.05	7.50	7.25	.....	.....	...Montreal	.....	6.00	.....	.....	10.15	.....
	a m	a m	p m					p m			a m	
.....	8.12	8.12	7.15	.....	.....	.....Boston.....	.....	7.30	.....	.....	11.30	.....
	a m	a m	p m					a m	a m		a m	p m
.....	3.05	7.55	4.25	.....	.....	.Susp'n Bridge.	.....	1.20	7.05	.....	8.40	2.25
	a m	a m	p m					a m			a m	p m
.....	4.15	8.30	5.40	.....	.....	.....Buffalo.....	.....	12.00	.....	.....	6.15	1.00
	p m	p m	a m					a m	p m		p m	p m
.....	4.52	9.23	8.03	.....	.....	....New York....	.....	8.20	6.10	.....	5.00	8.00
		a m	a m								p m	p m
.....	.....	8.12	10.20	.....	.....	.....Boston.....	.....	.....	.....	.....	3.00	7.00

Trains No. 1,3,4,6,7,8,9, run daily; Nos. 10, 11, 2, 23, 42, daily except Sunday.

All meals will be served on through trains in Chicago and Grand Trunk dining cars.

Valparaiso Accommodation daily except Sunday.

Way freights leave Nichols eastward 7:15 a. m.; from Battle Creek westward 7:05 a. m.

† Stop only on signal.

A. R. McINTYRE, *Asst. Supt., Battle Creek.*

A. S. PARKER, *Pass. Agent, Battle Creek.*

MICHIGAN CENTRAL

"The Niagara Falls Route."

Corrected Aug. 12, 1894.

EAST.	*Night Express.	†Detroit Accom.	‡Mail & Express.	*N. Y. & Bos. Spl.	*Eastern Express.		*Atl'ntic Express.
STATIONS.							
Chicago.....	pm 9.30		am 6.50	am 10.30	pm 3.30		pm 11.30
Michigan City.	11.35		8.50	pm 12.17	5.20		am 1.19
Niles.....	am 12.45		10.15	1.15	6.25		2.45
Kalamazoo	2.15	am 7.20	11.55	2.30	7.40		4.35
Battle Creek...	3.00	8.10	pm 12.50	3.05	8.18		5.22
Jackson.....	4.30	10.00	2.55	4.20	9.35		6.50
Ann Arbor.....	5.40	11.05	4.05	5.10	10.25		7.47
Detroit.....	7.10	pm 12.20	5.30	6.10	11.25		9.20
Buffalo.....				am 12.25	am 6.45		pm 5.20
Rochester.....				3.17	9.55		9.00
Syracuse.....				5.15	pm 12.15		10.45
New York.....				pm 1.45	8.45		am 7.00
Boston				4.15	11.45		10.50
WEST.	*Night Express.	*N.Y.Bos. &Chi.Sp.	‡Mail & Express.	*N.Shore Limited.	*Weste'n Express.	† Kalam. Accom.	*Pacific Express.
STATIONS.							
Boston		am 10.30		pm 2.00			pm 7.15
New York.....		pm 1.00		4.30	pm 6.00		9.15
Syracuse.....		8.05		11.25	am 2.10		am 7.20
Rochester.....		10.25		am 1.17	4.10		9.55
Buffalo.....		11.20		2.20	5.30		pm 3.30
Detroit.....	pm 8.45	am 6.05	am 7.20	8.30	pm 12.55	pm 4.35	11.10
Ann Arbor.....	10.25	7.05	8.43	9.25	1.53	5.57	am 12.15
Jackson.....	11.40	8.10	10.43	10.30	2.55	7.35	1.25
Battle Creek...	am 1.17	9.20	pm 12.15	11.43	4.13	9.14	2.55
Kalamazoo	2.10	9.58	1.00	pm 12.22	4.52	10.00	3.36
Niles.....	4.00	11.13	3.00	1 40	6.14		5.00
Michigan City.	5.09	pm 12.10	4.25	2.45	7.13		6.00
Chicago.....	7.10	2.00	6.35	4.30	9.00		7.50

*Daily. †Daily except Sunday.

Kalamazoo accommodation train goes west at 8.05 a.m. daily except Sunday.
Jackson " " east at 7.27 p. m. " "

Trains on Battle Creek Division depart at 8.10 a. m. and 4.20 p. m., and arrive at 12.40 p. m. and 7.15 p. m. daily except Sunday.

O. W. RUGGLES, General Pass. & Ticket Agent, Chicago.

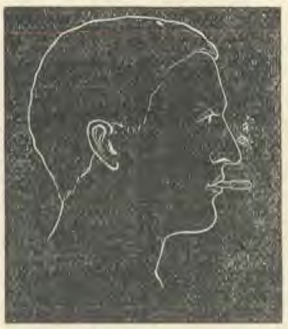
GEO. J. SADLER, Ticket Agent, Battle Creek.

Lung Gymnastics.

CONSUMPTION begins with weak lungs. A hard cold, a pleurisy, a pneumonia, an attack of influenza or la grippe, leaves the lungs in a weak condition, unable to defend themselves against the microbes which cause consumption. These germs find a foothold, and thus the disease begins. Many persons, through lack of active muscular exercise, never develop proper lung vigor. A person who gets easily out of breath in going up-stairs, or who cannot, without great inconvenience, run a few rods to catch a train or a street-car, has weak lungs, and ought to give the matter of lung development immediate attention. All persons who have suffered from pneumonia, pleurisy, or any other serious lung affection, should also give special attention to lung gymnastics. A person who has consumption in its incipient stages may find in lung gymnastics perseveringly employed, a cure for his disease. Lung gymnastics afford, in fact, the most efficient of all means of combating this dread malady.

HOW TO EXERCISE THE LUNGS.

There are many ways of bringing the lungs into active play, as ordinary exercise, gymnastics, etc., but the most efficient means of exercising the lungs is the expiration tube, a recently-devised instrument, a cut of which is herewith shown.



The Expiration Tube consists of a hard rubber instrument through which the breath is expelled, the instrument being held in the mouth for the purpose. It is so arranged that the outlet for the breath can be regulated at will, and thus adapted to various conditions. The effect of its use is to expand the lungs, to increase the depth of respiration, and to strengthen the respiratory muscles. It is indestructible from use, and is of convenient size so it can be carried in the pocket and used several times a day. Its use does not interfere with any other occupation in which the person may be engaged, except such as involve the use of the voice.

Both the expiratory and inspiratory muscles of respiration may be strengthened by using the expiration tube in the following manner: While lying upon the back and using the expiration tube in the usual manner, place a bag of shot weighing three or four pounds, a book of equal weight, or any similar object, upon the abdomen just below the pit of the stomach. In drawing the air at each breath it will be necessary to lift this weight, and thus the inspiratory muscles will be strengthened, while the expiratory muscles are strengthened by breathing out through the expiration tube. This exercise should be taken for ten or fifteen minutes three or four times a day, and will have the effect to rapidly increase the breathing capacity. Lung gymnastics are not only of benefit to the lungs, but are also of great value in diseases of the heart, stomach, liver, and in congestion of the brain.

Price of Breathing Tube, by mail, postpaid, 50c.

Address SANITARY AND ELECTRICAL SUPPLY CO., Battle Creek, Mich.

Childhood.

A MAGAZINE . . . .
FOR PARENTS,

EDITED BY

DR. GEORGE WILLIAM WINTERBURN,

IS the only magazine in the world of its kind. It contains a mine of interesting knowledge set forth with all the piquant grace of the greatest living authors. Every article is written especially for it by such writers as

JULIAN HAWTHORNE,
CHARLES DE GARMO,
MONCURE D. CONWAY,
MINOT J. SAVAGE,
ELIZABETH STUART PHELPS,
MARIA LOUISE POOL,
LOUISE CHANDLER MOULTON,
HELEN CAMPBELL.

BESIDES 's it has five regular departments, unique and unrivaled i heir different fields: "THOUGHTS AND SUGGESTIONS," by Florence Hull. "UNTIL THE DOCTOR COMES," a page of free advice by the Editor, that is alone worth the price of the magazine. "THE TWILIGHT HOUR," the serial story of the child's inner life, by Adelaide Grace Lytton. "MOTHER'S QUERIES," by Auretta Roys Aldrich, and "SAYINGS AND DOINGS," the Harper's Drawer of CHILDHOOD, by Alan Chadwick.

Ten Cents a Number;
One Dollar a Year.

CHILDHOOD, 78 Maiden Lane, New York.

CENTRAL MEDICAL COLLEGE

Ninth and Felix Sts.,

SAINT JOSEPH, MISSOURI.

Annual Session begins first Monday in September, 1894 and continues until March 1, 1895.

This school is well equipped in every way for the teaching of modern medicine and surgery; owning its own building, within the very heart of the city, which is supplied with two elegant lecture rooms, seated with opera chairs, one being arranged in the form of an amphitheater and the other adjacent to the bacteriological and chemical laboratories on another floor.

Clinical advantages are first-class; besides a free dispensary each day, there is in connection with the college an *emergency hospital*, and students have access to the St. Joseph's Hospital, a few blocks away, which is conducted by the Sisters of Charity, as well as the City Hospital and State Lunatic Asylum No. 2.

Fees for the Entire Course, $45 Including Matriculation.

The sons and brothers of physicians, and sons of ministers, $25.

For catalogue or further information, address,

T. E. POTTER, M. D., Secretary,
Hughes Building.

• EAR DOUCHE •

NO REMEDY is so valuable in the relief of earache as a current of hot water passed into the external canal of the ear. Many cases of inflammation of the ear resulting in perforation of the drum membrane and partial or complete destruction of hearing, might be prevented if the ear douche were employed early and perseveringly. Most of the cases of deafness resulting from diphtheria and scarlet fever would be prevented by the proper employment of this simple means of treatment.

The great obstacle to the use of the ear douche is the inconvenience of its application. A suitable tube may not be at hand, and even if a suitable tube is in readiness, it is exceedingly inconvenient for the patient to sit or lie in the required position for the length of time required to accomplish good results, and even the best-directed efforts of a skilled nurse do not always prevent the clothing of the patient from becoming wet about the neck and shoulders, and the subsequent chilling resulting sometimes makes the patient worse than before.

All these disadvantages are overcome by the ingeniously-devised tube for the administration of the ear douche, cuts of which are here shown. The instrument is made of hard rubber, and consists, as will be seen by reference to the accompanying cuts, of an inner tube which conducts the water to the ear, while an outer tube conducts it out, and at the same time is so shaped as completely to close the opening of the ear. The water is conducted off by a second tube attached to the device, into a receptacle. By the aid of this instrument a patient may lie in any position, and no attention to protection of the clothing is necessary. Thus the treatment can be kept up for several hours, if desirable, and in inflammation threatening complete destruction of hearing, the case may usually be speedily brought to a favorable termination.

EVERY FAMILY OUGHT TO POSSESS THIS INGENIOUS AND USEFUL INSTRUMENT.

It will be sent postpaid on receipt of 75 cents.

SANITARY AND ELECTRICAL SUPPLY CO., Battle Creek, Mich.

HEALTH FOODS

IN the effort to meet the necessities of a large Sanitarium, with its great variety of patients, we have produced a number of food preparations adapted to different diseased conditions, the merits of which are such as to secure for them a very large and increasing sale, not only to persons belonging to the invalid class, but to those who wish by "good living" to avoid disease. Unsuccessful attempts have been made to imitate some of these foods under various names. None are genuine unless bearing our stamp or made under our authority. The following are our leading preparations:—

	Cts. per lb.
Oatmeal Biscuit	*12*
Medium Oatmeal Crackers	*10*
Plain Oatmeal Crackers	*10*
No. 1 Graham Crackers	*10*
No. 2 Graham Crackers	*10*
Plain Graham Crackers, Dyspeptic	*10*

	Cts. per lb.
White Crackers	*10*
Whole-Wheat Wafers	*10*
Gluten Wafers	*30*
Rye Wafers	*12*
Fruit Crackers	*20*
Carbon Crackers	*15*

	Cts. per lb.
Wheat Granola (bulk 10)	*12*
Avenola (bulk 10)	*12*
Granola (bulk 10)	*12*
Gluten Food No. 1	*50*
Gluten Food No. 2	*20*
Infant's Food	*56*

SAMPLE PACKAGES CONTAINING SPECIMENS OF EACH OF OUR FOODS SENT POSTPAID FOR 50 CENTS. SELECTED SAMPLES, 25 CENTS.

All grain preparations can be supplied in large or small lots, as we keep a fresh supply constantly on hand of goods which are largely made expressly for us, of a superior quality of grain. Address—

SANITARIUM HEALTH FOOD COMPANY
BATTLE CREEK MICH.

SANITARIUM

TWO CELL
THREE CURRENT

MEDICAL BATTERY

The Advantages Claimed for this Battery Are:

Efficiency, Durability,
Simplicity of Construction,
Ease of Management,
Cleanliness, and lastly,
Small Cost of Maintenance.

THE CELLS HAVE THE FOLLOWING ADVANTAGES:

The elements are zinc and carbon.
The excitant is a solution of muriate of ammonia (sal ammoniac) and water.
There are no fumes or strong acids to corrode battery parts.
They will run for medical purposes many months without the slightest attention.
There is no consumption of the zinc element when battery is at rest.
They are perfectly sealed, so that evaporation is impossible.
High electro-motive force. Small internal resistance. Great power of recuperation.

Price, with Electrodes, complete, $10.00.

SANITARY AND ELECTRICAL SUPPLY CO.,

BATTLE CREEK, MICHIGAN.

MEDICAL AND SURGICAL SANITARIUM,

BATTLE CREEK, MICH.

The Oldest and Most Extensive Sanitarium Conducted on Rational and Scientific Principles, in the United States.

SPECIAL ADVANTAGES:

An elevated and picturesque site. Remarkably salubrious surroundings.
Baths of every description.
Electricity in every form.
Massage and Swedish Movements by trained manipulators.
Pneumatic and Vacuum Treatment.
All sorts of Mechanical Appliances.
A fine Gymnasium, with trained directors.
Classified Dietaries.
Unequaled Ventilation, perfect Sewerage.
Artificial Climates created for those needing special conditions.
Thoroughly Aseptic Surgical Wards and Operating Rooms.
All Conveniences and Comforts of a First-Class Hotel.
Incurable and Offensive Patients not received.

Not a "Pleasure Resort," but an unrivaled place for chronic invalids who need special conditions and treatment not readily obtainable at home.

For Circulars, address,

SANITARIUM, BATTLE CREEK, MICH.