

2549 - 92 - 13

LIFE & HEALTH

THE NATIONAL HEALTH MAGAZINE



MARCH 1910

ONE DOLLAR A YEAR

10 CENTS A COPY

WASHINGTON, D. C.

The GLENDALE SANITARIUM

S. D. A.

Glendale, Los Angeles, Cal.

City Offices, Broadway Central Bldg., Los Angeles



Beautifully situated at GLENDALE, a few minutes' ride by electric cars from the heart of LOS ANGELES. The buildings are modern and fitted with every convenience. The climate of Glendale is delightful all the year round. Here, days of cloudless skies come and go; summer glides into winter without perceptible effort. The startling changes, so dreaded in the East, are absent.

THE PLEASANT WINTER is heralded by beautiful green on hillside and plain; flowers abound uninjured; even delicate hot-house plants of the East, burdened with blossoms, abound in the open. The methods as to diet and treatment are the same as those which gave Battle Creek world-wide fame. Write for illustrated Souvenir E.

PARADISE VALLEY SANITARIUM

S. D. A.

National City, California

A well-equipped, well-regulated, medical and surgical establishment within easy access of San Diego, conducted upon rational principles and enjoying an ideal climate all the year round. This is just the place for the invalid, convalescent, and overworked, or any contemplating spending a week, month, or season in a true health resort. Two hundred and fifty clear days in the year. Write for illustrated catalogue, P. 12, containing rates and full information.



LOMA LINDA SANITARIUM

S. D. A.

Loma Linda, California



Loma Linda are words taken from the tongue of the people who first discovered and settled in this valley many years ago—the Spaniards—and mean “Hill Beautiful.” It is an imposing elevation near the center of the far-famed San Bernardino Valley, rising about one hundred and fifty feet above the surrounding valley, which gives an altitude of some thirteen hundred feet. It is sixty-two miles east of Los Angeles on the main line of the Southern Pacific Railroad, four miles west of Redlands, and five miles from San Bernardino.

From October to June, Loma Linda is conceded by the most famous travelers of Europe and America to have one of the most delightful climates on the globe.

Send for our descriptive pamphlet, giving twelve beautiful colored views.

STOP CATCHING COLD!

A cold is the most common of diseases, yet how few people know just what it is, how it starts, and just how to cure it. Colds are dangerous. They destroy vitality, and prepare the way for worse conditions—sometimes for fatal diseases. The editor of LIFE AND HEALTH, Dr. G. H. Heald, has prepared a little book telling all about

"COLDS,"

Their Cause, Prevention, and Cure

Only 62 pages of large print to read, but it tells the whole story lucidly and completely. What it contains is worth a fortune to those that have the "habit of catching cold." The book is a Life Preserver, and should be in every home. Neatly bound in white leatherette. Only



The Author

25 Cents,
Post-paid

Review and
Herald Publishing Assn.

Takoma Park
Washington, D. C.



A Quiet Rural Retreat

OPEN ALL THE YEAR

The Battle Creek system of treatments. Specially trained nurses. Electricity, baths, massage, diet, dress, fresh air, and proper exercise, together with all natural and rational methods known to modern medical science, produce the splendid results for which we, with over 70 other affiliated institutions, are famous.

Ambulance or trained nurses will meet any train day or night upon due notice.

The Wabash Valley Sanitarium

La Fayette, Indiana

CITY TREATMENT PARLORS
414 Ferry Street

Write for Catalogue C

An Advertisement by Elbert Hubbard



PROF. HENRY DICKSON
Principal Dickson School of Memory.
The Largest and Most Successful
School of Mental Training
in the World.

Prof. Henry Dickson, of the Dickson School of Memory Training, will send his valuable book, "How to Remember," free to any reader of LIFE AND HEALTH. Professor Dickson by his Method of Instruction enables you to avoid the oft-occurring vexation of forgetting names, places, dates, faces, quotations, speeches, and all the other facts and incidents which should be on the tip of the tongue.

The Dickson System has been heartily recommended by Prof. David Swing, Elbert Hubbard, Dr. Latson, and thousands of others.

A Wandering Mind

never arrives at a Supreme Conclusion. There are no terminals for the train of Scattered Thoughts. Frequent stops at Way Stations retard the speed at which Live Ideas must travel in order to Get There. And inviting side-tracks lead only to the insurmountable bumper.

The Great Men of all ages are those who have grasped the Ability to Concentrate. They focused attention upon the *thing* itself and without Violence of Direction moved straight to Success.

If you wish to Grow and Become, center your Mind on one Splendid Achievement and hold it there.

STOP FORGETTING

It is the constant casting about for a Fact Misplaced in Memory that shatters the Force of Concentration. Train your Memory to retain Knowledge and have it ready when Occasion demands. Try a little System in your Mental Storehouse.

COUPON FOR MY FREE BOOK

PROF. HENRY DICKSON, Principal Dickson Memory School, 971 Auditorium Bldg., Chicago, Ill.
Send me your free Booklet, "How to Remember."

Name _____

Address _____

City _____ State _____

When you write to our advertisers, please say, "I saw your 'ad.' in LIFE AND HEALTH."

"In the Work of the Gospel, Teaching and Healing Are Never to Be Separated"

No other work ever written so well defines the relationship between the medical and the gospel work as does this latest book from the pen of Mrs. E. G. White. Every Christian worker should have it and should read and study it. Every page contains precious, useful lessons and vital truths.

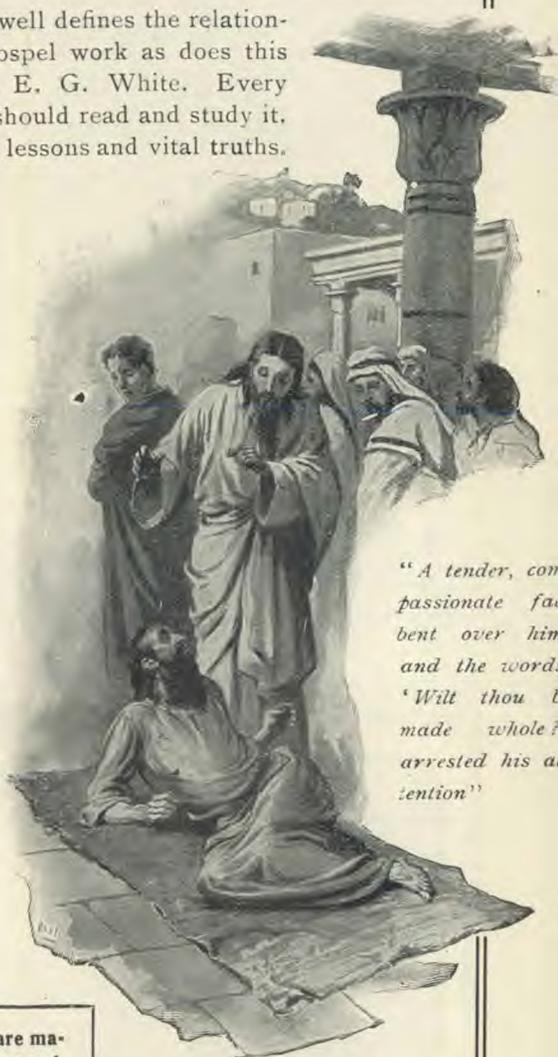
MINISTRY OF HEALING

Mrs. E. G. WHITE

A book dedicated to the Medical Missionary work. Every cent of profit derived from the sale of this book goes directly into the work of spreading health principles and relieving human suffering.

The entire work is a message of healing, beautifully written by one of wide practical experience, in an uplifting, inspiring vein. It is teeming with interest and is profusely illustrated with fine engravings. It contains "a vast fund of information on life and its laws, on health and its requisites, on disease and its remedies."

Remember, when you buy this book you are making a contribution to the Medical Missionary work



"A tender, compassionate father bent over him and the words 'Wilt thou be made whole?' arrested his attention"

541 Pages. Profusely Illustrated. Price, in Cloth, \$1.50

REVIEW AND HERALD PUB. ASSN.
TAKOMA PARK - - WASHINGTON, D. C.

When you write to our advertisers, please say, "I saw your 'ad.' in LIFE AND HEALTH."

Is the Health of Your Boy or Girl Worth \$1 to You?

¶ If it is, let us tell you where you can spend that dollar to the very best advantage.

¶ Buy that book, "The House We Live In," by Vesta J. Farnsworth. Then don't put it in the bookcase, or on the shelf, but start right in with Chapter I, and go clear through it with your children, teaching them the vital truths which it contains.

THE HOUSE WE LIVE IN

By VESTA J. FARNSWORTH

makes the teaching of the body to children a perfectly easy, natural task. The children will crowd around you to see the attractive pictures and to hear the charming stories it contains. When you have finished, they will know more about their bodies than the average man or woman you meet upon the street.

¶ This book is not an abstruse physiology, but in the simplest, every-day terms, it tells the story of the "living temple" so that even the youngest children can understand and appreciate it.

¶ Handsomely bound in blue buckram, with cover design in attractive colors. 218 Pages. Profusely illustrated.

Price, post-paid - \$1.00

Review & Herald Pub. Assn.
Takoma Park, - Washington, D. C.

GRAND HOTEL New York City A Famous Home with a NEW ANNEX

On Broadway at 31st Street
NEAR PENNSYLVANIA R. R. TERMINAL
(In Operation February First)

¶ A house made famous through its splendid service and personal attention to patrons. The Grand counts its friends by the thousands. Army and Navy people stop here, as do all experienced travelers. For, more excellent living facilities, quiet elegance, and *sensible prices* are hardly obtainable elsewhere.

¶ As for transportation facilities, New York's subways, elevated, and surface cars are all practically at the door. Theaters and shopping districts also immediately at hand.

¶ Splendid Moorish dining-rooms are but one of the many famous features of the *New Annex*.

ABSOLUTELY FIREPROOF
Rates: \$1.50 Per Day, Upward

GEORGE F. HURLBERT, Pres. and Gen'l Mgr.
also Sherman House, Jamestown, N. Y.
Guide to New York (with maps), and Special Rate Card sent upon request

Signs of the Times

¶ This is an illustrated, religious, prophetic, educational, and temperance journal, devoted to the exposition of the gospel as found in both the Old and New Testaments, and as preached by Christ and his apostles.

¶ The fulfilment of the prophetic portion of the Scriptures, as shown by the important events constantly occurring, is made especially prominent.

¶ Each number contains a Bible reading on some important topic, and in its various departments will be found something of interest to every member of the family. The "Signs of the Times" is emphatically a family journal and worthy a place in every household.

Subscription Price

- ¶ Weekly edition (52 numbers), \$1.75 a year.
- ¶ Monthly Magazine, \$1 a year.
- ¶ Combination offer: Weekly journal and Monthly magazine, \$2.25 a year.
- ¶ Send for sample copies.

SIGNS OF THE TIMES
Mountain View - California

LIFE & HEALTH

THE NATIONAL HEALTH MAGAZINE

AIM: To assist in the physical, mental, and moral uplift of humanity through the individual and the home.

GEO. H. HEALD, M. D. - - - Editor
G. A. HARE, M. S., M. D. } Associate Editors
D. H. KRESS, M. D. }

Published monthly at
TAKOMA PARK, WASHINGTON, D. C., U. S. A.

Entered as second class matter June 24, 1904, at the post-office at Washington, D. C., under the Act of Congress of March 3, 1879.

Unsolicited manuscript, if rejected, is not returned unless accompanied by return postage.

All matter pertaining to subscriptions, renewals, advertisements, or other business, should be addressed to Life and Health, Takoma Park, Washington, D. C.

Manuscript and correspondence relative thereto should be addressed to the editor.

Announcement

The Advertising Department of "Life and Health" has been removed from Battle Creek, Mich., to Takoma Park, Washington, D. C. All communications regarding advertising should be directed to this address. This department is equipped to give its patrons the best service, and solicits correspondence regarding advertising. We shall be glad to give any particulars regarding the circulation of "Life and Health" to any advertisers, and to assist and co-operate to the fullest extent in the development of any advertising campaign.

Address all communications to —

R. O. Eastman, Adv. Mgr. Life and Health
Takoma Park - - - Washington, D. C.

What the April Life and Health Will Have to Offer

After you have read Mr. H. T. Musselman's article in this issue, your appetite will surely be whetted for more of the same sort, and we are glad to be able to announce for the April "Life and Health" another number of this series on "The Boy," which is of equal, if not of even greater interest, than the one contained in this number. Mr. Musselman takes as his subject, "The Interest of a Boy," and what is more to the point when considering the needs of a growing boy and things that go to make up his character, than a careful consideration of the things in which he is most interested? Mr. Musselman speaks from long experience, both as an editor and a worker among boys.

A great many are following the articles by Mr. and Mrs. McKee on their work among girls and the doings of the Byron Center (Mich.) Home. The article in this number, by Mr. McKee, the superintendent of the Home, is continued in the next issue.

In a delightful colloquial article, Dr. Mabel Howe-Otis tells the story of how a baby was cured of tuberculosis by outdoor treatment. It is such articles as these that give the incentive for fresh air exercises, the importance of which to the mother as well as to the growing child

can scarcely be realized. It is at this time of the year when the outdoor spirit needs most to be cultivated, as it is at this time that its development affords the rarest pleasure and the greatest returns.

Perhaps those who have never been afflicted with migraine, or sick headache, will not be as interested in the article upon this subject, by E. L. Paulding, of California, which is soon to appear, as those who have experienced this most distressing malady, but we know that those who are subject to sick headache will gladly welcome its appearance, with the many useful hints and the valuable information it contains as to the best way to effect a cure.

A. E. Schelin, of St. Paul, will present in an early number an article on the subject, "Caring for the Life of Our Children." Every parent and every teacher should read this article.

Another discussion of general interest, especially at this time when the fight against liquor throughout the country is at its height, is a forthcoming article on "The Role of the Teacher in the Struggle Against Alcoholism," which is written by E. C. Jaeger, instructor in the public schools of Riverside, Cal.

CONTENTS

AS WE SEE IT	135
Some Meat Dangers — Mental Attitude Determines Cure — Relation of Milk to Scarlet Fever — Border-Land Cases of Insanity — Animal Experiment — Concerning Ethics — Disadvantages Not All With the City Child — No Yellow Fever Last Year.	
GENERAL ARTICLES	
The Establishment of the "Home," <i>W. H. McKee</i>	140
How Cottonseed Oil Is Made, <i>O. C. Godsmark, D. D. S., M. D.</i>	143
That Boy of Yours, No. 2, What a Boy Is Made Of, <i>H. S. Musselman</i>	145
The Conference on the Hookworm Disease, <i>Newton Evans, M. D.</i>	149
On the Paths of Tuberculosis Infection, <i>H. J. Achard, M. D.</i>	152
The Causes of Disease, <i>L. J. Otis, M. D.</i>	155
The Mental Aspect of Physical Culture, <i>H. M. Lome</i>	157
HEALTHFUL COOKERY	
How to Prepare a Meal Without Meat, <i>George E. Cornforth</i>	161
CURRENT COMMENT	165
It Is a Mistaken Idea That More Money Yields More Joy in Living — Food Value of Alcohol — Recent Declarations of Physicians Regarding Alcohol — Typhoid and Shell-Fish — Is Vaccination Beneficial? — Value of Curdled Milk — Advantages and Disadvantages of Pasteurization — A Factor in Living.	
ABSTRACTS	169
Why Has Pellagra Only Recently Appeared in North America? — Scarlet Fever.	
MEDICAL FORUM	171
Why Do Physicians Not Use Hygienic Measures More Freely? — Oxygen as a Stimulant — To Whom Is Credit Due for Healing?	
THE MEDICAL MISSIONARY AT WORK	
The Missionary's Surgical Knife Versus Heathen Gods, <i>T. E. Bowen</i>	173
Nursing in Bolivia, <i>F. A. Stahl</i>	175
Chinese Itinerant Restaurants, <i>Mrs. Emma A. Laird</i>	176
EDITORIAL	177
The Meat Boycott — What Is Diseased Meat? — Typhoid Carriers in the British Army.	
NEWS NOTES	181

TERMS: \$1 a year; 10 cents a copy. Special rates in larger quantities.

POSTAGE IS PREPAID by the publishers on all subscriptions to all countries.

POSTAGE ON BULK ORDERS in foreign countries, extra.

CHANGE OF ADDRESS.— When a change of address is ordered, both the new and the old address must be given. The notice should be sent one month before the change is to take effect.

HOW TO REMIT.— Remittances should be sent by Draft on New York, Express-order, or Money-order, payable to order of Review and Herald Publishing Association. Cash should be sent in Registered Letter.

Address, Review and Herald Publishing Assn., Takoma Park Station, Washington, D. C.

OUR GUARANTEE TO EACH SUBSCRIBER. We guarantee the reliability of every advertisement inserted in *Life and Health*. We want every subscriber to feel that he can deal with our advertisers with the fullest confidence of fair treatment.

If, notwithstanding our most thorough investigation of all advertising submitted for publication, an advertisement should be published through which any subscriber is dishonestly dealt with or imposed upon, we request that full particulars be sent us at once so that we may take proper action for the protection of our readers.

The conditions are: 1. That subscribers in writing to advertisers shall say that the advertisement was seen in *Life and Health*; and 2. That the particulars shall be sent us during the month the magazine is dated which contained the advertisement.





Copyright, 1907, F. A. Van Sant

WINTER HARMONIES



"Something better is the law of all true living"

Vol. XXV

Takoma Park Station, Washington, D. C., March, 1910

No. 3

As We See It

Some Meat Dangers

A RECENT bulletin of the Bureau of Animal Industry gives some facts and figures which may not be very savory to those who feel that they must have flesh in their dietary. During the fiscal year 1909 more than thirty-six million animals were inspected when slaughtered, and of these, more than a million were condemned. In addition, more than twenty-five million pounds of meat and meat products were condemned after slaughter as unwholesome. This represents the work of the United States inspected slaughter-houses, engaged in interstate or foreign trade. Even in these inspected abattoirs, a large number of diseased animals are "passed;" for if all sick animals were condemned, there would be so little salable meat that the price of meat would be prohibitive to all but the wealthy. Moreover, the greater number of slaughter-houses have no inspection of any kind; and it is asserted on good authority that many animals known to be unhealthy by the owners are diverted away from the government slaughter-houses, so they will not run the chance of being rejected.

Those who must eat meat, have at least the consolation that the sick animal is cooked before it is served,—if, indeed, this is any consolation. The writer was once a guest at a table where a leg of mutton was being served. In the process of

carving, something was cut into, which, in deference to the feelings of the reader, he will not attempt to describe. The girl was called, and the joint was removed as quickly as possible. There was some attempt to continue the conversation, and to finish the meal, but it was evident the mental shock had been too great, and all appetite had vanished. One young woman excused herself, and left the dining-room in haste. For several days no flesh was eaten in that family, but by the end of the week the incident seemed to have been forgotten, and all were back at the old diet. Something the same, on a large scale, took place during the Chicago exposures; the demand for meat fell off very appreciably; but it was not long till nearly every one had forgotten the incident, and returned to the accustomed dietary. The power of habit is strong.

Mental Attitude Determines Cure

THAT it is the mental attitude rather than the particular form of treatment that effects the cure, is shown in many ways. The fact that different physicians can use different remedies, and remedies of practically opposite effect, and yet cure the patient, is evidence of the truth of this proposition. But it needs repetition constantly, as we are slow to absorb ideas that must have a molding influence on older opinions. Dr. Dubois, in his book

on the treatment of nervous disorders, states the case in this way:—

"The nervous patient is on the path to recovery as soon as he has the conviction that he is going to be cured; he is cured the day he believes himself to be cured."

"This is the idea that the physician ought to get into his head if he wants to cure his patient. But it is not enough for him to accept this idea in a skeptical fashion and use it like a charlatan; it is necessary that he should be convinced himself, and should know how to hand on his conviction by the contagion which sincerity engenders. When such a state of mind exists in the healer, it is of slight importance what means he uses; any of them will succeed, provided he is able to implant in the mind of the patient the fixed idea of speedy cure."

Many physicians have success by sheer force of their personality—their optimism and confidence in their remedies and in their ultimate success. It is this large measure of *hope* that is the stock in trade of many successful physicians, who fondly believe it is the particular drugs which they administer with such precision. Not that drugs are inert; they are not. They stimulate, they sedate, they paralyze, they make other temporary changes in the functioning of a part or all of the organs, but that is not cure. After all, the powers of cure are in the body itself, and the hopefulness of the physician is often the most efficient means of tapping this reserve.



Relation of Milk to Scarlet Fever THE present scarlet-fever epidemic in the capital city calls to mind the Surrey and London (England) epidemic of last summer, in which, as reported in the *Journal of the American Medical Association* of November 6, four hundred cases occurred among the consumers of the milk of one dairy. In this Surrey and London epidemic infection of the milk from a human source seems to have been excluded, and so from previous experience of a similar kind, infection was sought among the cows. It was found that three cows

in the dairy had recently "come in," and had been added to the dairy just before the breaking out of the epidemic, and that they had the infection of the udders known as the Hendon disease, a disease supposed to be responsible for previous epidemics of scarlet fever. So while it is far from proved that scarlet fever may come from the cow, there have been a number of recorded instances in which the facts seem to point in that direction.

As yet, we are not absolutely certain as to the cause of scarlet fever, but there is much reason to believe it to be a streptococcus, and that this streptococcus can cause udder disease in cows, and that this may be transmitted to those who drink the milk.



Border-Land Cases of Insanity SPECIALISTS in mental diseases have learned in recent years that much more can be done in the prevention than in the cure of insanity. The earlier the case is given intelligent care, the better the chance for recovery. Home and business office, with their worries and cares, that perhaps first brought on the mental trouble, do not furnish surroundings the most favorable for cure. It was for this reason that the New York State insanity laws were so amended as to permit the reception in the various State hospitals of persons who are not so much impaired mentally as to be irresponsible. It was an attempt to reach the incipient cases, after the manner of the tuberculosis workers. In fact, in all lines, it is being learned that by far the most hopeful time to treat a disease, whether mental or physical, is in its incipency.

But that is the difficulty. Hardly any one is interested in disease in its incipency. It is only when it has such a hold that it is practically incurable, that a man begins to shake himself and resolve to take serious treatment. So in this case; though the offer has been made for more

than a year, and though there are many incipient cases of insanity in the State, who will later be sent to the asylums in a more hopeless condition, the offer has been meagerly accepted. It is suggested in explanation that the generality of the public do not know of the change in the law; that physicians are indifferent, or that they hesitate to inform their patients that they are changing mentally; and that because of the odium attached to insane asylums, people are averse to a residence in such a resort.

Perhaps if more were known of the insidiousness of mental disease, of its curability in the early stage, and of its comparative hopelessness in the chronic stage, more would take advantage of the new law. But as with tuberculosis and other diseases, it is usually only after one has the disease in an incurable form that it is thought worthy of attention.

✽

Animal Experiment JUST NOW we are having one wave after another of what, for want of a better name, may be designated a hysteria. Each of these movements is marked by the characteristics of the crowd as outlined by Le Bon in his "*La Foule*." We are not responsible for the fact that the French for "*crowd*," when pronounced in English, is very suggestive of something else. The fact is, a crowd, whether a lynching mob or a dancing mania, or any other craze, is a composite made up of all the lower, more elemental, more base and brutal, of any of its components. A person as a part of a crowd is no longer himself. He is possessed by a spirit which rules each member of the crowd, and which is the spirit of madness. Reason is lost on a crowd. Intelligence, caution, prudence are minus quantities in a crowd. The crowd spirit is not always manifested in brutality and murder. It sometimes spends itself in a more harmless way, as when a concourse of specta-

tors goes wild because a certain nine wins a game of baseball.

The movement for woman's suffrage, it seems to us, is a development in the right direction; and yet some of the occurrences that have in the past year taken place in this campaign have all the characteristics of the crowd spirit. It is right that labor should organize for its own protection; and yet there is scarcely a strike of large proportions, no matter how much the leaders may attempt to prevent violence, in which the crowd spirit of lawlessness does not manifest itself.

The attempt to protect animals from inhuman treatment is a laudable one; but there has arisen in this connection a class of literature, and there are being held exhibitions, purporting to show what takes place in laboratories for animal experiment, well calculated to make the blood of the spectator boil. The trouble with most of these representations of animal experiment is that they are grossly exaggerated misrepresentations, calling such experimenters cold-blooded fiends without the least particle of sympathy for the sufferings of animals, who allow them to undergo inconceivable torture for hours all to no purpose.

Now, to one conversant with laboratory methods, and knowing the vast amount of good that has come to the human race through animal experiment, this movement to restrict laboratory research, and subject it to the scrutiny of those who have no idea of the value of such work, seems to bear the earmarks of the crowd spirit. There is the impulsiveness, the irritability, the credulous suggestibility that will believe any tale that is circulated regarding laboratory horrors; there is the exaggeration, the intolerance, the dictatorialism described by Le Bon. There is the lack of reasoning power and the overwrought imagination.

In this connection it is well to remember the fact, also, that the crowd is swayed not so much by experience and reason, as by images, words, formulæ, and that the strong passions that cause the crowd to surge forward with almost irresistible force are largely wrought by the interplay of illusions and a strong imagination. It is in reality a reversion to the savage.

✽

Concerning Ethics YES, we have heard the word "ethics" used with derision, as though it were something useful in the past but now out of date. But what is meant by ethics?—Simply the science of human duty and the body of rules drawn from this science. Each profession, or calling, according to the circumstances under which it operates, evolves its own code of ethics. Undoubtedly none of these codes are perfect. They are the approximation to perfection that has been suggested by the experiences of generations. The medical profession has its code of ethics, which is not by any means universally accepted by the members of the profession. However, a study of this code will reveal to the careful reader the underlying principles of the golden rule.

As there have been men who could see no good in the medical profession, so we must confess that for a long time we looked upon the advertising profession as an organization whose business it was to lie for money, according to whose ethics any lie was justifiable that would bring results. We did not even detect the Spartan shame at being caught in the act of lying; it was all in the game, and the proof of the pudding was in the amount of patronage the advertisement pulled.

At a recent convention of advertising men, some statements were made which indicate that with some of the profession at least, there is a much higher ideal than

this. For instance, one speaker says:—

"We have ideals in our homes. Are we molly-coddles, iconoclasts, or feeble-minded if we have a few ideals in our business?"

This very question indicates that he is treading on ground that may be new to some of his hearers. He proceeds:—

"We are in the business we advertise. The person who writes, prints, paints, or sells liquor advertising is in the saloon business."

He never made a truer statement, yet I doubt not it fell like a clap of thunder on the ears of some of his hearers.

"The clever brains which have concocted the defensive beer ads. of recent months; the clever artists who have drawn pictures of the happy home with a bottle of hops in the hands of the family child, are in the same business with the white-vested person who shakes dice and swaps yarns as an incident in constructive salesmanship, building up business for tomorrow.

"An advertising agent told me last week that every bit of his advertising work for a brewery was to teach people to put more beer in the home."

If it were not for the advertising men,—*some* advertising men,—there would be much less liquor sold, much less tobacco handled, much less pandering after the obscene, the filthy, and the immoral. Then what business are these men in? As our speaker says,—

"It is tommy-rot to consider advertising as a thing unto itself." "We are not in the advertising business, we are in the business we advertise."

But the advertising business *ought* to be a business, and adopt a code of ethics that would make it impossible for any other business, if immoral or degrading, to lean on the advertising profession for support. This, however, is an ideal difficult of attainment, for any man who wants can take up the work of advertising without regard to affiliation with any organization; but patient continuance in well-doing would eventually give an organization of professional advertisers the control of all good advertising space, and then no humbug concern could buy desirable space at any price.

Even now there is a movement on the part of certain publications to reject all unreliable advertising. LIFE AND HEALTH accepts the dictum that it is personally responsible for every line of advertising that appears on its pages, in as true a sense as it is responsible for its editorial matter. We go before our readers with the explicit or implicit invitation to patronize our advertisers, and we should make good, if, for any reason, any of our advertisers do not. That means, it is our bounden duty to accept no advertisements in which we have not the fullest confidence.

✽

Disadvantages Not WHATEVER may be
All With the the disadvantages of
City Child city life through congestion, absence of sunlight, impurity of the air, and the like, they are being partly offset, so far as the children are concerned, by the scientific study and care which the city child receives at the hand of the medical school-inspector. It is true, the system of medical school-inspection is far from perfect; but it must be remembered that ten years ago such a system was hardly heard of. The growth of this activity for the conservation of child life within the last ten years has been almost unprecedented. At the present time, the system is in more or less perfect operation in practically every advanced community, and the movement is constantly spreading, and the organization is being perfected wherever it is inaugurated. In some cities, physicians are paid to devote their entire time to the medical supervision of schoolchildren. Does it pay? Note the contrast, as stated in the *Boston Medical and Surgical Journal*, Dec. 23, 1909:—

"In Massachusetts, Minnesota, Iowa, New York, Texas, and Ohio, it is stated [and these States are not unique in this matter] that coun-

try children are found to be even worse off than city children, for the former have the defects and communicable diseases without the examinations, the dispensaries, and clinics, and relief agencies so available to the city child. 'Open mouths and closed minds,' finds Wm. H. Allen, 'clog the little red schoolhouse. There, headaches do not suggest eye strain; there, deafness and running ears are frankly attributed to scarlet fever, which everybody must have with all the other catching diseases, the earlier the better; there, colds begin in December and run until March, to the serious injury of attendance and promotion records; there, bone tuberculosis is called "knee trouble" or "spine trouble in the family;" there, boys count the bottles of cod-liver oil they take to cure adenoids that could be removed in two minutes, and fear "I won't be strong in spite of the patent medicine I have taken."'"

The provision of the State of Pennsylvania for the medical inspection of every public-school pupil in rural districts, is a move in the right direction, and places that State in the advance line in this matter of the conservation of the health of its children.

✽

No Yellow Fever THOSE who are accus-
Last Year tomed to heap all manner of obloquy upon the medical profession should consider that during the year 1909 there was not a single case of yellow fever in the United States, and that this is not a mere accident, but is the result of careful and energetic administration on the part of medical men. For the same reason, we have escaped what might have been a fearful epidemic of bubonic plague by way of the Pacific Coast.

Moreover, it should not be forgotten that the scientific knowledge by which this administration has been made so effectual has come through the process, largely, of laboratory research, a branch of work which a certain well-meaning but fearfully misguided section of the community is bent on crippling.



The Establishment of the "Home"

W. H. McKee, Superintendent Michigan Home for Girls, Byron Center, Mich.

[WE hesitated to publish this article, as being somewhat out of the line of the purpose of LIFE AND HEALTH; but the accompanying letter, which Mrs. McKee informs us is only a sample of what she is constantly receiving, assures us that this series has been, and will continue to be, a message of life and of health to unfortunate mothers and unborn babes. Had this poor girl, in her despair, done as many an unfortunate has done, she would have put an end to her existence, or she would have murdered the helpless little one, thus perverting the noblest instinct ever implanted in the bosom of woman, and loading her soul with a horrible burden of guilt from which she would probably have never escaped.— Ed.]

THE impulses which led to the establishment of the Michigan Home for Girls had their origin, in embryo, years before the organization of the Home, in the mind of Mrs. McKee, when engaged in educational work. Observation and experience with young ladies at that time under her care led her to realize the lamentable lack of confidence so often existing between mother and daughter in the home life. Far too often, also, she saw the bitterly unfortunate results arising from this sad situation. Her sympathies were then intensely aroused for those who

by every possible effort, when the final sentence of the last prophetic utterance of the Old Testament should be fulfilled, and the hearts of the parents and children should be so

drawn together that Christian education might have its proper basis, and consequently its intended course and desired fruition.

Her heart went out especially to those who had seemingly fallen into hopeless straits, and she earnestly wished to be able to provide a home and home influences for those poor girls whom nobody else would harbor. Although this had been her heart's desire for years, no possible opportunity for

Feb. 1, 1910.

Mrs. W. H. McKee,
Byron Center, Mich.

Dear friend: If I may be allowed to call you friend. Having read your article in "Life and Health" on "Personal Experiences With Girls," it has touched a tender spot, and I have been wondering if you would take me, a poor fallen girl. No one knows of my condition but my mother, and she is not able to do anything for me. I have kept it from every one but her, and can not keep it much longer. I used to be a Christian, but the enemy, with his attractions of the world, led me on, till now I find myself a ruined girl.

Mrs. McKee, won't you let me come to your Home and confide in you?

I am strong, and can work as long as I am able, and then when I can, I will work and pay for my expenses. I believe the Lord has forgiven me now, but it seems I can not bear to let my trouble be known to my friends. It has broken my mother's heart. I told her I was going to write to you, and she advised me to write. Hoping you will grant me the privilege of coming to your Home, I remain.

Your fallen girl.

* * *

were the sorrowful victims of these unfortunate circumstances. She appreciated keenly the call to hasten that time,

its realization ever seemed to open, and it had, perhaps, never been considered other than a day-dream of service to the

Master and his erring little children never to be fulfilled. In availing herself of such opportunities for this service as offered, Mrs. McKee attended trials of cases in court which appealed to her as worthy of sympathy and needing motherly and sisterly help, and visited, advised, and counseled girls confined in jails in several different cities. In 1901 Mrs. McKee became interested in the trial of a young woman in the superior court of the city of her residence, and becoming impressed that the merits of the case were not such as were being brought out in the course of the trial, she asked the judge for a continuance of the matter, until further investigation could be had. The judge replied: "Certainly, I will defer the matter that you may bring forward whatever evidence you may find in her favor.

What church do you belong to, madam?" On being informed, he replied: "Well, I wish there were more Christian women interested in these poor girls. God knows they need it. I will gladly co-operate with you in anything, in any way, to help them." The result proved the correctness of her impressions so fully that the girl was acquitted and freed.

When relating to her friends the condi-

tion of many unfortunates whom she met, they often urged her to make a Home for those she was concerned about. Many and frequent were such suggestions, to all of which Mrs. McKee objected, realizing the responsibility, and feeling that God alone could place such a burden upon her. Finally, in 1903, Mrs.

Nellie H. Richmond, for many years a successful worker with the *Life Boat*, came to Grand Rapids and made her home with Mrs. McKee while in the city. The two ladies made frequent visits together among the needy, and again Mrs. Richmond brought up the same subject of starting a Home for girls. But having only a small opinion of her own fitness for so great and trying a work, however much it might be in accordance with her heart's desire, Mrs. McKee refused to be drawn into it by any human influence alone. She



MRS. MCKEE TALKING TO WOMAN IN CELL. FROM THIS JAIL (GRAND RAPIDS, MICH.) CAME THE FIRST INMATE OF THE "HOME"

required the guidance of Providence to assure her in taking so important a step. This came in quite a remarkable manner. When visiting a young woman in the jail, the girl put out her arms through the bars of her cell door and pleaded with Mrs. McKee to be accepted as her ward. The judge himself seconded this appeal, and also

urged the establishment of a Home for such girls. While attending the trial of this girl, Mrs. McKee and Mrs. Richmond laid before the judge their views upon the proper methods of reforming wayward girls. The thought in both their minds was that home influences, personal interest, the necessary discipline that all young people need, which means the combination of kindness and firmness, were the useful reformatory and curative methods; while condemnation, straight jackets, and prison cells never reform any one. Their ideas pleased the judge, who said such a work carried on in the manner they described was greatly needed in Grand Rapids and vicinity, and that he would be pleased to see such ideas put into practise, and such a Home established.

But Mrs. McKee knew that an account must be rendered of the faithfulness with which the work was conducted; she realized that an accounting must be made to God for the influence upon hearts and character; she was conscious of the necessity and the difficulty of finding consecrated workers to assist; she was aware of the importance of health, strength, and wisdom sufficient for all emergencies; and, with the prospect before her of realizing her heart's desire, she shrank from the burden of this great responsibility, as all these conditions

loomed up like mountains which only the divine hand could remove. While on her face on the floor of her bedroom, in an agony of prayer over this matter, Mrs. McKee was impressed with the feeling that if Gideon asked with propriety so marked a sign from the Lord, it would not be improper for her to desire positive evidence of his will in this matter.

It was certainly a serious responsibility, and without property or money a herculean task. I doubted the propriety of attempting it. I feared also that Mrs. McKee would be physically unable to bear such a burden. Mrs. Richmond asked if I believed God's Word, and pointed me to Isa. 58:6-8, and especially to the promise of the eighth verse: If "thou bring the poor that are cast out to thy house, . . . then shall thy light break forth as the morning, and thine health shall spring forth speed-

ily." From that time the fifty-eighth of Isaiah became the text for this work,—its incentive and its stay.

The appeal of the young woman in the jail to become her ward made a strong and peculiar impression upon Mrs. McKee. It impressed her as a call which she could not refuse. To become her guardian meant virtually to undertake the care of others whom the Lord might send, and to make a home for them. When we called at the judge's office in

(Continued on page 151)



MRS. W. H. MCKEE



How Cottonseed Oil Is Made

O. C. Godsmark, D. D. S., M. D.

BEING in frequent receipt of letters of inquiry from physicians and those most interested in healthful living, as to just how the better grades of shortening are now made from the cottonseed, we gladly make the following short statement as to its manufacture, and care before shipment:—

Probably no one food product is eliciting more serious consideration, or is standing the strong lime-light investigation of leading physicians and chemists better, than is the highly refined cottonseed product.

It is now well established that the better grades of cottonseed oil, besides being a regular food fat, and having excellent shortening qualities, possesses all the advantages and imparts to the depleted system all the real benefits that have ever been gained by the much-advertised cod-liver oil, with none of its detrimental effects upon the organs of digestion.

When first taken from the gin, the seed is freed from all dust and every particle of dirt that it is possible to remove. This is done by machines especially prepared for the purpose. It is then put through the "scalping" process, by which every remaining particle of lint and fiber is taken away. It is then passed through the hullers, which remove the outside skin, or hulls, leaving only the clean sweet meats, free from every source of contamination. These meats are then passed through the rolls, and heated so as to express the rich nutty oil that has become a staple food fat in health institutions and among vegetarians generally.

Before reaching our tables this oil is filtered and re-filtered through fuller's earth, a substance found in nature. This to a great extent removes the white flaky stearin, or palmitin, that gives the oil its white appearance and makes it thicken more readily in cold weather. After thorough filtration the oil is heated to a point not less than three hundred degrees Fahrenheit, or one hundred degrees hotter than boiling water. While at this temperature, live, superheated steam is passed through it, thoroughly cleansing it, so that no germs of decay or disease can exist in the oil. It is then drawn off into immense covered vats, where no particle of dust can come to it, and there it is allowed to ripen, or mellow up.

There is a tendency for the slight remaining palmitin to settle to the bottom of these immense tanks, consequently the first few hundred gallons drawn off has a whiter appearance, and is more inclined to become thick and hard in cool weather, than that drawn later from the same tank.

While this palmitin is not unhealthful, and many cooks think it gives a better, richer body of fat to the oil for cooking purposes, yet we prefer to see the oil clear, having a slightly yellow-green shade, similar to that of the pure olive oil made from the green olives.

All cottonseed oil will become white and solid in cold weather, unless treated with chemicals to prevent its so doing, and we would warn any one against the use of such an oil.

In comparing this with other kinds of

cooking oil now on the market, Professor Moore, of the Arkansas University, gives its percentage of digestibility as follows: pure cottonseed oil, 93.37; olive oil, 88.81; corn oil, 86.47; peanut oil (or butter), 85.87; lard, 73.88; beef suet, 73.66; thus placing cottonseed oil in advance of any other known cooking or salad oil. Dr. George Brown, ex-president of the Anti-Tuberculosis League of America, says of this oil: "Put it on your tables and in your drug stores, and give it to your children to eat, and you will raise fleshy children, and children that will be absolutely free from tubercular and scrofulous diseases."

Dr. Harvey W. Wiley, chief of the Bureau of Chemistry, United States Department of Agriculture, says: "It is a wholesome, palatable, nutritious, cooking, salad, and table oil. One unit will furnish two and one-half times as much heat and energy as the same amount of grain."

When we contrast the absolute cleanliness and painstaking care exercised in the manufacture of this oil with the entire disregard of sanitary principle as manifested in the great slaughter-houses

of our land, we revolt at the thought of eating the "compounds" and solid shortenings that flood our markets to-day.

The oil, when drawn from the tanks, is shipped direct to the consumer in new tin cans hermetically sealed, or is placed in new barrels that have been carefully lined with paraffin, so that no taste or odor reaches the oil.

It depends entirely upon its purity for its keeping qualities, and will withstand any climate if it is kept perfectly clean. A few drops of water will, however, spoil a barrel of the purest oil. The can into which it is to be drawn should never be rinsed out, for a few drops of water settling to the bottom of the can, will ferment and ruin the whole amount.

There is to-day no other shortening or salad oil known equal to the better grades of cottonseed oil. Olive oil itself is not so easily assimilated and taken up by the organs of digestion as is the oil of which we speak. These statements apply, however, only to the better grades, and not to the cheaper brands of oil to be found and advertised almost everywhere.

Chattanooga, Tenn.



Copyright, 1904, by Detroit Photographic Co.

THE "PURE FOOD" OF THE NORTHERN WOODS



That Boy of Yours—No. 2

H. T. Musselman, Editor of the "Youth's World"

What a Boy Is Made Of

IN our previous article, we defined the boy with whom we are dealing, as in that period in which a person awakens to a conscious sense of life's powers and possibilities, relations and responsibilities. It is that boy of yours in the early adolescent age in which we are chiefly interested. It is coming to be seen that this is, in many respects, the most important period of life. Mysterious forces enter into mind and muscle at this time, which, properly directed, make for stalwart manhood, and which, improperly directed, mar manhood forever. It is, likewise, the most interesting period of life to many of us. Here you will find freshness of individuality, for life has not yet put on the conventional customs of the world, and thus become dull and tiresome. In this article, therefore, we look at the real boy, and seek to answer the question, What is a boy made of?

This is no idle question, for we shall never know how to treat the boy or train him up in the way of truth and honor until we know just what he is. The first words of wisdom to parents, teachers, and workers with boys are: Know thy boy—know him not only in the days of childhood, but also as he really is in the days of youth. It is true that it costs much in the way of sympathy and companionship, but remember the boy is worth it. The making of one real man out of a real boy is a greater honor

than the making of many millions of money.

When you begin to find out what is in that boy of yours, you will be struck with the thought that he contains pretty good stuff. To the far-seeing eyes of the student of boyhood, no healthy boy is in reality bad. Those old jingling lines to the effect that boys are made of "rags and tags and old leather bags," while girls are made of "sugar and spice and all things nice," are a diabolical slander on boyhood. As a rule, the boy is all right when we come to know him and to sympathize with him. The trouble with most people is that they see only the outside of boy life. The real boy is the boy within; and when we ask what the boy is made of, we are thinking of the soul of the boy and its contents. From this point of view, we wish to point out some of the things which we have discovered in the boys as, through many years, we have lived with him, worked with him, and loved him above all others.

First of all, there is the sensational thrill of physical changes which are going on in his life. The heart is increasing in size, and the arteries are becoming larger. The skin is more sensitive, and all the senses are strengthened and widened in their field of exercise. Likewise, there are changes in the nervous system. Strange passions are awakened within him. It is a period of storm and stress. Of all this the boy is conscious,

He knows he is not the same fellow that he was a year ago. He is entering a new world in which the forces of righteousness will battle with the forces of evil for the possession of his soul. In connection with these physical changes, the sex consciousness is awakened in his soul, and becomes one of the most potent forces in his life during this period. No one is able to understand and work with the boy who does not take into consideration this fact of his turbulent experience, and measure fully its meaning to his life. It is here that thousands of boys are lost to manhood simply because of the ignorance of parents and teachers in dealing with boy life.

This is the age also of self-consciousness and self-assertion. The boy has awakened to a distinct sense of his own individuality. He is a new pebble on the shore of time, washed out from the "sea of childhood by the waves of dawning manhood. This distinct sense of self and its rights is nature's great gift to him, and woe be unto the worker with boys who fails to recognize and respect its presence. Growing out of this sense of self and its powers and possibilities, we discover great aspirations and ambitions in the boy. He is a dreamer of great deeds to be done. The field of these deeds sometimes may not be very worthy, but he is bound to become a man of great

achievement. One boy we knew thrilled with the ambition to become the greatest clog-dancer in the world. Time showed him the folly of such an aspiration, but it was all right at that particular time. Sometimes these aspirations are for self-conquest, but most often for service in connection with others. The early adolescent boy who does not expect some day to be great, needs to be examined by a competent physician. Many persons

seem to have no sympathy whatever with the various aspirations of boyhood. To us, they have always been a source of delight as we have touched boy life—intimations, as it were, of the world's heroes yet to be.

This is the place to speak of the presence of hero worship in the boy. Every boy bows down in adoration before his hero. His own life of action and desire for greater action lead him to this love of the heroic. That boy

is to be pitied under whose eyes some great and worthy deeds are not performed. To a great extent, this can be supplied through his reading of biography.

Lives of great men all remind him
How he'll make his life sublime,
And, in coming years of greatness,
Hear his name resound in time.

Whatever you do for the boy, furnish him with heroes worthy of his worship. Another element we have found in the



A NATURAL CRAVING: HE WANTS
HIS NAME REMEMBERED

boy is his social consciousness. This period is pre-eminently the period of the gang spirit — not that this spirit does not enter into the later years of childhood to some extent, but that this is the period in which it has such marvelous power. In the first real sense of this social consciousness, the boys form themselves into gangs or clubs of boys alone. There is a tendency toward the separation of the sexes. All this shows that, in working with boys, it is best to deal with them in separate classes or organizations. Later on, the dawn of the homing instinct de-

velops, and there is the beginning of an attraction between the sexes; but in the early years of boyhood, the social consciousness includes chiefly the fellows of his own gang or club or community. Closely following the awakening of the social consciousness, the power of altruism begins to assert itself in his life. This we have called the gospel of boyhood, and in a later article will seek to point out its moral and religious meaning in the unfolding life of the boy. Here we simply call your attention to its presence as one of the elements in the make-up of the normal boy.



BOYS LIKE GAMES INVOLVING ACTION AND DANGER

One of the largest elements in that boy of yours is his spirit of fun. The average

healthy boy is fifty per cent fun. This manifests itself in all kinds of ways. He loves jokes, and plays pranks upon those about him. Teasing is his constant delight. The boy who does not laugh is the boy who is not apt to live long. Parents and teachers who can not enter into the fun-loving life of boyhood do not deserve to be parents or teachers. Let the boy have a good time is one of the best rules to regulate any household. A recent writer says that we should be slow to chastise the boy for indulging in so humanly divine an instinct as laughter.

Closely connected with the fun of the boy is his fuss-making power. The normal boy delights to live in a world of noise. The home with the atmosphere of a graveyard is the best place on earth to make a criminal of a boy by sending him out into the streets to find satisfaction for the craving of his nerves for racket. Every father should learn to rejoice when his boy enters the door of his home with an Indian war-whoop.

Perhaps this is the place to mention the presence of the fighting spirit in the life of the boy. This might have been spoken of in connection with our remarks on his heroic spirit. It is sufficient to say that every healthy boy possesses this spirit to

a large degree. Whatever it may be due to, it is a most important factor in his life, and the spirit should be directed, so far as we can, in right directions. Any effort to kill this spirit is a mistake in our judgment. Life is more or less a fight from beginning to end, and we need as much of the fighting spirit as our animal inheritance can give to us. Our problem is to fight in the right field. Under proper and sympathetic surroundings, the average boy will learn to make the right use of this spirit. For our part, we never lose any sleep over the ordinary fighting between boys in these early years of youth. There are some lessons which they can learn only through this exercise, and time will do the rest.

In closing, this article must point out briefly several other elements in the make-up of the boy. We have shown that this is a period of stress and storm and struggle. In the midst of all these, there is a sense of loneliness in the boy. To him these various experiences are individual. That others have had them he knows not, and, at times, the sense of loneliness is overwhelming. Soon he discovers that other boys are having similar experiences, and thus his first companionship in the struggle is usually with one of his chums. Happy the boy whose father, knowing the presence of these struggles, opens the door of sympathy and fellowship for his boy. That is the best answer to the lonely feelings in a

boy's life. Along with this sense of stress and struggle and its consequent sense of loneliness, all kind of doubts enter the mind of the boy. The things which he has been taught in childhood he now questions. In fact, he frequently becomes a rank atheist. We need not worry overmuch about this. It is the reconstruction stage in his life, and if proper training has been furnished in childhood, and proper companionship is present now, the construction process will work out all right in the end. Whatever you do, do not try to force matters upon the boy's mind at this time. The road to success is through sympathetic companionship and leadership. Only thus can we answer the feeling of misunderstanding which always arises in connection with the sense of these struggles and loneliness.

We have tried to point out the essential elements in the soul of your boy. All these elements are vital, and are nature's forces for the making of strong men out of real boys. If we take time to understand them and see their combination with other particular elements in each individual boy with whom we work, we shall be able to aid the boy in his unfolding manhood. If not, we shall hinder him rather than help, and only God knows what the end will be. Take time to know what the boy is made of.

1701 Chestnut St., Philadelphia.





The Conference on the Hookworm Disease

Newton Evans, M. D.,

Professor of Pathology and Bacteriology, University of Tennessee

[Dr. Newton Evans, the writer of this article, attended the hookworm conference, and read before that body a paper on the pathology of the hookworm disease.—Ed.]

IN January 18 and 19 the first meeting of the Southern Health Conference was held in Atlanta. This important gathering was brought about by the efforts and under the auspices of the Atlanta Chamber of Commerce, in co-operation with the Georgia State board of health. The idea of the meeting originated with the Atlanta Chamber of Commerce, and the story of the inception of the idea is interesting. The subject was first brought to the attention of the Chamber of Commerce by a letter from one of its members, Mr. Wm. L. Moore. "In discussing the matter Mr. Moore explained that he had read with doubt what he believed to be sensational accounts of the hookworm disease in its ravages in the South. When finally there came to his observation the articles on the subject in *McClure's Magazine*, he felt that if the articles were true, it was time that an organization in the South be effected to plan a crusade against the disease; and if the articles were not true, there should be an organized effort to refute the statements contained in the articles.

"He addressed a letter on the subject to the Atlanta Chamber of Commerce, who immediately appointed a committee to look into the matter, Mr. Moore being made chairman. The direct result was the calling of the Southern Health Conference."

A number of influential persons in the South, including prominent clergymen

and important newspaper editors, particularly since the publication of the articles referred to above and since the announcement of the munificent gift of one million dollars by John D. Rockefeller to be used in a campaign to eradicate the hookworm disease, have been very active in expressing ridicule and serious doubt of the importance of the disease to the South. This protest is no doubt well meant, and is based upon the idea that thus advertising the alleged presence of a dangerous disease would react in a harmful manner upon this section of the nation.

The attitude of the progressive men of the South and of those who have studied the conditions with reference to this disease as shown by the work of Dr. C. W. Stiles, Dr. H. F. Harris, and many others in recent years, is demonstrated by the Atlanta Chamber of Commerce in calling this great conference. The expression of conviction made by President Chas. S. Barrett of the Farmers' Union is significant in this connection. He said: "Listening to statements of men whose business it is to be judicial and dispassionate, there is no doubt in my mind that millions of Southerners, white and colored, are afflicted with uncinariasis. The financial loss to the South through the paralyzed industrial functions of this great army of infected, as well as the direct and indirect toll of life, is in the realm of the incalculable."

Dr. Charles Wardell Stiles, the gov-

ernment zoologist who has spent more time and done more work in investigating this disease in the United States than any other man, gave several addresses which were filled with interesting and instructive information as to the parasite of the hookworm disease, its prevalence in the South, and its terrible effects upon those who are infected with it. In Porto Rico at the time of the American occupation after the Spanish-American war, the entire island was affected by the disease, and probably as high as thirty per cent of all deaths were due directly or indirectly to its ravages. Through the untiring and intelligent efforts of the United States government through a few government physicians this terrible plague has been materially mitigated, and, in fact, practically controlled.

Probably there is no place in the United States where any large area of the country is so seriously affected as was Porto Rico; but it is undoubtedly true that there are great numbers of small areas and communities where it is just as prevalent and destructive as in that island at that time; and the work of those who have been carefully studying its distribution shows that it is very general throughout the rural districts of the South. Through the efforts of Dr. Stiles, its areas of greatest severity have been, in general, pretty well defined. The regions most seriously affected are the mountain districts throughout the Cumberland Mountains, the Blue Ridge, and other mountains of the Appalachian chain, and also throughout the extensive sandy districts in the region of the Atlantic and Gulf coasts. The middle ground between the mountains and the regions nearer the coast are not free from the disease, but are much less seriously infected. Apparently the conditions of soil, temperature, and moisture determine these areas of greatest prevalence.

The insanitary habits of the people furnish the means for the spread of the disease from one person to many others. It has been shown beyond doubt that the worm, in microscopic form, gains access to the body through the skin, usually the skin of the feet, and that it comes from soil contaminated with the bowel discharges of those who have the disease. The eggs are in this manner deposited upon the ground by the thousand, and there develop into young worms, which, coming in contact with the surface of the body, are capable of working their way through the skin into the flesh and blood-vessels and finally into the intestines.

Dr. H. T. Harris, secretary of the Georgia State board of health, presided at all the public meetings, and was elected as the permanent president of the association for the year. He was justly honored as one of the two men who have done most, not only to discover the facts as to the hookworm plague in the South, but also to disseminate knowledge of the disease, and thus pave the way for the great and enthusiastic meeting held at this time, and to the organization of the permanent Southern Health Conference.

The movement for the conservation of national resources, headed by President Roosevelt, has called the attention of the thinking people of the country to the fact that healthy men and women are the greatest asset of any country, and the one absolute essential. The inception and the spirit of this meeting is a very practical illustration of the realization which the wide-awake commercial bodies have of the paramount importance of human health and vitality in the prosperity and advancement of any country or section of country. The meeting was called and supported by the Atlanta Chamber of Commerce.

The organization and the personnel of the permanent organization are of such a character that it must have an increas-

ing importance, and highly intelligent and effective work for the Southern Health Conference is assured; and the work projected for the Rockefeller commission for the eradication of the hookworm disease will undoubtedly receive great assistance and information through co-operation with this association. Besides other officers, there were elected a vice-president from each of the Southern States, also one each from the United States Army, United States Navy, the Public Health and Marine Hospital Service, the District of Columbia, and Hawaii.

The immense importance of this movement to the South, not only from the standpoint of industrial, commercial, and material development, but particularly from the humanitarian and philanthropic

standpoint, was dwelt upon by the principal speakers. This point was illustrated by an incident recounted by Dr. Stiles. He said that in presenting the great importance to the South of the eradication of the hookworm plague, to one of Mr. Rockefeller's associates, who was the man really responsible for the accomplishment of the appointment of the Rockefeller commission and the appropriation for its work, he made an estimate of the great financial benefit which would accrue to the commerce of the South, naming its approximate value to the country in millions of dollars. The gentleman answered, "That does not interest me in the least. How many human lives will it save?"

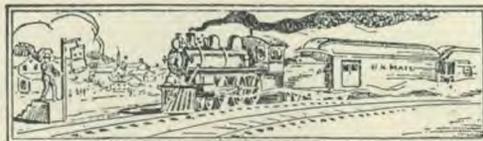
Nashville, Tenn.,

The Establishment of the "Home"

(Continued from page 142)

reference to the making out of the necessary legal papers in this case, he was not there; and while waiting, the three of us — Mrs. McKee, Mrs. Richmond, and myself — held probably the first and only prayer-meeting that ever took place in that municipal building. The girl was made Mrs. McKee's ward, but on account of the breaking out of smallpox in the county jail, she was quarantined there for twenty-one days. It seemed that we were committed to the establishment of a "Home," but Mrs. McKee desired direct evidence from the Lord. She prayed that if it were his will, he would cause

the house we occupied to be sold over our heads, and we be compelled to move at once. This seemed to me much to ask, because the owner had promised the use of this house as long as we chose to occupy it. I remarked to her that she had asked a pretty hard thing. However, within a week the house was sold to a purchaser who would have that house and no other, although more advantageous bargains were offered, and he desired immediate possession. This decided us, and without delay we set about securing a suitable location for the Home.





On the Paths of Tuberculosis Infection

H. J. Achard, M. D., Chicago, Ill.

[We are glad to give our readers this remarkably clear and concise description of the tuberculous processes. It is not often that a writer on disease succeeds in stating so precisely what he wishes to, without making use of technical language.—Ed.]

IN my short paper "On the Sources of Tuberculosis Infection," in the October number of this journal, I showed that the greatest and by far the most important source of danger lies in the expectorations of consumptives, which either are scattered in the form of fine spray, constituting the so-called droplet-infection, or dry and mingle with the dust. This dust is constantly disturbed by walking, by the air current, and by sweeping, and a portion of it is inevitably inhaled. Both the droplets and the dust contaminated with such excretion contain tubercle bacilli, which may be inhaled, and may thus produce a tuberculous infection. Most persons can take care of the bacilli introduced into their bodies, but others, for some reason or other, offer to them favorable conditions for growth and multiplication, when tuberculous disease will develop. I have also shown that the question whether bovine tubercle bacilli are capable of causing tuberculosis in human beings is not yet definitely settled, and I desire to emphasize the importance of avoiding even the possibility of infection from bovine sources as long as the matter is undecided.

I intend to show in a later paper the extent to which tuberculosis is communicable from person to person, and in how far consumptives may and do, if they are careless, become a source of danger to their surroundings. I will anticipate sufficiently to state emphatically that consumptives with tubercle bacilli in their sputum are dangerous for those around them only when they are careless.

—when they neglect to cover their mouths in coughing, permitting the bacilli to be sprayed in droplets; when they touch utensils and objects with their sputum-soiled fingers; in short, when they are not rigorously clean about their persons, and take proper precautions in the disposition of their sputum. I make a point of this, because most patients who have received proper instruction, take the necessary precautions, and yet they are often done great injustice in that they are treated almost as outcasts or lepers as soon as it is known that they have consumption.

In order to exert its harmful action, the tubercle bacillus must be introduced into the tissues of the body. The skin is not a favorable tissue for the localization of the bacilli, for its structure is too compact to permit the absorption of the germs, and these are apt to be removed from the skin by the constant exfoliation of its epidermis, or outer layer, as also by washing and bathing. Finally, the tubercle bacillus grows best at a temperature of 37° C. (98.5° F.), and the outer skin does not often show that temperature, and is, moreover, subject to considerable temperature variations, which would interfere with the growth of the bacilli, even if they were undisturbed, and would further tend to make the skin an unfavorable culture medium for the tubercle bacilli. If, however, the skin is injured even slightly, the bacilli can pass into the lower layers, in which the circulation is free, and thus they may be taken up by the lymph stream and carried into the nearest glands, where they

will produce tubercle. Cases have been reported where little girls had their ear lobes pierced for earrings, and the wounds were moistened with saliva. The person doing the little operation changing to be consumptive, the wound was infected, and skin tuberculosis developed. In other instances tattoo wounds were infected in like manner; and it has also happened that nurses, having by accident broken the sputum cups while cleaning them, and having injured their hands on the broken surfaces of the cups, were infected on the skin.

Of far greater importance for the entrance of tubercle bacilli into the body are the mucous membranes, that is, the fine delicate membranes which line the mouth, throat, windpipe, and the lower air-passages, also the gullet, stomach, intestines, in short, all the body cavities or channels which are in direct communication with the outer air. This thin membrane is far more delicate than the outer skin, and more subject to injury even through slight causes, and therefore offers to the tubercle bacilli better opportunities to pass through it and to be taken up by the body fluids, when they can begin their harmful work.

While in the mucous membranes, as in the skin, an injury, a defect in its upper layer of cells, which are called the epithelial cells, is generally requisite to permit the passage of tubercle bacilli, these can also find their way through the healthy unbroken membrane. This is especially apt to occur if tubercle bacilli are introduced into the digestive organs with the food. While they do not seem capable of doing much harm in the stomach, as is suggested by the infrequency of stomach-tuberculosis, they will, on leaving the stomach, reach the intestines, and may there be carried through the intestinal walls by lymphocytes, or white blood-cells, which during digestion leave the circulation, pass into

the intestines and take up fine particles of the so-called chyle, or food paste, to carry them out into the lymph, whence they are taken into the right heart and into the lungs to be changed into arterial blood. In like manner may tubercle bacilli be taken up and carried from the intestines through their walls. Only, being foreign bodies so-called, they are not readily permitted to pass on into the circulation, but are generally arrested in the fine meshes of the lymph nodes, that is, small glandular bodies which are placed at frequent intervals along the course of the lymph vessels for the very purpose of filtering out such foreign substances from the circulation.

But the bacilli do not have to wait until they are swallowed with the food before they can get into the tissues. During the mastication of food, and still more in the act of swallowing, part of the food is pressed against the tonsils, those glands on either side back in the pharynx, just above the gullet, which are so often enlarged in children. The tonsils have a number of so-called crypts, or depressions, which contain mucus, and if tubercle bacilli get into them, they may remain there for a time undisturbed, at a favorable temperature for growth and with the mucus forming a good nutrient, or they may be taken into the substance of the tonsils to form tubercle, or — and this is the most frequent — they may be taken up by the white blood-cells already mentioned and carried into the lymph vessels and lymph nodes of the neck. As these nodes become tuberculous, they enlarge, and may eventually form abscesses which require lancing, or which may break open spontaneously. This is the true nature of the so-called scrofulous glands; they are tuberculous.

When one gland becomes tuberculous and can no longer fulfil its function of arresting foreign substances, like bacilli, and preventing their being carried

into the circulation, the bacilli pass on to the next gland, in the direction toward the chest; and since there exist lymph passages communicating with the glands at the root of the lungs, the tubercle bacilli may be carried to them, and may thus eventually invade the lungs. Through similar communications, it has been claimed, may tubercle bacilli swallowed with the food be carried from the intestines by way of the intestinal lymph glands (the mesenteric glands) into the chest and bronchial glands, and finally into the lungs.

The most frequent way in which tubercle bacilli are introduced into the body is undoubtedly by the respiratory passages, in spite of the assertion of a few noted investigators who claim that the paths just described are the more usual ones. If tubercle bacilli are inhaled with dust or with droplets, they may be carried deep into the small bronchi, or the finest endings of the branches of the windpipe, which divide all through the lung substance like the branches of a tree. They may localize at a point on the mucous membrane of these fine bronchi and form tubercle there, or they may pass through it, and again be carried into the lymph nodes, which are very numerous in the chest, especially around the root of the lung and along the large and small bronchi. This last is probably the most frequent mode of infection in children, for in them the bronchial glands are, after death, more often found tuberculous than are the lungs themselves. In these glands, tubercles may grow and pass through their usual process of evolution, which is eventually caseation, that is, a cheesy degeneration, and then breaking down or softening and abscess formation. If such a glandular abscess forms, it may break into the windpipe or into the gullet. The tuberculous gland may also remain quiescent, and may not until much later give

off its tubercle bacilli, which are carried into the lungs or to other places, and cause a new process of tuberculosis.

In grown-up persons infection by inhalation is more apt to cause the formation of tubercle in the bronchi, and then in the substance of the lungs, that is, pulmonary tuberculosis, rather than bronchial gland tuberculosis. The former in any case easily develops from the latter by extension of the tuberculous process. Wherever tubercle forms, unless the process is arrested, the destructive stage is reached sooner or later, that is, the ulceration, and it is this destructive stage which is properly designated as consumption, or phthisis.

Fortunately, the organism does not fall an unconditional prey to all harmful, and especially bacterial, influences with which it comes in contact; but it is so wonderfully constituted that it possesses certain defensive provisions which tend to remove the invading bacteria, and if that is not possible, to enclose them in tough fibrous tissue and render them comparatively harmless. The encapsulation is due to what is called a connective-tissue proliferation, and occurs in response to the irritation caused by the presence of the bacteria and of the tubercle which they form. Again, while the bacilli form in process of their multiplication certain toxins, or poisons, the body forms antitoxins, or counter-poisons, which, at least to a degree, may counteract the effects of the former, and, if they are formed in sufficient degree, may arrest the tuberculous process and check the disease. It has been well known for many years that far more people become tuberculous than become consumptive, which means that the tuberculous process, or disease, becomes arrested before reaching the destructive stage. Indeed, it has been said that every adult has "a little tuberculosis," or has at some time or other been

infected with tuberculosis, but has been able to prevent the evolution of the tuberculosis into consumption. This is no doubt overdrawn, but it may be safely said that about one half of all adults have somewhere in their organism some latent or quiescent tubercles, which do no harm as long as they do not grow and break down. That being the case, tuberculosis is seen to be distinctly a curable disease, and as a matter of fact, it is only the later stage of the affection, that of consumption, which is difficult to heal, if it

has progressed sufficiently to undermine the constitution so that this can not oppose an effective resistance to the action of the tubercle bacilli. All the more reason then for all those in whom there is any suspicion of a tuberculous infection to consult a physician for the purpose of a careful examination and diagnosis, and if tuberculosis is found, all the more reason to strictly obey the directions of the physician in order to arrest the process and assure a cure while it is possible.

4753 East Ravenswood Park

The Causes of Disease

L. J. Otis, M. D.

DISEASE is always due to some cause, and when the cause is present, disease is pretty certain to follow; though its character and the time of its appearance may vary in accordance with the strength and inherited predisposition of the individual, or what may be termed hereditary conditions.

Hereditary causes are always present, but before they become active factors in producing disease, there must be other associated causes. Though one inherits a weakness toward tuberculosis, he need not, if careful to avoid conditions which favor it, fear being overcome by the disease.

These favoring conditions are always violations of natural law, and constitute the primary, or predisposing, causes without which the immediate, or secondary, causes, in the shape of bacterial infections, would be harmless. They should therefore be given careful consideration. It is unfortunate that more attention has not been given to these factors of disease as well as those related to bacteria and parasites. Investigators have spent much time and

money, and some have even given their lives, in investigating the immediate conditions, such as bacteria, mosquitoes, protozoa, and the like; and the result has been of inestimable value to the human race. Yet few have given any attention to the consideration of the remote conditions, the knowledge of which is perhaps no less essential to health. Some of these favoring conditions must be present in order that bacteria may gain a foothold in any individual to produce disease.

Violations of natural law interfere with some of the bodily functions, of which there are five—the nervous, digestive, circulatory, respiratory, and eliminative—most important and essential to the well-being of the individual. Direct interferences with the nervous functions are not common, but these functions are very apt to be disturbed by an interference of some of the others, as the digestive or the eliminative. One is more apt to have nerve exhaustion from dietetic errors than from excessive mental application.

Digestive disturbances as primary

causes of disease are common, and receive entirely too little attention. Anything that overtaxes or irritates the stomach opens the way for disease. Irritating condiments, improperly cooked, highly seasoned, and indigestible foods, together with irregular and too frequent meals, bring on disease sooner or later. The ultimate causes of gastric cancer, gastric ulcer, and appendicitis are as yet enshrouded in mystery. Would it be strange if investigations undertaken along this line would reveal that their genesis can be traced back to these same dietetic indiscretions?

In order for one to be at his best physically, the circulation must be full and uniform, supplying all parts of the body. Imperfect elimination is a common cause of circulatory disturbances. The retained poisons constrict the capillaries at the surface and in the extremities, causing cold hands and feet, with chilly sensations, and a congested condition of the internal organs.

Improper dress interferes with the circulation. Constriction of the waist not only causes prolapse of abdominal and pelvic organs, but compresses the large abdominal vessels, thus retarding the circulation and producing conditions that later in life result in misery and distress. Exposing parts of the body during cold weather, with either insufficient clothing or no clothing, brings undesired results. So commonly do diseases follow these errors in dress that among American women about one in three or four suffer, in later life from diseases arising from such errors.

Respiratory causes more commonly bring on lung diseases, but lack of oxygen, from improper ventilation, aids in establishing other diseases as well. The

far-reaching results of respiratory disorder may be inferred from the fact that full normal action of the lungs assists in maintaining other vital processes, as digestion and elimination. Tuberculosis is often cured by establishing the fullest possible respiratory action.

Elimination, embracing the processes whereby poisons are destroyed or thrown out of the system, is a very essential function, and many are the diseases that can be traced to disturbances of some of these processes. The organs involved are mainly the kidneys, liver, intestines, skin, and lungs. Retarded elimination coexists with nearly every cause of disease; for an injury to any of the other vital processes causes more poisons to be thrown into the system, and with loss of vitality there is a lessening of the actions of the eliminative organs. It is to disturbances of eliminative processes that we are indebted for rheumatism, neuralgia, headaches, lumbago, and perhaps other aches and pains. Colds more probably come from this cause than from exposure. To avoid colds, keep the eliminative organs active, and exposure will be of little danger to you.

The causes of disease, after all, are simple, so simple that it is not necessary to be a doctor in order to be acquainted with them. Many diseases could be avoided absolutely by a knowledge of these causes.

The Lord never created man to be continually suffering from colds, bronchitis, headaches, fevers, and the like; and with each of us rests the responsibility of learning the conditions that favor the onset of disease, in order that we may avoid them.

Stuart, Iowa.



The Mental Aspect of Physical Culture

Herbert M. Lome

TO assert that the mental advantages of physical culture are on a par with its bodily benefits, may seem to be somewhat of a paradox. But the fact remains nevertheless. Not only does the intellectual nature of a man find expression by and through his physical personality, but, to a very great extent, the former takes shape and color from the latter; hence, the "sound mind in the sound body;" hence, too, the vices and unhappiness that find root in the life unhygienic. A departure from the physically normal is bound to be followed by manifestations of moral and mental abnormality. Such abnormalities may range from "white lies" to murderous mania.



EXERCISE NO. I

Stand upright, the heels touching, the arms at the sides. Slowly raise the left foot, and at the same time extend the left arm. Endeavor to touch the toe with the fingers. Keep the right arm at the side, and maintain balance of the body by swaying it to the right. Perform the movement for, say, half a dozen times; rest, and then repeat it with the right leg and arm. After a time you will be able to bring the lower limb up with an easy swing instead of an effort. Makes for poise, and is good for the organs of the abdominal region, the legs, and the arms.

A physical system that has degenerated by reason of the neglect of the primal laws of diet, exercise, continence, etc., is bound to beget mental degeneration. Fortunately, the recuperative powers of physical culture are of a positive sort in both muscular and mental spheres of being. In proof whereof witness the success of the treatment in those institutions and sanatoriums in which a return to the natural life is insisted on, and no shrinking from the régime on the part of the patrons is permitted. The discharged patients exhibit a sanguine and cheerful mood that is in strong contrast

to the gloomy pessimism that distinguished them when they entered the establishment. Physical-culture methods have not only built up their bodies, but have restored power and poise to their nerves and brains also.

Only a smattering of physiological knowledge is needed in order to understand why physical culture possesses the duality of beneficial effects to which

allusion has been made. Health is the outcome of the various organs of the body working with the accord and vigor that nature intended they should. When this condition obtains, the mere act of living is enjoyable; every deed or thought of one's waking hours brings pleasure; and sweet and refreshing are the periods of slumber. Optimism is the temperament of a man so dowered, and he has

a lasting belief in the possibilities and good qualities of his neighbors. He is an exponent of the cheering maxim that the natural condition of man is happiness, provided that advantage is taken of the tenets of physical culture.

One of the grave weaknesses of some so-called "systems" of physical culture is that their promoters overlook the fact that only when the muscular and mental systems are simultaneously working to the same end, does the student receive much benefit. Where the efforts of the muscular system are alone enlisted, or where it obtains but scant sympathy from the mental, the advantages are materially reduced, and in some cases are rendered absolutely nil.

Now, sensible physical culture calls for



EXERCISE NO. 2

Place the hands on the hips, the legs close together, the toes pointing slightly outward. Now extend the right arm on a level with the shoulder, and at the same time slowly raise the right leg outward as far as possible. Let the head follow the direction of the extended arm. Next lower the leg as deliberately as possible, at the same time dropping the arm. After executing the movement three or four times, repeat with the left arm extended. This is a strenuous exercise for the muscles of the legs, the waist, and allied sinews. It is good for kidney troubles and constipation.

coincident activity on the part of brain and body. To this end, every one of its exercises or recreations has an objective



EXERCISE NO. 3

Sit on the floor; extend the arms until they are on a level with the shoulders, and then, extending the legs sideways, lean over to the right until the weight rests on the right arm in the manner shown in the picture. Keep the left arm extended. Now, while still keeping the right arm straight, lower the body until the hip touches the floor. Next raise the body from the floor by means of the ankle and right arm until the hip is clear and free of the floor. To do this successfully calls for some amount of practise, the difficulty of executing the movement being complicated by the necessity of maintaining the balance. Repeat with the left leg, arm, and side. This is an excellent exercise for practically the entire body, being especially good for the muscles and organs of the abdomen and chest. The movement should be executed with a rhythmical sort of swing after the initial difficulties of execution have been overcome.

of so plain a kind that the student, from the first, is made aware of that which he is expected to accomplish. And this understanding furnishes no small amount of the enjoyment and stimulus that underlies every form of wholesome bodily exertion.

Does he wish to improve his physique by walking? Then physical culture teaches him to start out with a definite destination ahead of him. Is he a lover of the water? He is taught the advantages that arise from a congenial crowd and from trials of speed and skill. A spirited horse keeps his wits as well as his powers of equipoise in constant play.

Half the joy of rowing is to be found in overcoming inertia and in the sense of rapid motion created by healthful effort. These are but a few of the many things that point the principle.

The comparative absence of an objective in the sense of solitary "stunts" in the gymnasium, or exercises with the wand, dumb-bells, or Indian clubs, explains why all these are of much less value than are those athletics that yield mental gratification and stimulation. It is true that every form of gymnastic apparatus has its special usefulness, and it is also equally certain that they demand the attention of the mind to a certain degree. Thus the horizontal

bar, the rings, and the trapeze call for much mental concentration and activity. But other well-known apparatus are devoid of this same quality, and it will be noticed that after a season of physical effort made with the assistance of such, one feels much more tired than by a longer period of work with the other class of apparatus. The student has, so to speak, been putting a strain on one part of his being—his body—that should have been shared by the other part—his brain; and he feels undue fatigue in consequence.

That the gymnasium holds an important place in the scheme of physical culture, goes without saying, especially in the case of large cities where the average young man is at leisure only during the evenings, and the majority of the occupations are of a sedentary sort. Under these conditions, he must perforce do the

most of his athletic work inside four walls, except, perhaps, on one day in the week. And because work in the gymnasium will always lack much of the mental inspiration that outdoor work furnishes, it can never prove as valuable as are those other athletic recreations to which allusion will presently be made.

Lastly, there is always the danger that he will become unduly enamored of one or two pieces of apparatus, with the result that the muscles that are affected by such apparatus become excessively developed, while other muscles are neglected in the same ratio. This tendency on the part of the student to lav-



EXERCISE NO. 4

Stand upright; extend the legs as shown, and bending over, grasp the ankles. This is not quite as easy as it seems to be for the model, but with some practise and perseverance it can assuredly be accomplished. It is a good plan to start the exercise with the legs pretty close together, and after the hands are in position, move them apart by alternately shifting the heels and toes. Do not maintain the bent position. The intent of the movement is to limber the muscles from the waist down.

ish an unreasonable regard on a given apparatus, is one of the things against which the intelligent physical director has constantly to struggle. The purpose of sensible physical culture is to secure an all-round development, not one in which one specializes in a muscular sense. A yielding to the temptation to specialize is fatal to the first principles of right living. Athletic excess in one direction is an absolute evil.

For the reasons spoken of, team work is much to be preferred to individual effort. The sense of companionship, the exhilaration that arises from concerted action, the pleasure of watching and aiding in the play of one's mates, and the stimulus of competition are some of the things that make for mental as well as bodily health in the case of, say, basketball, football, field hockey, and other games. Even when there is a lull in the

game as far as the individual is concerned, the necessity of watching out keeps the brain in a state of wholesome sprightliness.

There is another aspect to the subject. Play is as an important part of existence as is work. Eliminate recreation from our lives and the latter would hardly be worth the living. But what is play? Speaking in round terms, it may be defined as the concerted action of mind and body to the end of accomplishing a pleasurable and usually useful purpose. So then a great many things that we know as work, fall in the category of play.

The play of a child is prompted by its instinctive desire to develop its muscular system. That of the schoolboy has a similar basis. The athlete in the flush of young manhood is — unknowingly perhaps — seeking to conserve his physical powers. The older ones who go in for golf or yachting or the horse, are actuated by the like, though perhaps unrecognized, motive. The accomplishment of the "useful purpose" is accompanied by the healthy exercise of brain and body. And the more a method of physical culture emphasizes this dual quality, the more rapid and beneficial will be its results.

It may smack of a truism to aver that crankiness, nervousness, the "blues," a tendency to view the acts or speech of others with suspicion, delusions, and even insanity, are mental manifestations of abnormal physical conditions. A sluggish liver, or an indifferent circulation, or digestive organs that refuse to fulfil their functions are among the underlying causes of the distressing results in question. Or, to speak with accuracy, the habits and environments that induce organic irregularities are actually to blame. The evils point the remedies. A little common sense inquiry into the case of a sufferer, either on his own part or on that

of his friends, will reveal the prompting causes of his troubles, and an intelligent resort to the appropriate practises of hygiene will effect a cure. As the patient is restored to health, the mists and will-o'-the-wisps of his brain will disappear, and he will, or ought to, realize that there

is much more in physical culture than its name implies.

In one of the Eastern States is an asylum for the juvenile insane. As may be gathered from the name of the institution, the majority of its charges were mentally deficient at birth — idiots, in fact. About ten years ago it was decided by the authorities of the asylum to



EXERCISE NO. 5

Stand upright, the heels together, the hands on the hips. Now, without moving the heels, revolve the body to the right as far as possible. Do this slowly, but avoid strain. When you have reached your limit of revolution, keep the position, pause, and then make a further effort to bring the body a trifle further around. Repeat, turning to the left. This is one of the best exercises for stimulating the action of the abdominal organs. It also has a beneficial effect on the external muscles of the same region.

introduce physical culture into the daily routine of the unfortunate little ones. The movements, exercises, etc., were of a sort that were suitable to the mental limitations of those whom they were intended to benefit. Also changes for the better were made in the diet, ventilation of the dormitories, and in the clothing of the children.

(Continued on page 184)



How to Prepare a Meal Without Meat

George E. Cornforth

[Because of the recent meat boycott, it has been thought advisable to omit from this number the continuation of Mr. Cornforth's series on breads, and give instead a few suggestions to those who desire to know how to live well without meat. The series on breads will be concluded in the next issue.—ED.]

IN the first place let us remind our readers of a fact which we have tried to emphasize in previous papers, that is, that common foods which everybody uses, when properly combined, will furnish all the food elements that the body requires, in the right proportion. For instance, bread, preferably Graham or whole-wheat, and milk may be combined in such a way as to supply all the food elements in just about the right proportion, or they may be combined in such a way as to give an excess of proteid to make up for a deficiency in other foods eaten. It will be remembered that, expressed in calories, or food units, ten per cent of our food should be proteid. Milk contains nearly twenty per cent of proteid, as expressed in calories.

Another good combination is cereals and cream. This will furnish all the food elements in the needed proportion. Grains, fruits, and nuts combine to make a balanced bill of fare; for instance, when it is necessary to take a lunch, instead of taking ham sandwiches, hard-boiled eggs, cake or cookies, and cold tea, take some whole-wheat crackers, a handful of shelled walnuts, pecans, or any preferred nuts, and some apples or figs or raisins, and you will have a much more wholesome lunch, which may help you to enjoy your outing better, or to stand a long ride on a train without a headache. Another simple and good combination

which would also be economical, would be baked beans or baked peanuts, potatoes, bread and butter. A little fruit might be added if desired. Vegetable oil, instead of pork, would, of course, be used in the beans. Cottage cheese, bread and butter, and apple sauce would be another simple combination for a light lunch.

A simple breakfast would be: cereal and cream, one egg (one egg at a meal consisting largely of cereals would supply the needed proteid), baked potato, bread or gems and butter, and fruit. (Cereal coffee may be added, if desired.) Instead of the egg, one might use rice griddle-cakes and cottage cheese. Cream toast or milk toast, using zwieback for the foundation, is a good breakfast dish, also fruit toast, made by rubbing stewed fruit of any kind, preferably berries, as raspberries, strawberries, blackberries, through a fine colander, heating the fruit to boiling in a double boiler, and thickening it slightly with corn-starch, and pouring it over moistened zwieback. If chopped nuts are then sprinkled on top, you have the ideal combination—fruits, grains, and nuts. Macaroni may be used for the substantial breakfast dish; as, apple macaroni, macaroni au gratin, macaroni and kornlet, macaroni with cream sauce or egg sauce. Rice with lentil gravy makes a good breakfast dish. Left-over stewed lentils may be used for the gravy.

They should be rubbed through a colander, and sufficient water added to make the gravy of the right consistency, adding a little nut butter and tomato, if desired, or a little dairy butter or vegetable oil.

It must be remembered that the foods which are to be depended upon for nourishment by those who would discard meat are cereals, legumes, nuts, milk, and eggs. What are commonly called vegetables do not make up the bulk of the diet of "vegetarians," but vegetables, as well as fruits, are included to give variety to the diet, and because they contain food elements which are very valuable in keeping the system in a healthy condition.

We give a sample menu of a meatless dinner of several courses:—

GRAPEFRUIT	
CREAM CORN SOUP	RIPE OLIVES
BARLEY AND TOMATO SOUP	CHEESE STICKS
MASHED POTATO BARS — CREAM SAUCE	
WALNUT CROQUETTES — PEAS	MASHED SQUASH
CRANBERRY JELLY	
PEA CUTLETS WITH NUT CRUMBS —	
TOMATO CREAM SAUCE	
ASPARAGUS POINTS ON TOAST	GOLDEN GRAINS WITH DATES
FRUIT SALAD	WALNUT BUNS
STUFFED DATES	
APPLE PIE	SNOW PUDDING
CEREAL COFFEE	
STRAWBERRY BANANA SHERBERT	SPONGE CAKE
MIXED NUTS	LAYER RAISINS
ORANGES	APPLES
FRUIT NECTAR	

This menu, may, of course, be simplified to suit any occasion.

Meat substitutes being the main theme of this article, we will give recipes only for those, and we will give recipes for others besides those on this menu.

Walnut Croquettes

1 pt. stale bread crumbs
 $\frac{1}{2}$ cup chopped walnuts
 $\frac{1}{2}$ teaspoonful salt
 $\frac{1}{2}$ teaspoonful sage
 Thick cream sauce or milk gravy
 Mix the dry ingredients, then mix with them

enough of the cream sauce to make the mixture as soft as can be handled. Shape into croquettes, dip in a mixture of one egg and one tablespoonful of water beaten together, then roll in zwieback crumbs. Bake ten or fifteen minutes in a hot oven. Serve with the following sauce:—

1 pt. milk
 $\frac{1}{4}$ cup sifted flour
 2 tablespoonfuls vegetable oil
 $\frac{1}{2}$ teaspoonful salt
 $\frac{1}{2}$ can peas or an equal quantity cooked fresh peas

Heat the milk in a double boiler. Thicken it with the flour stirred smooth with a little cold milk. Stir in the oil and salt, and add the peas.

Pea Cutlets With Nut Crumbs

When you have some left-over peas purée, pack it in an oiled bread tin. The next day it may be removed from the pan and sliced. Dip these slices in the egg-and-water mixture given in the preceding recipe, then roll them in chopped English walnuts. Place them on an oiled pan and bake them fifteen or twenty minutes in a hot oven. Serve with—

Tomato Cream Sauce

1 pt. tomato
 $\frac{1}{4}$ cup sifted flour
 3 tablespoonfuls cream

Rub the tomato through a fine colander, heat to boiling, and then thicken with the flour rubbed smooth with the cream.

Peas Purée

Thoroughly wash one pint of Scotch peas, and soak them overnight. Cook them slowly four or five hours till thoroughly softened and rather dry. Rub them through a colander. Add one teaspoonful of salt and one-fourth cup of cream or two or three tablespoonfuls of vegetable oil.

Scotch Peas Baked Like Beans

1 pt. Scotch peas
 1 teaspoonful salt
 1 tablespoonful molasses
 2 tablespoonfuls vegetable oil

Soak the peas overnight. In the morning put them into a bean pot. Add the remaining ingredients, and sufficient boiling water to cover them. Cover the pot, and bake them in a moderate oven for twelve hours or longer, adding boiling water when necessary.

Rice Croquettes

1 pt. cold cooked rice
 1 beaten egg
 1 tablespoonful vegetable oil
 1 teaspoonful sugar

Mix well together. If the mixture is too soft to handle, it may be thickened with zwieback crumbs or cracker crumbs, or better, with corn flakes. It should be just stiff enough so that it can be formed into croquettes. Dip the croquettes in egg, roll them in zwieback crumbs, and bake them fifteen or twenty minutes in a hot oven. Serve with an egg sauce made by adding a chopped hard-boiled egg to one pint of cream sauce or milk gravy.

Hominy croquettes may be made in a similar way, using cold cooked hominy. Macaroni croquettes are made in a similar way, using left-over macaroni chopped fine. Other seasoning may be used in the preparation of these croquettes, if desired.

Rice Cutlets

In an oiled bread tin, pack left-over creamy rice, which is one part rice to six parts milk, cooked for three hours in a double boiler, or part milk and part cream may be used. When the rice is cold, slice it. Egg, crumb, and bake it. Serve with lentil gravy or —

Walnut Gravy

- 1 cup milk
- 1 cup water
- $\frac{1}{2}$ cup flour
- $\frac{1}{2}$ cup finely chopped walnuts
- $\frac{1}{2}$ teaspoonful salt

Heat the milk and water in a double boiler. Thicken by adding the flour after it has been stirred smooth with a little cold water. Add the nuts and salt.

Pea Patties

- 1 pt. dry pea purée
- $\frac{1}{2}$ teaspoonful salt (if the purée has not been salted)
- $\frac{1}{2}$ teaspoonful sage
- 2 tablespoonfuls vegetable oil
- 1 beaten egg (if desired)
- $\frac{1}{2}$ small onion cooked in the oil (if desired)
- Crumbs of corn flakes to stiffen

Mix well together. Form into small cakes two and one-half inches in diameter and three-fourths inch in thickness. Brush over with cream, and bake fifteen or twenty minutes in a hot oven. Serve with —

Tomato Sauce

- 1 pt. strained tomato
- $\frac{1}{2}$ cup flour
- 2 tablespoonfuls vegetable oil
- $\frac{1}{2}$ teaspoonful salt
- $\frac{1}{2}$ teaspoonful thyme

Heat the tomato to boiling. Thicken with the flour stirred smooth with a little cold water. Add the oil, salt, and thyme.

Bean Patties on Vermicelli

- 1 pt. dry bean purée
- $\frac{1}{2}$ teaspoonful salt (if the purée has not been salted)
- 1 teaspoonful celery salt, or 2 tablespoonfuls chopped celery
- 2 tablespoonfuls vegetable oil
- 1 beaten egg (if desired)
- 1 small onion cooked in the oil (if desired)
- Crumbs or corn flakes to stiffen
- Finish like pea patties. Serve on —

Creamed Vermicelli

Cook $\frac{1}{2}$ lb. of vermicelli in eight times its bulk of boiling salted water for twenty minutes. Drain off the water, and add it to one cup of white sauce made according to the recipe given under "Walnut Croquettes."

Vegetarian Roast

- 1 pt. bean purée
- 1 pt. lentil purée
- 1 cup chopped walnuts
- 1 teaspoonful salt
- 2 beaten eggs (the eggs may be omitted)

Mix well together. Put one half of this mixture in the bottom of an oiled baking pan, then put in the following dressing, and cover it with the rest of this mixture: —

Bread Dressing

Soak stale bread in cold water till partly softened. Place in a colander to drain. Let it stand one hour, then crumble or pick it to pieces lightly. To one pint of these moist crumbs add —

- $\frac{1}{2}$ teaspoonful salt
- $\frac{1}{2}$ teaspoonful sage
- $\frac{1}{2}$ teaspoonful thyme
- 2 tablespoonfuls vegetable oil

Mix lightly together. Bake the roast from three fourths to one hour. Serve with —

Chili Sauce

- 1 qt. tomato
- 2 large onions, finely chopped
- 1 level tablespoonful sugar
- $\frac{1}{2}$ teaspoonful celery salt
- $\frac{1}{2}$ teaspoonful salt
- $\frac{1}{2}$ cup lemon juice
- Rind of $\frac{1}{4}$ lemon

Mix all the ingredients except the lemon juice; cook slowly till reduced one half; cool; add the lemon juice, and it is ready to serve.

Nut Rice Patties

- 1 pt. boiled rice
- $\frac{1}{2}$ cup chopped walnuts
- 3 tablespoonfuls vegetable oil
- $\frac{1}{2}$ teaspoonful salt
- $\frac{1}{2}$ teaspoonful sage
- 1 egg, beaten
- Zwieback crumbs

Mix the ingredients, using sufficient crumbs to make the mixture stiff enough to form into patties. If the rice is very dry, it may be necessary to add a little milk to make the mixture sufficiently soft. It is better to do this and use some crumbs than to omit the milk and the crumbs. Egg and crumb the patties, and bake fifteen to twenty minutes in a hot oven. Serve with—

Brown Gravy

$\frac{1}{2}$ cup flour
 $\frac{1}{4}$ cup vegetable oil
 Boiling water
 Salt

Cook the flour in the oil, stirring to prevent scorching, till the flour is lightly browned. Add sufficient boiling water, stirring vigorously with a batter whip, to make of the proper consistency for gravy. Cook five minutes. Salt to taste.

These patties may remind one of sausage.

Lentils may be put to good use on a meatless bill of fare. They are used in making soups and gravies or in making one of the substantial dishes, as stewed lentils, lentils with nuts, lentil purée, or lentil roast.

Lentil and Dried Olive Hash

1 cup lentils
 2 potatoes
 1 large onion
 $\frac{1}{2}$ cup tomato
 $\frac{1}{4}$ cup vegetable oil
 Dried olives sufficient to make $\frac{1}{4}$ cup when chopped

Wash the lentils thoroughly. Soak them overnight. Cook them till tender. To freshen the olives, soak them in cold water, then bring to the boiling-point and pour off the water. It may be necessary to do this twice. Then cut the olives up and stone them. Boil the po-

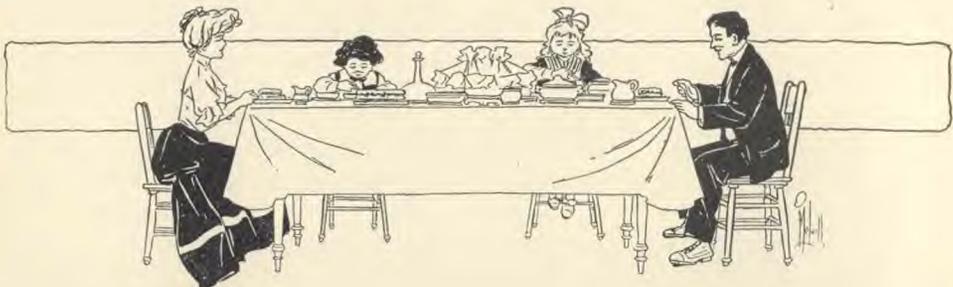
tatoes or use left-over boiled potatoes. Chop the onion, and cook it in the oil till it begins to turn yellow. Chop all the ingredients together, and put into an oiled pan and bake till brown.

Dried olives may be bought in large cities at Italian stores. Canned ripe olives may be used instead, but the dried olives are a little cheaper.

Macaroni may be made into a large number of substantial dishes. There are a great many varieties of macaroni which may be bought at Italian macaroni stores, and they may be used to give variety to the meals. Several recipes for using macaroni were given in the December number of LIFE AND HEALTH. A little left-over macaroni may be added to roasts and patties, and it will remind the meat eater of the gristle sometimes found in meat dishes.

A little planning will simplify the making of the dishes described in this article. For instance, have stewed or baked beans one day; the next day use the left-over beans in roast or patties. Have stewed lentils one day; the next day make purée or lentil hash. Have baked or stewed peas or pea purée one day; the next day have something made from the left-over peas.

This article gives simply a few recipes and suggestions as to how to live without meat. We might give many more recipes, but we will leave the reader to exercise her ingenuity in discovering and inventing new good things of her own.





It Is a Mistaken Idea That More Money Yields More Joy in Living

PROBABLY many Americans who have made colossal fortunes have not been urged by avarice, by the naked desire for gain; rather have they been taken captive by the lure of the game itself, unwilling to draw out so long as they could sit at the table. Perhaps some of them may be victims of the false reasoning which justifies a belief that as a moderate fortune helps us to enjoy life, a fortune ten times as large will provide ten times as much enjoyment. To argue in this way is to ignore the law of diminishing returns; and it is to commit the grosser blunder of supposing that pleasure can be bought with a price. But we all know that there is no shop where pleasure is sold—at least there is none where the products are guaranteed under the pure-food law. Pleasure can not be purchased, and it can not even be sought for, with any chance of success in the pursuit. If we go gunning for pleasure we are certain to come home with an empty bag, as well as with empty pockets, and the man who seeks that kind of sport generally starts out with an empty soul.

The truth is that pleasure is a by-product of work. The man who has something to do that he wants to do intensely, and that he is able at last to do, gets pleasure as a fee, as a tip, as an extra allowance. Perhaps the keenest joy in life is to accomplish what you have long sought to do, even if you feel that the result might be a little better than you

have achieved. Possibly the most exquisite gratification comes from the consciousness of a good job well done. The foolish talk about the "curse of labor" is responsible for much of the haste to gain wealth that we may retire into idleness. But if we are honest with ourselves, we know that labor is never a curse, that it is ever a blessing. The theory that work in itself is painful, or that it is the duty only of inferiors, is essentially aristocratic and fundamentally feudal; it is hostile to democratic ideal. Work is what sweetens life and gives delight to all our days. That man is happiest and gets the utmost out of life who is neither poor nor rich, and who is in love with his job, joying in the work that comes to his hands. And that man is truly accursed who is refused the privilege of congenial toil because he has too much money.—*Brander Mathews, in the Forum.*

✽

Food Value of Alcohol

ON this much-debated question there is a difference of opinion even as to whether the question has any bearing upon the beverage use of alcohol, some holding that people do not drink alcoholic liquors because they think alcohol is a food, but because they like them. Others report a wide dissemination of the idea that alcoholic liquors are needed for "nourishment," especially by the delicate or those slightly out of health. Extended

investigations of child alcoholism have shown this idea to be prevalent, especially in Europe, among the parents who give alcoholic liquors to their children. A circular prepared especially for mothers by the German Abstaining Physicians' Society and widely distributed in Germany, places particular emphasis upon the statement that alcohol is not a source of nourishment. So also does a series of popular leaflets prepared for various classes of people by Heinrich Quensel, a health officer of Cologne.

The fact that alcohol burns in the body and in so doing yields energy, is no longer seriously disputed; but the admission of that fact as conclusive evidence of food value, is disputed. The need of a definition that will define food more exactly is generally recognized, and important conditions to be included in such definition have been supplied during the year. A notable one is stated by Professor Cushny, formerly of Ann Arbor University, now of University College, London. In a recent lecture he says that one of the characteristics of a good food is that in addition to digestibility, it has no effect on the tissues or organs, and no one can claim this for alcohol. "It is strange to find alcohol advocated as a food, and at the same time as a stimulant to the brain and heart. A good food neither stimulates nor depresses the brain or any other organ, its sole relation to these organs being to supply them with energy." Admitting that alcohol may supply energy, he says that glycerin or vinegar are equally to be included in the class of energy-givers.

There is an increasing tendency to make the definition of food exclude substances which can not be used as ordinary articles of food without danger. As an illustration, Dr. E. I. Sprigg, lecturer on pharmacology at St. George's Hospital, says: "No substance should be recommended to the general public as a 'food,'

by the medical profession, which can not be taken repeatedly to allay hunger in accordance with the dictates of a healthy appetite, without any concomitant evil results."

Professor Arthus, professor of physiology in the University of Lausanne, points out that one of the conditions a substance must fulfil in order to be recognized as a food is that it must not accumulate in the blood, but be deposited in certain tissues as reserve material. Alcohol does so accumulate until it is oxidized; it disturbs the chemical equilibrium in the blood and the tissues, and must, therefore, be decidedly discarded as a food substance.—*E. L. Transeau, in Scientific Temperance Journal.*



Recent Declarations of Physicians Regarding Alcohol

I BEGAN my practise in private life by prescribing alcohol in its various forms as an easily diffusible stimulant in cases of periodic weakness, in low fevers, and exhaustion, in accordance with the common custom of a generation ago. . . . My experience has told me that the effect is temporary, evanescent; that the drug (for such it is) does no real good, and that a dangerous habit is thus easily engendered which may be most difficult to eradicate, a habit that may utterly ruin the patient's body, soul, and spirit.—*Dr. Howard A. Kelley, of Johns Hopkins Hospital, Baltimore.*

Personally I stand ready to use alcohol at any time when I believe it to be to the best interests of my patients, but I do not know a solitary use or a solitary case occurring in the widest range of medical practise in which alcohol is the best remedy that can be applied.—*Dr. W. H. Waugh, editor of Clinical Medicine, Chicago.*

I rely on digitalis, strychnin, careful feeding, and *absolute rest*, but always re-

fuse at the critical period when the overburdened and dilated right heart has almost reached the breaking point, to help my patient over the precipice by prescribing the so-called stimulant that must often by its paralyzing effect on the cardiac nerves take away his last chance of recovery. "Lobar pneumonia, cardiac failure"—so runs the usual certificate, and the cause of the cardiac failure, in ninety-nine cases out of a hundred, is alcohol.—*Dr. A. A. Hill.*

The doctor is certainly responsible for a large share of the drinking customs of the present day. He gives indiscriminate or indefinite advice to "take a little whisky with lunch and dinner," or Burgundy, or claret, or port, as the case may be, and the patient is pretty certain to carry out the prescription—in all probability to the end of his days.—"*Vital Economy; or How to Conserve Your Strength,*" by John H. Clark, M. D., London (1909).



Typhoid and Shell-Fish

IN a discussion of the sources of typhoid infection, in a recent meeting of the Belfast Medical Society, emphasis was laid upon the importance of shell-fish in the dissemination of the disease. It is estimated that nearly a quarter of the typhoid fever occurring in Portsmouth, England, is due to the eating of raw cockles and oysters taken from the sewage-saturated beds of the neighboring shore. Even when cooked, such shell-fish are supposed to be frequently productive of intestinal toxemias. These opinions suggest the possible dangers to our own community of eating clams dug from sands near large cities, and the desirability of forbidding such digging by private persons even for their own consumption. At present the law forbids the collecting of clams, except for bait, only within certain limits of Boston har-

bor. These limits might perhaps be extended and similar restrictions established at other seaside towns. Such action would appropriately be supplemented by further public education as to the dangers of eating raw clams and oysters, and by the inculcation of the favorite gastronomic maxim of a Boston physician, "Beware of the crustacea." [This is a wrong use of the word "crustacea," which applies to crabs, lobsters, crawfish, shrimps, and the like, but the warning is just as applicable to them as to the shell-fish.—*Ed.*]—*Boston Medical and Surgical Journal*, Nov. 4, 1909.



Is Vaccination Beneficial?

A SINGLE statement is sufficient to prove to the unprejudiced mind the value of vaccination as a preventive of smallpox. Germany, which, since 1874, has had not only compulsory vaccination at the end of the first year of life, but also compulsory vaccination at the age of twelve, since that year has suffered not a single epidemic of smallpox. From 1893 to 1897 there were in the whole German empire only 287 deaths from smallpox. During the same period there died from this disease in the Russian empire 275,502 persons; in Spain, 23,000; in Hungary, 12,000; in Austria and Italy, 11,000. In Philadelphia alone, from 1901 to 1905, 5,000 persons had the disease, and 500 died. There was no death of persons who had been successfully vaccinated within ten years.

The stamping out of smallpox, therefore, requires not only vaccination soon after birth, but revaccination at least once, and better twice, at intervals of ten or twelve years. A single vaccination can not be expected to protect an individual indefinitely. In fact, experience shows that it does not.—*Boston Medical and Surgical Journal.*

Value of Curdled Milk

PEOPLE who can not digest fresh milk, or in whom it produces a feeling of heaviness and discomfort, can eat large quantities of curdled milk without inconvenience.

I have found it of especial value in some cases of phthisis and rest-cures, where the patient had taken an absolute "scunner" at fresh milk. It is worthy of trial in every case of gastric distress, as it is unlikely, at least, to cause any aggravation of symptoms, especially if, to begin with, it is given in small quantities, diluted.

But its greatest field of usefulness is in that large and varied class of cases which are dependent on autointoxication from the bowel. Many observers consider that such different diseases as arterial sclerosis, various forms of anemia, rheumatoid arthritis, skin complaints, such as eczema and urticaria, and also neurasthenia and insanity are due to this absorption of toxins. One often meets with cases where an ill-defined "malaise" is the only symptom. As these usually improve on the bowel being thoroughly emptied, it may be assumed that they are also toxemias. The ordinary migrain is, more than likely, of the same class.—*W. Brown, M. B., Ch. B., in Edinburgh Medical Journal.*



Advantages and Disadvantages of Pasteurization

ONE of the chief objections to Pasteurization is that it promotes carelessness, and discourages the efforts to produce clean milk. It is believed that the general adoption of Pasteurization will set back improvements at the source of supply, and encourage dirty habits. It will cause the farmers and those who handle the milk to believe that it is unnecessary to be quite so particular, as the dirt that gets into the milk is going to be

cooked and made harmless. It is not proposed that Pasteurization shall take the place of inspection and improvements in dairy methods. To insure the public a pure and safe milk supply, should be regarded as one of the most important duties of the health officer. Whether Pasteurization is adopted by a city for its general milk supply or not, no milk should be accepted that does not comply with certain reasonable chemical bacteriological standards. This would aid the inspectors in enforcing good dairy methods. Pasteurization, then, must not be used as an excuse to bolster up milk unfit for home consumption. To insure this end, the health officer should have authority to condemn and destroy bad milk, whether or not Pasteurization is practised.—*M. J. Rosenau, in Annals of Medical Practise.*



A Factor in Living

OVER rice, in this part of the world, not one half the talk is made that focuses on wheat; yet in the whole world there is almost as much rice eaten as wheat. Latest estimates place the world's wheat crop at about one hundred ninety billion pounds; rice, one hundred seventy-five billion pounds. Rice growing and rice consumption have increased rapidly in the United States. For instance, the rice production in this country in the last decade has equaled that of the half century immediately preceding. In 1908 over six hundred million pounds were raised. Texas and Louisiana produced more than ninety per cent of the total. As the amount exported has not increased, one may gain an idea of the growing home consumption of rice, and may guess at its future rôle in the United States. Perhaps we shall subsist on it largely when beef has become almost a memory, which, at the present rate of increasing cost, will not be so very far away.—*Collier's Weekly.*



Abstracts



IN this department, articles written for the profession, which contain matter of interest to LIFE AND HEALTH readers, are given in abbreviated form. Where practicable, the words of the author are given, but often the passage is abbreviated, or else paraphrased in popular language. Technical matters and portions of articles having no popular interest are omitted.

Why Has Pellagra Only Recently Appeared in North America?

THE question is a reasonable one. We are probably safe in assuming that mouldy corn has been repeatedly used by the poorer classes in the Southern States, and perhaps unwittingly by the better classes of people. In the matter of changed conditions in corn culture in the South, one fact deserves to be brought out strongly. The former practise of topping the corn has been largely superseded by that of cutting the stalk close to the ground, and putting it into a shock. In topping, the part above the ears is cut for fodder. The ears dry on the stalk. The method of cutting the entire stalk is more profitable as far as fodder is concerned, and permits the ground to be sowed with field grain; but the corn shocked in this immature condition does not dry well, and is more apt to mould.

While this may have something to do with pellagra conditions, it is doubtful if it is sufficient to explain the prevalence of the disease in the South. In the Northern States, where shocking has long been practised, the drier condition would prevent moulding, while in the Southern warm and moist winters there is more opportunity for the moulding of the corn, but the writer believes that this is not sufficient to explain the sudden appearance of pellagra, and that some maize-infecting organism has appeared

which produces poisons in the kernel of the corn.

Recently there has appeared the *Diplodia zeæ*, a fungus causing ear rot in maize in America; not that this is a newly discovered fungus, but that only recently has it been known to cause "dry rot," or "corn-stalk disease." In Illinois in 1906 four and one-half per cent of the entire crop was lost through this disease. In Nebraska and North Carolina, and in some other places, *diplodia* is present. The disease is worse in wet seasons, and usually appears before the corn is shocked.

It is to be noted that only recently has this corn disease been prominent enough to be observed. Almost simultaneously there was the increase in pellagra, and where the corn disease is most prevalent, there is the scene of the recent pellagra epidemics, namely, in Illinois and North Carolina. This *diplodia* is also present in Europe where pellagra is found. In the latter part of the summer the fungus begins to form a small black pycnidia in which the spores are produced, and these are prominent on the husks at the tip of the ear; with the exception of a slight darkening of color to the portions exposed to the air, the young mycelium remains white. When the cob is broken, a concentric ring of black specks appears at the margin of the cob. Affected ears

are shrunken, dry, brittle, and less than fifty per cent of their normal weight. The fungus destroys much of the food value of the kernel, and destroys the vitality and prevents germination.

Summary

So far as the work has progressed, the principal results are believed to be as follows:—

1. Fungi belonging to the genus *diplodia* grow both parasitically and saprophytically upon maize, and are at the present known to occur over a large part of the maize-producing territory of the United States, especially in portions in which pellagra or pellagrous diseases have also appeared. These fungi, which appear to have become widely distributed, more or less simultaneously with the appearance of numerous cases of pellagra, seem, on account of these facts, to be of more probable significance in the etiology of this disease than those fungi which have for years been associated with mouldy maize.

2. The maize upon which *diplodia* has grown is altered in both physical and chemical composition. Meal infected with *diplodia* was found to be toxic to mice.

3. The isolation of alcohol-soluble proteins from *diplodia* meal yields compounds differing from the bodies isolated by the same means from sterile meal. The products obtained from *diplodia* meal appear to resemble in every way the pellagrozin isolated and described by Lombroso.—*Howard S. Reed, A. B., Ph. D., in the New York Medical Journal, Jan. 22, 1910.*

✻

Scarlet Fever

SCARLET FEVER is a disease of the temperate zone, and especially of the Caucasian race. It is more prevalent in the Northern than in the Southern States. Rich and poor are alike susceptible, but

the mortality is greater among the poor, because of unhygienic surroundings and lack of careful nursing, which favor the development of the complications due to germ growth.

Mild cases do much to spread the disease, being unseen by the physician, or else being diagnosed "scarlet rash," with no quarantine. I believe scarlet fever can develop without any rash, as illustrated in a family where four had tonsillitis at one time, the first three having no rash, but the last developing a typical scarlet fever rash.

A punctiform erythema [a rash in little points], associated with sore throat, nausea, or vomiting, and pulse more rapid than the temperature would warrant, should make us treat the case as one of scarlatina [which, by the way, is the same as scarlet fever]. If, in addition, there is a "strawberry tongue" in the early days, turning later to the "raspberry tongue," after the coating is shed, and if there is shedding of the skin for a week or two, the diagnosis is confirmed. However, if they are absent, in my opinion, it is not necessary to change the diagnosis, for a child who has a daily bath rarely sheds skin except around the nails of the fingers and toes.—*Alfred Hand, Jr., M. D., in Archives of Pediatrics, December.*

Scarlet fever is not very contagious during the first twenty-four hours, probably because it is not conveyed by the breath, and during the first twenty-four hours there is not very much discharge. Too much stress can not be laid on the importance of isolating cases of scarlet fever, as long as there is purulent discharge from the ear, nose, or throat, or as long as there is any suppuration of the glands. A rash is not necessarily scarlet fever, but rash with sore throat should immediately suggest this disease.—*E. E. Graham, M. D., Discussion, Archives of Pediatrics, December.*

THE MEDICAL FORUM



Why Do Physicians Not Use Hygienic Measures More Freely?

MUCH is said in medical journals regarding preventive medicine, and the hygienic treatment of disease, but any observing person will know that with the vast majority of physicians, more dependence is placed upon drugs than upon what are ordinarily termed hygienic measures.

Dr. Edsall, at the last meeting of the American Medical Association, made some very pertinent remarks as to why physicians do not use dietetic measures more largely than they do, in the place of drugs. He finds that hygienic measures are used less frequently and in a much more uncertain manner than drugs, owing largely to the fact that—

“the information that we possess in regard to them exists, from a practical standpoint, in very large part in a form that makes it laborious to acquire, so that practitioners get very little useful working acquaintance with it unless they come gradually to formulate a system for themselves through experience and prolonged study.”

He recognizes that dietetics as taught in the text-books and in the schools is very meager and indefinite. He is of the opinion that very many physicians, especially those with modern training, believe that they can “accomplish much more with drugs than with diet, even in those cases in which they recognize the especial suitability of dietetics.”

“A decision regarding diet, is, therefore, in actual practise, usually made in a much more empirical manner than is one in regard to drugs, and it is correspondingly the more

likely to be incorrect. Indeed, in dealing with advanced students, or even with practitioners who have had no special training in dietetics, I find that they are likely to be unable to give any regulations that could not be equally well or better given by a wise housewife; and the reasons for the regulations that they do give are generally not at all clear.”

The fact is, and we might as well face it, the average medical man has not been instructed in scientific dietetics. A few have pioneered in this line, but their practises are not always consistent.

Dr. Edsall continues:—

“Many and gross errors are committed through not knowing what amount of food is being given; not such errors as would result from a wholly unlicensed dosage of poisonous drugs, for foods are not usually directly poisonous; but very serious and very common errors nevertheless, and errors that are very often overlooked, because the human organism will stand, and frequently for a long time, very marked degrees of starvation or overfeeding without exhibiting superficially any results that are evidently due to this.

“I think that most persons who are interested in dietetics will say that they have very frequently seen persons starved to a dangerous degree, or overfed, especially the former, without its having been recognized that this was being done; and I feel sure that I have several times seen persons unknowingly starved to death under such circumstances, chiefly under treatment in serious acute diseases. . . . In most walking cases in which the diet is only moderately regulated, we can trust to the patient's appetite and to observations of his general weight and vigor, so that he gets what he needs and not much more. In other types of cases we need to order with clear knowledge and appreciation of food values if we are to avoid starving through too great restriction, or overfeeding through too great generosity.”

Commenting on this paper, Dr. D. G. Smith, of Boston, spoke of our shortcomings in the matter of diet treatment of elderly people as follows:—

"The two great periods of life in which we do most for our patients are, (1) the infectious period in youth, and (2) the period after fifty, in which there are diseases which are often the result of early intoxications and the diseases of infancy, together with luxurious living. At this second period we do nothing in the way of dietary, and we can do more in that way than by all other means. The chief reason why we have not done more in the matter of dietetics late in life is because the subject has not been taught in medical schools. It seems to me that we should try to give pupils in the undergraduate schools such a training in dietetics that they might go out and treat patients properly. Postgraduate schools could give to the general practitioners at least such a knowledge of dietetics as would guarantee their patients better treatment than they receive with the aid of drugs. During the past twelve or fifteen years, I have seen much good accomplished with dietetic treatment, especially in the cure of the cardiorenal [heart-kidney] and gastro-intestinal diseases of late adult life. . . . After treating a good many hundred cases of chronic affections, I must say that I have obtained much more satisfaction by adhering strictly to dietetic therapy than with drug treatment."



Oxygen as a Stimulant

DR. LEONARD HILL recommended some time ago the use of oxygen as a stimulant for athletes before severe effort, and it is quite true that athletes have, by the use of oxygen before a race, been enabled to make a better record and to come out in much better condition than without the oxygen.

With Dr. Hill's position, John H. Huber, A. M., M. D., takes issue in the *Scientific American* of January 1, confessing that he is not much impressed with these achievements.

"Oxygen is a stimulant; and it is for its stimulant properties that Dr. Hill advocates its use in athletics. This is especially bad for young men, who are generally our athletes. Youth should need no stimulants. We observe, moreover, the oxygen is given before a race; this is decidedly both unsafe and unphysiological. Human energy is thus increased; but the increase is abnormal, as is also the expenditure of energy. Nor are the sequelæ without disaster. Do not our athletic young men, as it is, grow into maturity with bad enough hearts? Every doctor must give melancholy testimony that such is the case. But here we are advised to stimulate unnaturally a heart already functioning to its limit. And it is unphysiological to give any stimulant before a feat of strength or a trial of endurance."



To Whom Is Credit Due for Healing?

DO we simply amuse the patient while "nature" does the work? It would so seem from the fact that any practitioner, of any school or no school, any quack or pretender, any purveyor of patent products who is skilful enough to amuse the patient,—that is, to get his attention and confidence,—can effect cures or seeming cures.

The *Boston Medical and Surgical Journal* of Sept. 9, 1909, discussing the merits of an alleged Christian Science cure of a blastomycosis infection, puts it this way:—

"Because the patient got well, it does not follow that Christian healing, any more than the use of drugs, cured her. The real lesson of this case for both physician and Christian Scientist is that recovery from disease is a biological process, which may be helped or hindered, but is not directly caused, by any treatment; that in most diseases it generally occurs, whatever the treatment; that in certain diseases, usually fatal, it may occur in consequence of favorable physiological reaction peculiar to the particular patient, beyond the present observation or understanding of either medicine or Christian Science."

The Medical Missionary At Work



The Missionary's Surgical Knife Versus Heathen Gods

T. E. Bowen

DR. JACOB CHAMBERLAIN was one of the most enterprising medical missionary evangelists to work for India's millions. The following story reveals how this kind of labor among the heathen undermines their faith in the gods whom they have reverently worshiped for centuries. The incidents mentioned took place in the Telugu country:—

"All morning, ever since sunrise, the doctor has been busy with patients who have come from far and near to be treated or prescribed for, until about a hundred persons are gathered in front of the little dispensary. The heat of the day is now coming on, but before dismissing them and distributing the medicines they have waited for, he takes down his Telugu Bible, reads and explains a chapter, and then kneels to ask a blessing upon all who have need of healing.

"It is now breakfast time, and after several hours of hard work the doctor is quite ready for a good meal. But just as he is about to go home for the purpose, he hears the familiar chant used by the natives when carrying a heavy burden, and looking out, sees four men approaching, two in front and two behind, with a long bamboo pole on their shoulders, and a blanket slung on it in hammock fashion with a sick man inside. Behind this primitive ambulance two men are walking, one leading the other by the hand.

"In a few minutes the sick man is laid in his blanket on the floor of the veranda, and the little company have told their tale. They have come from a village two days' journey off. They have heard of the foreign doctor who can work wonderful cures. The young man in the blanket is dying; the old man led by the hand is his uncle, who has recently grown blind. Their friends have brought them to the Doctor Padre to see if he can make them well.

"On examination Dr. Chamberlain finds that the young man's case is almost hopeless, but that there is just a chance of saving him by a serious surgical operation—and this he performs the same afternoon. At first the patient seems to be sinking under the shock, but he rallies by and by, and gradually comes back to health and strength again. The old man's blindness is a simpler case. An easy operation and careful treatment are all that are required. And so when uncle and nephew have been in the hospital for a few weeks, the doctor is able to send them back to their village—the young man walking, and the old man no longer needing to be led by the hand.

"But here the story does not end. Every day while in hospital the two patients had heard the doctor read a chapter from the Gospel and make its meaning plain. And when the time for leaving came, they begged for a copy of the history of *Yesu Kristu*, 'the Divine *Guru*,' so, that they might let all their

neighbors know of the glad news they had heard. They acknowledged that they could not read, for they were poor weavers who had never been to school. 'But when the cloth merchant comes to buy our webs,' they said, 'we will gather the villagers, and put the Book into his hand, and say, "Read us this Book, and then we will talk business." When the tax-gatherer comes, we will say, "Read this Book, and then we will settle our taxes." Let us have the Book, therefore, for we want all our village to know about the Divine Guru, Yesu Kristu.'

"They got the Book and went away, and for three years Dr. Chamberlain heard nothing of them. But at last, on a wide preaching tour he met them again. They had learned of his approach; and when he entered the village at sunrise, the whole population was gathered under the 'council tree,' while his two patients of three years ago came forward with smiling faces to greet him, and told him that through the reading of the Gospel every one in the place had agreed to give up his idols if the Doctor Padre would send some one to teach them more about Jesus. Dr. Chamberlain discussed the matter fully with them, and when he saw that they were thoroughly in earnest, promised to send them a teacher as soon as possible. But just before leaving to proceed on his journey he noticed, near at hand, the little village temple, with its stone idols standing on their platform at the farther end of the shrine.

"'What are you going to do with these idols now?' he said to the people.

"'The idols are nothing to us any longer,' they replied; 'we have renounced them all.'

"'But are you going to leave them standing there in the very heart of the village?'

"'What would you have us do with them?' they asked.

"'Well,' said the doctor, wishing to test their sincerity, 'I would like to take one of them away with me.' He knew the superstitious dread which even converted natives are apt to entertain for the idols of their fathers, and the unwillingness they usually have to lay violent hands on them. He did not expect anything more than that they might permit him to remove one of the images for himself. But at this point Ramudu, the old man whose sight had been restored, stepped forward and said, 'I'll bring out Chief Swami for you;' and going into the shrine, he shook the biggest idol from the plaster with which it was fastened to the stone platform, and then handed it to the doctor, saying as he did so, something like this:—

"'Well, old fellow, be off with you! We and our ancestors for a thousand years have feared and worshiped you. Now we have found a better God, and are done with you. Be off with you, and a good riddance to us. Jesus is now our God and Saviour.'

"And so the ugly stone Swami that had lorded it so long over the consciences of these Telugu villagers was 'dethroned,' as Dr. Chamberlain puts it, 'by the surgeon's knife,' and passed in due course to a missionary museum in the United States. But Yesu Kristu, the Divine Guru, reigned in its stead."

The knife of the God-fearing evangelistic surgeon, through the divine presence and blessing, will accomplish great reformations to-day in the dark heathen lands. And there is an abundance of room, where there need be no hard feelings aroused between physicians because of the overlapping of territory, or from the fear that patients shall be gotten away from them. Out in the great unentered lands human suffering mutely pleads for the coming of Christian evangelistic physicians. How long must they wait?

Nursing in Bolivia

F. A. Stahl

WE are thankful for the openings God has given and is giving us in Bolivia. We felt that the best way to begin operations here would be to introduce the medical work first, as we could render efficient service in this, even though we did not know the language.

We understood that there was a great deal of prejudice toward all foreigners engaged in medical endeavor. But we trusted the Lord for guidance, and in a quiet way let it be known that we understood how to care for the sick. Soon we received a call from one of the first Bolivian families. This family is so prominent that the two physicians on the case did not dare turn us down, even if they had felt inclined to. I also visited other doctors, and explained our methods (most of them understand German). They admitted that these were new to them, and they gave me a case at the

hospital, to demonstrate our treatments before them. The Lord is blessing, and our methods are gaining the favor of the physicians.

At the present writing, I am also nursing an Englishman, assistant manager of the new railway. He is very ill. Many Englishmen and Americans have called upon me since I have been on this case, saying they were thankful that there was a man nurse in Bolivia. These men are far from their home land, and the Lord wants them to hear the message — some for the first time, others to receive the call again.

We are rejoicing that the Lord is in the medical work, and our prayer is that it may indeed prosper and prove an effective means of advancing the cause of God in this unworked part of the Neglected Continent.

La Paz.

Medical Missionary Notes

Miss Anna Hansen writes from Argentina, South America: "I have been very busy since I last wrote you. I had a Danish patient here from Bahía Blanca. She was a surgical case. The doctor kept her in bed a long time, but she has done very nicely. I also had another Danish patient, but she proved to be a serious mental case, and they had to take her to a sanitarium in Buenos Aires. I went out on an obstetrical case with a physician, and he left me to do all the work. He said he would be back in a half-hour, but did not appear again until the child was born. He seemed to appreciate my aseptic preparation, but said he would not do any of the work, for I was cleaner than he was. He made one call, and then left me to do everything else. We had a great deal of trouble with the American minister and board of hygiene to get them to say that we could be allowed to practise hydrotherapy; but we visited them again about two weeks ago, and they have given us full permission to do whatever we like; and they say they will not pay any attention to the physicians if they complain of us. I am

very glad for this, for now we shall not have to depend upon the physicians for work."

Two young physicians, Mr. and Mrs. Wm. Cammack, who are at work in Chisamba, West Africa, performed their first hernia operation on a schoolroom table. The sheets, towels, and sponges were sterilized by boiling in a galvanized tub, which was the only thing available as a sterilizer; and they had to be used wet, as they could not be dried without danger of soiling them again. The native helper, who speaks a little English, stood by during the performance, and helped carry the patient, still unconscious, to his bed. In describing the scene afterward to a group of astonished listeners, he said: "I saw — I saw — I saw him die. When we carried him home, he was still dead, and I thought he would never live again." Dr. Cammack said that people came from far and near to look at the man, who was as much a walking miracle to them as the man the Saviour restored to his mother from a funeral bier was to the people of his day and age.

Chinese Itinerant Restaurants

Mrs. Emma A. Laird

THE traits of character so noticeable in the Huanese when compared with other Chinese, may be accounted for in some measure by the errors of diet existing among the former. The writer has seen water-buffaloes, cows, rats, geese, chickens, and pigeons which have died of disease eaten, with apparent relish, with the rice. Swine's flesh is usually cheap, and lard, having a *hao waydao* (good taste), is the most common frying-pan lubricant in use. The minority use camellia or peanut oil. Red peppers are now in great demand, and often form the sole addition to a meal of insufficiently boiled rice. Two meals a day are common in most parts, but three meals are considered necessary in Chang-sha. Each meal concludes with tea and tobacco.

The appetite thus perverted often calls for extras between meals. The better class of people are provided with these from the many restaurants which abound; but at the open theaters, and where people are wont to congregate, the itinerating vender of foodstuffs is in great demand. The kitchen consists of two portable wooden stands, which are hung one at either end of a bamboo pole, and carried on the vender's shoulders. The front one has a burnt-clay fire-box using firewood; but sometimes the fire-box is made of iron to burn dust coal mixed with red earth, which is used wet. The stand in the rear carries the basins, chopsticks, and numerous extras. When a customer approaches, the load is set

down. Noodles are put in a colander-ladle and set in the boiling meat-soup for a few minutes, then withdrawn and served steaming hot. Raw red peppers, chips of dried beef, fat bacon, onions, roast pork, chicken, or other morsels are added as a garnish. Minced pork balls fried in fat are supplied on request to patrons.

Should a more substantial meal be desired, hot rice is forthcoming, with a small bowl of vegetables in season, or bean cheese, dried fish, bean curd mixed with black beans and red peppers, to suit the customer's taste.

Others carry a different line, such as, rice-flour cakes fried in oil. These are served plain or filled with sugar and boiled in plain sauce. Steamed dumplings, with sugar or pork filling, can be obtained at short notice.

During the heated season, these are supplemented by venders of cold dishes, which consist of various gelatin compounds, and a variety of sauces made from beans. These traveling restaurants are seldom protected from the flying dust and dirt. Fortunately, house-flies are not very numerous here.

We are glad to report that our followers, generally, are being led to forsake many previous bad habits, and we look forward to the time when their fear will pass away, and they will not use harmful things even for their guests. A great work of reform in diet must be wrought in China.

Chang-sha, Hunan.





Unsigned articles are by the editor

The Meat Boycott

THE recent decision of a number of Cleveland working men to abstain from meat for a period of thirty days, which in a short time grew into a movement of national proportions, indicates, not a conviction that meat is a luxury that can be dispensed with, but an inborn feeling that flesh is a necessity, the price of which must be lowered at all hazards. No vegetarians joined in this boycott, you may be sure. The price of meat is not material to them, and their connection with such a movement would be without significance. It is the man who believes that without meat he can not live an efficient life, who believes that without chops for breakfast and roast for dinner, life is not worth while—it is such a man that is now showing his faith by sacrificing himself for the period of thirty days or longer in order that the meat trust may be forced to establish right prices.

Whatever may be the advantage or disadvantage from an economic point of view, if the diet is properly balanced during the period of the fast, it will result in good from a health standpoint; for there is no question by those who have the authority to speak on the subject, that, on the average, Americans eat too much meat. Even granting for the time that a non-meat diet is not the ideal diet, this much must be admitted by any intelligent observer.

Dr. Luther Gulick, one of America's foremost educators in hygiene, in his excellent little work, "The Efficient Life," says: "The majority of us eat a much larger quantity of meat than we need; . . . more, indeed, than we get any possible good from. . . . There is no doubt, too, that such foods as grains, nuts, fruits, and vegetables should take a much more prominent place in our diet than they do."

Professor Chittenden and his coworkers have shown conclusively that much more proteid is consumed than is necessary to maintain efficiency, and that even greater efficiency is the result of reduced protein ration. Prof. Irving Fisher's series of endurance tests did not show nearly so well for the meat eaters as for those who abstain from meat.

The present boycott is not a protest against the fact that meat is diseased, that it is tuberculous, that it has been the means of transmitting to man innumerable cases of parasitic and bacterial disease. One periodical calls it a "childish boycott," and commenting on it, says: "The persons most punished are the ones who refrain from the use of meat when they want it," and speaks of it as a case of cutting off the nose to spite the face.

Some have thought this would be a grand opportunity to make a campaign in favor of vegetarianism, and to show the people how to live permanently with-

out meat; but the large majority of the people do not want to know how to live without meat. If a healthy substitute were furnished at a lower price, they would still want the meat. That was the meaning of the boycott, to force the price of meat down where they could have more of it. People do not suddenly change their habits and modes of life, or their habits of thinking.

In each generation, the mass goes one way. It matters not that a previous generation—every previous generation—went entirely different. It matters not that future generations will go another

way. For the present, the way of the *mass* is *right*. To the masses, and even to men whose education should make for better things, *whatever is, is right*. The mass of the people eat meat, *ergo*, meat is necessary. The fact that prominent physiologists have had their eyes opened to the fallacy of the heavy meat theory, the fact that endurance contests have repeatedly shown the superiority of vegetarians, the fact that in former generations conquering nations have been vegetarians, count for nothing against the *unanswerable fact that the mass now eats largely of meat*.

What Is Diseased Meat

THIS question has been answered by Prof. Theobald Smith, of Boston, a man as well qualified as any in America to express an opinion on the subject. His paper was first read at the quarterly meeting of the Massachusetts Association of Boards of Health, April 29, 1909, was published in the *American Journal of Public Hygiene* in May, and was reprinted in the Monthly Bulletin of the Massachusetts State board of health in October.

It may be taken as an authoritative statement of the views of public health officers regarding what constitutes diseased meat.

And there is a grim humor in the perusal of it—provided the reader is not one of those to whom meat is a “necessity.” Otherwise, the reading, while grim enough, could afford very little that might smack of humor.

The article was evidently written because it was discovered that by certain Massachusetts laws any meat diseased in the least might be rejected as unfit for food; that is, the laws are much more rigid than existing federal laws on the subject.

Professor Smith goes on to show that, though we have made provision by means of fire insurance for individual loss by fire, yet every fire diminishes by that much the total wealth of the country.

“Unfortunately the method of equalizing losses through insurance . . . shuts our eyes to the fact that every time property of any kind is destroyed by fire or otherwise it is absolutely lost. The community and the nation are by so much the poorer.”

He then proceeds to show that flesh foods constitute one of the most expensive foods. During the transformation of plant into animal there is much loss of energy. The inference is that any destruction of such animals as a result of animal inspection is, similarly, a national loss.

At present, our great supply of meat is from the West, where few new cattle are introduced, and there is little chance to introduce disease: but as the West settles, we shall more and more have to depend on a local supply, grown in our farming districts. “The influence of such a change on the incidence of animal diseases will be marked. The great collections of animals on the prairies have been relatively free from disease. . . .

The domestic animals on the ordinary farm are in a somewhat different situation." Because of interchange among animals, buying of pedigree stock, county fairs, etc., there is greatly increased danger of disease transmission.

The outlook for the health of animals in the future is not very good. This leads to the view that we must be more lenient in our inspection. Even now, such a thing as ideal health in an animal is rare, according to Professor Smith.

"Remains of pneumonia, pleurisy, peritonitis . . . are not uncommon. Animal parasites are usually present. . . . There is probably not a cow in existence that does not have sarcosporidia in its muscles, filaria in abdomen or blood."

But none of these are considered harmful. Then there are infectious diseases transmitted to man,—anthrax, glanders, rabies, foot-and-mouth disease, tuberculosis, septicemia, pyemia, paratyphoid affections, and trichinosis.

"The flesh of animals affected with these diseases is not known to be dangerous [and of course the assumption is that it is not dangerous.—Ed.] to man after thorough cooking, if we except those affections due to the group of paratyphoid and paracolon bacilli."

Please note the limitations of this sentence; they are significant. Professor Smith states his belief that most injury has come to man through the use of trichinous meat, and meat from animals infected with typhoid-like bacteria. He finds as many as five per cent of the people of this country affected with trichinous disease at one time or another. Considering the esthetic side of the question, Professor Smith says:—

"We may maintain that it is disagreeable to think of eating the flesh of any animal which has had the slightest blemish anywhere. Perhaps it is, but under the domination of this feeling we had better cast our lot with vegetarians."

Not a bad lot, professor, and they are not always disturbed by the question of just how much must a piece of meat be infected before it is to be condemned.

Some who were stirred at the disclosures in the Chicago packing-houses some time ago immediately went to sleep when assured that hereafter meat would have government inspection. But federal inspection applies only to interstate meat, and, moreover, federal inspection is much more lax than is the inspection provided for by the Massachusetts law. And it is this *lax* inspection that seems to be the *desideratum*. We can not expect ideally healthy animals, so we must accept a substitute.

"The trained inspector's function is to save meat whenever that can be done, rather than to reject it. The process of rejection is easy enough. It does not require technical training. It would not take long for one skilled in judging form, consistency, and color to detect the ideally healthy animal. But there would be little meat handled and sold after this inspection."

Professor Smith favors a plan following the German law, where the meat is graded, by the inspectors, into several classes, and this would be the result:—

"It can then be left to the buyer to decide whether he wishes beef from ideally sound animals according to our present Massachusetts law, at one dollar to one and one-half dollars a pound, or the article as passed by United States inspectors at thirty cents, perhaps. He should also be permitted, under certain restrictions, to buy beef from animals, certain organs or parts of which have been rejected as diseased, at, say, twelve cents a pound. He should even have the opportunity to buy sterilized meat [diseased meat thoroughly cooked] at seven cents, if he wishes it."

The consoling thought is that these different qualities of meat are sold altogether in many places, without adequate inspection, and perhaps even that seven-cent meat passes out *raw*, as good meat! Of course it must, or why the twenty per cent of trichinous persons in this country?

To those who feel they must have meat, their only consolation is the hope for more rigid inspection, and the hope (?) that somehow, meantime, they will escape infection.

Typhoid Carriers in the British Army

A REPORT recently issued by the director-general of the British Army Medical Service has to do with the case of seven typhoid convalescents from India who were "carriers," that is, they were still capable of transmitting typhoid-fever germs to others. They were admitted to the Millbank Hospital, where they were subjected to various lines of treatment, and were placed under observation. Some of them were given cultures of lactic-acid bacillus. These seemed to cause the disappearance of the typhoid germs in one case, but not in another. Three cases were treated with antitoxic vaccine; two cases with sodium benzoate and acid sodium phosphate. The results from the treatment were not very brilliant.

The board recommends, "since arrangements are being made for the treatment and discovery of these cases, that it is desirable that any man ascertained to be a 'carrier' should, after a period of observation in England, not exceeding three months, be discharged from the service, unless he elects to remain in the hospital for treatment." The army council approved the recommendation.

The *Lancet*, commenting on this report, makes the suggestion that such a procedure, while good for the health of the army, would work ill in two ways: the discharged men might, in the spirit of resentment, do considerable in the way of preventing the enlistment of new recruits; and the man who might be under comparative observation and control in the army, if discharged, is free of all control, and becomes a serious menace to non-medical people. The *Lancet* questions whether it would not be better for the army to retain these "carriers" and keep them under as good observation as possible, for certainly they can not do any more harm under army discipline than they could under no discipline whatever.

This favors the opinion which is forcing itself upon many, that much of the unexplained typhoid fever is probably due to "carriers" who may work in bakeries, groceries, and other places, and unknowingly infect the food which they handle. It is known for a fact that bakers and cooks have in this way transmitted typhoid fever in a good many cases.





Hookworm in Samoa.—It is reported that forty or fifty per cent of the inhabitants of the Samoan Islands have the hookworm disease.

Typhoid Fever in Greater New York.—There are seven thousand cases of typhoid fever annually in Greater New York, of whom seven hundred die, and yet the percentage of typhoid in New York is less than half as high as it is in some other places.

A Radium Bank in London.—Owing to the enormous price of radium, nearly five thousand dollars a grain, a bank is being established in London for the purpose of loaning radium to physicians wishing the use of it for treatment for operations, at the rate of about one hundred dollars a day for a grain.

Fishermen Should Be Christian Scientists.—So suggests a contemporary, basing the suggestion of the statement on page 412 of Mrs. Eddy's book: "A child can have worms if you say so, or any other malady." Now if fishermen are Christian Scientists of sufficiently strong faith, they will merely have to "say so" to have worms on their hooks.

Why Not Close the Mails Against the Liquor Traffic?—Thousands of friends of the prohibition cause throughout the United States are quietly and effectively agitating this question by voice and pen with a view to influencing legislation on the subject in the present Congress. National prohibition of lottery schemes has been on the United States statute-books for eighteen years. Why not treat in a similar manner the liquor business, which does more damage than the lotteries ever did?

New York Milk Commission.—This commission was organized in 1900. In 1901 it was furnishing three thousand quarts of certified milk daily. Last year it furnished eight thousand five hundred quarts daily, from seventeen farms. The object of the milk commissions, of which there are fifty in the United States, is to furnish, particularly for infant use, clean milk, free from bacteria. These commissions at present influence the production of only a fraction of one per cent of the milk produced in the United States.

No More Kissing the Book.—Even the conservation of an English law court gives way before the advancing hygienic knowledge. The filthy habit of kissing the Bible—filthy because of the thousands of hands and lips that have already touched it—which has been handed down from nobody knows when, has been abolished in the Lambeth Place Police Court, in London.

Railway System Against Drink.—James J. Hill has just issued a drastic order to be effective over the entire system over which he has control, against the employment or retention in employ of the railway of drinking men. The order is the result of an investigation of a number of mishaps on this system showing that the loss of life and property is usually due to drinking men.

A Bill to Stamp Out White Slavery.—As a result of the report made by the investigation commission, a bill has been introduced into Congress having for its purpose the ultimate eradication of the iniquitous traffic in girls. The bill provides a penalty of five thousand dollars' fine or ten years' imprisonment for transporting for immoral purposes a woman from State to State. Even buying a ticket for this purpose is punishable. Alien women of this class are to be subject to deportation, and alien traffickers may be excluded, deported, and punished.

Dangerous Catarrh Cures.—Of the various catarrh cures on the market which have been examined by the Bureau of Chemistry, practically all contain cocaine. Cocaine, it will be remembered, has the property of driving the blood out of the mucous membranes to which it is applied, and thus, when it is applied in the nostrils, it gives immediate, though temporary, relief for "cold in the head." The dose has to be repeated in a short time, and soon the victim notices a pleasing sense of well-being all over the body, causing him to repeat the dose in order to get more of the effect, and soon the unfortunate is in the toils of the drug. No one is safe. Even physicians, who ought to know better, go down under this drug. It is probably the most rapidly degrading drug we have.

International Sanitary Convention.—There were delegates from eleven countries at the International Sanitary Convention of American Republics, held recently in San José, Costa Rica. Surgeon-General Wyman of the United States Public Health and Marine Hospital Service, represented the United States.

Medical Inspection of the Pennsylvania Rural Schools.—Hereafter there will be a regular medical inspection of all the rural schools in the State of Pennsylvania, including an examination of the nose, mouth, and ears of every pupil attending public school. Teachers will also be instructed how to detect communicable diseases, in order to prevent the infection of other pupils.

Dr. Blue to Study Plague Abroad.—Dr. Rupert Blue, of the Public Health and Marine Hospital Service, who did distinguished work in stamping out the plague epidemic in San Francisco, has sailed for the Old World, where he will study the transmission of disease by rats and other vermin, with a view to the prevention of the introduction of infectious diseases into this country.

Detroit's Campaign Against Infant Mortality.—Plans have been laid by the Detroit board of health to establish a class for the instruction of mothers in the care of babies. A physician and nurse will be in attendance, the physician giving his time. A philanthropic woman has volunteered to give one hundred dollars a month to pay for the food which will be supplied to needy infants.

The Sanity of the Insane.—It is reported that a second prize offered by Dr. Darlington, former health commissioner of New York, for the best essay on "How Can Clean and Wholesome Milk Be Produced at Least Cost for the New York Market?" was awarded to an inmate of the State Hospital for the Insane, who had been there for several years. The prize was a valuable Jersey cow. Possibly the patient will now start a one-cow dairy, and furnish clean milk to New York City.

Do Horses Have Pellagra?—Some one has suggested that "blind staggers" is a manifestation of pellagra in the horse, and the South Carolina board of health is making a special investigation in order to determine whether there is any foundation for this supposition. If the horse disease proves to be a form of pellagra, we may have, through our faithful friend, not only a means of studying more thoroughly into the nature of the disease and its causation, prevention, and treatment, but we may obtain from immunized horses a serum for the prevention and the treatment of pellagra.

Thoughtful.—There being a number of cases of whooping-cough in the families of a certain New Jersey church, a separate Christmas tree was prepared for the children having the disease, other children, of course, being excluded from participation at this tree.

American Prohibition Year Book for 1910.—This publication of the National Prohibition Press, 92 LaSalle St., Chicago, is a compact, handy volume of two hundred fifty pages, giving the latest data of the prohibition and temperance movement. Paper, 25 cents; cloth, leather bound, 50 cents.

Early, the Leper.—A committee appointed in December to examine into the case of Early, the man who was imprisoned in Washington as a leper, to the surprise of nearly every one, brought in a verdict of "guilty;" in other words, they found from careful examination—or thought they found—that Early is a leper. Dr. Bulkley, who pronounced him not a leper, opposed bitterly the report of the committee, and after a long discussion, the report was referred back to the committee with the understanding that before it is again presented, Dr. Bulkley shall have the opportunity to present the facts which he says he has in regard to the case.

A Wifehood Guild.—A New York woman, believing that a large proportion of unhappy marriages are due to the ignorance of young wives regarding the simple duties of the home, has, with some others, organized a "wifehood guild," in which, for a nominal fee, instruction will be given in domestic duties. Land has been secured on Long Island for the purpose of the guild, and on this, commodious buildings will be erected. Everything pertaining to domestic economy will be taught, including a course of physiology and domestic hygiene by women physicians. Excellent! but will any young women be found who will be willing to take the instruction?

Opium in the United States.—It developed, as a result of the effort to aid China in ridding herself of the opium curse, that the United States consumes ten times as much opium per capita as Germany, and as much per capita as China. And it is certain that a very large proportion of the opium used in this country is not used by the Chinese. Evidently we need stringent legislation along this line, and it is expected that such legislation will be passed during the present session of Congress. A law was passed recently forbidding the importation of opium except for medicinal purposes; but because of the inability of the federal authorities to follow up the opium after it passes the customs officials, the law is ineffective.

Alcoholism in Australia.—Much alcohol is consumed as a beverage in this country. The lower the culture of the people the more alcohol is consumed. Women drink freely, and give the liquor to their children "to soothe them." Religious institutions favor drinking. The state obtains a large income from the alcohol tax. Peasant families pay as much as fifteen per cent of their income for drink. Effort is being made to remedy these conditions, but so far with very little effect. While sixty per cent of the Germans, Italians, and Hungarians are fit for military service, only thirty-five per cent of the Slavs can pass muster.

Antityphoid Inoculation.—In the Massachusetts General Hospital there are usually from two to six of the nurses a year that come down with an attack of typhoid. Last year the plan was tried of inoculating a large number of the nurses with small doses of dead typhoid germs, with the result that there have been no typhoid cases among the nurses this year. But this is not conclusive evidence of the preventive power of the inoculation, for none of the nurses who were not inoculated came down with the disease. Moreover, the nurses have been so repeatedly cautioned regarding the danger of infection that they have been more careful than formerly; they have been required to use gloves when handling the discharges of typhoid patients.

Hookworm in Southern College.—An examination of one hundred students in Tulane College, New Orleans, shows that more than one third of the number have the disease. That the disease is not confined to the uneducated is also borne out by the fact that occasionally a Southern student in a Northern college is found to have hookworm.

The Blind as Masseurs.—The January *Ophthalmology* has an article on "Massage as an Occupation for the Blind," in which the writer, I. Webster Fox, M. D., LL. D., of Philadelphia, speaks of the desirability of blind people taking up the practise of massage as a means of livelihood. He urges physicians to encourage blind masseurs by giving them support, and says "massage, whilst being a new field of labor open to the blind of this country [it has been practised in Japan by the blind for hundreds and perhaps thousands of years], ought to be an everwidening one as surgeons and physicians come to appreciate its value and application as a therapeutic measure. Altogether too few physicians appreciate the great value of massage, especially in disorders of nutrition." Dr. Fox believes the time is at hand "when the superintendents of hospitals and sanitariums, as well as the members of the profession generally will realize that the blind can be as thoroughly trained, and can as efficiently administer massage, as any sighted person."

GRAND PRIZE AWARDED

LISTERINE

Alaska-Yukon-Pacific Exposition

SEATTLE, 1909

GOLD MEDALS — Jamestown, 1907; Portland, 1905; St. Louis, 1904; Bronze Medal, Paris, 1900.

LISTERINE has also won the confidence of those who utilize its fragrant antiseptic qualities in matters of personal hygiene.

The Mental Aspect of Physical Culture

(Continued from page 160)

Within three months there was a marked improvement in the condition of more than twenty-five per cent of the afflicted youngsters. Six months later it was reported that fifty per cent of them showed marked betterment. Since then, the improvement has slightly increased numerically, and has been maintained in all cases. Some cases that had been looked upon as hopeless, showed signs of marked improvement. Through the medium of an appeal to the beclouded brains through the muscles and stimulated organs, the little ones became conscious of themselves as it were. The sense of touch and the miracle of motion set the stagnated mentalities at work in a healthful fashion. The system has been elaborated with added beneficial results, and, so the writer is informed, has been established in similar institutions with equally satisfactory results.

Again, some few years since, a regular system of physical culture, including outdoor athletic sports, was brought into being in the insane asylum on Blackwells Island, New York. Here, again, the results were as striking as they were beneficial. The annual athletic meeting of the insane in this last-named institution — in which both men and women participate — furnishes added proof that the benefits of physical culture are by no means confined to the body.

Let it be repeated that your athletic occupations must be of a congenial sort in order to do you the good that they ought to. Don't practise any phase of physical culture from a sense of duty only. But choose that part or parts of it that appeal to your bodily requirements, your tastes, and your temperament. So shall your brain and body be mutually interested, and the incidental effort be lost in the accruing enjoyment.

As it is one's mentality that shapes and colors one's existence, it follows that it is our plain duty to do all in our power to keep that mentality in a state of normality. And this can best be done by observing those simple physical-culture practises and principles that have been touched on in this series of articles.

The young woman who has posed for the pictures that accompany this article, is a striking example of the powers of physical culture in the way indicated. At the age of fourteen, she began to develop mental traits of a disturbing nature. She became peevish, melancholy, and altogether unlike the bright and happy child that she had been. With the passing of the years, her condition became worse. Her parents tried a variety of physicians, specialists, and treatments, but all to little or no end. In 1905 the family went to Europe, and in England they made the acquaintance of a medical man of the new school — one who held to the natural methods of cure. He prescribed a course of physical-culture treatment of a type suited to the condition of the patient. The improvement that ensued was of a remarkable sort. In a few months the young woman was possessed of health and spirits to which she had long been a stranger. She continued to gain both mentally and physically. To-day she is ideally healthy and remarkably well developed. She fences, rides, swims, rows, plays golf; is a good shot, an expert with the Indian clubs, an indefatigable pedestrian, and an athlete of an all-round type. Also, she is as bright mentally as she is sound physically. Altogether, she is a striking illustration of the wholesome mental influences that physical culture brings in its train.



LEARN PIANO TUNING AT HOME by the aid of the TUNE-A-PHONE. A Profession that can be converted into money at any time or place in the civilized world at an hour's notice. Earn \$5.00 to \$15.00 per day. Valuable illustrated book FREE. Write **MILES BRYANT SCHOOL OF PIANO TUNING, 42 Music Hall, Battle Creek, Mich.**

WANTED

A good man or woman in every town to sell our Five-Slice Wire Cone Toasters, for gas and other vapor stoves. This upright Toaster is a perfect device, and will sell at sight. Will send one by express, prepaid, for 50 cents. Send for sample and catalogue of other fast-selling articles.

HARKINS & WILLIS, 547 Elizabeth St., Ann Arbor, Mich

IT'S SO DIFFERENT!

Hawaiian Pineapple

Picked Ripe

Send for booklet of recipes

HAWAIIAN PINEAPPLE GROWERS' ASSOCIATION

Canned Right

Sliced, Crushed or Grated

1136 Tribune Building, New York



FOLDING BATH TUB
 WEIGHT 16 POUNDS COSTS LITTLE
Requires little water
 Write for special offer
N. Y. L. Bath Mfg. Co.
 103 Chamber St., New York Cit

These trade-mark cross-cross lines on every package

GLUTEN FLOUR DIET FOR DIABETICS

and cures

Kidney and Liver Troubles, Rheumatism, Obesity and ills arising from excess of Uric Acid

Rich in Protein. Ask your physician. Leading grocers. For booklet or sample, write

FARWELL & RHINES, Watertown, N.Y., U.S.A.

When you spend good money, insist on getting the best; it is much the cheapest in the end

GERALDSON'S FIGS

Have several points of superiority over all other packs of black figs:—

They are clean. They stay fresh a long time. They are all good, you don't buy any culls. They are as cheap as good figs possibly can be. You enjoy eating every one of them, and there is no brown taste afterward.

Many people like them better than the finest packs of Smyrna figs, and they have no other near rival.

The name **GERALDSON'S FIGS** is an absolute guaranty of quality

10 Pounds for - \$1
FOOTHILL ORCHARD COMPANY
 Newcastle, Cal.

Will Make a First-Class Bookkeeper of You



in six weeks for \$3, or Return Money; distance and experience immaterial; I find Positions, too, everywhere, free; 9,686 testimonials! Placed pupil February 24, at \$45 weekly; perhaps I can place you, too! Save this and write.

J. H. GOODWIN, Expert Accountant
 Room 763, 1,215 Broadway, - New York City.

AMONG THE MOUNTAINS Of Tennessee

THE GRAYSVILLE SANITARIUM

Healthful climate, delightful surroundings the year round, bracing mountain air and pure spring water. Unusual natural advantages are combined with a thorough health régime under the oversight of experienced physicians and attendants.

Treatments include Electricity in all forms, Massage, Swedish Movements, Hydratic treatments, and the general line of Sanitarium measures.

Surgery when required.

Regulated dietary. Send for catalogue.

Graysville Sanitarium, - Graysville, Tenn.



WANTED—RIDER AGENTS

Model "Ranger" bicycle furnished by us. Our agents everywhere are making money fast. *Write at once for full particulars and special offer.* **NO MONEY REQUIRED** until you receive and approve of your bicycle. We ship to anyone, anywhere in the U. S. *without a cent deposit in advance, prepay freight,* and allow **TEN DAYS' FREE TRIAL** during which time you may ride the bicycle and put it to any test you wish. If you are then not perfectly satisfied or do not wish to keep the bicycle you may ship it back to us at our expense and *you will not be out one cent.*

LOW FACTORY PRICES We furnish the highest grade bicycles it is possible to make at one small profit above the actual factory cost. You save \$10 to \$25 middlemen's profits by buying direct of us and have the manufacturer's guarantee behind your bicycle. **DO NOT BUY a bicycle or a pair of tires from anyone at any price** until you receive our catalogues and learn our unheard of **factory prices and remarkable special offer.**

YOU WILL BE ASTONISHED when you receive our beautiful catalogue and study our superb models a bicycles at **lower prices** than any other factory. We are satisfied with \$1.00 profit above factory cost. **BICYCLE DEALERS,** you can sell our bicycles under your own name plate at double our prices. Orders filled the day received.

SECOND HAND BICYCLES—a limited number taken in trade by our Chicago retail stores will be closed out at once, at \$3 to \$8 each. Descriptive bargain list mailed free.

TIRES, COASTER BRAKE rear wheels, inner tubes, lamps, cyclometers, parts, repairs and everything in the bicycle line at **half usual prices.** **DO NOT WAIT**—but write today for our

Large Catalogue beautifully illustrated and containing a great fund of interesting matter and useful information. It only costs a postal to get everything. **Write it now.**

MEAD CYCLE CO. Dept. F-246, CHICAGO, ILL.

When you write to our advertisers, please say, "I saw your 'ad.' in LIFE AND HEALTH."

VIBRATION IS LIFE!

Read What Others Say

Here are a few of the hundreds of unsolicited testimonials from people who have used the White Cross Electric Vibrator and know what it has done. It will do the same for you.

PARALYSIS TREATED BY VIBRATION

Upon the request of my sister, who urged me to use her great Electric Vibrator on my son when I was thoroughly hopeless of his cure from physicians' treatment, I wrote you this recommendation. My son is 16 years old, and eight months ago became paralyzed from the after-effects of diphtheria. He was so badly afflicted that his arms and limbs were twisted out of shape and was confined, all doubled up, in his bed. Medicine and attention did no good, and I had become discouraged in all ways. After treating first his spine at the base and then his limbs with your vibrator he felt such relief that I kept up the treatment regularly, with the result that we soon had him around in a wheel chair. Next he was going around on crutches, and now, after three months' treatment, he is going around with a cane and will soon be entirely cured.

3122 Indiana Ave., Chicago. MRS. C. KNIGHT.

WHAT A DOCTOR SAYS

I have received your Vibrator, and to say that I am well pleased with it is not enough. I wish I could tell every physician just how bad he needs one in his office. I am sure he would not hesitate to place his order for one at once.

Longmont, Colo. DR. W. H. EASTER.

VIBRATOR BEST FOR RHEUMATISM

My husband uses your vibrator for rheumatism and says he never had anything so good in all his experience. I would not be without it myself, as I find it is good to relieve stomach pains, back aches, and besides I continually use it for face massage. I used to go down town for that, while now I save the money and the time, besides being comfortable in my own home.

2935 Vernon Ave., Chicago, Ill. MRS. S. H. BROWN.

Here is a Picture of the wonderful WHITE CROSS ELECTRIC VIBRATOR, the only vibrator in the world which combines the three great forces of Vibration, Galvanic and Faradic Electricity. This is the very same machine which has cured thousands of cases which had been given up by the best physicians as incurable. Read the letters above, then send the free coupon at once.

The secret of the ages has been discovered in **Vibration.**

Great scientists tell us that we owe not only our health but even our very life to this wonderful force. Vibration gives life and vigor, strength and joy to everyone.

Vibration is the most marvelous curative agent known. It is the remedy provided by Nature for all illness and disease. It cures like magic. Simple, sure and inexpensive—it banishes drugs and doctors forever.

The White Cross Electric Vibrator On Free Trial!

This wonderful instrument gives you the three greatest natural curative forces in the world—Vibration, Faradic and Galvanic electricity.

We want to prove to you at our expense what the great White Cross Electric Vibrator will do for you. We want you to actually feel its invigorating, health-giving thrill coursing through your own body. We want you to see for yourself how quickly it removes pains and aches—how marvelously it cures. We take all the risk.



A Vibrating Chair Free

With the White Cross Vibrator you can make a perfect vibrating chair out of any chair. A chair which will give you the same results as the kind used in the highest hospitals and sanitariums. You cannot do this with any other vibrator in the world. **Swedish Movement** right in your own home. You can give yourself the very same treatments for which specialists and sanitarians charge from \$2.00 to \$3.00 each. The nervous, irritable, worn-out man or woman will obtain quicker and more permanent benefit from a few minutes each day in the vibrating chair than from hundreds of dollars worth of medicines.

Relieves These Diseases

Rheumatism, Headache, Backache, Constipation, Kidney Disease, Lumbago, Catarrh, Scalp Diseases, Skin Diseases, Deafness, Weak Eyes, General Debility, Nervousness.

This Valuable Book, "Health and Beauty," NOW SENT FREE

This wonderful book describes the human body in health and disease so plainly and clearly that anyone can understand. It tells how to get healthy and beautiful and how to keep so. This book tells you what vibration will do for you and how you can get the **White Cross Electric Vibrator** sent right to your home for an actual free trial.



SIGN this COUPON

Get this valuable free book at once. No matter how healthy you may be now, the time will come when you will need this book **badly**. It may save your life or the life of some of your loved ones. Learn all about our offer—the most astounding and generous offer ever made. Don't wait. Don't delay. Sign the coupon **NOW!**

LINDSTROM SMITH CO.,
253 LaSalle Street,
Dept. 3003,
CHICAGO,
ILL.

LINDSTROM SMITH CO.,
253 LaSalle St.,
Dept 3003,
CHICAGO, ILL.

Without obligations on me please send me free your special reduced price offer, free Book on Health and Beauty, treatment of disease by vibration and electricity, and complete catalog.

Name.....

Address.....

SIGN THIS COUPON AND MAIL TODAY



New England Sanitarium, Melrose (Boston), Mass.



Is the largest and best equipped institution in the Eastern States employing a rational system of physiological therapeutics.

Is situated six miles from Boston, in the midst of a State Park of 3,500 acres.

Is well equipped with modern conveniences, and with every appliance for the successful treatment of disease, including the Hydro-electric Bath, Electric-light Bath, Russian Bath, Massage, Manual Swedish Movements, Electricity, and X-Ray.

Special attention given to surgical cases. Experienced physicians and well-trained nurses of both sexes are in charge.

Send for booklet.

One Cent will send a vital health message to your friend who needs it.

We have prepared a series of ten tracts on important health topics, all right to the point and thoroughly readable, and printed just the right size to go in an envelope. An unobtrusive but effective way to send your friend the message he needs is to slip the right tract into your next letter. They are known as the

LIFE AND HEALTH LEAFLETS

and a single bunch costs just a dime, post-paid to you. Special prices on large quantities either assorted or of single numbers. Titles:—

1. Alcohol and Disease.
2. Liquor and Poverty.
3. Counting the Cost of Alcohol.
4. Is Alcohol a Food.
5. The Cure for National Intemperance.
6. Patent Medicines.
7. Simple Treatments for a Cold.
8. Some Effects of Tobacco Using.
9. Pointed Facts About Tobacco.
10. Pure Air in the Home.

Send to day for a Sample package, 10 cents.

REVIEW AND HERALD PUBLISHING ASS'N.
Takoma Park - - - Washington, D. C.

Every Church Should Use Our Individual Communion Service



WHY? For the sake of cleanliness, good manners, and health. This is the reason why over 6,500 churches now use our outfits. If your church still uses the single cup, out of which many hundreds are obliged to drink, one after the other, write for our catalogue and "special introductory offer," and learn how to save yourself and the rest of the communicants from being obliged to continue the uncleanly and unsanitary practise of using the same cup with hundreds of others. We will send outfits to be used on trial before purchasing. Service for a large church is not expensive. Address:—

THOMAS COMMUNION SERVICE CO., Box 3000, Lima, O.

STRAWBERRY PLANTS

Send us the address of one or more parties that want Strawberry Plants, and we will give you a year's subscription to

FRUITMAN AND GARDENER

(a 50 cent fruit journal), for only 10 cents. Catalogue Free.

LAKE VIEW NURSERY, Adv. Dept., Poy Sippi, Wis.

TIZ—For Sore Feet



This new, marvelous Foot-bath Tablet draws out all inflammation and soreness, and does what no Powder, Plaster or Salve or other foot remedy on earth can do, CURING CORNS, CALLOUSES AND BUNIONS, TIRED, ACHING, SWOLLEN, SWEATY, BAD SMELLING FEET, FROSTBITES AND CHILBLAINS.

Acts right off. Smaller shoes can be worn because TIZ puts and keeps your feet in perfect condition.

25 delightful treatments 25c

Send stamps or buy of your druggist. Every box guaranteed.



W. L. DODGE & CO., 497 DODGE BLDG., CHICAGO.



Send for Catalogue and Full Information

The Madison Sanitarium

MADISON - WIS.

This is a thoroughly equipped, well-regulated medical and surgical institution for the care and treatment of chronic invalids and others who need the benefit of a Sanitarium. Located on the shores of Lake Monona, one of Wisconsin's most beautiful lakes. The equipment is complete; skilled attendants and nurses; reasonable rates.

All forms of Electricity, Massage, Swedish Movements, Hydrotherapy, Eye, Ear, Nose, and Throat treatments, and a scientific Dietary. Surgery is a specialty.

Try what scientific physiological methods can accomplish at the Madison Sanitarium.

When you write to our advertisers, please say, "I saw your 'ad.' in LIFE AND HEALTH."

Washington S. D. A. Sanitarium



A most attractive health resort, beautiful for situation, located only seven miles from the nation's Capital at an elevation of over 300 feet. The climate is excellent the year round. No mosquitos or other pests. Open-air life may be enjoyed without molestation. The well-known sanitarium methods employed in restoring the sick to health. Baths, Massage, Electricity, Diets, etc.

Address

WASHINGTON SANITARIUM

Phone 127 Takoma

Takoma Park, Washington, D. C.

LEARN THE *Secrets of* **HEALTH BUILDING**

- ¶ To build up a healthy body, one thing is necessary first of all — KNOWLEDGE of what the body is, and what it requires.
- ¶ To present the essential facts in an intelligent form, for the use of ordinary people in their every-day life, has been the effort of many writers. Some have produced stupendous works in many volumes, others have written above the heads of their readers, still others of these works have long been out of date because they have not been kept abreast of modern progress.
- ¶ The book which thoroughly meets the needs of the present-day seeker after health, in every way, is

The Practical Guide to Health

BY F. M. ROSSITER, M. D.

- ¶ The PRACTICAL GUIDE TO HEALTH is at once a concise, but comprehensive work on anatomy, physiology, and hygiene, written in a fascinating vein, and a valuable compendium of necessary information regarding the treatment of common diseases and the care of the sick.
- ¶ It is completely illustrated with 70 half-tones and 12 full-page colored plates.
- ¶ The writer, Dr. Frederick M. Rossiter, is a practising physician of wide experience, at present head of a successful sanitarium. The work is recognized as an authoritative text-book.
- ¶ Handsomely bound, in three editions: Cloth, marbled, \$3; Full Law Sheep, \$4; Persian Morocco, \$5. Sent, post-paid, at the above prices.
- ¶ Send for booklet "H" containing over 100 pages from the book, including beautiful illustrations in three colors.

REVIEW AND HERALD PUBLISHING ASSOCIATION

Takoma Park, - Washington, D. C.

When you write to our advertisers, please say, "I saw your 'ad.' in LIFE AND HEALTH."

THE SWEDISH SYSTEM 100%

ADDED TO YOUR MENTAL AND PHYSICAL CAPACITY

**NO DRUGS
NO DOPE**

**NO DIET
NO BELTS**

If you are sick or ailing—if you are weak mentally or physically—if you feel you are not the man you ought to be—if you are a woman and suffering from the many ills and troubles that woman is heir to—if you want the energy and vital power of youth—if you want all this WITHOUT Drugs, Dope, Diet and ENDLESS EXPENSE—if you want this under a BROAD, POSITIVE GUARANTEE backed up by a large responsible concern—to make good or it costs you NOTHING—you owe it to yourself to write at once for our FREE, ILLUSTRATED treatise of HUMAN INTEREST, containing Charts, Diagrams and many testimonial letters from prominent well known people.

IT'S FREE

Write us to-day—and let us PROVE to YOU what we say—at our cost.

SWEDISH COMPANY. 1755 BERWIN AVE., CHICAGO, ILL.

YOU are the loser if you do not carefully investigate our system before investing elsewhere.

VEGETARIAN COOK BOOK

By E. G. Fulton

For several years the manager of vegetarian restaurants in several cities. This book is the result of his study and practical demonstrations, and contains recipes suitable for the family bill of fare, as well as for receptions and banquets. There are recipes for—
13 Bakery and Breakfast Dishes, 11 Beverages, 11 Cakes, 13 Cereals, 25 Egg Dishes, 110 Entrees, 7 Kinds Nut Butter, 13 Pies, 38 Puddings, 31 Salads, 13 Salad Dressings, 66 Soups, 26 Sauces, 18 Toasts, 76 Vegetables.

Price, bound in cloth,
75 cents

LIBERAL TERMS TO AGENTS

REVIEW & HERALD PUBLISHING
ASSOCIATION
Washington, D. C. Battle Creek, Mich.

TRI-CITY SANITARIUM, Moline, Ill.



AN institution of physiological therapeutics equipped with every appliance that modern science can provide for the treatment of the sick; including Galvanic, Static, Sinusoidal, and Faradic electricity, X-ray, Violet ray, and radiant heat of all kinds. A gymnasium and a Swedish mechanical movement and massage department are at the disposal of the patient. These are fully equipped, and include vibration of every kind beneficial to invalids.

Besides the above, the splendidly equipped treatment-rooms provide for the use of all forms of hydrotherapy, such as electric-light baths, hydro-electric baths, Nauheim baths, sham-poops, salt glows, and packs of all kinds. Contagious and infectious diseases not received.

A postal will bring a beautifully illustrated booklet free.

When you write to our advertisers, please say, "I saw your 'ad.' in LIFE AND HEALTH."

BE ALIVE

All live people who are ruptured should read this ad. carefully. There is only one *really* scientific truss on the market. Other so-called "trusses" are mere clamps. Our *Huston Automatic Truss* applies slight pressure to the *hernia only*, allowing perfect freedom of motion to the body.

Farmers wear it successfully while working in the harvest-field; trapeze performers while giving exhibitions. Surely YOU also could wear it with comfort and satisfaction. You will do yourself an injustice unless you give a fair trial to our

Huston Automatic Truss



FRONT VIEW

Patented Sept. 7, 1897

Of course we can not convince you of the truthfulness of our claims unless you are willing to test them. Are you willing to give us a chance? Will you write to us to-day?

Easily adjusted. May be worn night and day. Weighs only a few ounces. *Sold on a positive guarantee. Price, \$5.50.*

Send size around body in line with rupture. Once adjusted, this truss can not be displaced by any motion of the body. Correspondence solicited.

A Few Good Agents Wanted

HUSTON BROTHERS

Makers of Trusses, Abdominal Supporters, Deformity Apparatus, etc.
55 Randolph Street, CHICAGO, ILL.

Send 10 cents for an assorted package of helpful health tracts. LIFE AND HEALTH, Takoma Park, Washington, D. C.

The FARMERS' GARDEN

A Seed Drill and Wheel Hoe is indispensable—not only in a village garden but on largest farms.

Farmers should grow all manner of vegetables and "live on the fat of the land." Should provide succulent roots for Cattle, Swine, Poultry, and save high priced feed stuff.

Great labor-saving tools of special value for the home as well as the market garden. Send for free book.



Only One of Many Iron Age Tools

The most complete tool made

IRON AGE



BATEMAN MFG. CO., Box 74-8

GRENLOCH, N. J.

Hygienic Cooking Oil

The Shortening Used by Vegetarians

A Choice Salad Oil

A perfect vegetable food fat, that keeps indefinitely. Always sweet and wholesome; never rancid. Guaranteed under the Pure Food Laws. Shipped in crated cans direct from the refinery to your station. 5-gallon can, \$3.80; two 5-gallon cans in one crate, \$7.30. 8 one-gallon cans in one crate, \$6.80. In 1/2 barrel (about 32 gallons), 68 cents per gallon. Cash with order. Send stamp for cook booklet and circulars. Shipped from Louisville, Ky. Address—

DR. O. C. GODSMARK

Chattanooga

Tennessee

Sanitarium Health Foods

No Lard, No Soda, No Baking Powder

All readers of LIFE AND HEALTH are vitally interested in the matter of pure, wholesome hygienic food supplies. The following is a partial list of the products of old, established and thoroughly reliable firms whose specialty is supplying sanitariums, vegetarian restaurants, and individuals

PACKAGE	PACKAGE
Graham Crackers, sweetened	Sanitarium Gluten Meal, about 20% ..
White Crackers	Sanitarium Gluten Meal, about 40% ..
Ideal Soup Crackers	Sanitarium Gluten Sticks, about 40% ..
Oatmeal Crackers, 15 cents; 2 for ...	Charcoal Tablets
Fruit Crackers	Baked Beans, 15 cents; 2 for
Zwieback or Toast	Peanut Butter
Caramel Cereal or Cereal Blend	Malted Nuts
Wheat Flakes (Toasted)	Nut Cero, 1/2 lb. 15 cents; 1 lb.
Wheat Flakes Biscuit (Toasted)	Nut Loaf, 1/2 lb. 15; 1 lb.
Fruit Nuts (Malted)	

Price list, including Sanitarium Olive Oil, Sanitarium Grape Juice, and a full line of special products, and order blank mailed to any address upon request.

Special Offer

To introduce our goods an initial order amounting to \$5 of the above will be shipped to any address for \$4.50, cash with order.

Special Rates to the Trade and Institutions

Order from the factory nearest you, addressing—

SANITARIUM FOOD COMPANY

Boulder, Colo. College Place, Wash. College View, Neb. Des Moines, Iowa.
Portland, Oregon. St. Helena, Cal.

When you write to our advertisers, please say, "I saw your 'ad.' in LIFE AND HEALTH."

SAS
Saint Helena
California
Sanitarium



IT IS IN THE FOREST
IT IS IN THE MOUNTAINS
IT IS IN CALIFORNIA
IT IS THOROUGHLY EQUIPPED
What More Could Be Desired ?
SURROUNDINGS---IDEALLY BEAUTIFUL
ALTITUDE--- JUST RIGHT, 750 FEET
CLIMATE--- CALIFORNIA'S BEST
EQUIPMENT --- UNSURPASSED

ADDRESS:
SAINT HELENA - CALIFORNIA SANITARIUM
SANITARIUM - NAPA COUNTY - CALIFORNIA

When you write to our advertisers, please say, "I saw your 'ad.' in LIFE AND HEALTH."

WORLD'S GREATEST HOUSEHOLD INVENTION!

Energized Water Works Wonders for Humanity. Banishes Drudgery, Revolutionizes Living Conditions. A Revelation of Mechanical and Liquid Forces. The Marvel of Scientists

ANY HOME MADE MODERN BY NEW, STARTLING DISCOVERY

Wonderful, but proven true, Allen's Patent Bath Apparatus gives any home, any person, anywhere, that long-desired blessing—a modern bathroom for \$6.50. Acknowledged best thing ever happened for humanity. Used wherever there is water—in any room, any part of room; no water works, no plumbing, pipes, tools, valves—not even a screw to insert. Does more than bathrooms costing \$150. Gives the warm, restful cleansing—the stimulating friction—the invigorating, flesh-building massage—the glowing, exhilarating shower. Hot or cold—any temperature. Makes bathing 5 minute operation—every minute a pleasure. One user writes—"children cry for it." Affects all alike. Just think! Cleanses almost automatically. So energizes water that one gallon does more than tub full old way. Only clean, running, energized water touches body—no immersion—no using same water twice. Sounds strange, even impossible, yet it's no experiment. Used by the famous Battle Creek Sanitarium, world renowned people.



Sectional view of apparatus assembled and shown as a unit.

"SEE IT ENERGIZE!"

Agents Getting Rich

See the fortunes being made with this real winner. **Korstad** (farmer) sold \$2,212.13 in 2 weeks; **Zimmerman** (farmer) orders \$3,856 in 39 days; **Stoneman**, (Artist) sells \$2,841.68 in 60 days. Why shouldn't **Cushman** say: "A person who can't sell your goods couldn't sell bread in a famine." But listen! **Rasp**, (Agent) sold \$1,685 in 73 days; **Juell**, (Clerk) \$6,800; **Oviatt**, (Minister) \$4,000; **Hoard**, (Doctor) \$2,200; **Hart** sold \$5,000 and "took 16 orders in 3 hours"—**Reese** saw 60 people—sold 55—result, \$320; **McDaniels** "visited 20 farmers—sold 19. Everybody wants one. Fastest seller ever saw." **Lodewick** "showed it to 44 people—have 39 orders. Sold 17 one day. Sells on sight." **Schoenauer** "been out 8 hours—have 15 orders." **Weathers** "sold 17 one day—send 60 more." **King** "never saw anything take so well, talk of the town, made \$100 this week."

Men, women, wake up! Help yourself to this great opportunity. Experience unnecessary. How easy—just show—money yours. Let us fix you for life as sales agent with exclusive territory, cash or credit plan, all or spare time. Fascinating, high-grade, big paying monopoly—75 per cent profit. Cost nothing to investigate. Send quick for free proofs and remarkable offer.

USED BY UNITED STATES GOVERNMENT. Over 100,000 Sold

See how simple, easy, convenient:—To bathe—just do this—place combination metallic fountain and heater on wall or shelf—fill with water—touch a match—turn regulator—that's all—thereafter it energizes and works automatically.

What a pleasure—could anything be more perfect. No tubs to clean, bowls or buckets to fill—no wash rags or sponges to harbor disease germs—no dirt, odor, splashing, or muss. Leaves scarcely any evidence of bathing beyond your own high spirits. Move apparatus about at will—child can do it. Small, yet powerful. Simple, durable, handsome, sanitary. **Ideal Bath and health system** in one, for town, country, and city homes, travelers, roomers, campers. Promotes health, beauty, sound sleep. Prevents colds, La Grippe, and other contagious diseases.

SEE, FEEL ENJOY THE WONDERS OF ENERGIZED WATER!

Gives health, strength, vitalized physical and mental force. Fatigue, drowsiness, and weakness disappear like magic. Imagine your body constantly flushed with clean, running water, pores opened to breathe oxygen, cleansed of dirt, poisons, secretions, then invigorated by hundreds of little soft self-cleansing "fingers" working gently, soothingly altogether. A delightful tingling, life-giving spray that refreshes and cleanses simultaneously, every vein and muscle jumping with new life.

Praised by Thousands of Delighted Users

C. Day, S. D., writes: "Used it 10 minutes after receipt. Feel like a giant—refreshed with new life." **Mrs. Sutton**, Ky., writes: "After 2 years' use I consider it a godsend. My complete restoration to health due to Allen Baths." **B. Sholtus**, Mich., writes: "So simple, so easy, time-saver. 5 minute bath more thorough than half hour old way." **J. Phar**, Mont., writes: "Makes a modern house on the farm. Great gift to mankind." **Mrs. McAlpine**, N. Y., writes: "Gives advantage of bathroom in any part of house." **J. B. Hart**, N. C., writes: "Placed one lady on her feet in 2 weeks. Been under doctors care 4 years. Suffering from spinal trouble and nervousness. Cured several of rheumatism." **Miss E. G. Holmes**, England, writes:

Much pleased. Exactly what I need. So much like Dr. Kellogg's methods. Gives tonic effect." **Dr. Chambliss**, Mo., writes: "Splendid for nervous diseases. Stimulates skin. Shall advise its use among my patients." **Prof. W. Smith**, Mich., writes: "Greatest invention of the 20th Century. Simplifies bathing, quick, healthful. Benefits upon nervous system and general health already apparent." **Guaranteed** by an old reliable established house. Largest of its kind in the world. **Not sold in stores.** Sent anywhere. **Price low—only \$6.50, complete with heater.**

SEND NO MONEY

Just your address on a postal card for full description, valuable books, testimonials, personal trial offer—**ALL FREE.** **CAUTION:** Address the originators and sole manufacturers, as follows:—

Allen Mfg. Co., 1704 Allen Bldg., Toledo, Ohio

Welch's Grape Juice



not only offers a palatable medium for administering olive oil and other somewhat disagreeable medication, but containing, as it does, only the full food properties of the best, freshly picked Concord Grapes, its co-operative merits, from a standpoint of nutrition, can hardly be over-estimated.

The Concord Grape, as every physician knows, has a greater nutrient value than any other fruit. And all of the best of the best Concord Grapes is found under the Welch label—with nothing added and nothing taken away.

Welch's Grape Juice is sold by leading druggists everywhere.

Three-ounce bottle, by mail, six cents. Pint bottle, express prepaid east of Omaha, 25 cents.

You will be interested in our booklet, "The Food Value of the Grape." Sent free to physicians.

The Welch Grape Juice Co., Westfield, N. Y.

Boulder-Colorado Sanitarium *Boulder, Colorado*



The Boulder-Colorado Sanitarium is a well-equipped and well-regulated institution for the treatment of all chronic disorders. It is the only Sanitarium in the Rocky Mountain region intelligently employing the same system of rational treatment and conducted on the same general health principles as the Battle Creek (Mich.) Sanitarium.

The Buildings are equipped with all modern conveniences, including Steam Heating, Electric Lights, Elevators, Gymnasium; Baths of every description, including the Electric-Light Bath, Massage, and Manual Swedish Movements; Electricity in every form. Classified Dietary, Laboratory of Hygiene for bacteriological, chemical, and

microscopical investigations; experienced Physicians and well-trained Nurses of both sexes. No contagious or offensive diseases are received in the institution. Write for catalogue and card of rates.