

How I Cured My T. B.

Strength

SEPTEMBER

25¢



The Secret
of Great
Ball Pitching

What Is Golf Doing to Us?
by Walter Camp

What Is a Bar-Bell?

A BAR-BELL is simply a long-handled dumb-bell. It has many advantages over a pair of dumb-bells. For instance, it is far easier to handle a 50 lb. Bar-bell than two 25 lb. dumb-bells. Again, with a bar-bell you can do certain back and leg exercises where it would be awkward to handle a pair of dumb-bells. The bar-bell became

The Greatest of All Body-Builders!

when the adjustable feature was added—for then it became possible to employ the **progressive method** of exercise which has proven to be the only way in which a man of below-average physique can gradually but steadily improve his build, his muscular development and his stock of organic vitality until he becomes a physical superman—the very pattern of health, strength and manly beauty.

By Using a Bar-Bell You Can Become a Physical Superman

With every bar-bell we sell we give courses in training to suit the individual purchaser. Our pupils vary in age from fourteen

years to as old as sixty-four. We have seen slender young pupils gain as much as **twenty pounds** in weight, and **six inches** in chest measurement in the first six weeks they were under our training. We have taken stout, middle-aged parties and shown them how to regain the fine proportions, the elasticity and the vigor of athletic youth. We get orders from hundreds of business men and office workers, and we show them how it is possible to get the greatest possible results in the shortest possible time. (Possibly forty per cent of our patrons are indoor men.) One of our greatest delights is taking husky farmers, outdoor workers, and gymnasium devotees and show them what **real** strength and development is like. Every case is individual with us and we have handled so many different kinds of health-seekers, shape-seekers, and strength-seekers that it is hardly possible your case would present any new problems for us.



In these pictures Mr. Klein is posed with a "Milo Duplex" Combination Bar-Bell; one of the many types of bar-bells we manufacture.

We Give Unlimited Service

With us it is not a case of giving you so many "lessons" and then forgetting you. You are our pupil as long as you own the bar-bell you buy from us. You may be in such condition that we can give you the kind of developing work that makes you gain at a rate so rapid that you will be amazed. Or it is possible that you are in such a run-down or absolutely undeveloped state that we will have to start you with the bell adjusted to very moderate weights, put you on a mild progressive schedule, and **coax** your body to its proper proportions and teach you how to accumulate a stock of reserve vigor and health. All of which is part of our job, and what you pay us for.

We Give an Absolute Guarantee

All our goods are sold on the same understanding. If within ninety days after enrolling you are not satisfied with the results, you can return your outfit and have your money refunded. For years we have kept a careful record and find that the proportion of returns is $\frac{1}{3}$ of 1 per cent. In other words, we satisfy 299 out of every 300 customers. (We never expect to be perfect.)

We Make Adjustable Bar-Bells of All Varieties

Every outfit we make is a combination affair, which can be used as a bar-bell, a dumb-bell or as a pair of kettle-bells. Every part of each outfit is adjustable in weight. Some types have hollow spheres which can be loaded with iron plates of assorted sizes (this type is shown in the picture). Other types load both with lead shot **and** iron plates. Still others have no covering spheres, but consist just of an assemblage of iron plates and the different handle bars. We make bar-bells of

Different Styles—Different Sizes—Different Prices

but every outfit we make can be adjusted to such a moderate weight that it can be easily handled by the weakest and smallest man, and yet can be almost instantly adjusted to a weight that would tax the strength of Samson.

Our Literature Will Interest You

Send at once for our booklet

"Health, Strength and Development and How To Obtain Them"

and the special big pamphlet

How Much Can I Improve—At 20 Years—At 30—At 40 Years.

Both Free on Request.

THE MILO BAR-BELL CO.

2739 N. PALETHORPE STREET

Dept. 17

PHILADELPHIA, PA.

Making More Money Than The Boss

If you think it can't be done then there is a surprise in store for you

THERE is one profession, and only one, in which the Boss often makes less money than some of the men under him. And you can—but read the remarkable letter below, received a short while ago by the National Salesmen's Training Association from a Sales Manager who was investigating this System of Training, with a view to increasing his own efficiency.

The record of this student is in the Association files, but it is no different than hundreds of other really amazing records of inexperienced men who have studied this wonderful System of Salesmanship Training.

Why Salesmen Are Well Paid

How would you like the opportunity to make more money than the man who employs you? Sounds almost foolish, doesn't it? Yet, the seemingly impossible feat of making more money than the Boss is being done regularly in the selling field. Many salesmen earn more money than the man or men above them. In some cases they earn far more than the president of the Company.

There is a good reason why the same

"I note in your literature the names of some of the boys from Kentucky and Indiana with whom I am well acquainted. One of the boys from Kentucky, by the way, broke in under me. While still a cub, and without my knowledge, he took up the N. S. T. A. Course and it wasn't long before I got a jolt. His weekly pay checks were even larger than my own."

"His increased earnings made me question him and it was then he admitted he was studying with you. The fact that he continued to succeed in such a big way caused me to write to you."

"I do not envy this man in the slightest degree, but I do want to say that if your training could develop this particular man into a high-class salesman, as it has, then your course could almost make a wooden Indian into a salesman."

"Had you met this man when I did you would have hesitated about accepting his enrollment. I am free to admit he of all others has taken the conceit completely out of me when it comes to passing judgment on prospective Salesmanship timber."

Irving T. Bush, Founder and President of the Bush Terminal Company, in an article in the American Magazine, said:

"Go through any industry and you will find the same grade of intelligence is better paid in the selling force than it is in any other department. To those men who must make money to take care of responsibility and support of family, I again say, 'GO SELL.' And opportunities for selling jobs are ten to one in other fields."



Secrets That Make Master Salesmen

From greenhorn to Star Salesman in next to no time sounds almost too good to be true. Yet, the National Salesmen's Training Association performs this wonderful transformation for thousands year after year because it teaches the real secrets of salesmanship. For example:

Ellis Sumner Cook, 58 Superior St., Oak Park, Ill., left a \$25 a week job and last year made \$9,000! H. D. Miller, a Chicago boy, was making \$100 a month as stenographer in July, 1922. In September, three months later, he was making \$100 a week as a salesman. W. P. Clenny, of Kansas City, Mo., stepped from a \$150 a month clerkship into a selling job at \$500 a month. He is making \$850 a month now. M. V. Stephens, of Albany, Ky., was making \$25 a week. He took up this training and now makes five times that much. J. H. Cash, of Atlanta, Ga., exchanged his \$75 a month job for one which pays him \$500 a month. O. H. Malfrout, of Boston, Mass., stepped into a \$10,000 position as a SALES-MANAGER—so thorough is this training. All these successes are due to this easy, fascinating and rapid way to master certain invincible secrets of selling.

Why did these men—farm hands, mechanics, bookkeepers, clerks, railroad men and routine workers in every walk of life—attain such quick success. The answer is as simple as A B C. There are certain ways of doing and saying things in selling—certain ways to approach different types of prospects to get their undivided attention, to stimulate interest—certain ways to overcome objections, batter down prejudices, outwit competition, and make the prospect act. Once you know these vital things—once you have acquired these fundamental principles—big success awaits you in this fascinating field.

Previous Experience Unnecessary

It doesn't matter what you are now doing for a living. If you can read and write and have average intelligence, there is a wonderful future awaiting you in the selling field. If you must make more money, if you want to attain a measure of financial independence, if you want to accomplish worth-while things, then let us send you all the facts about this remarkable System of Salesmanship Training and Employment Service, including a big, FREE, illustrated book, "Modern Salesmanship."

State of Illinois }
County of Cook } SS

I, J. E. Greenalade, President of the National Salesmen's Training Association, of Chicago, Illinois, state under oath, that between January 1st, and June 30th, 1923, this Association received calls for 23,236 Salesmen.

Subscribed and sworn to before me
this _____ day of _____ 1923.
J. E. Greenalade
Notary.

In this book you will find full details about the National Demonstration Method which gives you actual experience while studying, complete information about the N. S. T. A. System of Electives which enable you to go out and sell a line, fortified with proven plans and successful methods of Master Salesmen in the line or lines you choose to sell. Also tells how N. S. T. A. Free Employment Department helps you to select and secure a position as local or traveling salesman as soon as you are qualified and ready.

Send Now for Proof and Free Book

To fill out and mail the coupon below may prove to be the turning point in your career as it has for thousands. It will not obligate you, though it may inspire you to make a move in the direction of bigger pay, more opportunities and congenial work. Don't hesitate. A good idea to get it into the mail right NOW.



National Salesmen's Training Association
Dept. 21-M 53 W. Jackson Blvd. Chicago, Ill.

National Salesmen's Training Association
Dept. 21-M, 53 W. Jackson Blvd., Chicago, Ill.

Please mail me Free Proof that I can become a Master Salesman and qualify for a good sales position. Also send your illustrated book, "Modern Salesmanship," and particulars of membership in your Association. This is all free of cost or obligation.

Name.....
Address.....
City..... State.....
Age..... Occupation.....



Strength



SEPTEMBER, 1924

Vol. IX

No. 7

CONTENTS

Cover, "Topping the Timbers," by Jay Weaver

Frontispiece	by H. Armstrong Roberts	14
The Two Secrets of Physical Perfection	Editorial	15
Greater Beauty Through Dancing or Swimming?	Pearl Frances Bates	16
<i>Photographs</i>		
"WHAT Do Those Finland Athletes EAT?"	Alfred W. McCann	20
"How I Cured My T. B."	J. E. Armstrong	22
What Is Golf Doing to Us?	Walter Camp	26
<i>Photographs</i>		
How About Your Organic Strength?	Charles Thomas Hicks	31
Men In the Making	Alan Calvert	34
<i>Photographs</i>		
Secretary Hughes Improved 25% When He Stopped Smoking	Langston Moffett	38
What's the Secret of Great Ball Pitching?	Walter P. Maxwell	42
Girls, How's Your Muscular Corset?	Florence Whitney	46
<i>Poses by Esther Greene</i>		
Power of the Punch	T. Von Ziekursch	50
Milk—the Supreme Food	Carl Easton Williams	53
The Fountain of Youth—Your Spine	Ira W. Drew, M.D., D.O.	55
<i>Photographs</i>		
Who is Joe Nordquest?	Alan Calvert	58
<i>Photographs</i>		
Shaking Up Your Liver	Charles MacMahon	62
<i>Photographs</i>		
Strength—Even for Cripples	Milton MacGregor	65
"The Dinner Table"—Save Fuel and Simplify Your Cooking	Jane Randolph	66
"The Mat"—Analytical Comment on Body Building	Department	68
Coin Bending with Teeth and Hands		
The Strength of the Human Teeth		
This Department		
How Often Should a Man Exercise?		
Do Manual Workers Need Exercise?		

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Photograph by
Paul Thompson

I Can Teach You to Sing Like This!

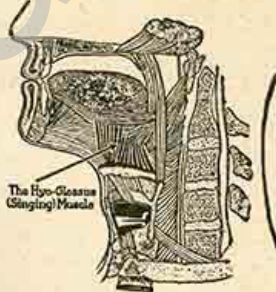
—Eugene Feuchtinger

I do *not* mean I can make a Caruso out of every man—or a Mary Garden out of every woman,—but

I can teach you in a few short months a basic secret of voice development which Caruso discovered only after years of persistent effort.

HERE IS THE SECRET!

This is a picture of the human throat, showing the all important Hyo-Glossus muscle. Biographers of the great Caruso tell us of his wonderful tongue control. Caruso himself speaks of it in his own writings, as the basic secret of vocal power and beauty. But tongue control depends entirely on the development of your Hyo-Glossus muscle.



The Hyo-Glossus in your throat can be strengthened just as surely as you can strengthen the muscles of your arm—by exercise.

Professor Eugene Feuchtinger, noted vocal scientist, famous in Europe before coming to America, was the first man to isolate and teach a method of developing the Hyo-Glossus.

If you are ambitious to sing or speak, or merely improve your voice for social or business purposes, here is your opportunity. If you suffer from stammering, stuttering or other vocal defect, here is a sound, scientific method of relief. Under the guidance of Prof. Feuchtinger himself, you can practice these wonderful silent exercises in the

privacy of your own home. For this method of training is ideally adapted to instruction by correspondence.

100% Improvement Guaranteed

Thousands of men and women have already received the benefits of the "Perfect Voice" method. If you will practice faithfully, your entire satisfaction is guaranteed. In fact, if your voice is not doubled in power and beauty, your money will be refunded. You alone are to be the judge.

Free Book

Send today for the Professor's book, "Enter Your World." It will open your eyes to the possibilities of your own voice. It will indeed be a revelation to you. Get it without fail. Mail the coupon now.

Perfect Voice Institute 1922 Sunnyside Avenue, Studio 57-76 Chicago, Ill.

Perfect Voice Institute 1922 Sunnyside Ave., Studio 57-76 Chicago

Please send me FREE, Professor Feuchtinger's book, "Enter Your World." I have put X opposite the subject that interests me most. I assume no obligations whatever.

Singing Speaking Stammering Weak Voice

Name.....

Address.....

Age.....

NERVE EXHAUSTION

How Nerve Abuse Wrecks Health

by PAUL von BOECKMANN

Lecturer and Author of numerous books and treatises on Mental and Physical Energy, Respiration, Psychology and Nerve Culture

THERE is but one malady more terrible than Nerve Exhaustion, and that is its kin, Insanity. Only those who have passed through a siege of Nerve Exhaustion can understand the true meaning of this statement. It is HELL; no other word can express it. At first, the victim is afraid he will die, and as it grips him deeper, he is afraid he will not die; so great is his mental torture. He becomes panic-stricken and irresolute. A sickening sensation of weakness and helplessness overcomes him. He becomes obsessed with the thought of self-destruction.

Nerve Exhaustion is brought about through nerve strain. There is no other cause. Men strain their nerves through mental concentration and business worries; often too, through excesses and vices. Women strain their nerves mainly through their emotions, especially those involved in their domestic affairs. Indeed, we are in the midst of nerve strain everywhere due to the mile-a-minute life we are leading. And no man or woman is so strong as to be immune to this strain.

Nerve Exhaustion is not a malady that comes suddenly, yet its symptoms are unmistakable. It does not manifest itself, as many think, in twitching muscles and trembling hands.

The majority of sufferers from nerves seem strong and healthy, and may have not a tremor in their body, yet inwardly their nerves are in a turmoil and are undermining the entire bodily organism.

The symptoms of Nerve Exhaustion vary according to individual characteristics, but the development is usually as follows: First Stage: lack of energy and endurance; that "tired feeling." Second Stage: Nervousness; restlessness; sleeplessness; irritability; decline in sex force; loss of hair, nervous indigestion; sour stomach; gas in bowels; constipation; irregular heart;

poor memory; lack of mental endurance; dizziness; headache; backache; neuritis, rheumatism, and other pains. Third Stage: Serious mental disturbances; fear, undue worry; melancholia; dangerous organic disturbances; suicidal tendencies; and in extreme cases, insanity.

If only a few of the symptoms mentioned apply to you, especially those indicating mental turmoil, you may be sure that your nerves are at fault—that you have exhausted your Nerve Force.

Perhaps you have chased from doctor to doctor seeking relief for a mysterious "something the matter with you." Each doctor tells you that there is nothing the matter with you; that every organ is perfect. But you know there is something the matter. You feel it; and you act it. You are tired, dizzy, cannot sleep, cannot digest your food and you have pains here and there. You are told you are "run down," and need a rest. Your doctor may prescribe a drug—a nerve stimulant or sedative. Leave nerve tonics alone. It is like making a tired horse run by towing him behind an automobile.

And don't be deceived into believing that some magic system of physical exercise can restore the nerves. It may develop your muscle but it does so at the expense of the nerves, as thousands of athletes have learned through bitter experience.

The cure of weak and deranged nerves must have for its basis an understanding of how the nerves are affected by various abuses and strains. It demands an understanding of certain simple laws in mental and physical hygiene, mental control, relaxation, and how to develop immunity to the many strains of everyday life. Through the application of this knowledge, the most advanced case of Nerve Exhaustion can be corrected.

I have made a life study of the mental and physical characteristics of nervous people, having treated more cases of "Nerves"



PAUL VON BOECKMANN

Author of *Nerve Force* and various other books on Health, Psychology, Breathing, Hygiene and kindred subjects, many of which have been translated into foreign languages.

during the past 25 years than any other man in the world (over 100,000 cases).

The result of this vast experience is embodied in a 64-page book, entitled "Nerve Force," a book that is essentially intended to teach how to care for the nerves and how to apply simple methods for their restoration. It includes important information on the application of deep breathing as a remedial agent. The cost of the book is only 25 cents, coin or stamps. Address me—Paul von Boeckmann, Studio 462, 110 West 40 St., New York City.

This book will enable you to diagnose your troubles understandingly. The facts presented will prove a revelation to you and the advice will be of incalculable value whether you have had trouble with your nerves or not. Your nerves are the most precious possession you have. Through them you experience all that makes life worth living, for to be dull-nerved means to be dull-brained, insensible to the higher phases of life—love, moral courage, ambition, and temperament. The finer your brain is, the finer and more delicate is your nervous system, and the more imperative it is that you care for your nerves.

"Nerve Force" is not an advertisement of any treatment I may have to offer. This is proved by the fact that large corporations have bought and are buying this book from me by the hundreds and thousands for circulation among their employees—Efficiency. Physicians recommend the book to their patients—Health. Ministers recommend it from the pulpit—Nerve Control, Happiness. Never before has so great a mass of valuable information been presented in so few words. It will enable you to understand your Nerves, your Mind, your Emotions, and your Body. Over a million copies have been sold during the past fifteen years.

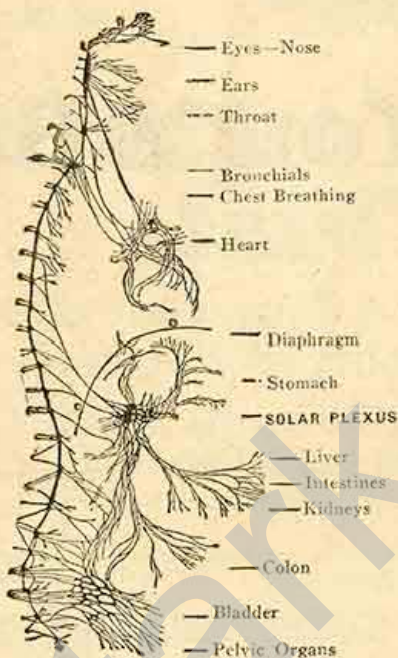


Diagram showing how the Solar Plexus, known as the "abdominal brain," is the great center of the Sympathetic (Internal) Nervous System. Mental strains, specially grief, fear, worry and anxiety, paralyze the Solar Plexus, which in turn causes poor blood circulation, shallow breathing, indigestion, constipation, etc. This in turn clogs the blood with poisons that weaken and irritate the nerves. Thus Mental strain starts a circle of evils that cause endless misery, aches, pains, illness, weaknesses and generally lower mental and physical efficiency.

I Guarantee

To Make You A Public Speaker

or I Won't Take A Penny

I'll Show You How To Control One Man Or A Big Audience—How To Conquer Stage Fright—How To Increase Your Earnings—All By The Power Of Effective Speech



Give Me 15 Minutes a Day

That's all I want, 15 minutes a day, to prove to you beyond a shadow of a doubt that I can do for you what I have done for other men—increase your income, make you a leader, make you successful.

C. F. Bourgeois, President of Robischon and Peckham, says: "The lesson on 'How to Develop Personality' is alone worth the entire cost of the course. It has been of real practical help to me."

Walter O. Ford of the Ford Manufacturing Company writes: "Was always considerably flustered when called upon to speak. Now, thanks to your course, I feel perfectly at home and confident. Every man who wants a strong personality and the power of effective speech should take your course."

H. B. McNeal, President of the Telephony Publishing Company, says: "It should appeal to every man and especially to young men who are ambitious for rapid promotion."

Get Big Money Jobs

These men write as do hundreds of other successful men concerning this amazing new method of making you a forceful, fluent, convincing speaker. The world is at the feet of the man who can hold others by the sheer power of speech. Powerful speech shortens the road to success. Leadership depends on the ability to talk forcefully, fluently and convincingly. Why do salary increases and the big-pay jobs seem to just come naturally to one man when all about him are men of equal ability in other respects? Why in social life does one man have great influence and be the center of interest when others are ignored? The answer is obvious. The suc-

cessful man has the knack of making every word he says or writes count in his favor. He is never at a loss for the right word and he presents his proposition or views in clear, logical and forceful language—with the result that he gets what he goes after. He has the wonderful power to

Sway Others At Will

and he is welcomed everywhere and listened to with deep respect. How many men can address a dignified board of directors and

how to rise quickly above the mass in business, how to step to promotion, how to be a leader, with poise and the assurance to plunge right into any subject and convince your hearers of your point of view. By this amazing new method, made possible by Professor R. E. Pattison Kline formerly dean of the Public Speaking Department of the Columbia College of Expression, being a powerful speaker is easy and simple.

Free Self-Test

To convince you fully that you can become a powerful and convincing speaker by giving me only fifteen minutes a day right in the privacy of your own home, I will send you a remarkable FREE self-test, and then you can judge for yourself. I want you to determine whether or not you wish to have this power of speech that men envy and women applaud. Also, because I know that you will be so delighted that you will tell others of this amazing method, I will send you a

Special Offer

if you fill in the coupon and mail at once. You like thousands of others can quickly and easily learn the secret of achievement both in position and salary and all this without leaving your present position and by devoting only a few minutes a day to the fascinating material I will send you. Just give me your name and address on the coupon.

NORTH AMERICAN INSTITUTE

Dept. 1976, 3601 Michigan Ave., Chicago

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I am interested in your Course in Effective Speaking and your Free self-test and special offer. Please send me full particulars. This request places me under no obligations of any kind.

Name

Address

City State

What This Amazing Course Teaches You

- How to make after-dinner speeches.
- How to write better letters.
- How to sell more goods.
- How to have a good memory.
- How to enlarge your vocabulary.
- How to make political speeches.
- How to develop self-confidence.
- How to have a winning personality.
- How to be master of any situation.

have their plans and ideas approved? How many men can appear at a moment's notice before an audience and create enthusiastic notice? Not many. And yet there is no reason why any man should not be able to do these things just like successful men are capable of doing them. Powerful and convincing speech can be easily acquired.

Easy For Anyone

I don't care what line of business you are in. I don't care how embarrassed you now are when you are required to speak. I don't care what you think now. I can show you

You Wouldn't Wear Glasses

If You Knew What I Know



Condemned to wear glasses for the rest of my natural life.

When I joined the company three years ago I was a confirmed eye-invalid. I had what the oculists called Astigmatism and had worn glasses from the time I was fourteen years old. Glasses were as much a part of my wearing apparel as my shoes or my shirt. I put them on when I got up in the morning and never took them off until I went to bed at night.

Without them I was as helpless as a blind man.

The thought that I would ever be able to see perfectly again without glasses never entered my mind, not even in my dreams, for hadn't the leading oculists and optometrists advised me to the contrary, and didn't I have to go to them at stated intervals and have the lenses in my glasses changed to allow for the continual fluctuation in my range of vision?

Shortly after joining the Macfadden Company I learned that they published a course in eye training compiled by Bernard Macfadden, the famous physical culturist, in collaboration with one of the world's leading eye specialists. But that didn't mean anything to me, for wasn't I a confirmed eye-invalid, condemned to wear glasses for the rest of my natural life? One day when I had been with the company about six months I happened to be in Mr. Macfadden's office on a matter of business. I was about to leave when he startled me by saying, "Jackson, why don't you take up the eye course and get rid of those glasses?" He might just as well have asked me, "Why don't you learn to live without food?" I wouldn't have considered the question any more ridiculous.

But he talked to me. He told me how he was in the same boat as myself when he was about forty, and how he had cured his eye troubles by just some simple eye exercises which he invented, and that how since he has published the exercises in course form with the aid of the eye specialist referred to, eye sufferers from all parts of the world had written him letters of gratitude for what the course had done for them—some of them much worse off than I was.

Well, to make a long story short, he finally persuaded me to try the exercises. I took the course home that night and read it through. And the next morning I began the exercises. That was more than two years and a half ago.

I haven't worn a pair of glasses for over a year—not even to read by. As I told you, I am in the correspondence depart-

EVERY time I see a man or a woman wearing glasses I always think: "If you only knew what I know, you would have those things off within three months' time, never to put them on again." I feel just like stopping them and telling them what I know about certain eye exercises that would, in an amazingly short time, put their eyes in such a condition they could forget that such a thing as eyeglasses ever existed.

But you know how skeptical people are as a rule and I know I wouldn't be believed, or thanked for my trouble. But, there is nothing to prevent my telling the readers of **STRENGTH** my story. They can believe it or not, just as they see fit.

But those who believe it enough to interest themselves to the extent of further investigation I know will thank me all the rest of their lives, and that is reward enough for the effort.

So here goes:—

My name is Jackson, Laurence B. Jackson. I am employed by the Macfadden Publications, Inc., publishers of magazines and books. I am in the correspondence department.

ment where I read poorly written letters for eight hours of the day and the strain on my eyes is tremendous. But my sight is perfect and my eyes trouble me not at all.

Wonderful? Yes! Are you surprised that I would like to tell my story to every person I meet? And it's not just my story. It's the story of nine people out of every ten who take up the Macfadden System of Eye Exercises and stick to it.

It can be *your* story if you're one who wears glasses or one who soon will have to.

In order to make it possible for any eye-invalid to examine his course without risking a penny, Mr. Macfadden sends it out on a five-day approval basis.

The price has purposely been made very low so as to be within the reach of any person—\$5.00 complete, postpaid.

There is a coupon on the right hand corner of this page for your convenience in sending for the course if you feel you would like to try it after reading about my experience.

Last October, at the special request of Mr. Macfadden, I attended the great Physical Culture Show at Madison Square Garden so that those present could see, not an extraordinary but a typical example of what his wonderful eye course will do for eye-invalids.

I talked with hundreds of persons and if you were there, it is possible that you have already met me and heard my story from my own lips.

I can't add anything to what I've said above. I've told you my story. It's in your hands, whether you will profit from it or not.



I have not worn glasses for over a year—my eyes have never been so strong nor my vision so good.

Send No
Money
Now

MACFADDEN PUBLICATIONS, INC.,
Dept. S-9, Macfadden Bldg., 1926 Broadway, N. Y. C.

Entirely at your risk you may send me your course of Eye Exercises. Upon receipt I will pay the postman \$5.00.

It is understood if after trying the course for five days, I decide not to keep it you will immediately refund my \$5.00 upon return of the course.

Name.....

Street.....

City..... State.....

Macfadden Publications, Inc.

Dept. S-9, Macfadden Building
1926 Broadway, New York

Suppose Some Hoodlum Insulted the Girl You Are Going to Marry

IF you are a puny, undersized, undeveloped weakling, *what would you do about it?* What **COULD** you do, except froth at the mouth and make a ridiculous exhibition of your impotent weakness?

Certain words are "fighting words" the world over. Certain acts call for swift, peremptory, *personal* punishment; not the police. No one with a spark of manhood in him puts up with them for a minute.

How can you protect yourself—or any girl who may be with you—if your muscles are made of mush, your blood weak and watery, your stomach bulgy with unhealthy fat, your heart and lungs unequal to any sudden strain? You **CAN'T**. You'll have to swallow any and every insult and slink away like a yellow dog with his tail between his legs.

Put Yourself in Condition to Punch His Head

You won't have to be a Colossus to do it. Strong men don't go round looking for a fight. It's a simple matter, **WHEN YOU ARE FIT**, to make a fresh mucker feel that he's made the mistake of his life. You'll find it easy, if your flesh is made of real meat, your blood like sparkling wine, your heart and lungs working together, your whole nervous and muscular system hitting on all four cylinders under the control of an unclouded brain.

That condition means **MUSCLE HEALTH**. Your arms and legs move and do the bidding of your brain through the contraction and expansion of the **VOLUNTARY MUSCLES** in them. The organs of your body function through the action of their **INVOLUNTARY MUSCLES**. These muscles cause the blood to circulate, the food to be digested and assimilated, the virulently poisonous waste matter to be promptly **ELIMINATED** from the system.

Muscle Health Is All You Need

The body of a man with flabby, sluggish external and internal muscles is a mud-hole—a veritable sink of filth. Undigested food ferments and rots in the system even more quickly than in a garbage pail. No wonder his breath is bad, his skin blotchy and pimples, his heart action weak, his lungs open to tuberculosis, his nerves a jangling frazzle and his temper that of a gloomy grouch.

Mind your Muscles! Don't neglect them. Only constant use will keep them strong and pliable. Leave them inert for a few months and they lose all their elastic life. Most of the so-called "minor ailments" come from muscular inaction—constipation, biliousness, dyspepsia, neuralgia and a host of other chronic disorders. The simplest, safest, surest, *quickest* knock-out for any of them is scientific **MUSCULAR DEVELOPMENT**.

Read My FREE BOOK "DO IT WITH MUSCLE"

You'll find it hot stuff. There's no beating about the bush in it. It goes straight to the point, and tells you in plain English certain hon-

est-to-God **FACTS** about your physiological and sexual life which you probably never knew before; facts that I've spend a lifetime digging up and putting into shape for **YOU** to use.

There's no theoretical, half-baked, amateur bunk in it. It's a complete, rounded-out, sound, unassailable **SCIENCE**, based on my personal treatment of thousands of men and women in all stages of physical, mental and vital deterioration and breakdown—the Science of Health and Strength Development, which I have called **STRONG-FORTISM**.

SEND FOR IT TODAY

You'll find it the most fascinating book you ever read, whatever your present state of health and strength; ill health and weakness, age or sex.

If you are strong and virile it will inspire you to **STAY** so your whole life long. If you are weak and anemic it will make perfectly clear how you can quickly and easily free yourself from any disgusting disorders or soul-and-body destroying habits that are keeping you down in the muck and mire of mediocrity. It will teach you how to get a grip on the things you want most in life, whatever they may be. It will demonstrate indubitably how you can make yourself **STRONG AND VIRILE** in an incredibly short space of time.

You can do it as surely as two and two make four. Pupils of mine are doing it right now, in all parts of the world. The anatomical structure of **THEIR** bodies and **YOUR** body is the same as **MINE**. And I wasn't *born* the strongest man in the world. I made myself *that man*. . . . I built myself up gradually, little by little. **YOU** can build yourself up by the same means—the practice of **STRONGFORTISM**—you can have my personal guidance and instructions all the time—without interfering in any way with your present work or occupation. **I GUARANTEE IT.**

Your happiness and the happiness of your wife and children—or the girl who one day will be your wife and **HER** children—depend upon your knowing the secrets of Nature which my book will tell you. Get it, and learn them, at once. *Don't put it off.* Fill out the coupon (which will bring you a free personal letter, in a plain sealed envelope, along with the valuable book) and mail it to me **TODAY**, with a ten-cent piece (one dime) to help pay postage, etc.

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Physical and Health Specialist

Dept. 1608 Newark, New Jersey



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Mr. Lionel Strongfort, Dept. 1608, Newark, N. J.—Send me **FREE** my private copy of "DO IT WITH MUSCLE," for which I enclose one dime (10c.) towards mailing expense. Send me special information on subjects marked (X) below, without obligation. If you have taken my "Regular" or "Advanced" Courses, kindly indicate same by making a cross in box for this purpose in coupon.

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| <input type="checkbox"/> Hay Fever | <input type="checkbox"/> Weak Eyes | <input type="checkbox"/> Increased Height | <input type="checkbox"/> Blackheads |
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Age..... Occupation.....

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City..... State.....

I have taken your "Regular" Course I have taken your "Advanced" Course

I have received your book "Promotion and Conservation of Health, Strength and Mental Energy." Date.....

Your Body Will Develop Itself— IF You Give It a Chance

If you know how to go about it, you can make the most amazing improvement in your personal appearance, your bodily proportions, your muscular development, and your stock of health and energy, without the necessity of "doing exercises."

Your "Muscular Habits" Make, or Mar, Your Figure

Mr. Edwin Checkley made a more thorough study of the effect of habits than any other man during, or since, his time. His picture appears on this page. It was taken at the age of 55. He died of an accident at the age of 75, and up to the time of his death, maintained his almost perfect figure and his tremendous strength.

His chest was of tremendous size. The muscles on the outside of the chest were not abnormally large; but his lung-capacity was phenomenal. Although his arms and legs were not loaded with muscle, he could perform the most surprising feats of strength, and he ascribed his unique power largely to the vigor he derived from his exceptional lung-development.

The curious thing about Checkley was that he never took exercise. He depended on his muscular habits to keep himself in shape. As a young man, he was weak and sickly, but brought himself to perfect health and acquired an enviable physique through the adoption of these muscular habits.

The Checkley Principle

He claims that muscles are developed by continual use, and that if you learn and adopt certain habits of walking, standing, bending, and breathing, your body will practically develop itself. He claimed that practising deep breathing for five minutes a day, would produce no noticeable effect, and he was very much opposed to "forced deep breathing." He claimed, and proved, that if a man would learn to breathe correctly (that is, with the upper part of the lungs), and make a habit of breathing that way, his chest would become larger automatically; that is to say, the chest would have to get bigger to accommodate the growing lungs. He also proved that as the rib-box (which contains the lungs) gets larger, the shoulders readjust themselves, and that a gain of 6 inches in chest measurement should be accompanied with a gain of at least 2 inches in shoulder-breadth.

Checkley applied these principles to everything he did. If you will look at his picture, you will see that on the front of his abdomen, he had a set of muscles just as prominently developed as the abdominal muscles of Eugene Sandow, or any of the professional "Strong Men." These other men developed those muscles by practising the hardest kind of bending exercises. Checkley's abdominal muscles were created by the way he carried his body. In his book, he tells how to carry the body in a certain way that causes a slight, but continual, tension in the muscles along the front of the abdomen, and along the lower part of the spine. He calls this the "balanced hip position." He further states that this method of bodily carriage absolutely prevents the accumulation of fat on the front of the abdomen, and in the abdominal cavity itself. Furthermore, he says that any stout man can rid himself of his "bay window," simply by adopting this position, without the necessity of doing any tiring exercises or the adopting of a distasteful diet.

Checkley's legs and back were so strong that even when he was 70, he could take a weight of 450 pounds on his shoulders and trot with it for 100 yards. This strength was created by the way he walked. In his book, he describes a certain method of walking which develops not only the calves of the legs, but the upper part of the thighs, and which gives enormous strength to the loins.

Your "Daily Exercise" Is Waste Effort If Your "Muscular Habits" Are Faulty

You have to admit the logic of his theory. After all, what is the use of practising strenuous bending exercises for five minutes a day, in the effort to get rid of a big waist-line; if, for fifteen hours a day, you stand, sit and walk with your body held in a way that forces the accumulation of abdominal fat? What is the use of doing five minutes' "corrective" exercises to cure broken arches in your feet, if you nullify the effect of that exercise by walking and standing in a manner that helps to break down the arches? What is the use of doing "squatting" exercises to develop big thighs, if, when you walk, you use only a few of the leg muscles? If you learn to use as many muscles as possible, and to use them correctly, your new muscular habits will absolutely mold your body to that degree of perfection of which every human being is capable.

His book is the only one of its kind and should be in the hands of every man and every woman who is interested in acquiring a beautifully shaped, well proportioned, highly developed body. His teachings are most fascinating, and the beauty of it is that he shows you a method whereby you can get perfect health and a beautiful figure as you go about your daily work. In his book, there is one paragraph of ten lines which contains the whole secret of perfect bodily proportions. If you buy one of his books, it will be interesting to see whether you can identify that paragraph.

This is not a course of instruction, but a book, and the name of the volume is

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Edwin Checkley

How the LaSalle Problem Method Bridges the Salary-Gap



—Why in three months' time alone as many as 1,193 LaSalle members reported definite salary-increases totalling \$1,248,526, an average increase per man of 89 per cent!



When you apply for a job, what is the first question?

Why, nine times out of ten, it's "What EXPERIENCE have you had?" —Not "How many years at business," understand, but "What actual work have you performed similar to the work called for by the position you now are seeking?"

For the sake of your future, therefore, it will pay you well to ask yourself this question:

How rapidly are you acquiring the KIND of experience that you can CASH?

For instance—

Are you depending upon your contact with the head bookkeeper for your understanding of ACCOUNTANCY?

—Upon hit-or-miss experience in the selling field for your understanding of SALESMANSHIP?

—Upon the routine transactions of the shipping department for your understanding of TRAFFIC MANAGEMENT?

—Upon the occasional discussion of isolated contracts for your understanding of LAW?

—Upon your lunch-time chats with representatives of investment houses for your understanding of FINANCE?

Don't think, for a moment, that you can DODGE the facts which govern salary by saying that other men have come up from the ranks thru day-to-day experience alone. They have—but—business moves at a far swifter pace than it moved even ten years ago. The great demand is for youth and energy trained in the how and why.

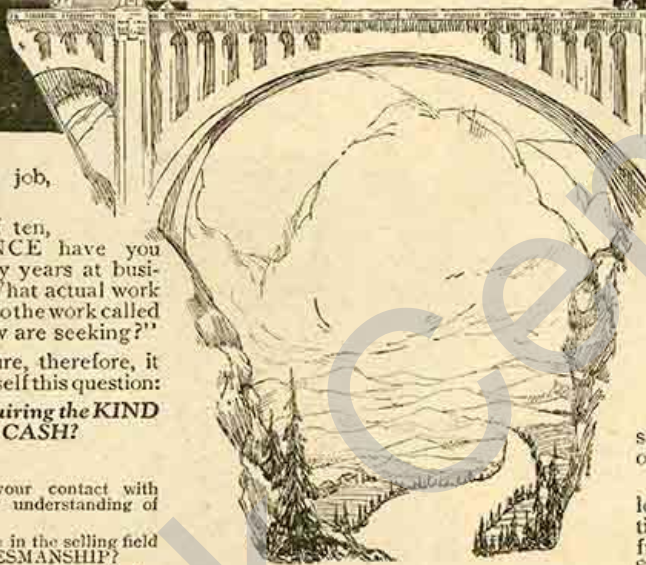
Obviously, then, you cannot escape the following arresting challenge:

How—in the shortest possible time—can you PLUS your day-to-day experience with a practical working knowledge of the BEST ways for performing the special tasks of the higher positions?

During the past fourteen years more than 450,000 men have faced that question squarely—and have found their answer in the LASALLE PROBLEM METHOD.

* * *

When thousands and thousands of men in the United States and Canada (not to mention many hundreds in England, Australia, China and other foreign countries) choose the LaSalle Problem Method to speed their progress—when within only three months' time as many as 1,193 LaSalle members report definite salary-increases totalling \$1,248,526—when the average increase so reported is 89 per cent—surely the LaSalle Problem Method must offer an



unusually sound way of securing quickly the KIND of experience that can be CASHED.

It does. —And here is WHY:

You Learn By Doing

Suppose it were your privilege every day to sit in conference with the head of your firm. Suppose every day he were to lay before you in systematic order the various problems he is compelled to solve, and were to explain to you the principles by which he solves them. Suppose that one by one you were to WORK THOSE PROBLEMS OUT—returning to him every day for counsel and assistance—

Granted that privilege, surely your advancement would be faster—BY FAR—than that of the man who is compelled to pick up experience hit-or-miss.

Under the LaSalle Problem Method you pursue, to all intents and purposes, that identical plan. You advance by SOLVING PROBLEMS.

Only—instead of having at your command the counsel of a single individual—your Chief—you have back of you the organized experience of the largest business training institution in the world, the authoritative findings of scores of able specialists, the actual procedure of the most successful business houses in America.

Thus—instead of fumbling and blundering and maybe losing a job now and then, you are COACHED in the solving of the very problems you must face in the higher positions. Step by step, you work them out for yourself—until, at the conclusion of your training in a given branch of business, you

have at your finger-tips the KIND of experience that men are willing and glad to pay real money for.

In view of that opportunity, is it not folly to let the days and weeks and months slip away from you, when by taking thought you can put yourself in line for a high-salaried executive position?

The Reward of Training

Between the routine job and the responsible executive position there is a salary-gap which is separating thousands of men from financial independence.

On the one side of the gap are long hours, low pay, little more than the bare necessities. On the other side are comparative freedom from supervision, an income of \$5,000 a year or better, the comforts and luxuries of life.

The only routes that can take a man across the gap are all of them marked "EXPERIENCE"—and of all those routes the only one that BRIDGES the gap is—HOME-STUDY TRAINING.

If you are intent to save the years you otherwise would waste, you cannot afford to turn away from that bridge—you cannot, indeed, afford even to turn this page—until you have taken the necessary steps to FIND the bridge and USE it!

The coupon just below this text will bring you a fascinating book—the story of how one man took this shorter route to success and earned for himself "Ten Years' Promotion in One." "Get this book," said a prominent Chicago executive, "even if you have to pay five dollars for it." LaSalle will send it to you FREE. With this book LaSalle will send you also complete information regarding the training you are interested in, together with details of its convenient payment plan.

Take your first real step toward that better position by placing the coupon in the mail TODAY.

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Upon request, the book "Ten Years' Promotion in One," and material completely descriptive of the course and services that interests you, will gladly be sent without cost or obligation. Indicate your choice by checking, and write below your name and address.

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Name

Present Position

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Thirty Lessons in Swimming

By the Greatest Swimming Coach in America

For Less Than 10c a Lesson

THINK of it—a complete thirty-lesson course in swimming by the man who has developed more world and national swimming champion than any other coach in the history of swimming. Among his pupils are Miss Ethelda Bleibtrey, double Olympic champion; Miss Helen Wainwright, Miss Aileen Riggan, all record holders; and, greatest of all women swimmers, Miss Gertrude Ederle. Mr. Handley is also swimming coach of the New York Athletic Club and captained and coached its water polo sextet which held the national championship for more than ten years.

EVERYBODY OUGHT TO SWIM AND NOW ANYBODY CAN

Everybody wants to swim and everybody ought to swim. Swimming is a glorious sport and greater still as a health and body building exercise. Only when you race through the water, every muscle and nerve tingling with the joy of real health, can you realize how wonderfully beneficial it is. For men and boys swimming is an ideal sport for developing vitality and endurance; for girls and women a sure way to slender hips and a shapeliness of limb that is the envy of all non-swimmers. Swimming avoids the sharp encounters of other women's sports and gives an all-around development that is remarkable. And think of the fun you can have this summer on your vacation if you learn now, at the beginning of the season.

THE SELF-TEACHING SYSTEM OF A MASTER COACH

Never before was it made so easy to learn to swim. Mr. Handley's remarkable self-teaching system is so clearly explained, so lucidly written, that you don't need any one to explain the instructions, or any one to help you in the water. The illustrations show every feature of each stroke. The directions are concise and easily remembered. And you are taught the complete stroke at one time so that you can go immediately into shallow water and with the utmost confidence begin to swim. No need to learn separate arm and leg movements, no need for tedious and tiresome land drills, no need for rubber wings or for someone to hold you up, you begin to swim at once. Then Mr. Handley takes you back and shows you how to improve each separate movement, how to get drive into your leg action, how to handle your arms to the utmost advantage and how to time each movement into a perfectly harmonious action that takes you through the water at lightning speed.

MONTHS THE OLD WAY ARE DAYS BY THIS MASTER METHOD

The system developed by Mr. Handley is absolutely unique in the shortness of time it takes to teach you to swim. Think of learning to swim in one or two half-hour periods. That is all the time it takes to learn the whole of the famous crawl stroke by this new method. Think of it, in half an hour or an hour you are really swimming. Don't let the fact that you have never attempted to swim before deter you. This course will quickly convince you that you can become an expert in an amazingly short time. Nor does the course stop with merely teaching you how to swim; it teaches you all the more popular strokes, such as the crawl, back stroke, breast stroke and trudgeon, and how to perfect yourself in each. Also how to float, how to tread water, how to save and resuscitate a drowning person and a great deal more than space permits telling here.

FOR THE EXPERT TOO

Here are all the tricks of poise and balance, of arm and leg movements—the fine points of the game—that will help you to perfect your stroke and add to its power. And if you are interested in good swimming, don't think for a minute of missing this opportunity. Idolized by his pupils, Mr. Handley has been able to carry on countless experiments to discover new ways of getting extra speed. What he has learned—what he has taught them, and by them we mean a dozen champions and world's record holders—is in these thirty lessons.



L. deB. HANDLEY
Swimming Coach, New York
A. C., New York Women's
Swimming Assn. and Coach
American Women's Swimming
Team.



SEND FOR THIS COURSE ON TEN DAYS' TRIAL

We want you to see this course—to study this method by which thousands of others have learned to swim—to try it out and satisfy yourself that you, too, can quickly learn to swim—not just paddle around—but really swim. Then, if you like, keep the thirty lessons and go on developing into an expert, or you can return the course and your money will be immediately refunded.

You have always wanted to swim—always said that some day you would learn. Here is a wonderful opportunity to learn for only a fraction of what personal instruction would cost. Thirty lessons for less than ten cents a lesson and six big 25c issues of the fastest growing health and body building magazine in America in the bargain.

But to make sure of the course you must make your reservation at once as this offer may be discontinued without notice. So mail the coupon today.

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You may send me L. deB. Handley's complete course "Thirty Lessons in Swimming" and enter my subscription to *STRENGTH Magazine* for six months. Upon receipt of the course I will deposit \$2.85 (plus actual postage) with the postman in full payment for both the course and the magazine with the understanding that if at the end of 10 days I am not entirely satisfied I may return the course and have my money immediately refunded.
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Canadian (\$3.10) and foreign (\$3.35) orders must be accompanied by cash (U. S. funds) subject to money back guarantee if not entirely satisfied.

BELIEVING *STRENGTH Magazine* will appeal most strongly to readers interested in Mr. Handley's splendid swimming course, we have included a six-months' subscription to *STRENGTH Magazine* in our offer. *STRENGTH* is pre-eminently the magazine for the physical culturist and health seeker. Every issue contains dozens of articles on exercise, sports, and the great out-doors for both men and women. Money cannot buy health but *STRENGTH* can, and will show any man or woman how they can get health and keep it after they have it. If you are not reading *STRENGTH* you are missing something. Get acquainted NOW, there are some very pleasant surprises in store for you. Take advantage of this offer. When you have looked over the magazine and the course make your decision. If you are not delighted, your money will be immediately refunded. But act without delay, there is no time to lose.

He Added 5 Inches to His Record

This is what one of my pupils did in less than three months' practice of my methods. He not only improved his physique, strength and speed, but was able to increase his record in his pet event, the high jump, by 5 inches. Suppose you were jumping 5 feet and over and found that this height was apparently your limit, wouldn't you be just as greatly pleased to add 5 inches to your previous record as this pupil was?

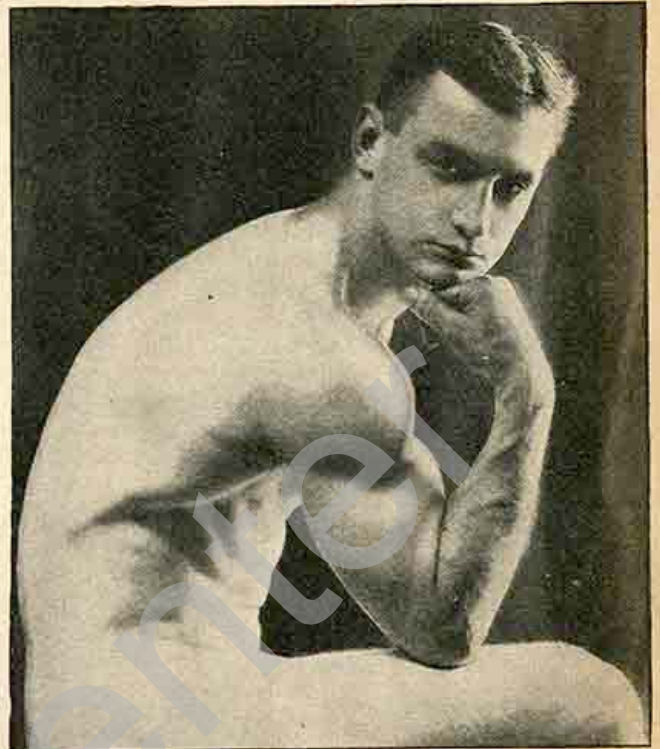
You, Too, Have a Pet Event

If you are interested in physical culture and athletics, you surely have a pet event or two. It need not be the high jump only, for the increased speed, strength, endurance and pep derived from my methods will enable you to clip fractions of a second off your sprint records and seconds from your distance time. Your record in the broad jumps, pole vault, weight throwing, or any other event you like best will be greatly increased.

If you do not go in for track and field events, you surely have a certain game that is your hobby. If it is tennis, baseball, golf, tumbling, feats of strength, or the many coming winter and indoor games, you need my course and personal help to make you efficient in them.

If You Are Dying On Your Feet

or have never been sick in your life, I can greatly improve your health, strength and muscular development. You don't have to be an athlete to get your money's worth when you enroll with me. Your age, no matter whether it is 40 or 60, is positively no drawback in getting physical benefits from my course. I don't mean to say that I can take you in hand and make a "Strong Man" or "Olympic Contestant" out of you. But I *do* mean that I can take you under my personal supervision and in three months' time improve your physique and general health to such an extent that life will take on a brighter outlook and you will feel younger again. Furthermore, you will thoroughly enjoy my Methods because they are different from the usual monotonous types.



CHARLES MacMAHON

I Wish I Had Space Here to Tell You More

of my pupils' improvements. I wish I could show you the original letters in my files of the thousands of pupils of all types, ages and walks of life who have not only been well satisfied with their improvements, but who are so overjoyed they are trying to further repay me by willingly letting me use their names and words of praise to prove to you that I am one instructor who sees to it that you get real improvements when you enroll with me.

In my booklet I have given you a few of these letters. Send for it now and see what these pupils' letters and pictures prove can be done—by you as well as by them.

Then when you have seen these positive proofs of your future physical development, enroll with me at once so that the great changes in your personal appearance, as well as in the way you feel, will take place before this year passes out. If you enroll as soon as you get the before-mentioned proof of your physical success, you will find your friends remarking about your improved appearance in health and strength long before the Christmas Holidays. At any rate, there is nothing to prevent you from getting my booklet today as it is



CHARLES MacMAHON
In Muscular Pose

Absolutely FREE

My Booklet, "The Royal Road to Health and Strength," will explain my methods in detail as well as give you valuable pointers on interesting feats of strength, agility, etc. These feats are illustrated, and in addition there are many prints of my own development and poses by my pupils showing what I have accomplished for them. This Booklet will cost you *nothing* except the little effort necessary to request it. So get *your* request in the mail box NOW and I will see that you get prompt attention. IT IS FREE.

CHARLES MacMAHON

Studio A-20

180 W. SOMERSET ST., PHILADELPHIA, PA.

CHARLES
MacMAHON
Studio A-20,
180 W. Somerset St.,
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Please mail me a copy of your valuable book, "THE ROYAL ROAD TO HEALTH AND STRENGTH," which you are to send me without charge in accordance with your special offer.

IMPORTANT

My New Leaflet, "Your Muscles, What They Are and What They Do," will be sent with my Book and it is also free. Every person contemplating physical culture should get this Leaflet first. Then you will know what you are doing. Get both of them by return mail.

Name

Address

City and State

800,000 People Will Die This Year of Preventable Disease

BARRING accidents and suicides, only a small percentage of these 800,000 people should die. Every year more than ten thousand people die of bronchitis, sixty-four thousand die of pneumonia, seventy-five thousand die of kidney trouble, fifty thousand die of respiratory disease, one hundred and six thousand die of tuberculosis, approximately eighty-five thousand die of influenza, and more than ten thousand die of intestinal trouble.

It is a fact that only about one person out of three enjoys good health. And those who are physically a little "off" right now will more than likely be the ones to succumb to preventable diseases this year. And they are the ones who should not die.

That occasional headache, that tired, exhausted feeling, loss of appetite, the casual cold—all these are danger signals you should heed. Nature is warning you of impending sickness. Seemingly trivial symptoms tell of serious troubles taking root in your body. And yet, ninety-nine people out of every hundred will absolutely ignore these danger signals. As long as they are not flat on their backs, they will fool themselves into believing that they are all right.



BERNARR MACFADDEN

World famous Physical Culturist—guiding health seekers successfully for more than 30 years has qualified him for preparing the wonderful Encyclopedia of Physical Culture—the most comprehensive, valuable general treatise on health ever given to the world.

The Average Person Pays Thousands of Dollars in Doctor's Bills

Nature is merciless. If you do not understand her laws and her methods of preventing and curing sickness, you suffer. She knows no excuses—she accepts no apologies. Animals instinctively know what to eat and how to exercise to avoid sickness. And even if through close confinement or when wrongly fed they become ill, they quickly recover their health when allowed to eat and exercise as their intuition guides them.

How To—

possess exhilarating health every day in the year
know your own body
eat for health
diet for the cure of disease
know the art of food preparation
build a powerful physique
correct physical imperfections
become a physical director
avoid unhappy marriages
avoid disease
fast as a curative measure
cure by hydropathy (heal by the use of water)
apply all methods of drugless healing
give first aid in emergencies
apply home treatment for disease
recognize diseases by manifestations
build nervous energy
treat the common forms of disease
understand the process of reproduction
benefit by the laws of sex and marriage
treat diseases of women
diagnose diseases
have healthy and vigorous children
treat female disorders
treat male disorders
obtain virility and manhood
care for the complexion
manicure; care for the hair and feet
cultivate the mind
These are only a few of the matters explained in the Encyclopedia.

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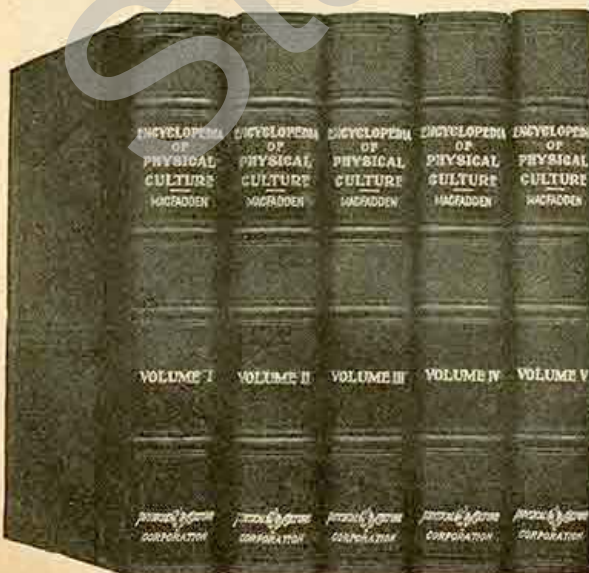
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This beautiful girl, photographed by H. Armstrong Roberts, is posed as a dancer, after the manner of our modernized "ancient Greek" dancing. But she has obviously the physical make-up of a swimmer, rather than of a dancer. See the article on "Greater Beauty through Dancing or Swimming?" (Page 16)

Editorial

The Two Secrets of Physical Perfection

THERE are two ways of attaining physical perfection and only two ways. If you want to reach such a goal you must recognize this fact and begin to put these methods in practice now.

When the fall comes around we feel that a new year is commencing for any one interested in his physical well-being because so many people are tempted to abandon their efforts toward physical improvement during the summer. Nothing is more foolish than a half-hearted program of body building as one requisite for success is continued attention to your physical condition.

As a matter of fact, strenuous exercising can be done more advantageously during the summer months than at any other time of the year and it is easier to gain the full benefit to be derived from your work than at any other time. The average person who has never engaged in really strenuous competition does not realize this, however, and the result is that he lays off when it is best to keep ahead.

At any rate no one can have an excuse for not turning in and really getting on the job when the fall comes around. The big question that every one should ask himself is whether he has any objective toward which he is striving. Once this is settled, the remaining question of method opens up and at the same time helps to solve itself.

Many people by practicing a sensible diet can improve themselves wonderfully in an extremely short length of time. Mr. McCann is receiving letters month after month from his followers who have solved their physical problems as a result of the advice he has given them in our pages. No matter what your physical condition may be, we certainly urge all of our readers to watch their diet as this is one of the surest methods of insuring yourself against ill health.

For years we have been trying to interest our women readers in exercise as a supplement to diet in health building, and we feel more and more women are embarking on a comprehensive exercising plan which can be used in health building in addition to following proper dietetic standards.

Certainly more women are active in tennis and swimming than ever before and this has had the effect of increasing the interest of all women in athletics.

When Helen Wills came out of California in 1922, Kathryn Marsh interviewed her for us and came away with the impression that she

would soon be National and, eventually, World's Champion. Today she is the Olympic and American Tennis Champion and the secret of her success has been persistent and varied play added to strict observance of hygienic rules.

She plays as often and as hard as opportunity permits her and she lives a regular life. Her diet is regular, normal, abundantly nourishing, but never heavy. She eats only the sensibly balanced food that is the proper diet for an athlete, and the combination of practice in tennis and regularity in living have given America a Tennis Champion who should rule the courts for years to come.

Our new Olympic Diving Champion represents what can be accomplished by sticking to it. When the 1920 Olympic try-outs were held, Elizabeth Becker by virtue of her position as Middle States Champion was one of those who were competing for a place on the team.

When the time for the try-outs came her nerves broke and she went completely to pieces. After the try-outs she was so disheartened that she all but gave up diving. Her friends prevailed on her to stick, and two years later she won the National Championships and this was followed up by her recent Olympic victory. No man or girl can compete in athletics over a period of five years without learning many things, and the ability to stay with the competition no matter how hard this may be, is not the least lesson to be learned.

Mr. Armstrong's cure for tuberculosis, which he relates in this issue, is another example of exactly the same quality. The fact remains that you cannot get something for nothing in athletics or in health or body building any more than in any other phase of life. If you want to improve your ability at your favorite sport, the first step is to make up your mind that you really want to put the job across.

If you want to reduce, now is the time to begin to adjust your diet accordingly and tomorrow is the day on which you continue to stick to your new schedule. There is no doubt that wonders can be done in improving the human body and there is no doubt that you are the only person who can perform these wonders on your own body. Try to learn all you can about yourself and about the most effective methods of body building. Then determine to put these methods into intelligent practice and a few weeks' time will show you, from the concrete results that you are getting, how surely nature responds to proper treatment.



Fotograms

As classic dancers, these girls are among the best swimmers in the world: Mary Corday, Virginia White-nach, Aileen Riffin, Helen Wainwright and Lillian Stoddart. Not so good at ballet, perhaps, but they eat up this Greek stuff ravenously.

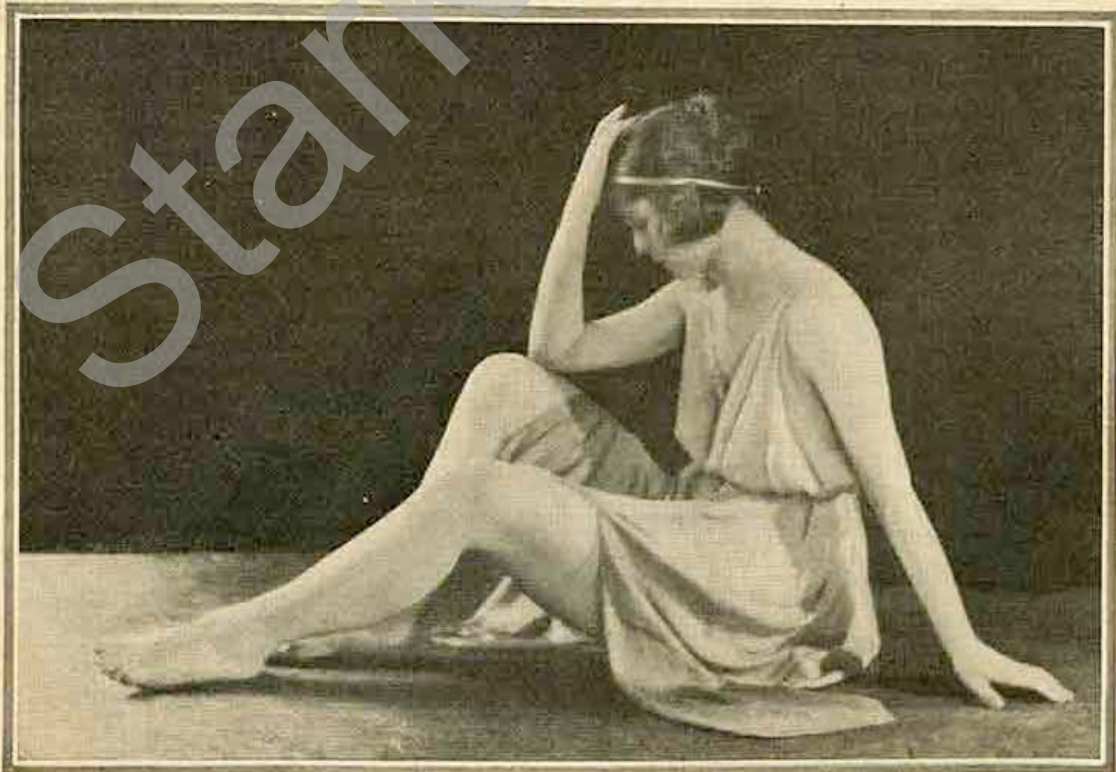
Greater Beauty Through Dancing or Swimming?

By Pearl Frances Bates

THERE are two special groups of women among whom one looks for—and finds—perfection and beauty of person.

The editor of **STRENGTH** says that if he

wishes to find a girl of perfect or nearly perfect proportions to pose for a system of exercises for women, he does not inquire among professional "models" for the purpose, but looks for someone in either of these



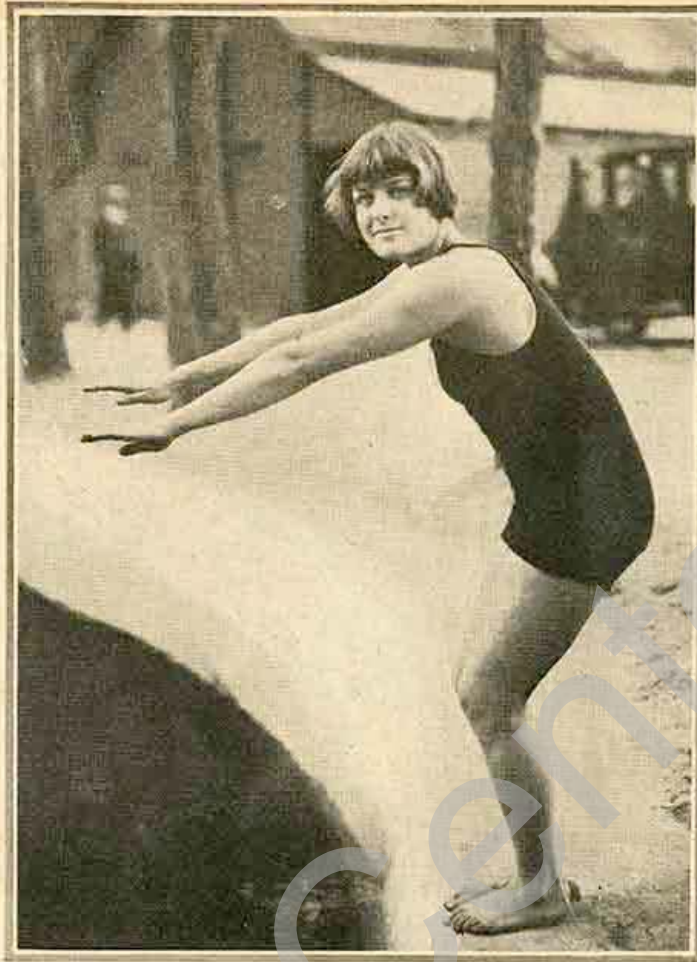
Edwin Bower Hesser

Miss Maryon Vadie, one of America's greatest and most beautiful dancers.

two groups referred to—the swimmers and the dancers.

Take any group of a thousand women and you will find most of them undeveloped; and for that reason more or less unpresentable in a bathing suit. A small minority will have shapely and well-developed bodies. Of this limited number of personally beautiful women, nearly all will be found to do a great deal of swimming or dancing, or both. Find the pictures of the young women whose poses in the semi-nude ornament the rotogravure pictures of the Sunday papers and you will find that most of them are swimmers or dancers, or else stage or moving picture people who have done much swimming or dancing.

There are, of course, other shapely young women. There is, for instance, the physical culture girl who, unlike



Keystone

The swimming physique. Aileen Riggan's arm near the shoulder seems larger than her calf. Contrast with this the typical dancer's build of Miss Vadie, on the opposite page, with the relatively light upper body.

the girl engaged in sport for the sake of sport, has taken up physical training for the sake of self-improvement. She works intelligently to correct her bodily defects by special exercise and to build up all parts of the body normally. This is, of course, the most direct and most certain means of attaining perfection, since it represents a definite plan to secure a definite result and naturally does not go wrong. Also, however, this program is one that calls for character upon the part of the student. To attain strength of body in this way requires first of all the strength of mind with which to apply oneself to a scheme of training. Or else, perhaps, a keen desire for beauty, a sense of the need for greater personal attractiveness. Other forms of self-improvement usually find their incentive in doing some particular



Personality Photo Press, Ltd.

How dancers look in swimming suits, usually less rugged from the waist up than swimmers. Marion Morgan Dancers at the Chiswick Baths, London.



Underwood & Underwood

Here is real beauty of both types, showing the comparative build of dancer and swimmer. Where will you find more perfect legs than those of Maxima Arnold, dancer, formerly with the Chicago Opera Company (above), though one finds not very much of a waist except, obviously, a most interesting head. Contrast with this the broader shoulders, strength of the upper body and general symmetry of Miss Hazel Cunningham, of San Francisco, one of the best long distance swimmers on the Pacific Coast.



P. & A. Photos

stupid prejudices on the subject, such work never detracts from a woman's essential femininity of nature or appearance but always accentuates it.

Then there is the "athletic" girl, who has excelled in tennis and skating, played hockey, practiced rope skipping, played baseball, run races, figured in jumping contests, rowed a boat or paddled a canoe, and who is therefore uniformly strong and vigorous. The true athletic girl is necessarily a beautiful girl, even though her first concern is apparently sport for the sake of sport.

And then we have the two larger groups, the swimmers and dancers, although it may be said that where the athletic girl is concerned, swimming often comprises a very large part of her open-air program.

Perhaps some of our readers will venture to suggest another group, that of the women who "get plenty of exercise" in their housework, because they say so themselves. But to these we take exception. Housekeepers are not universally or conspicuously beautiful, for the reason that housework is no exercise. Housework is drudgery. It is non-stimulating, monotonous and deadening. Most forms of housework bend the back, pull the arms forward, round the shoulders and cramp the chest, whereas exercise should be of an opposite nature, tending to straighten the back, expand the chest, lift up the head and bring the shoulders back where they belong in an attitude of natural grace.

As between dancing and swimming, however, both of which produce beautiful women, we find

that they tend to develop two somewhat distinct types of build. Dancers, from the very nature of their art, which calls for the greatest amount of persistence and application in training, acquire the maximum development of the lower body. Swimmers, while not neglecting their legs, assuredly do not give them the intensive training of all muscles that the dancers' legs undergo. Swimmers are universally well developed from the waist upward, necessarily having good shoulders. One might say that, although there are exceptions as to the general rule, the emphasis of development lies in the upper body in the case of swimmers and below the waist

thing for the pure pleasure it affords, with physical health as an incidental or secondary result. Then there is the gymnasium girl, who performs on parallel bars, vaulting horse and flying rings, but whose interest in building the body is mixed with the fascination of learning to do stunts. The girl who becomes adept on gymnasium apparatus approaches the woman of the circus in respect to agility and perfection of physical development. Women who have mastered gymnastic apparatus in the very nature of things must have acquired a beautiful shapeliness of body that emphasizes their feminine characteristics. Contrary to

that they tend to develop two somewhat distinct types of build. Dancers, from the very nature of their art, which calls for the greatest amount of persistence and application in training, acquire the maximum development of the lower body. Swimmers, while not neglecting their legs, assuredly do not give them the intensive training of all muscles that the dancers' legs undergo. Swimmers are universally well developed from the waist upward, necessarily having good shoulders. One might say that, although there are exceptions as to the general rule, the emphasis of development lies in the upper body in the case of swimmers and below the waist

in dancers, whose upper development may be neglected.

It was said of Franklin Roosevelt, a conspicuous figure during the famous recent Democratic Convention, that while he could only walk with the help of crutches, through the lingering effects of infantile paralysis of which he was the victim three years ago, he was nevertheless a very good swimmer and quite at home in the water, because his upper body was unimpaired. This illustrates the point that the legs need not necessarily play such a big part in swimming.

Some time ago a champion girl swimmer, tired of competition and anxious to be established in some profession, took up the study of dancing in a ballet school, hoping to attain eminence in that field. I recall the comment made by a teacher of ballet at about that time, to the effect that this girl, excellent swimmer and beautifully formed as she was, could of course expect to become a fair dancer, but could not hope to become a premier danseuse, because she was not built for it. The ballet instructor explained that for any unique success in dancing one must be built with a "low center of gravity," which means a physical make-up with the emphasis upon the legs and a comparatively light upper body, such as you may have noticed in the person of Genee and many other famous dancers. This was not merely for the sake of having the necessary muscular strength in the legs, for anyone can acquire that, but rather for the sake of those considerations of balance and movement which are vital factors in the rhythm and grace of the dance. The girl who had won honors in swimming, partly because she was built just right for that particular game, with her exceptionally well-developed chest and shoulders, was "top heavy" for dancing, according to our ballet teacher. Not only that, but all the best swimmers were said to be "top heavy," or at least relatively so, in respect to the requirements of balance in dancing.

We have all of us
(Continued on page 87)



International



Courtesy B. F. Keith

This extremely charming photographic study by Arnold Genthe suggests that in large measure the beauty of the dancer is the beauty of action, the music of motion, which of course is the very essence of dancing. Real beauty of person is, if anything, secondary. Yet the swimmer or diver has no less grace and beauty of movement as demonstrated by Miss Alma Mann in the upper photo.

"WHAT Do Those Finland Athletes EAT?"

Ah! There's the Secret of This Superhuman Stamina—McCann Says That If Jack Dempsey Would Eat the Foods the Finns Eat He Would Be Unbeatable for Another Ten Years

By Alfred W. McCann

IN the Olympic competition, July, 1924, Finland flashed its name across the world. In the track and field events little Finland, with 166 points, was the greatest competitor to the great United States of America, with 255 points.

At Colombes Stadium, Paris, Paavo Nurmi won the 1,500 meter race. Nurmi is a Finlander. At the end of the race, when most of his competitors were exhausted, he immediately entered another, the 5,000 meter race, which started fifty minutes after the finish of the 1,500 meter race.

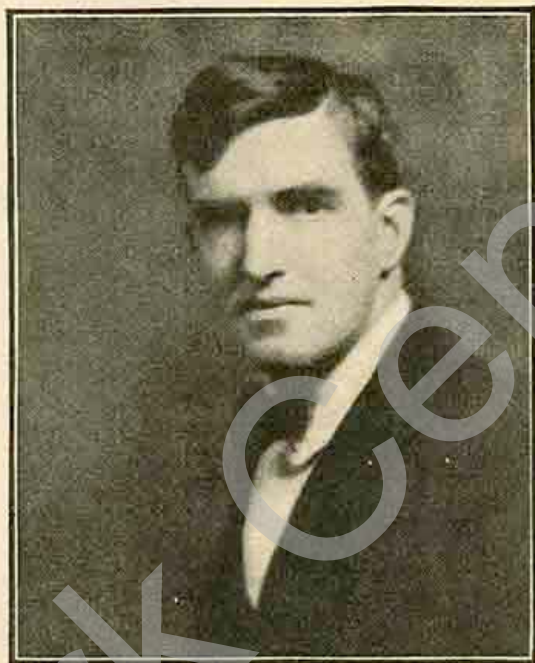
The great Nurmi, who should have been tired, proceeded immediately to win the longer race, as he had won the shorter. He wasn't content merely to win in either. He set out to break all previous world records, and did in both.

Almost as startling as Nurmi's performances are those of Myrra, Ritola, Lehtonen and Stenroos.

Perhaps inspired by the achievements of his fellow-countrymen, Nurmi and Ritola, who won the 1,500 and 3,000 meter team races, as well as the 5,000 and 10,000 meter races, and the 10,000 meter cross-country race, Stenroos pushed Churchill, Williams and Zuna of the American team out of the 26-mile race before they had reached the twentieth mile.

At the finish of this gruelling event, in which some of the contestants, through the sheer agony of fatigue, actually went temporarily insane, Stenroos leaped across the line as springy of knee and fresh of wind as when he started. To indicate the unplumbed depths of reserve still at his command, he then proceeded to gallop across the field like some wild animal on a rampage, demonstrating a stamina, an endurance, and a resistance to fatigue, the significance of which thrilled the spectators and precipitated a sensation.

Trained sport writers covered the event, yet among all the reports cabled to the United States but one indicated that the reviewer had any adequate comprehension of the secret of the extraordinary vitality of the Finns.



Photograph by Nicholas Murray
Alfred W. McCann

An unknown correspondent, in a special cable to the *New York Times*, published Monday, July 14, the day after the race, indicated, without intending to, that he alone had sensed the truth, and had made inquiries for the purpose of accounting, at least to his own satisfaction, for the astounding performances of the Finns. He said:

"There is something remarkable about the training system of these Finns which is yet to be discovered. Their main diet is fish and a kind of maize cake hard as biscuit. They never seem to lose their wind, and their hearts beat out distance as steadily as their legs."

The truth is hinted at in this brief comment slipped in at the tail-end of the *Times* despatch.

Paavo Nurmi had the secret. His fellow-countryman Stenroos had it. The twenty-four Americans, British, Italians and Frenchmen who collapsed the day before, in the 10,000 meter cross-country race, and whose condition was described as pitiful in the extreme, had none of it.

The Englishman Harper in that race ran as if each leg were weighted down by ten pounds of lead. It appeared that he would never reach the tape. Nothing but his magnificent courage enabled him to do so. At the finish he groped about blindly with his hands, gasping in convulsions of pain, and then fell unconscious into the arms of his countrymen.

Immediately behind him two Frenchmen tried to follow through. One of them staggered as if he had been struck by a hammer, and then within the very sight of the end reeled like a drunken man and tottered off the track into the field.

One of the Frenchmen, within 20 yards of the tape, rolled over like a man shot.

The Spaniard Aguilar, dazed and stupefied, hadn't sufficient consciousness left to enable him to turn his body. In this condition he fell, splitting his scalp, and was picked up senseless.

Six of the contestants fell within a quarter of a mile

from the tape. The big Swede Wyde collapsed while still holding third place. The Englishman Sewell fell twice, got up again, and then, within a few hundred yards of the end, dropped unconscious.

Others dropped vomiting, frothing at the mouth, their eyes popping from their heads. Nurmi and Ritola, the Finns, kept right on, setting a pace which only fifteen out of the original thirty-nine survived.

Stenroos was an eye-witness of the tragedies. He knew what he might expect from a 26-mile run the following day. He was forty years old. The mighty Babe Ruth, attempting to score a home run out of a triple, crosses the home plate breathless and exhausted, and after such efforts frequently staggers into the dug-out.

Why should a woodcarver at the age of forty be able to run 26 miles on a diet of fish and whole corn bread, coming through so fresh at the finish that he is able to gallop across the field a distance of three home runs, only to be stopped by brute force? His own countrymen, seeming to believe that he was about to reverse the order by running back to the starting point, captured and held him in restraint.

Of course the other contestants who survived and came through are as interesting as winners always are, and the wonderful athletes who represented the United States, and whose sum total of winnings puts the United States comfortably in the lead of all the contestants, are deserving of special honor.

This article does not attempt to distribute adequately the flowers that belong to victory. It is written solely because "there is something remarkable about the training system of the Finns, which is yet to be discovered."

Doubtless America, possessing the training advantages that are a natural part of the Finns' ordinary daily dietary, would have won all the events. Who knows?

There is something curious, singular, significant in the fact that so many Finns came through the most gruelling ordeals almost as fresh as when they entered. There is something even more curious, even more singular, even more significant in the fact that Stenroos, after fifteen years of inaction, was able, at the age of forty, to win the Olympic marathon.

De Mar, the American, also nearing his fortieth year, came through in third place. De Mar had begun to fall back long before the finish, and nearly ten miles from the tape was nosed out of second place by the Italian Bertini. When he finally came through in third place he had scarcely strength enough left to raise his arm. Stenroos was ready for another race.

Finland, until 1917, was a part of Russia. Its chief diet for a century has consisted of black rye bread. J. Russell Smith, professor of economic geography in Columbia University, comments upon the fact that

Russia alone produces more than half of the world's total rye crop in normal times. Russia produces twenty-five times as much rye as the United States.

"The peasants and factory workers of rye-growing countries," declares Professor Smith, "eat the most of the rye in the form of black bread."

Black rye bread is as nourishing as whole wheat bread, and for the same reason. Professor Smith actually cites the fact that the German Emperor, William II, used occasionally to trade the white bread of the palace kitchens for the black rye bread of a peasant boy.

Hard whole maize cake, which seems to be one of the breadstuffs of the Finns, but which they certainly do not use to the extent of their black rye bread, is almost as nourishing as whole wheat bread, and for the same reason.

The red corpuscles of Stenroos and the other Finns are doubtless as interesting as the red corpuscles of the famous truck horse Azote, who a few years ago caused an extraordinary sensation in one of the British derbies by running around under a hot sun against the protests of thousands of spectators, who cried out in anger and indignation at the cruelty of the spectacle.

Azote had been specially trained on a whole milk powder and water. It was known that his red corpuscles outnumbered by many billions those of the average racer. The horse was a freak of endurance for the reason that as the corpuscles delivered their energy and retired to the rear of the parade for recuperation, they were in line again ready for another spurt long before it was necessary to call upon them, so that under gruelling tests of endurance the beast was able to deliver a fresh charge of energy long after the average horse was exhausted.

Azote was finally killed under the auspices of the Paris Academy of Medicine, where it was discovered that he had not only much better blood than the average horse, but nearly twenty-five quarts more of it.

All this demonstrates that not only animals, but men, can be elevated to peaks of efficiency not dreamed of by the average human.

As far as dollars and cents are concerned, it is much more profitable to be a Babe Ruth or a Jack Dempsey than a Stenroos.

Stenroos doubtless derives some extraordinary satisfaction through his astonishing performance. But in general well-being, energizing every humdrum day of his more or less humdrum life, he derives a sense of power, buoyancy and physical fitness for which any multi-millionaire of the United States would gladly give ten times as much as the combined earnings of Jack Dempsey and Babe Ruth put together.

Stenroos has something which millions cannot buy. The other Finns whose
(Continued on page 82)

"Upon What Meat Does This, Our Caesar Feed, That He Has Grown So Great?"

ALL the world has wondered at the amazing stamina and strength of the small handful of Finland's athletes (count them on your fingers) participating in the Olympic games where in competition with a young army of American athletes and all the world besides, succeeded in winning ten first places while America won twelve. How did they get that way? What is the secret of their prodigious endurance? Mr. McCann says it is no secret at all, for he tells you in this article what those Finns eat.

Mr. McCann has found the world full of unintentional "diet squads." He has always enjoyed presenting pictures of this or that Arctic expedition, some railroad building expedition, some food experiment on a protracted cruise on board ship, or the food experiences of a whole nation in time of stress, all of which are just so many huge-scale diet squads, clearly proving the great truth about food which Mr. McCann is monthly setting forth in these columns. And now the sensational success of the mighty Finns in the recent Olympic games present just another object lesson in this line. There is here a lesson for you, whether you are athletic or otherwise.—
The Editor.

"How I Cured My T. B."

The Personal Experience of An "Advanced Case" That Brings a Message of Hope to Thousands of Sufferers

By J. E. Armstrong

THIS is a true story of a come-back against a disease everyone dreads—tuberculosis. The beginning of the story could be written by hundreds of people every day, the circumstances are so typical of the way tuberculosis starts, yet only too seldom is the end of the story so happy a one. The ignorance which still exists in regard to tuberculosis, even in the medical profession itself, is absolutely amazing, and failure to arrest the disease can almost always be traced to unsound advice or an unfortunate choice of conditions under which the cure is attempted.

Take it to heart. This is not so much a story of me and what I did, but of what you or someone near and dear to you may have to do. Here the mistakes were left out, a few by accident, more through competent advice. The things I shouldn't have done I didn't do. And the things I did do are within rather narrow limits, the things that everyone must do who hopes to win out in this fight. The rules in this game are pretty much the rules of life. You break them at your risk. If you do, that's your business. When I woke up, I quit. That's one reason why I am able to write this story.

In 1913 I acquired active tuberculosis. In January, 1923, I found it out. The winter that year was much like those which had gone before, a succession of nasty colds following one on the heels of the other, never causing any particular discomfort, never interfering with my work, never keeping me in bed. I was in a more or less run-down condition all the time and got accustomed to it. At the end of the day I'd feel pretty tired and unless something special was on, I'd pick up a book and read until sleepy. Along about one o'clock I'd turn in. Never having been especially vigorous, winter always seemed to me to be a sort of necessary evil. Then along would come spring and I'd begin to sit up and take notice. No more snow and slush and good-bye to those cold, drizzly rains. The colds were less frequent. I'd pick up a little weight and feel a hundred percent better—until fall. This is the story of the average victim of tuberculosis, and it may be summed up in a few words—too much work, worry or strain of some kind, not enough food—real food, and not enough rest, exercise and fresh air.

Tuberculosis is absolutely not a disease due to heredity; so don't blame it on your ancestors. Tuberculosis is a deficiency disease, a deficiency of the *bodily resistance*, which in a normal, healthy person guarantees your immunity. Nor is tuberculosis a contagious disease in the sense that it can be transmitted from one person to another

by the transmission of T. B. bacilli. No normal, healthy person can acquire active tuberculosis under any condition, and by the same token anyone whose bodily resistance falls below a certain point cannot fail to do so.

Infection from tuberculosis begins in early childhood and you acquire the bugs in increasing doses as you grow up and your activities take you farther afield. Tuberculosis bacilli are in the air; it is impossible to avoid them. Out of every hundred people of voting age, ninety-five give positive reactions to tuberculosis, showing that by the time you reach your majority you have actually acquired tuberculosis. Don't think you are one of the lucky few some students think are immune. Other scientists believe the five are also infected, but for some reason peculiar to their constitution do not show up on this particular test. In fact, if you are not infected early, and if your body is not given a chance to build up an immunity before the bacilli appear in volume, you are in for a strenuous time. That is why it is far more difficult to arrest the disease in young people than it is if the patient is past twenty-five before activity sets in.

But cheer up. Nature is not idle. When the first bug comes into your lungs on its errand of destruction your body gets busy and begins to build up resistance. More bugs come and more resistance is built up, and in health your blood, tissue and bones always have the upper hand. But if through improper living, excessive effort over an extended period, or through damage by some disease, your powers of resistance are lowered below the vital point, the immunity natural to normal health disappears and active tuberculosis begins.

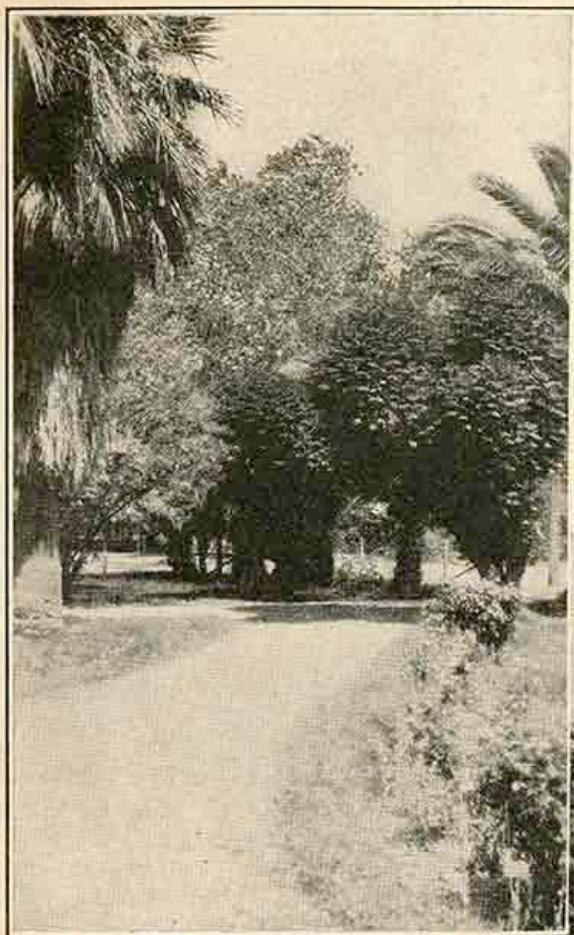
How little I knew may be appreciated from the fact that for ten years I had active tuberculosis and did not know it. During those ten years I never had a doctor and never needed one. I had often thought of having a thorough physical examination, but never got around to it. But when I think what this indifference has cost

me in time, money and mental anxiety, I feel like kicking myself good and hard. A yearly physical examination costs only a few dollars and may save you hundreds. As a check-up it is priceless in adding years to your life and life is sweet, though sometimes we have to fight for it to find it out.

What led to the discovery of my tuberculosis was a sharp pain in my right chest coming as I inhaled. This turned out later to be pleurisy; there is no pain to tuberculosis.

The pain was pretty bad and I felt that something was seriously wrong; so I went to one of the best hospitals

STRENGTH considers itself fortunate in being able to publish this remarkable story of a successful fight against tuberculosis in an advanced stage. Unlike many stories of cures, this one is fully substantiated by hospital records taken before the author left for Arizona and after his return. Readers will find the author's advice invaluable and in line with the best medical practice.—
The Editor.



The desert in its natural state is sprinkled with cactus, greasewood and mesquite, but barren of life except for horned toads, Gila monsters and an occasional snake. But with water the desert becomes a veritable paradise. Note the luxuriousness of the foliage. More than fifty different kinds of trees were scattered through this yard. A century plant in full bloom is shown in the center. The tall stalk grew at the rate of a foot a day and when cut down measured over 33 feet.

in New York. There I was given a complete physical examination, at the end of which the doctor ordered X-rays taken, a dental examination and a sputum test.

When he had finished I asked, "It isn't T. B., is it, doctor?"

"I can't prove it," he said.

But on the X-ray requisition I read "pulmonary tuberculosis" and my heart sank.

A week later I went back to get the verdict. He had the reports and they were all bad, although he did not tell me so.

He went over my chest again very thoroughly. When he had finished he said, "Can you get away from your family for six months if you have to?"

"Yes," I said, "I suppose I can if I have to."

"Well," he said, "you have to all right, and the sooner you get started the better."

"All right," I answered. "Where shall I go and what will it cost?"

"At good sanatoriums the rates run from forty to seventy-five dollars per week, or you can go up to Liberty (this was in New York) and board for twenty-five to thirty-five dollars per week."

I demurred. I couldn't see that much money, and I wondered if first-class treatment cost forty to seventy-five dollars what one got for twenty-five dollars.

"The only other thing," he said, "is for you to go into either a city or a semi-charitable institution. What you need is rest, absolute rest in bed, for a while anyway. You might get this at home, but the chances are that in trying to take care of you, the children and your apartment, your wife would break down and contract tuberculosis, too. And you will need sunshine when you are convalescing and I can't have you climbing two or three flights of stairs to the roof to get it. I'll have the nurse call up one of the semi-charitable places. If we can get

you in, it will cost you only twelve or fourteen dollars a week. The place I have in mind is clean and the food fairly good, but there are a good many bad cases there which make the surroundings a little discouraging."

So they called up this hospital, arranged for accommodation and gave me a letter to the Sister in charge.

As soon as I got outside I opened the letter. This is what I read: "This will introduce Mr. Armstrong about whom we phoned you today. Mr. Armstrong has tuberculosis, far advanced——"

That was enough; I was scared stiff.

That afternoon I took a walk over to the hospital. I never got inside. A more gloomy and forbidding place I never

saw. It was a cold, raw, January day and I could see a dozen or more patients crowded together on a small veranda trying to get the few muggy rays of sunshine that now and then found their way through the clouds. I imagined those long rows of cots. I saw myself in one of them. I imagined what the food must be in such a place. I heard those bad cases coughing and gasping for breath. I saw them carried out.

Never, I thought to myself. Better go broke and come back healthy than play so dangerous a game as this.

So back I went to the hospital.

"Hello," the doctor said, "didn't you go up to ——" and he named the institution.

"No," I answered, "I didn't. I'm sold on the forty-dollar-a-week idea. Where shall I go?"



"You can go almost anywhere you want. How would you like it, hot or cold?"

"Hot," I replied.

"Well," he said, "there is a mighty good man in Prescott, Arizona, but I don't advise you to go so far away. Why don't you go up to Liberty and try it for a month anyway? If you don't like it you can come back; but if you go to Arizona and don't like it you will be out a lot of money."

But I was thinking fast. Arizona, land of sunshine. The desert; it must be hot and that was good. I remembered something I had read in a newspaper about a man who had made a remarkable cure while in jail and came back to win a high position. All this flashed through my mind.

"No," I said, "Arizona it is."

"You'll be sorry."

"Maybe I will," I answered, "but I'm going." And four days later I did.

Lucky lunch!

February fifth found me in Phoenix. Back in New York they were in the grip of a blizzard. Here in Phoenix it was like an early spring day, a little crisp, but the sun was not yet overhead.

I walked into the hotel and registered. This looked like a good place to spend a day before being put into the straitjacket, so to speak. As I registered I said to the clerk, "Prescott can't possibly be much nicer than this."

"Prescott?" he said; "Prescott's under four inches of snow."

I laugh now when I think of it. How little either the good doctor or I knew of a country twenty-five hundred miles away. As a lung specialist the doctor was A-number one; as a climatologist, not so good. As an advertising man I had been fairly successful, but what I thought was a desert town was more than a mile high in the mountains.

Now I hadn't come twenty-five hundred miles to find a place where snow fell; so while I was keen to place myself in the hands of the doctor to whom I had been recommended, I thought I'd take a look around. So I talked to about a dozen people, and much to my surprise I found that here at least T. B. was no dread disease

to be talked about in whispers, but was something that almost everybody either had had or was with somebody who did. What would you think if you started talking to a big, husky-looking six-footer, brown as an Indian, full cheeks and the very picture of health, and when you had veered the conversation

around to T. B. he told you: "Yes, I came out here on a stretcher, weighing less than ninety pounds and almost dead. But I stuck to it and here I am."

I had this experience time and time again and it astonished me. "Here," I thought, "is where I chase the cure. If they come out here on stretchers and get well—so well that you would think they had never been sick a day in their lives—surely I, still able to travel on my two legs, could do the same."

So I began the search for a place to stay, and here good luck coupled with wise advice helped me again. I went to a taxi-stand with the idea of visiting one of the hospitals. The man I talked to turned out later to be the owner of the business, an ex-lunger himself. In fact, I was told some time afterward by a man who had been in the same sanatorium with him in Denver fifteen years earlier that he didn't have enough lung to cover a postage stamp. Yet here he was fifteen years later, owner of a twelve-cab taxi business and as cheery and healthy a looking man of forty-five or fifty as you could want to see.

"There will be a cab here in a few minutes," he said, "and you can go out to the sanatorium if you want to, but if I were you I'd stay away from lungers' camps. You get better food and more congenial surroundings in the country and the temptations are less. I know some people who have a place about twelve miles out. I lived with them myself for seven years. They set a wonderful table, the accommodations are all right and nobody out there is very sick."

"How much?" I asked.

"Not over twenty-five dollars," he said, "but I don't know exactly. The same people own that curio shop on Main Street. You go over there and they will tell you all about it and probably take you out and show you the place."

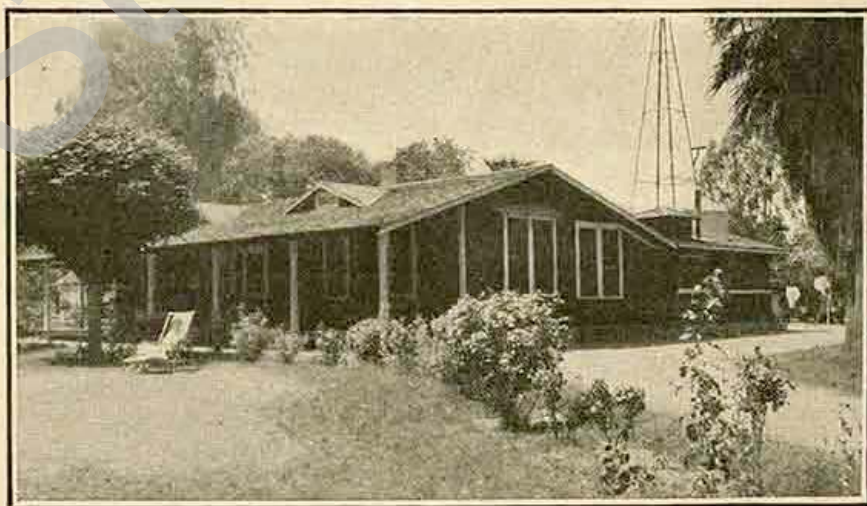
Over I went. And back I came to the taxi man.

"Now recommend me to a good doctor. I'm going out to the ranch tomorrow and if it is anything like they say it is, I'm there until health do us part."

He gave me the name of a doctor and added, "You will find he is not only some doctor, but some man." And so he was.

Let me say here that it is always well if you suspect

tuberculosis and have your chest examined, to have the verdict, either favorable or unfavorable, checked up by a second doctor. If you have a persistent cough you cannot be too sure you haven't got it, and many good doctors will not give a positive diagnosis unless they can find T. B. bacilli in the sputum. Only too frequently cases are treated as chronic bronchitis



The ranch house and dining-room. Except in the cities brick is little used, and deep foundations are unnecessary. The walls are usually a single thickness of board, and the heating is accomplished with a single open fireplace.

until tuberculosis is so far advanced that checking it becomes a life and death matter. It may be added that only the highly skilled specialist can detect T. B. in its earliest stages. If you suspect anything, get the best man you can, going to the nearest large city if necessary. The Board of Health or inquiry at any large hospital will direct you to the kind of man you want. However depend-

able your family doctor may be, do not depend on his examination as final where your chest is involved.

Tuberculosis manifests itself in a variety of ways and none of the signs for or against are to be depended on; but fever (in excess of 99.5 degrees), spitting blood, persistent cough, loss of weight and night sweats are all indications that something is wrong and make a thorough examination desirable.

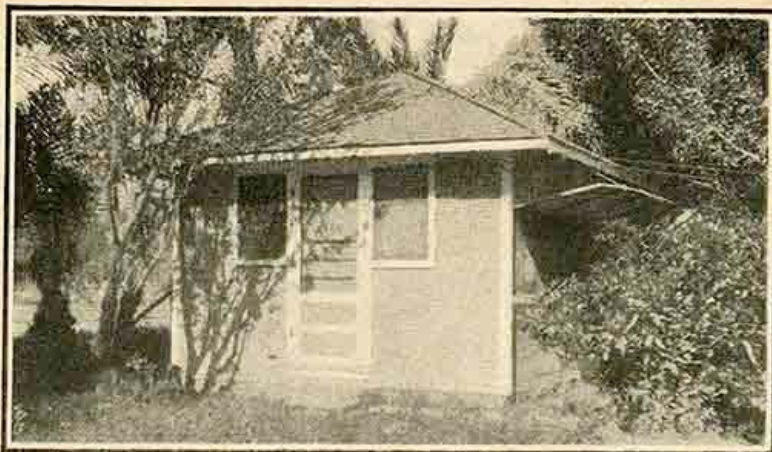
It is absolutely essential, if you have tuberculosis in whatever stage, that at the start of the cure your chest be thoroughly examined so that you or the doctor, or both, have a definite point from which to measure your progress.

Next morning we drove out to the ranch. It was a brilliant, typical Arizona morning, the sky crystal clear overhead, the sun warming to its work. On the way we passed field after field under cultivation, though it was too early in the year for much to be showing. Later we were to have the scent of orange blossoms on the breeze and to see the cotton stand shoulder high.

The ranch itself was not a ranch as the Easterner thinks of it, but a ten-acre affair. Three and a half acres in the back formed an orchard. Then came a chicken yard and the front half consisted of a rambling one-story frame building where our hosts lived and we ate. Scattered around the house in a semicircle were twelve little cottages of one room each. In one of these I "chased the cure" and won it.

What then is the cure and what are the conditions to seek? First, an adequate knowledge of your condition. I cannot agree with those doctors whose motto is "tell them nothing." Surely it is a great deterrent from doing those things you shouldn't do to know that if you do them you must pay heavily for it.

Second, competent advice as you proceed. It may be said that unless your condition is very serious you do not, after the initial examination, need to see your doctor more than once a month; that is, the progress in the healing process taken at shorter intervals is hardly noticeable. If, however, you are constantly running a high temperature or have been subject to frequent hemorrhages, or if the tuberculosis is complicated by the presence of some other disease, it may be necessary to see the doctor more frequently, and where this is the case one should not be too far away from the doctor.



The ideal type of cottage. The wide flaps at the sides are raised or lowered from the inside. Windows, front and back, are screened and curtained. Such a cottage is simply furnished. Easy to keep clean and perfectly ventilated.

Otherwise he can only be called at considerable expense or by your making a tiresome trip to his office. In sanatoriums, which are usually owned by one or more doctors, they are, of course, on call, but the rates include the doctor's bill whether you need him or not. If your condition is serious and requires constant medical attention, a compromise can be effected by going into a "san" until the danger point is passed

and then moving to cheaper quarters.

There is no medicine for the cure of tuberculosis, and the practice some doctors have of bringing patients to their office at five-day intervals for the injection of tuberculin cannot be too strongly condemned. If you are in a sanatorium such injections cost nothing extra, and if the doctor wants to try them there is little or no risk. Some people have such implicit faith in the powers of stuff shot into them in this fashion that they begin to feel better right away. But if the injections make six visits grow where only one is necessary you can profitably forget that part of the treatment.

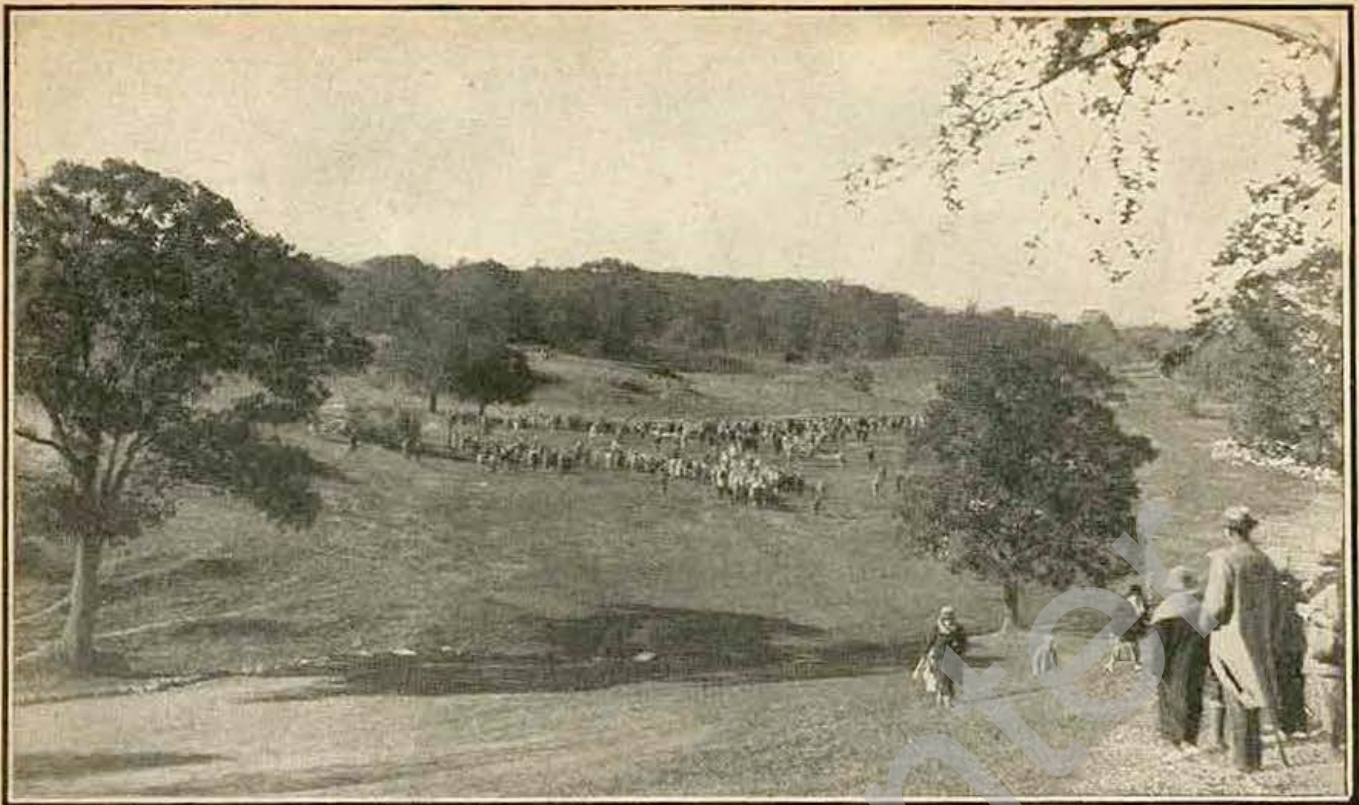
Unlike some serums, it has never been demonstrated that tuberculin has a positive value. At best it is an acid of doubtful effect which certainly runs up the doctor's bill and may or may not stimulate your body to increased resistance. Wonder-working serums and injections are constantly coming on the market, but of one thing you may be sure. If you cannot get well without the use of these serums you will not get well with them. Use them if you must; but do not fail to do those things which will give your body one hundred per cent effectiveness in its battle.

The first of these is rest.

The tuberculosis patient must rest absolutely during the first stages of the treatment. The rule is that where fever is present, that is, if your temperature exceeds 99.5° taken in the morning and again in the late afternoon, regularly or off and on for three or four days, you must rest in bed until your temperature comes back to normal and stays there. Wait a week or two at least to make sure of it before attempting to get up. Better a few days longer in bed than to have a flare-up followed by weeks of trying to get it down again.

The presence of fever indicates an inflammatory condition which must be removed before the healing process can begin. In absolute rest every force in the body is directed toward that end. And the nearer you achieve the ideal the quicker you will mend.

A tuberculosis lesion is very much like a cut at a joint—if you keep moving it the joint will not heal. Lying in bed, fully relaxed, not a muscle is working. You build air castles. Your breathing is scarcely noticeable. You achieve this unconsciously in sleep, consciously through the will to (Continued on page 72)



Wide World Photos

You will find beautiful golf courses, like this of the Westchester Biltmore Country Club, all over the country, and rapidly multiplying. Like motoring, golf is changing our national life. But how? Just what is golf doing to us?

What Is Golf Doing to Us?

An Analysis of the Physical and Mental Reactions Incident to the Amazing Growth of This Now Universal Sport

By *Walter Camp*

THE answer to this question involves a study more complicated almost than that of the history of a people. The majority of middle-aged men in this country remember well the day when golf was practically unknown, and have rich memories of the jokes that were made at its expense when it was first introduced, and the scorn of all athletes for what was considered a "dude's" game. They also remember the early days when membership in a golf club cost from ten dollars to twenty-five dollars a year. They can remember the time when a bank president or the head of any large business would have been viewed with wonder and probably alarm by his stock holders if he had been seen coming to his office in a golf suit. They remember the days when the first pioneers who went south in the winter for a vacation to play golf were viewed with a good deal of suspicion in their communities.

And what have we now in the place of all this? Golf clubs scattered all over the country! Huge club houses! The most prominent men in communities when attending business conventions carrying their golf clubs with

them! Almost an exodus of executives of the largest businesses toward the south when the snow commences to fly, and hundreds of clubs where the membership privilege is anywhere from a thousand to three thousand dollars or more! These are all uncontrovertible facts. A survey of a half-dozen golf clubs in California shows that these clubs where the membership privilege cost \$100 twenty years ago is now from ten to twenty times that amount. The fixed capital in golf clubs now rates up to the billion mark. And no one has been actually able to estimate the millions of dollars expended annually by the players of this game. No other sport ever advanced in such leaps and bounds in this country or any other.

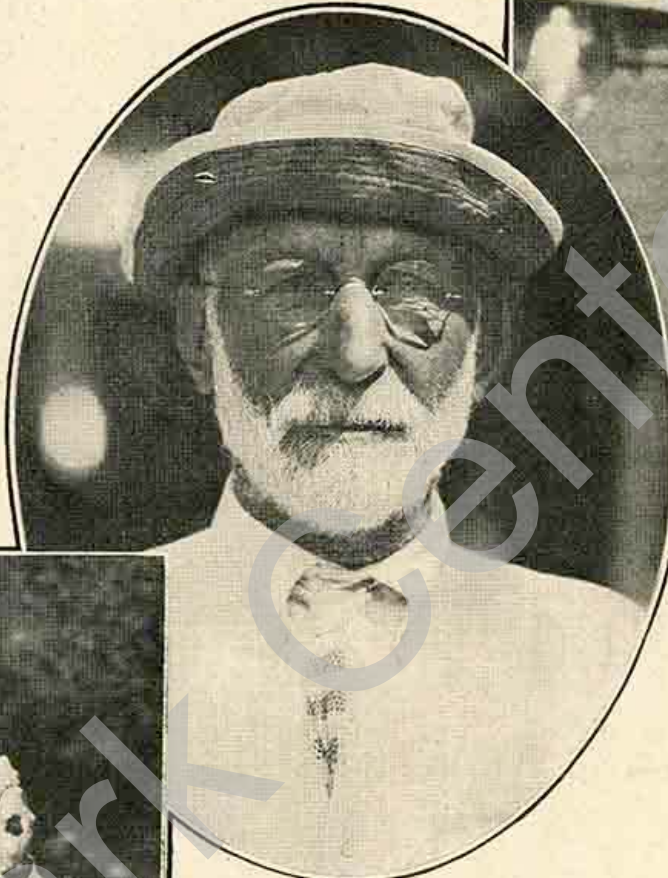
The results of all this are most far reaching upon the life of our people, and have a direct bearing not upon any one group or age but upon all groups and all ages. The college athlete a score of years ago was very nearly immune to the inroads of golf, and as to the professional baseball player, he would have scorned to be seen with a golf club in his hand. Now the football man, the rowing man, the track man, all "take a crack" at

golf. And the managers of professional baseball teams this winter were obliged in many cases to forbid their players indulging in this pastime, and for the astounding reason that it soon acquired a greater hold over them than their daily business of playing baseball!

The middle-aged man of fifty, who in the olden times had reached the point where his usual horizon was bounded by his business, is now inclined to accept with irritation or refuse altogether to listen to any business demand that deprives him of his weekly golf.

Now, from the standpoint of this magazine, the interesting feature is the effect upon the nation physically of this comparatively new departure in sport. The social scientist or the student of racial conditions must consider in any such situation as this not alone the enormous diversion of money but just what bearing a tremendous spread of the sport has and is going to have upon the physical welfare of the people.

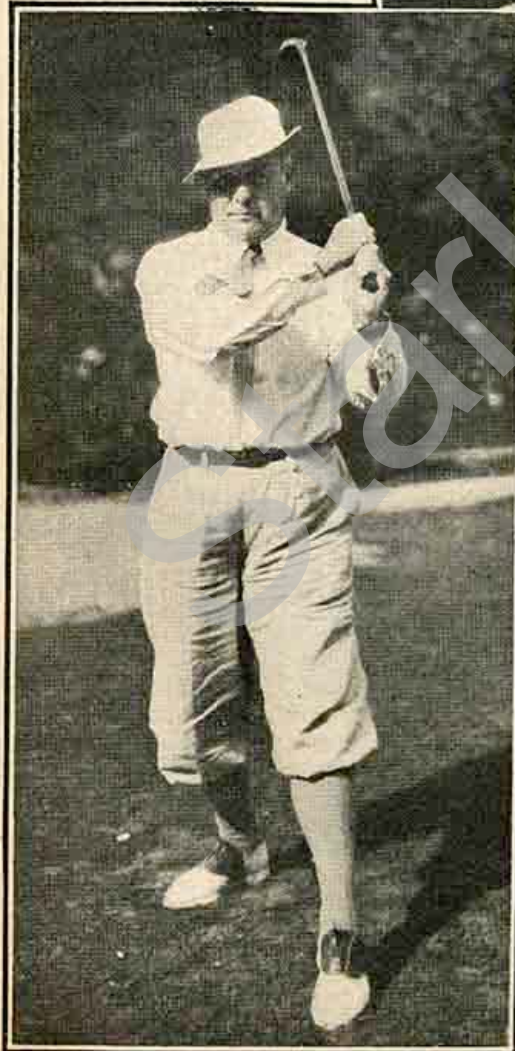
Primarily, it provides one more excellent temptation, and one with a very strong call, toward getting out into the open air and indulging in moderate exercise. That is an asset not easily to be gainsaid.



International

These men, trim, vigorous and hardy, look healthy because they are healthy. They have found in golf the means of keeping fit. They are (above) Charles D. Cooke, of Arcola; Judge W. T. Dunmore (center), and (below) J. C. Barr, of New York and Boston.

Paul Thompson.



International

The next step is to consider how far at both ends of the scale the sport may have effects which do not receive sufficient consideration and which are lost sight of in the general good accomplished. Already Great Britain has had a scare, and some of her medical men are contending very strongly that golf is killing off a great many men past middle life, and some of the statistics that these physicians and surgeons have collected are indeed quite startling. But for the most part on analysis they merely conform to the old and well-known saying that "Nature abhors orgies."

A man at any age may be guilty of over-indulgence in his favorite sport, and such over-indulgence may have a very serious effect upon him. Golf is not in any way exempt from this law. A man to whom eighteen holes of golf two or three times a week may be the best health medicine in the world may very easily find that thirty-six holes a day is altogether too much, and drains his vitality not only to the point of inefficiency but even to the point of serious inroads on his health. At the other end of the scale the boy or youth whose normal growth in health and strength demands more vigorous and more strenuous pastimes may, by becoming wedded to golf, miss a decade of the kind of sport that appeals to the normal boy and results in discipline and development in team play, which are invaluable to him in later life.

There is little question but that the boy of fourteen or fifteen, if he takes up golf seriously, may become within a few years a star, and perhaps value that sport so highly as to indulge in none of the others which are more popular with the normal youth at that age. Here there is a danger that the boy will lack discipline, the discipline that comes from the coaching in football and other sports, where there is little praise but plenty of criticism, and the boy has to struggle to make his way and is obliged to learn self-sacrifice in the interests of the team, and, on the whole, learns lessons which become very valuable to him after he goes out into life, where there is little praise but much criticism and a man must learn to work with others.

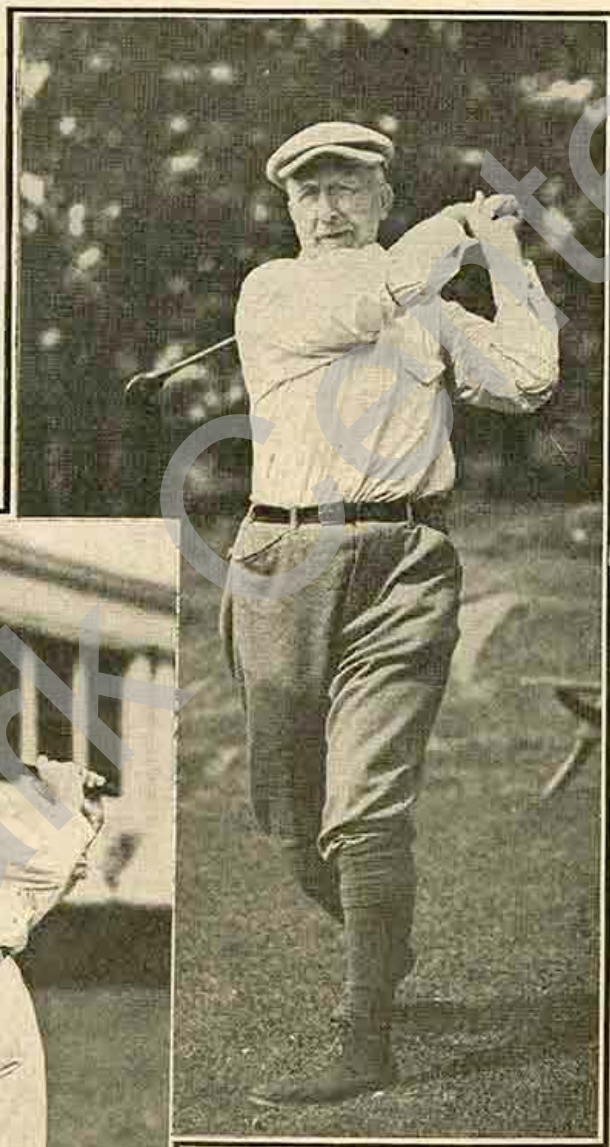
There can be little doubt but that after the boy passes his college age and gets into business or a profession where the possibilities of the sports he has been enjoying for the first twenty or twenty-five years of life are impossible, he finds in golf an excellent pastime for his mental and physical well being. This is true up to and past middle age. The only difficulty that presents itself is in the case of the young man who has not reached the height of his power and ambition and who may be side-tracked by the fascination of the game to such an extent that he

may forget that it is not the "be all and end all" of existence to become a scratch golfer. There are plenty of cases of this kind where the man has sacrificed the substance to the shadow and has become truly a good golfer, but he finds a little later on that he has acquired this skill at an expenditure of time which should have been devoted to work and progress in his chosen business or profession.

Now, apart from these considerations, just what effect does golf have physically on its devotees? It has already been quite clearly demonstrated that there is a better chance of making a good golfer out of a man who has not so developed his muscles as to be what we call "muscle-bound"; that is, non-supple. Golf requires not

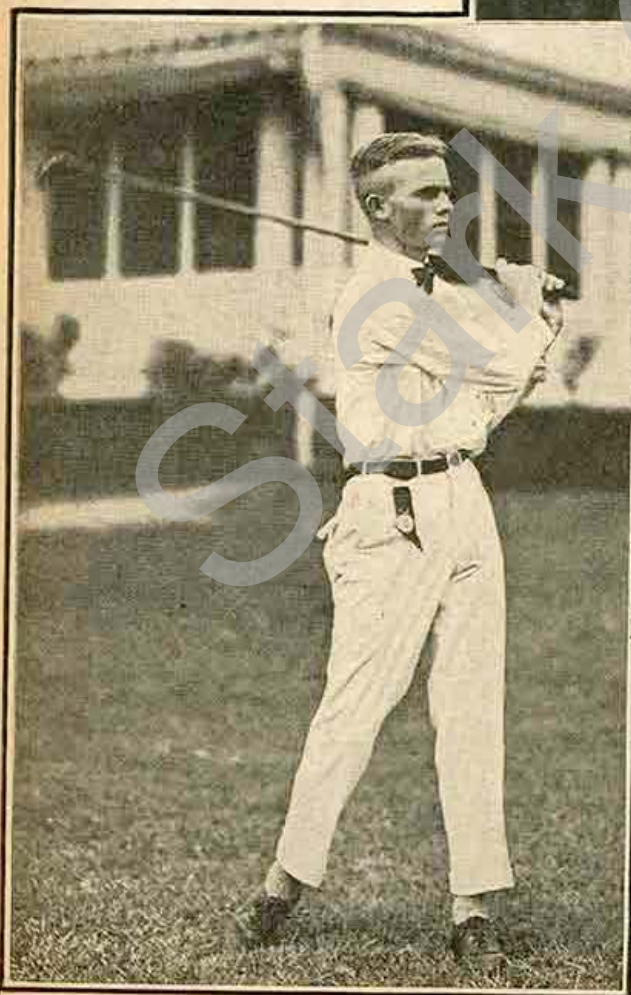
so much strength as suppleness, rhythm and co-ordination—a perfect timing. For this reason it offers a field to the non-athlete which before its introduction did not exist. Many a man who had been more or less disappointed in his school days at not being able to make any of the teams suddenly comes out and excels his fellows at this new game of golf, and for such a man the introduction of golf was indeed a great boon. From this one can see that thousands who never would otherwise have had the chance at the outdoor exercise which provides health and relaxation have found in this game of the links the ideal panacea, and have profited by it.

Physically, the game of golf has no particular quality towards the development of any special physique. Walking four or five miles in the open air is excellent, and the swinging of the clubs adds a little to it, but outside of this there is very little change in the condition of a man who takes up golf, as far as his muscles are concerned. His general health may be greatly benefited and the game is of such a



Paul Thompson.

Is a form of sport that is suited to the fresh youth of this lad at the left, Perry Adair, also suited to the physiological requirements of the man at his right, of a different age and generation, Mr. Frank M. Chute? But perhaps the game is not suited to the young man. Mr. Camp raises some interesting questions.





Keystone

Men of every profession and line of business are numbered as golf fans these days. Here's the writing profession, for example: Samuel G. Blythe (left), political pen pusher; Hugh Wiley, of "Wildcat" fame; Harry Leon Wilson, who gave us "Merton of the Movies" and "Ruggles of Red Gap," and George Ade, brilliant in fables, possibly in golf.

fascinating character that it does entirely take the mind off other things during the time of play, probably as much if not more than any other game ever devised.

As to any physical exhaustion coming from it to the average youth or middle-aged man, it does not come from the muscular effort of walking four or five miles, or from swinging the clubs, but it is a nervous exhaustion that may ensue in case of overdoing. But mere walking as a double round, say eight miles daily for a week, and instead of swinging golf clubs swinging a stick in the air two hundred times would probably in most cases improve the physical condition of the man. However, it is a well-known fact that even the youthful golfer finds that when he plays thirty-six holes a day in tournament play for a week he has reached the point where rest is emphatically demanded. In other words, it is a nervous exhaustion rather than physical which takes place in his case. A study of it shows that in every full stroke there is a kind of nervous explosion which, repeated often enough, produces this nervous exhaustion, and this should be carefully considered, especially in the case of the older man. He finds when he takes up his ordinary tasks that he has not as much energy and vigor to call upon.

With us here in America golf has been going on such a very short period of time that further generalization

than the above, which have already become self-evident facts, is perhaps superfluous. But with the development of municipal courses, with the deflation of the expense of the private courses, it is already evident that the number of golf players in the country will probably exceed the number of players of any other game. If that is so, it behooves us to take note along the way of all tendencies, social, economical, physical and moral. Observation at this stage is far better than legislation, but there may come a time when in the stern competition of life, as a nation we shall face the situation of how much time we can afford to spend in play. So long as the playing class only included a limited few, the effect was not serious, but if we imagine the playing class, and there is no reason why it should not be so in golf, growing to include the greater portion of the population, then we shall probably have to face an international competition in production with countries where the playing class or the playing hours are much more limited.

But the mental side of golf is quite as important as the physical side. In fact, it has been discovered by scientists that this mental side has a very distinct part in playing the game itself, and affects the quality of the play very materially. The golf swing is a very complicated affair, and it has been discovered that consistent

play depends upon making certain of the movements in this swing so familiar and habitual as to be practically automatic and requiring no thought for the major features. This releases the brain for other duties which it must perform as to the direction, the power, and the quality of the stroke. This may perhaps best be described by instancing the beginner, who has to think consciously of every part of the stroke, and who therefore has a great deal too much on his mind at the time of making the stroke to accomplish it properly. With practice, certain parts of the stroke become so automatic that the brain is released from a part of the work, and may perform the balance of it more satisfactorily.

There are many ways of proving this, the simplest being that practice or daily drill in anything makes the motions automatic, and this is found in golf to be of the greatest importance. Arthur Havers, the Open Champion of Great Britain, and the man who recently defeated Bobby Jones and also Gene Sarazen here, is a very strong believer in the practice of swinging clubs, both indoors and out, and many others have found good results from simply swinging the body even without the clubs. Another interesting thing from the mental standpoint, as well as the physical, is that most golfers reach a point in their progress where they seem to come to a halt, and it takes them some little time to begin again on the grade of improvement. Here again the mental side comes in in practice, until all the first acquired skill becomes automatic and the brain is released for further advance.

We have also the fact common to other sports, that of loss of temper; irritability, illness, or anything that upsets the muscular co-ordination almost always shows in a man's game of golf by inability to make the shots satisfactorily. And finally it is generally admitted that putting is largely a matter of psychology—that the man who believes the ball is going down will put it in the hole much more frequently than the man who is always convinced that he is going to miss it.

One thing is certain, and that is that whatever golf is doing to us it is doing to us as a whole.

Men, women and children are all its devotees. Every large city in America has one or more public golf links and every large city in America feels the need for larger public golfing facilities than it already has.

The only other form of exercise in which anything like an equal number of people are engaged is swimming and thousands of people can only get a chance to

swim during two or three months of the year at the most. Although in all probability more people can swim than can play golf, and although on given Sundays in July and August more people undoubtedly do swim than play golf, nevertheless golf is a greater force for building the health of the nation because it can be played more regularly and over a much larger period of time.

While golf has been a life-saver to many men, it has been a real, practical introduction to outdoor exercise to thousands of women, the benefit of which cannot be estimated.

The spread of golf and tennis and the growth of interest in swimming have had an appreciable effect on the health and physique of all women.

College physical examinations and life insurance medical examinations, as well as mortality figures, all tend to prove that American women are physically far superior to their predecessors of a generation or two back.

Finally, to sum up what golf is doing to us, we find that it is bringing thousands more of men and women out into the sunshine and fresh air. It has been a great

boon physically to the middle-aged. It has had a generally good effect upon women. It has been abused in some cases and has led to a few deaths. It has grown almost beyond comprehension and more rapidly than any other game ever introduced into this country, and its growth seems to be continuing in even an increased ratio.

Some one once commented upon football and golf: "The old Scots parliament forbade football because it interfered with archery, and 'utterly cryit dune golf.'" But football today draws the largest crowds, golf has inherited the earth, and the old Scots parliament is no more!



Keystone

Nothing could better suggest the appeal of this game, and perhaps also its possible benefits, than the figure of John D. Rockefeller, who still drives and pursues the little white ball over the links. Photo taken at the age of eighty-four.

How About Your Organic Strength?

Be Sure That You Are Strong Inside and Out

By Charles Thomas Hicks

A NEIGHBOR addressing the proud owner of a beautiful new car offered the hesitating and ambiguous comment, "Well, she looks like a good car."

"What do you mean—'she looks like'—?"

"Well, on the outside she looks great—beautiful color, up-to-date lines and all; but the heart of a car—"

"I know what you mean. The heart of a car is the engine, the inside works."

"That's it."

"Well, it was the engine that I was interested in when I picked this. I don't care—not very much—about this paint and new lines; but the one thing that this car has is a boiler, a power plant. This car represents the heavy artillery in the automobile business. This car has come to be known as the athlete of cars. Power? Say—"

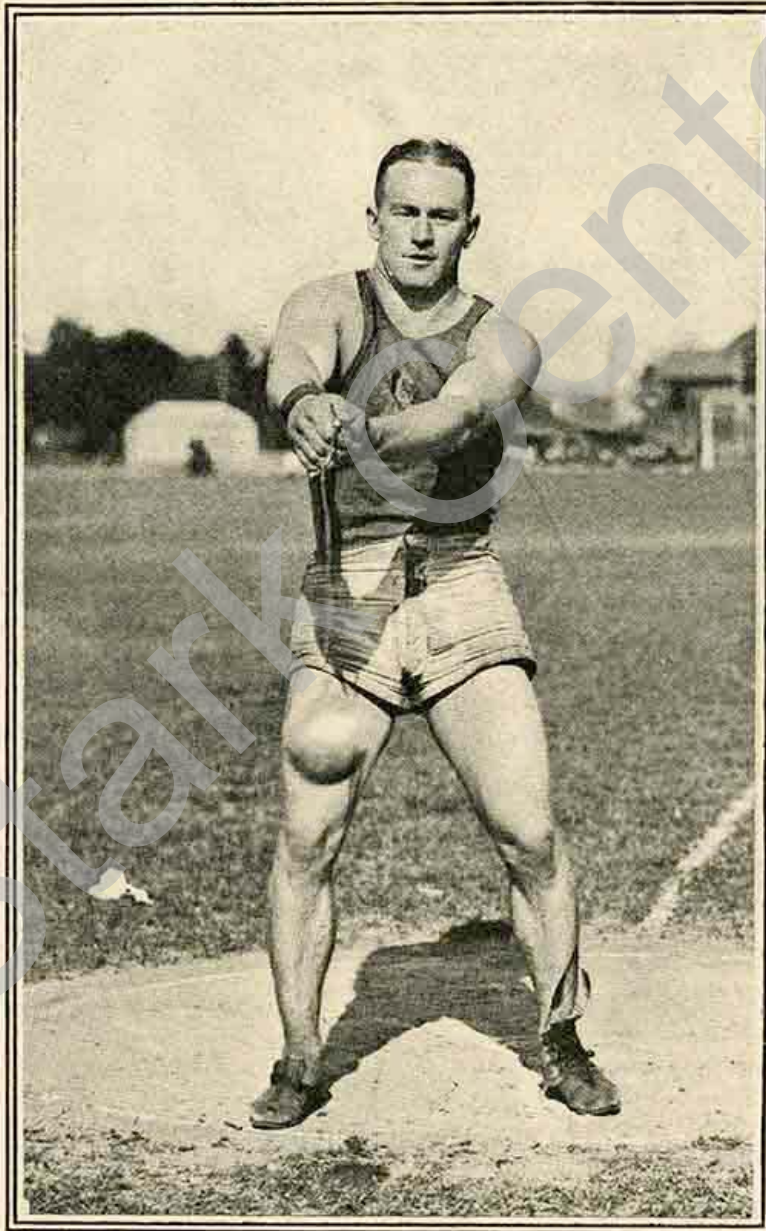
"Say no more," replied his friend. "Now let me look at this heavy artillery power plant."

By this time you will have gathered that in this little reference to the heart of an automobile we are drawing a parallel to the matter of internal or organic strength of the human body. Of course, the quality and power of the engine is not all there is to the matter of automobile strength, in its com-

plete sense. One must have strength throughout. The chassis must be strong, and it is never strong enough until it is even stronger than it needs to be. Even the springs must be strong and dependable. The axles, the steering knuckles, the gears, the transmission, dif-

ferential, even the wheels and bumpers—everything must be strong with the strength of the best quality steel, and sufficiently rugged to stand up under all sorts and conditions of service, if you are to have a really strong car. It is in this respect that one must have good live, healthy bones, with ligaments and tendons that have the strength of steel cables, and muscles that are uniformly powerful throughout, without one weak link in the whole chain of cooperating and collaborating structures from toes to finger tips. One must have strength in all parts of the body. And yet the source of moving power, as in your car, lies inside.

You may walk or run a short distance with the muscles of your legs and back. Perhaps, if you know how to walk well or to run with good form, you also use the muscles of your arms and shoulders with such cooperation that when you walk, you "walk all over." A sprinter necessarily "runs all over." That, however, is not the point. What we started to



Wide World Photos

The exercise of throwing a hammer or throwing a discus involving much twisting and turning of the body, is ideal from an organic standpoint because of the incidental massage and manipulation of the internal organs. The movement of whirling the hammer around the head is an ideal "liver squeezer." The photo shows the magnificent physique of J. W. Merchant of California, doubtless as vigorous internally as externally.

say was that, although you may walk a short distance with your muscles, when it comes to mountain climbing you do that with your heart. When it comes to distance running, you do that also with your heart and lungs. Rowing a boat for a few strokes may be accomplished by the muscles of your legs and back, or perhaps we should say back and legs in this instance. But row a mile or more at high speed and you will "row all over," especially all over your internal body. You may lift a hundred-pound weight over your head once with your muscles; but keep on lifting for half an hour, first one style lift, then another, and you will find that you are working the inside as well as the outside of your body. Throw the hammer once and you may do it with external strength; but put in a lot of practice, making a good many throws and you will find that you are doing it with your organs. If they are not strong, your throws will not be worth much after the first six or eight.

Now, this being the case, it brings us by a process of very easy deduction to the means by which one may expect to build organic strength. Nothing could be more simple. You strengthen your organs by giving them exercise just as you strengthen your memory or your faculty of mathematics, the gripping power of your hands or the lifting power of your back—through exercise. If you really want internal strength, and of course you want it if you stop to think what it means, you will always know from now on just what you need to do in order to acquire it. It is our old friend, the philosophy of effort, as applied to your insides.

There is another theory about the building of internal strength that has been taught by authorities of considerable prominence in the world of physical culture. This theory holds that one can improve the internal organs by exercises which vigorously employ the adjacent muscles of the torso, thus increasing the circulation of the blood in the region of those muscles, some of this increase of blood presumably flowing into the nearby organs and benefiting them in that way indirectly. For instance, exercise of the abdominal muscles is supposed to increase the circulation in the stomach and intestines, thus improving digestion. Exercise of the pectoral muscles across the upper chest will strengthen the heart, according to this theory; though it is hard to see how the heart, being the center of circulation and the force-pump through which all the blood passes anyway, can be helped by any special use of the chest muscles. Exercises that employ the muscles of the small of the back presumably strengthen the kidneys, because they are nearby. Perhaps the kidneys do get some benefit in this way; but it seems to us that it is easy to overestimate it. We have a hunch that no exercise for the small of the back would be of very much help to a victim of Bright's disease so long as he continued to live on a heavy meat diet that overworked his kidneys.

It is also taught as a part of this theory that bending exercises, and other forms of effort which affect the muscles of the torso vigorously, tend at the same time to massage the internal organs. For instance, side bending means an alternate squeezing and stretching of the liver. Forward and backward bending means an alternate compression and stretching of the entire digestive system and of all other organs as well. It is clear, therefore, that any activity which produces movement of the trunk of the body, in the nature of things involves some movement and adjustment of the internal organs

and is undoubtedly beneficial in that way. Probably this direct benefit through the actual massage of the vital organs in this way is far more pronounced than any theoretical benefit from increased circulation that might be brought about by reason of these organs being adjacent to certain muscles. We, personally, doubt if there is any material influence in that particular fact.

Anyway, if only for the sake of keeping his internal organs more active and alive, one should have either some work or some sport or some system of exercise that will give him a certain amount of bending and body-twisting each day. If one has nothing of the sort and these organs get practically no movement, they are likely to stagnate somewhat even though they have their regular work to do in the way of their respective functions. It is reasonable to suppose, however, that they will do their work better if they have the benefit of stimulation through movement. Such work as chopping wood, pitching hay, swinging a scythe, shoveling sand and other forms of useful work will provide the bending and twisting desired. Rowing, handball, tennis, throwing a ball, swinging a bat, throwing the discus or hammer, not to speak of other sports, will supply the kind of activity which produce this needed massage of the "department of the interior."

If you have neither the work nor the sport to accomplish this, you need regulation bending and twisting exercises, whether of a free-movement type or in conjunction with gymnastic apparatus of any kind.

And yet for increased organic strength we must come back to the kind of activity that builds endurance. Because to strengthen your internal organs you must put them to work, give them some exercise which places upon them greater demands than they meet with in ordinary, easy-going life.

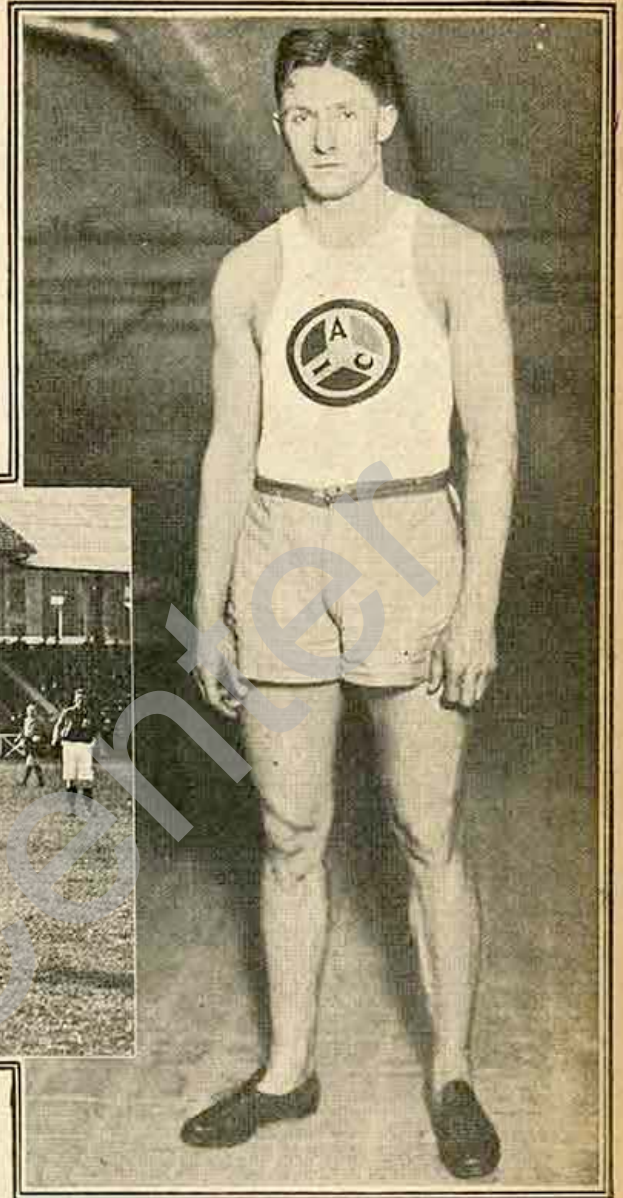
Athletes often speak of having a "work-out." Just what does this "work-out" mean? Perhaps you have had a fast session at handball or a strenuous six or eight rounds with the boxing gloves. Perhaps it was forty minutes of off-and-on combat with a bar-bell, or a cross-country run or a wrestling bout. Then you say you have had a "work-out," meaning probably that you have worked the excess of energy out of your system and have satisfied your need for exercise. You have had a chance to exert yourself either to your full strength or to your fullest speed, and incidentally you have perspired until the water just rolled off, and you have forced yourself to breathe to your limit, down to the very bottom of your lungs. All this has given you the sensation of feeling "all waked up inside," which is exactly what has happened. But this work-out is not a mere job of working your muscles. While it has made demands on your heart and lungs, it has also made demands on your liver and kidneys and probably upon the entire department of the interior—everything that has to do with the quality of your blood and the elimination of waste. Actually your work-out has been a job of exercise for your internal organs even more than for your muscles, and as a result your organs grow stronger.

That is how endurance is built. If you have not been accustomed to such demands upon your internal system, you find that you cannot respond to the demands of six rounds of fast boxing. You "blow up" after about one minute and thirty seconds at any fast session with the gloves. You find that you are hopelessly out of the game if you try cross-country running or wrestling.

You will be able to stand up to these things only after you have trained your internal system by repeated experience with such "work-outs."

And by these same tokens may you know whether or not you have strong organs and whether or not you have given them enough exercise. If you want one simple criterion, just take the matter of perspiration. You can regard that as a fair test of whether or not you are giving your organs the exercise they need. If you perspire freely through your exercise, you may know that your internal system is getting what it needs. If you do not work hard enough to perspire, you can be sure that you are getting very little benefit internally.

There is another test, and that is the sensation you get of having breathed to the very bottom of your lungs, because



Wide World Photos



Keystone

Any fast, prolonged activity such as this football game of Holland versus Ireland at the Olympic Games, necessarily depends upon internal and organic strength rather than external muscular power. The practice of such sports consequently builds internal strength.

At the right Harold M. Osborne of the Illinois Athletic Club, one of the world's greatest athletes and winner of two world's championships at the recent Olympic Games. Osborne has the distinction of being the world's greatest high jumper, having accomplished the task of clearing the bar at the incredible height of 6 feet, 8¼ inches, though he won the Olympic high jump at 6 feet, 6 inches. Also he is the world's greatest all-around athlete, having won the decathlon, the Olympic competition including ten different events, establishing the highest point score ever achieved. To win a two days' contest including ten events, running, jumping, weight-throwing, gives us assurance that in addition to his highly trained muscular system he has vital organs second to none in the world.

you absolutely had to have as much air as you could possibly get, the feeling that you have breathed so deeply that you could not possibly breathe any more. There is a satisfaction like that of "touching bottom," when you have forced yourself to breathe in this way, and you may then know that your entire internal system has been thoroughly stirred up into active life. Between ourselves that is the kind of breathing exercise that counts most. To fill your lungs with air when your system has no special need for additional oxygen may or may not be of any special benefit; but when some effort on your part involves the rapid liberation of energy, and in so doing burns up tissue and creates an enormous demand for oxygen, there is set up such a condition of oxygen hunger in your system that you can scarcely get air fast enough. It is a situation of this kind that puts your lungs to work to their fullest capacity at the same time that the heart is working at high speed. That consti-

tutes real organic exercise, and it inevitably builds up internal strength.

It is the spirit with which you do the work more than the work you do that counts. The athlete who plays a half-hearted game never derives the physical nor mental benefit which is won by the fellow who plays until his lungs and his heart and his whole internal system are "playing."

There is no real life without effort. Stagnation is the correct name for a state of inactivity, and stagnation means loss of strength and gradual loss of the quality of vigor, which is life. Half of the people are only half alive, and most of the other half are not even that. That is why it is always refreshing and stimulating to meet those who have life and strength and who are capable of effort. Be sure that you are strong, internally and externally, and that your program of physical improvement builds strength of your organs as well as of your muscles.

Men in the Making

The Peculiarities and Possibilities of Different Types of Physique

By Alan Calvert



Figure 9

At least once a day I get a letter from some strength-seeker, in which the writer says, "I have just noticed a picture of one of your advanced pupils which was published in the STRENGTH MAGAZINE. My! If I could only be built like that. Was that man always so well developed, or do you know positively whether he got his development by exercising?" And then to finish up his letter, my correspondent will give me a list of his own measurements, or else enclose a picture, and beg me to tell him whether there is any chance of his ever acquiring a noticeably fine physique.

Sometimes I think that the men who are most interested in getting development are the ones who have practically no muscle whatever. That is quite natural. The man who has no money is usually vitally interested in learning how to make a fortune; whereas, the man who is already comfortably fixed may spend his time in accumulating more money, or, on the other hand, may rest content with what he has. If a man inherits a

great fortune there is but little inducement for him to spend his days working to get more money. A man who inherits a fine build, perfect health and unusual physical strength can rarely be interested in the subject of physical improvement. In either of these cases there is no incentive. It must be very gratifying to be able to think that you are so rich that more money would be a burden; or to feel that you are already so well built that further improvement would be something like painting the lily. This, perhaps, explains why it is that there are so few multi-millionaires who have sons who accumulate fortunes by their own efforts, and why so few great athletes have record-making children. Ambition is a greater asset than inheritance. Most of our financial giants started with nothing except ambition, energy and the determined effort to succeed. Many of

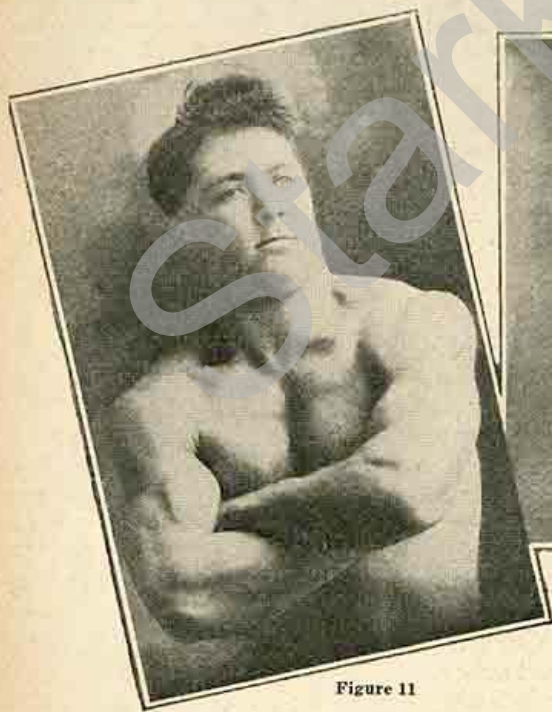


Figure 11



Figure 3

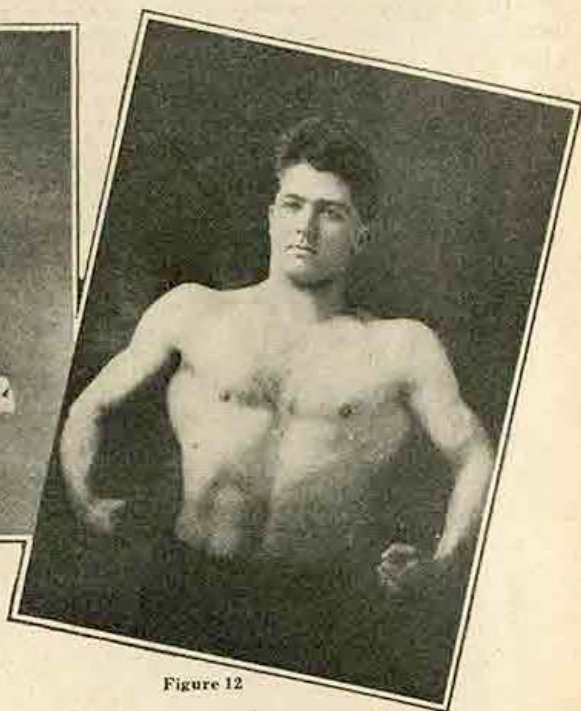


Figure 12

Owing to the confusion in our art department in the lay-out of photographs illustrating this article, the sequence or numbering of the photographs as discussed by Mr. Calvert was lost. All of the photographs, however, are numbered and you can easily find each of them as you reach the paragraph describing same. The author's comments are of so detailed a nature that special captions for these pictures are unnecessary.

our greatest athletes, the men who are today most famous for their development, started with practically nothing in the way of inherited physical resources. There is no more reason for you to remain weak and undeveloped

because your father was weak than there is for you to remain poor because your father was likewise.

In former issues of this magazine, I have shown pictures of men who were beautifully built and wonderfully developed, and I am perfectly aware that many of you think that these men were born that way. I will give you my personal assurance that there is hardly one of them who, when he started to train, was any better built than the average citizen. I know this to be a fact, because I had the pleasure of watching many of them as they literally grew from "strength to strength." Occasionally I have shown pictures of marvelous athletes who are more or less strangers to me, but all of them had gotten their wonderful physical powers by the same training methods which I have always advocated; namely, the practice of progressive developing exercises with graded weights.

In another part of the magazine I wrote of the Nordquest family, which has produced three great athletes. I know another family where one of the sons, by systematic training, developed himself into one of the most beautifully proportioned athletes of the age, a youth whose figure was a positive inspiration to some of our greatest sculptors. But then he

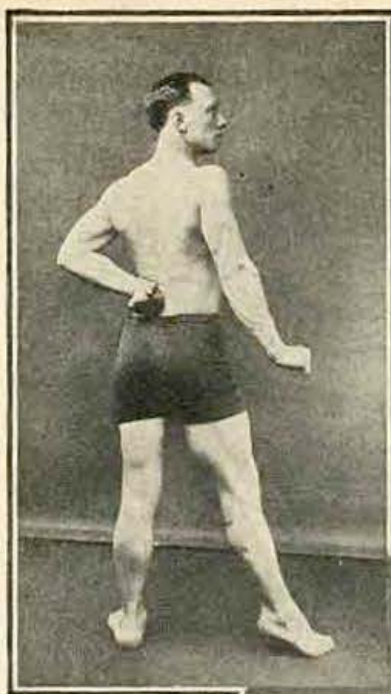


Figure 2

The interesting feature in the photo at the right is the ability of the athlete to show the muscles on the front of the abdomen without bending forward. When the outlines of the abdominal muscles are apparent when a man is standing erect, it is a sign of extraordinary development in that region.

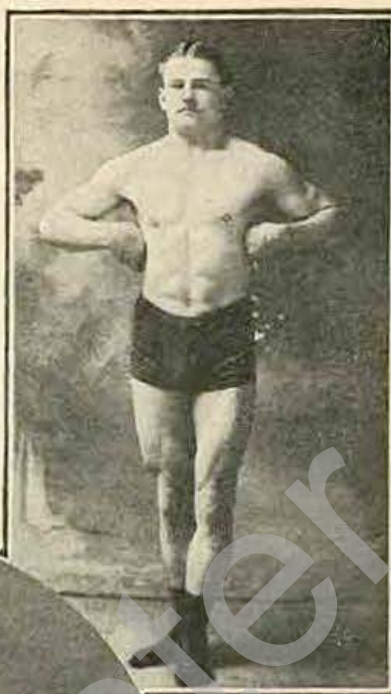
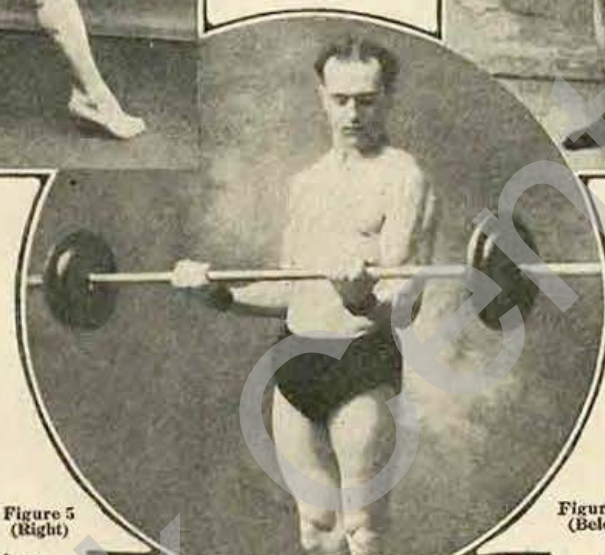
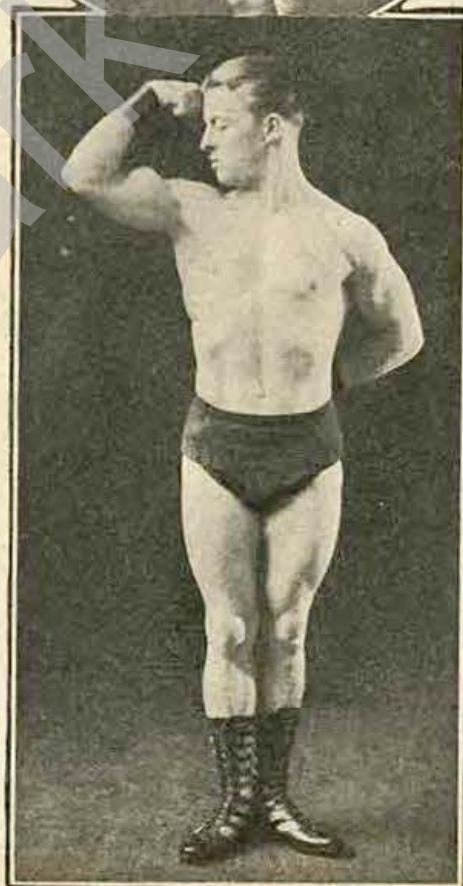


Figure 8

Figure 5
(Right)Figure 10
(Below)

had the ambition, the urge to become great. There was a time when he and his three brothers were all about the same size and had the same general lines of figure. The one brother who trained changed his proportions to such an extent that it now seems almost impossible to believe he came from the same stock as the other two. Incidentally he became quite famous as a lifter. Since his physical equipment at the start was no better than theirs, it seems as though his brothers might have equaled his improvement, if they had had the ambition. But this particular chap was one man out of a thousand. Never have I met another youth who was so diligent in his practice and so insatiable in his pursuit of knowledge and information which might help him improve himself.

If any of you are seeking the secret of development, here it is, "whole-heartedness." The time you spend at exercising will be wasted if you go at it in a half-hearted way. Please understand that I do not imply that you are to grit your teeth and strain until your eyes pop out and you get red in the face; but I do mean that you must have a definite ambition and a willingness to work faithfully and intelligently to reach your goal. Regular practice is an admirable thing, but intelligent effort will always yield greater results than an aimless and haphazard routine. When I used to run off exhibitions where the displays of strength and skill were given by experts I always noticed that the most interested spectators



Figure 4

were the other experts. If one celebrated lifter, or "Perfect Man," was performing a feat of strength, making a lift or demonstrating an exercise, his rivals would watch him intently so as to discover, if possible, the reason why he could exert such power, or to learn his exact method of doing a developing movement.

Whenever reading a letter written by a man who is trying to improve his physique, I gauge his possibilities by the kind of questions he asks, and the comments he makes on his own case. When a man writes and says, "I exercise exactly thirty minutes a day, and do each movement exactly so many times, but I do not seem to be gaining as rapidly as I hoped"—then I know that he considers that exercise is a sort of mechanical and routine affair like taking "two pellets every two hours"—and I despair of his success. But when a man says, "I find that if when doing exercise I stand in a certain way I feel the work more in my back muscles than if I place my feet exactly as prescribed,"—then I have great hopes of him, because I know that he is both striving for perfect form and observing the effects of the exercise.

And when a man sends his picture and asks why it is that his shoulder muscles do not assume the same contours as those of other athletes who have practiced the same exercises, and thus proves that he is making an intelligent study of his own muscles and keeping close tab on his own progress, then I know that he is on the high road and is bound to get what he wants. Give me always the man who wants to know "Why" and "How."

As long as I have to preach, I prefer illustrated sermons. Fortunately I am equipped with the suitable pictures. From my collection, which includes hundreds upon hundreds of photographs, I have selected a number which show young men who are at present training for better bodily proportions and increased muscular development. After looking them over you can say to yourself, "I would be satisfied if I were as well built as any of those men." The point is that the men, them-

The author calls attention to the trapezius muscles in Figure 15 as compared with those in Figure 14, on page 37.



Figure 16

Figure 7 is of a man who, when he began training, had an upper arm which measured only $12\frac{1}{2}$ inches when flexed. This picture shows the improvement that can be made by persistent practice.



Figure 7



Figure 1

selves, are *not* satisfied. No one of them considers that his development is what it should be. I know that because in the letters they have written, they have frankly said that they are still far from their ideal.

For example, Picture Number One is of a thirty-five-year-old enthusiast. When he began his training, he was tall and inclined to be stout. His chest measured 40 inches and his waist 37 inches. In the few months he has been exercising he has increased his chest measurement to 42 inches and reduced his waist to 30 inches. His thighs measure 24 inches and his upper arms $14\frac{3}{4}$ inches. When sending me the picture he said that he hoped that some day he would be able to make a really good showing when he posed. I think you will admit that most men would be entirely satisfied if they could show the proportions and the development revealed in this picture. If the man himself were satisfied, the likelihood is that he would never gain another inch. It is because he is *dissatisfied* that I know he is going to make big gains in the future. He has studied enough to know that a man of his height should have a 45-inch normal chest and that with such a chest he should have a $16\frac{1}{2}$ -inch upper arm. I expect to see him attain those measurements within the next few months. Any man who has energy and persistence enough to reduce his waist by 7 inches in the first few months' training, can easily increase his arm and chest measurements in the next few months.

I have often noticed that a stout man seldom increases his arm and chest measurements to any great extent during his early training. If a man has a fairly large waist, his arms and legs are apt to be good-sized, but rather soft. If he practices an all-around program, then as his waist gets smaller the surplus fat will be eliminated from the muscles on the other parts of his body, and while the arms and legs may not grow bigger, their muscles will be of an entirely different character. After the bodily proportions have been corrected as in this case, then the arms and legs will commence to develop. This gentleman does not need any more leg



Figure 15

development, for he has the muscles where he needs them; that is, at the upper part of the thighs. The contours of his chest show that it is of considerable depth. As he continues to practice the arms will get larger, the deltoid muscles on the points of the shoulders will become noticeably



Figure 14



Figure 6

chest does not show up very well in that picture; but that is because when you curl a bell the chest is compressed. If the picture had been taken showing Mr. Hall pressing a bell to arms' length you would have been able to see what a remarkable chest he really has, because the ef-

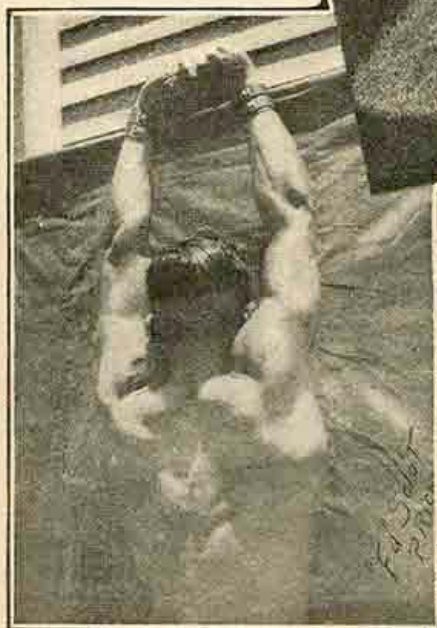


Figure 17

well defined, and the upper part of his back will become broader and covered with a thick layer of powerful muscle.

Figures 2 and 3 show a Mr. Faris of Cincinnati, who is another

dyed-in-the-wool enthusiast. Here is a man who has had to work hard and continuously in order to get the development he now possesses. It has literally been a fight to get his arm measurement up to 15 inches. When he started it measured less than 14 inches, and he gets as much joy out of a one-quarter inch increase as some men get out of gaining a full inch. Standing 5 feet 8 inches in height, he has a normal chest of 40 inches, an upper arm of 15 inches and a thigh of 22. Like the man from California, he refuses to be satisfied with what he has accomplished so far and he is fixed in his determination to get a 44-inch chest and a 16-inch upper arm. So, you see, this time I am not showing you pictures of men who made big gains and made them quickly, but of the men who started with no natural advantages and whose present remarkable development is due entirely to their persistent and intelligent training.

Figures 4 and 5 are of Mr. H. E. Hall, a young man living in Connecticut. If persistence wins, here is a man who will some day equal Sandow. These pictures were taken a year ago and Mr. Hall has improved considerably in the last few months. He is so much in earnest that he took the trip to Philadelphia just to get a few special pointers. In Figure 5, where he is curling the bar-bell, you can see his fine arms and shoulders. His

fact of pressing a bell is exactly the opposite to when you curl it. (As you press a bell aloft the chest is raised and expanded.)

Figure 4

shows Mr. Hall in the act of making a one-arm press with 105 pounds. He is rather small-boned and was inclined to be lean. When he visited me he made a similar press with 145 pounds; and I can assure you that the improvement in his development since this picture was taken is just as great as the increase in his lifting record. He is now a bigger man all around. Figure 4 shows a fine development for a body of the slender type. Mr. Hall is now even better developed and of an entirely different type.

Figure 6 is another photograph of W. E. Turner, some of whose pictures were shown in a recent issue of STRENGTH. The reason I publish it is to prove that it is possible for a slender man to get a wonderful chest development. The size to which a man's arms and legs can develop is largely governed by the size of the arm and leg bones; that is to say, that if a man has a very small wrist he cannot get a very big forearm, and if his ankle is very slender his calves are apt to be small. But no matter what the size of his bones, he can get a big chest and broad shoulders if he will specialize on exercises which develop and enlarge those parts of the body. Mr. Turner's arms are bigger than they appear to be in this picture. When you stand that way with your arms hanging at the sides, the (Continued on page 90)

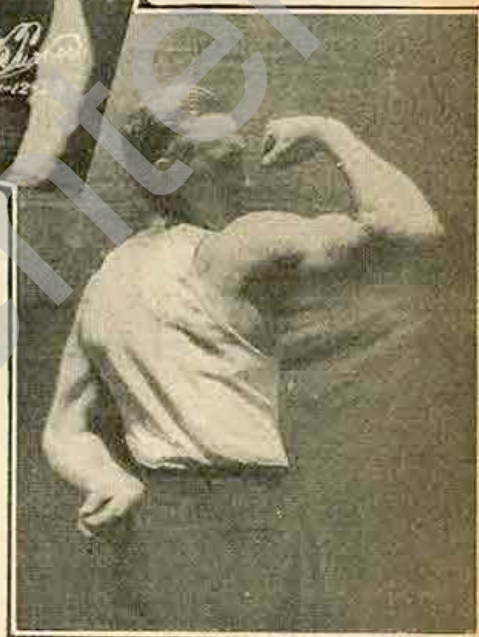


Figure 13

Sec'y Hughes Improved 25%

When He Stopped Smoking

How Our Cabinet Officers
and Senators Keep Fit—
Authorized Interviews

By Langston Moffett

EVERYONE in Washington is familiar with the figure of Charles Evans Hughes, Secretary of State, as he makes his daily walking tour through the streets of the city—four miles to and from his office, rain or shine. A man of strikingly distinguished appearance. A forceful personality. An air of quiet dignity. Grave, kindly eyes and a vigorous physique that compels your admiration. *Sana mens in corpore sano!*

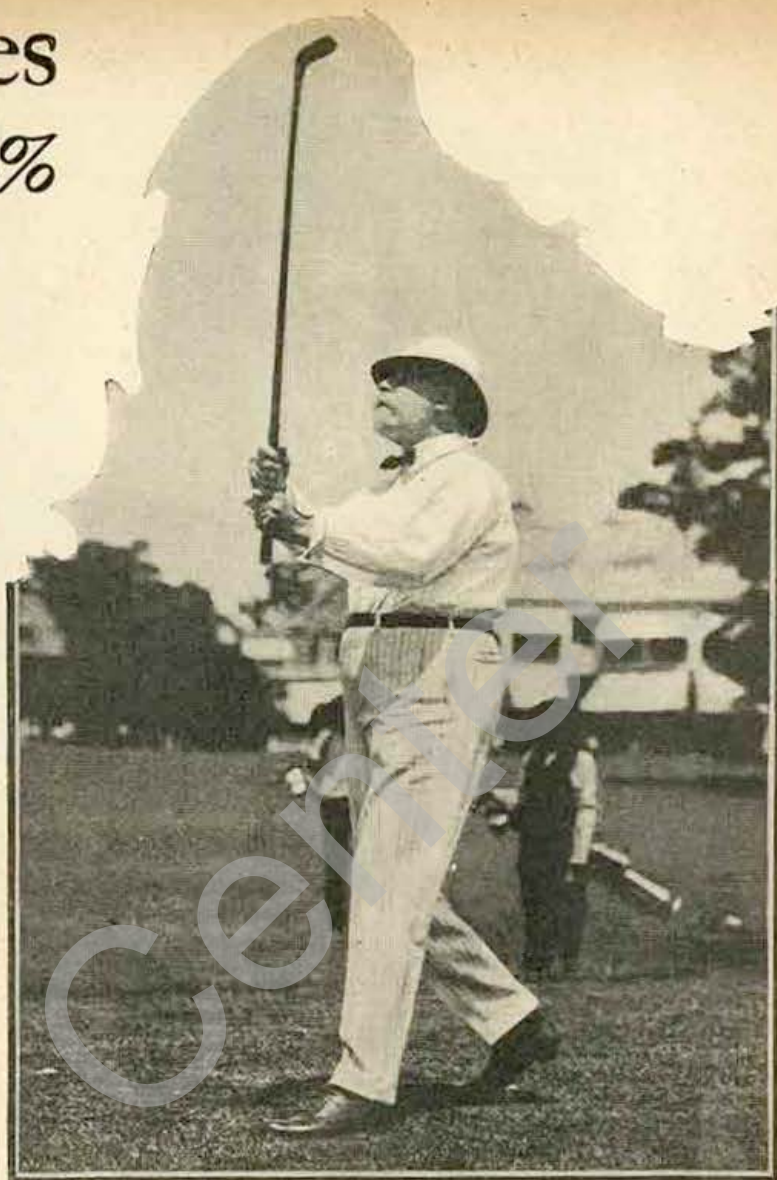
Hughes was a frail youth, weighing only 120 pounds when he graduated from Brown University in 1881, but by leading a clean active life (although he never went in very extensively for athletics) he was able to endure the strain of an intense intellectual life. One of the Phi Beta Kappa group, a leader in the Delta Upsilon fraternity, third in his class at commencement, and later first in his class at the Columbia Law School, which was at that time the largest class in America.

Since then the public record of Secretary Hughes is well known, with its ceaseless burden of responsibility; yet, by holding fast to his plan of moderation in all things, he has achieved and today exemplifies at sixty-two the splendid physical condition that our statesmen should attain.

In a recent interview Secretary Hughes said to me: "It is important not to overdevelop the body. Many college athletes deteriorate rapidly when thrust into the sedentary pursuits of later life. I know many frail men who have outlived their stronger and more athletic fellows. My mother was delicate but she lived to be eighty-four.

"Of course, heredity is an important factor and it is difficult to overcome the frailties you are born with; but, given a sound body, you can make it serve you faithfully if you will pay as much attention to it as you would to your horse or your dog."

Secretary Hughes begins his day by going through a series of carefully developed setting-up exercises that he has worked out as best for his own needs. He



National Photo

Secretary Hughes playing golf at Chevy Chase. The spirit and action of the picture indicate health and energy.

never omits these, which include bending and twisting exercises, arm and leg movements, abdominal exercises and deep breathing. These setting-up exercises should be neither too long nor too severe, else they will be neglected, and each person should select the ones that seem suitable *and then always do them!*

"Regularity is essential to good health," the Secretary continued. "It is the exercise you take every day that counts. There is small benefit in exercising only once a week, for this means the straining of untrained muscles.

"Personally, I walk to and from my office every day, a distance of four miles in all. I never ride when I can walk. Some years ago in Switzerland I discovered the joy of walking while making almost daily climbs up the Alps. I have always kept up the habit since then. I find walking a particularly convenient form of exercise, especially as I can seldom afford the time to play golf or ride horseback, although I am very fond of these sports."

"What about diet?" I asked.

"Abstemiousness in eating is of the most vital importance. Every man should find out for himself a diet that agrees with him and then stick to it. Moderation

in eating and in exercising should be carefully observed, because for the sake of your own happiness your body must be properly equipped so as to be adapted to your job. To perform any job efficiently you must have bodily vigor.

"Another important thing is to get enough sleep. Nothing revives you more than a good night's rest. When you are particularly tired after a hard day's work at the office, it is far better to lie down and take a nap than to exhaust yourself physically by exercising. You must adjust your life so as to get your exercise at the right time; the body should not be overtaxed. A nervous breakdown is the direct result of bodily abuse. I don't believe there is any such thing as a breakdown from purely mental strain."

"How about smoking?"

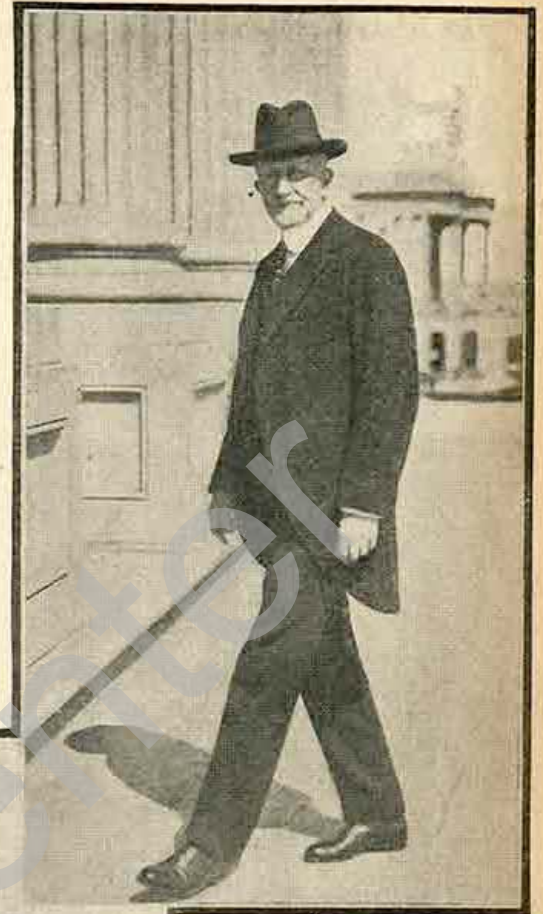
"I think smoking affects everybody differently. Some people are doubtless not harmed in the least by it. I smoked regularly until nine years ago, when I cut it out completely. I found this enormously beneficial. In fact, it changed my entire life. I was able to sleep better and no longer stayed up late at night. When I have important work to do I go to bed early and get up at five-thirty. I can safely say that giving up smoking has increased my efficiency twenty-five per cent.

"Then, of course, it is necessary to keep your mind thinking along right channels. Evil thoughts greatly undermine one's health. The theory as to the benefits of keeping your emotions under control is a sound one and should prove beneficial in preserving your physical fitness, but I think the subduing of natural excitability would mean a rather colorless life."

"Mr. Secretary," I ventured in conclusion, "I should like to ask if you have any particular philosophy of right living, any definite inspiration toward achievement?"

He answered thoughtfully: "I agree with the writer who said he believed in three things: kindness, courage and a sense of humor. As to the other point, I have had a wonderful inspiration in my wife, and then I have always been conscious of an intense desire to get my job finished as well and as quickly as possible."

Secretary of Labor James J. Davis is an example of rugged health developed by hard physical work. At the age of eight he arrived in America with his mother and a large family (eight in all), penniless immigrants from Wales. At sixteen he became an iron puddler, toiling in the terrific heat of iron ore furnaces, separating white-hot metal out of great cauldrons into three fire balls weighing 200 pounds each. With the sweat pouring from his body, stripped almost naked, he would toss these great balls ten feet through the air, developing the steady nerve and hardy physique he has since maintained.



National Photo

Speaker Gillett, at the age of seventy-three, finishing his daily walk to the Capitol. At the left, athletic Secretary Davis in a foot race with one of his proteges at Mooseheart.



Davis developed courage, too, and after a hard day at the furnaces would spend hours in the evening reading and studying. During this period he lived at a boarding-house known as the "Bucket of Blood," where his bodily toughness was demonstrated one night when some of his roommates, annoyed by his keeping the lamp burning late, threw him, books and all, out of a second-story window! Yet he sustained only a few slight bruises as a result.

It is important to consider how a man accustomed for years to exhausting bodily toil has been able to maintain his vitality after so abrupt a change from physical to mental labor. How has our Secretary of Labor kept himself fit in his present sedentary activities? The answer is the old familiar one, that Davis attends to the four essentials of wise living: exercise, diet, rest and the right mental attitude.

Speaking of diet, the Secretary laughed reminiscently as he looked back to those days at the "Bucket of Blood," when his body craved three enormous meals of greasy meat a day, accompanied by huge slabs of pie. Now it is very different.

Secretary Davis in his present sedentary period has solved the diet problem by following the one and only efficacious method, that is, abstemiousness in food. His breakfast consists of a cup of hot water and fruit—nothing else. His luncheon is usually a sandwich, or again, just a bowl of crackers and milk, or perhaps only an apple, these being brought to him in his office. Then he enjoys a reasonably hearty meal in the evening.

"How about tea and coffee?" I asked.

"I rarely touch either of them, but I make it a practice to drink a glass of water regularly every hour."

"How about smoking?"

Secretary Davis smiled.

"I gave that up years ago in order to set a good example to the children at Mooseheart."

"Do you think you have benefited by cutting out tobacco?"

"I certainly do. It has been a great advantage to me in my work."

"Any other food fads?"

"Well, I consider fruit a wonderful aid to digestion," he said. "And I like watermelons. I'll tell you how that came about. It's rather an odd story."

It seems that at the age of 18 Davis came under the influence of a communistic maniac, who described in violent terms the impending downfall of America through the avarice of capital. The young puddler was not particularly keen about this wild propaganda, but he listened patiently because the communist always rewarded him with a watermelon. And so he got the watermelon habit, which has stuck to him to this day.

Secretary Davis is fond of golf and takes this exercise whenever he can find the time. He plays a fair game, averaging about 90.

"My favorite golf course is on Catalina Island," he said. "not only because it's beautiful, but chiefly for the fig orchards that are all about; there's nothing I enjoy more than picking wild figs and eating them."

He gave a characteristic reason why the brassie is his

favorite of all the clubs in the bag. It is because the brassie has a certain resemblance to a rabble, the great steel bar, eight feet long, that he used to poke the furnaces with in the days when he was an iron puddler. Any one who visits Secretary Davis today will see in the corner of his office one of these ponderous rabbles and will be stirred to admiration for a man who is still, at 52, able to wield such an implement.

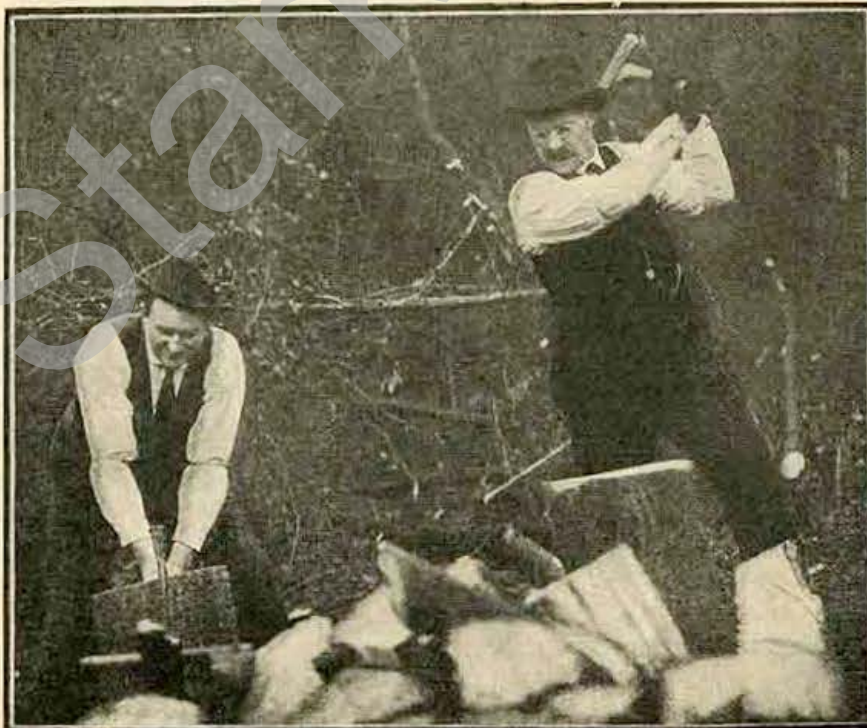
One of Davis' favorite sports is swimming, which he indulges in during his vacations at the little colony of Mooseheart, in Illinois, which he himself was instrumental in organizing. This is a colony of 1,600 persons, largely composed of orphans, who are taught trades and shown how to lead healthy out-of-door lives. The Secretary's presence is an inspiration here and he spends hours romping with the children, helping in the farm work, and especially enjoying his daily swim.

Secretary Davis is a great believer in the benefits of Turkish baths and takes several of these every month. During long journeys that he is called upon to make he finds that these baths keep him in good condition and take the place of his regular exercise. Perhaps the reason for this liking may be traced back to those early years at the furnaces, when Davis' body adjusted itself to great heat until this became almost a necessity. Also, he doubtless came to require a regular stimulation of the sweat glands, such as is found in the Turkish bath hot-room.

Once a year Secretary Davis goes conscientiously to a sanatorium and has a complete physical inventory of himself taken. He stays there until any defects that are discovered have been as far as possible corrected. This he does in spite of the fact that he has never been sick for a day in his life. What a wonderful thing it would be for America if every man and woman over 40 would follow this enlightened example! *One week a year given over to a thorough bodily overhauling!* It would mean that thousands, perhaps millions of lives (now needlessly shortened) would be extended to a longer and richer span.

Secretary Davis has a strong tenor voice and loves to sing. He believes that singing keeps him calm, works off his surplus emotions, in addition to being a fine breathing exercise. As a child his mother taught him the old Welsh folk-songs, and to this day he sings them.

They tell a story in Washington of an evening when Davis



National Photo

A wood-chopping contest between Senator Lynn J. Frazier and Magnus Johnson (at the right), both vigorous examples of the strenuous life.



National Photo

Senator G. W. Pepper is apparently as trim, fit and ready for action as any one could ask a legislator to be. The photograph was taken during a bit of relaxation enjoyed by United States Senators and the Senate pages.

and another member of the Cabinet were attending a vaudeville performance, in the course of which Davis became so enraptured with the music that, after keeping time with his foot for some minutes, he finally joined in vigorously with the actors and sang through an entire chorus, having almost forgotten where he was.

Speaking of singing, Secretary Davis said to me:

"You know, I think the reason I never cared for drink is because I have always found in song the ease from mental pain that other men have sought in alcohol."

Secretary Davis is a hard worker, familiar with the ancient truth that work means happiness, failure to work, unhappiness.

"How many people do you suppose there are in the United States who do not have to work?" someone asked him once.

And Davis answered: "None, except invalids and cripples. Every healthy man in this country has to work, just the same as he has to breathe. If you don't want to work, it's because you're sick. I'm a well man and I've got to be working all the time or I'd go crazy."

One thing that keeps the Secretary's mind fresh and his body vigorous is his remarkable power of going to sleep whenever he feels like it. He has developed the habit of taking brief naps and will often excuse himself for ten or fifteen minutes when he feels a sudden attack of fatigue coming on, and almost instantly fall asleep. No matter what his worries or troubles, he can always invigorate himself in this way. And at night he sleeps soundly.

The underlying philosophy in Davis' life—the real source of his power—is the Christian religion.

"The only elementary school I ever went to," he said to me, "was a Baptist Sunday School, and I've never forgotten what I learned there. I think most men who achieve great results are sincerely religious, often praying men. I know I never take an important or doubtful step without praying for guidance."

Perhaps the most picturesque figure in the United States Senate is Magnus Johnson, a burly sort of man, straight from his Minnesota farm. Tanned and weather-beaten, hands calloused by hard work.

Born to poverty, he has worked his way to national eminence by retaining his simple tastes and manner of living. In Washington he makes no pretense at mingling in society; his wife still does the washing, the sewing, the cooking.

"I hate banquets and elaborate dinners," Senator Johnson confided to me. "When I have to go to one of these I often omit a regular meal in order to give my system a chance to properly digest the rich, unwholesome food."

"I believe in plain food and plenty of it. I never deny my body anything that agrees with me. On my farm I could eat the tree stumps!"

"I think milk is a wonderful tonic for the system, especially buttermilk, sour milk or Bulgarian milk. I have a friend who lived for years on nothing but sour milk."

When the Senator first started talking I was startled by the deep power of his voice. (Continued on page 78)



The old master, Christy Mathewson, showing the start of his famous "fade-away."

WE were sitting on the grass in back of the pitcher's box in a southern town during a spring training trip. One of the great masters of the mound was in that box, and two exceptionally promising rookies stood beside him, watching his every move and trying to absorb the things he was saying as patiently as a kindergarten teacher to a couple of five year olds. His day was through, his sun waned to the stage where it was dropping into oblivion. In there against the stern opposition of real battle he would have looked bad, perhaps. No more one and two hit games were concealed in that ancient wing; no longer would the opposition be conquered figuratively by his hurling his glove onto the mound, while the thousands in the stands accorded him the adulation due one whose sharp breaking hooks and sizzling fast one withered the onslaught of the enemy. He was through—as a pitcher. It was time for younger men to take

What's the Secret of Great Ball Pitching?

One Must Have More Than
"the Stuff," Physique, Strength
and Speed—The Great Pitchers
All Have This Something More

By
Walter P. Maxwell

up the trail he'd trod to the far heights where only the greatest can attain. Yes, he was a warrior whose double-edged sword had been dulled in the strife of many battles won, and in a way there was something pathetic about it, all the more so as we sat there, looking and listening.

One of those rookies was a little more than that. He'd been with the club the season before. The other had just come up to the big leagues, a sensation from the American Association, costing a fortune. Each was endowed with what is called "a world of stuff." One was a fast ball pitcher, the second, who'd been with the club the year before, a curve and control man. They had it, and the manager was literally praying that one of them would come through to take the place of this fading king of the hill who was talking to them now as he'd talked and shown them so many times in the days preceding.

In a way it sounded strange. Perhaps it sounds strange now. Here was a man whose value was done, two others who were worth a tremendous amount, whose careers were all in front, and both had won their spurs in a sense; were and always had been winners wherever they had toiled amid the battle smoke.

And that old master was teaching them how to pitch. Sounds incongruous, paradoxical, doesn't it?

We can visualize the scene yet, hear him talking in that quiet, confident way.

"Now, when you're up against the left-handed slugger, whose body is squarely facing toward the plate, feed him your low curve. It'll break on the inside for him, right down across his knees. It'll worry him, and if he connects it'll be with the handle of his bat. Ten to one it'll be a bouncer right down where first can handle it. But if his body is turned more toward you than toward the plate, give him the fast one on the outside and keep it low. He can't help hitting it to short or third. Get me?"

They nodded, and he went on.

"Now, when there are men on base you've got to figure each situation differently. For instance, if there's a man on third and a fast right-hander hitting you're up against the chance that he may try to lay one down on the first base line, and it's awful hard to stop that kind of a squeeze if the batter knows how to run in a line with the throw."

A little while afterwards the line of instruction shifted gradually and veered to another angle that would seem to have comparatively little to do with the fine art of pitching. It went to the part the pitcher plays in the defensive machine at cutting off runs. But it didn't take long to figure out that it was all a part of pitching, and you realized it when you saw how this old king of the hill, who'd been through hundreds of battles, fitted himself to the entire defensive scheme in such an inconspicuous way that, ten to one you'd never notice it from the stands. He placed the team in position, put runners on the bases and had a batsman hit fungo flies to the outfield. There you saw the inner workings of the science of baseball. You saw the shortstep run into short left field for relaying throws; you saw this ancient veteran fill in the open gap at short to cut off the throw if it was obvious that the play could not be made at the plate, and still be in position to cut down any unwary

runner at the other bases. It dawned on you that he'd pitch to every batsman differently for every possible situation. You heard him tell these youngsters how to pitch to each type of hitter in each possible emergency, to force him to hit in this or that direction, and then what to do as soon as the ball had been hit. It was all aimed at figuring out what the other fellow would like to do and then forcing him to do just what you wanted him to. It was not a mere case of trying to pitch the ball past him to strike him out; it was planning and anticipating every possible development of each pitch, and you soon understood why this veteran had been a great master, why so few runs were scored on him and the team always put up such a confident, brilliant defensive game behind him.

You were so intent on watching him that you didn't notice the pickaninny who came in on a battered bicycle and laid it down in the grass near first. Neither did anybody else except one of the pair of young twirlers who was supposed to be receiving his schooling in the art of advanced pitching.

He was the one who'd been with the club the season previous, and the play was interrupted by a howl like a Choctaw warwhoop. Nobody had noticed him as he walked over and picked up that bicycle to start on a wild dash, pedalling around the bases. The others were too intent on what was going on in the diamond. Of course, it was funny. Some of the boys laughed and tried to tag the rider as he went bumping over the bases. But you realized that it wasn't so funny when you overheard the veteran muse aloud, "He won't be up in the big league long."

This was a serious business to him. He knew.

Two months later that young pitcher was back in the bush, down in the Texas League. He had the arm, a good fast one and curve, but he didn't know how to



How Mathewson held the ball for delivery of his "fadeaway."

pitch. What's more, he hadn't really tried to learn when he had the chance.

But there are times when all the knowledge in the world on the subject of pitching isn't worth much, and we're thinking of an incident we heard Big Ed Walsh, probably the greatest spitball pitcher who ever lived.

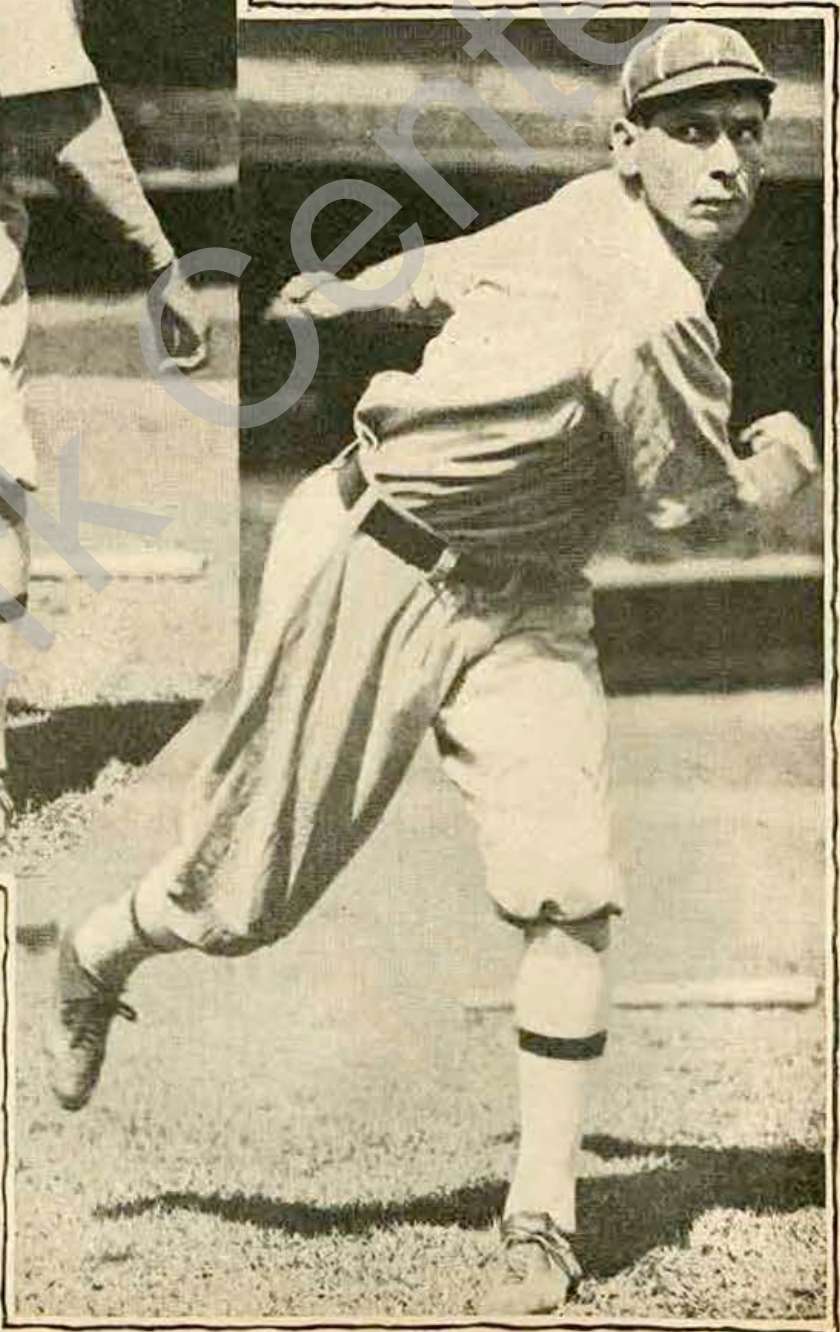
Cleveland, with the pennant practically at stake. There were Cleveland runners on the bases, the White Sox had a one run lead, and Larry Lajoie was at bat with two out.

Few batters ever lived who could brain a spitball as Lajoie could. He'd catch them before they "broke" by stepping forward and simply killing them. Walsh knew that, and he knew Lajoie was fully aware that in such a hole Walsh had nothing else to offer but his spitter. Lajoie at that time was at his best, the American League's greatest hitter, Walsh its greatest pitcher. Walsh reasoned like this: "If I throw him a spitter he'll probably hit a homer, and he never missed a fast ball in his life. He knows I haven't got anything else."

Big Ed wound up and deliberately tossed a "dewdrop" over the heart of the plate, the kind of a pitch a ten year old girl might have



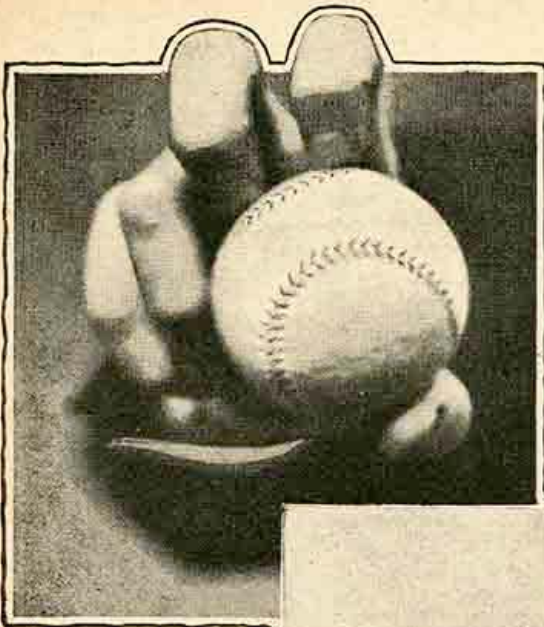
Here is Chief Bender, showing (above) the finish of the delivery of his famous "drop," and (at the right) the finish of a fast one, with his vigorous "follow through." The eyes indicate the exact direction of the throw.



describe as the tightest situation he was ever in.

It was in 1906, when the Chicago White Sox, "the hitless wonders," won the American League pennant and the world's championship.

They probably wouldn't have won if Ed Walsh had failed in this one critical situation. It was in a game against

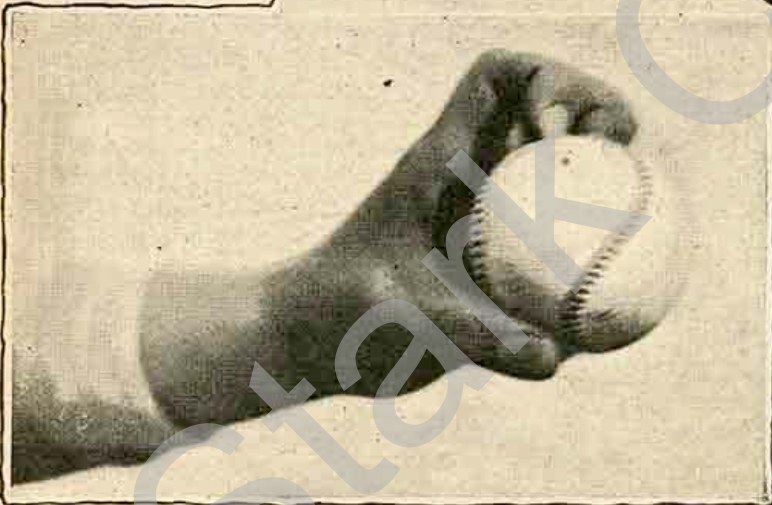


Here is the position for delivery of Ed. Rommell's "knuckle ball." Note the finger-tip grip.



International

Position for delivery of Art Nehf's fast curve. The ball rolls over the tips of the fingers as indicated by arrow. (At the left) Position for delivery of Nehf's "slow ball."



can learn to do with it. A wonderful fast ball and a curve the equal of that Alexander had at his best won't do it alone. Some seasons back Washington brought up a youngster named Hovlik from the American Association. He had something pretty close to Walter Johnson's speed, but he didn't remain. He couldn't learn to do with it what Johnson could. Cincinnati had a hurler named Beebe with the finest assortment of curves that ever hit the major leagues. He never was a great star. "Red" Ames had a drop ball that simply could not be hit. He could make it drop four feet, almost straight down. After about eight or ten years in the majors he got it to the stage where it only dropped a foot or so. Then he became a great pitcher.

We heard an ambitious youngster ask Chief Bender how to become a pitcher. In his characteristic way, for the great Chippewa is a kindly individual with a deep love for baseball, he summed it up something like this:

"Learn to throw the ball with a motion that gets the greatest possible amount of your power into it and still does not strain you in any way. And learn to pitch everything, your fast ball, curve and slow one, with exactly that same motion. Never vary it, for as sure as you do the smart batters will pick out the difference right away."

Of course, that left a lot of things to be explained, for there is a big difference in the way the various pitches are thrown, but the difference is in the way the fingers are used to make the ball revolve in one way or another. For instance, the fast ball is allowed to roll off the ends of the first two fingers, thus

making it revolve upwards to bring about the "hop," while the curve and drop are allowed to roll off downward, thus starting them revolving down and bringing about the downward "break." And Bender was willing to explain all that any time any one really wanted to know. So are most of the other mighty men of the mound.

Mathewson would tell you in a minute how his famous "fadeaway" was pitched so that it would drop in across the knees of a right-hand hitter. Mighty few could ever learn to throw it because mighty few have the physique and absolutely unique mastery of hand, arm and wrist. Johnson makes no secret of the methods that attain his blinding speed. There again you have the tremendous physique and the leverage of a wonderful swing of arm. You see it all when you see the Big Swede out there pitching. (Continued on page 84)

thrown. Lajoie almost fell down with the force of his swing, and he missed it.

Again Walsh figured: "Now he'll be expecting me to cross him with a spitter."

He wound up, and a second "dewdrop" drifted over the middle of the plate. Lajoie missed it.

Surely Lajoie would be looking for Walsh's famous spitball now.

The third "dewdrop" floated past as Lajoie swung without even fouling it, and the White Sox won the pennant.

It took a great pitcher to do that.

In a sense pitchers are born, but they are made also. Those that have come up and made good right off have been very few indeed. It has taken many weary hours of work and real study to make the great ones. The "stuff" alone doesn't make a pitcher. It's what you

Girls—How's Your *Muscular Corset?*

You Cannot Buy One—Yet Your "Figure" Absolutely Depends Upon Your Having a Good One

By *Florence Whitney*

POSES BY MISS ESTHER GREENE

EVERY now and again you run across some reference to that "natural corset" of muscles with which every human being has been endowed, and which, if strong and in good condition, keeps the human body trim and beautiful. Miss Christine Norman referred to it in her story appearing in the August number of *STRENGTH*, saying that for years she had worn no other. It has been a favorite notion of writers on physical training, for the very good reason that elastic strength of the waist line and abdominal region provides such a wonderful substitute for that now obsolete relic of barbarism, the old-fashioned corset. I have no idea who first expressed the thought

of a well-developed torso as possessing a good muscular corset, but the idea is one that so readily suggests itself that it was probably spontaneous with a great many writers. We first saw the expression very many years ago and it is probably as old as the hills—and just as pointed and significant as are many of those old sayings that persist throughout the centuries.

I don't know that the ancient Greeks ever had corsets, for they probably thought too much of the dignity and welfare of the human body. So, of course, they did not need to find a substitute, in the form of well-knit tissues in the body itself. But certainly they had a notion of the value of a vigorous protective girdle of the lower torso in the form of strong abdominal bands of muscular tissue. Perhaps in their ideal development they had no weak points; but if any there were, it was not in the region of the abdomen.

Sculptors and physical trainers frequently comment upon the lack of a high development of the external oblique muscle in modern athletes, so conspicuous in the statues of the Greek, being those muscles lying just above the hip bone at each side and running diagonally downward toward the groin. Only in occasional athletes of exceptional development do we find these muscles so clearly marked as in the Greek sculpture, which shows that they particularly valued strength in these parts. And that not merely in the male athletes.

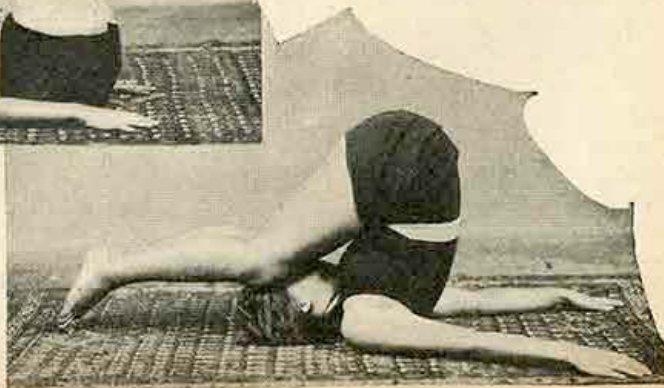
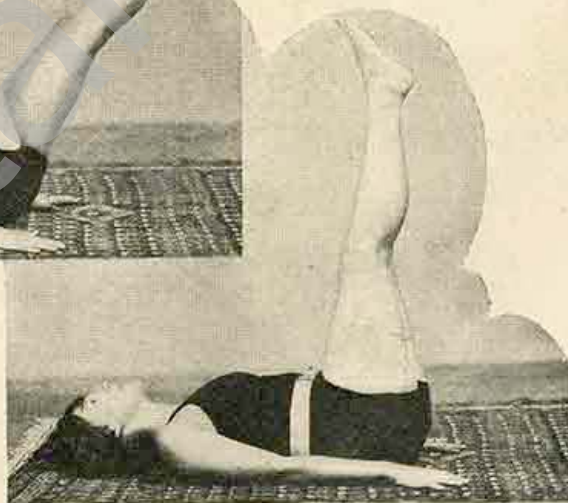
If you study the formation of the waist and the region of the



All horizontal leg raising movements are primarily abdominal muscle exercises. The easiest of these is raising one leg at a time, an interesting variation of which is the scissors movement illustrated above.

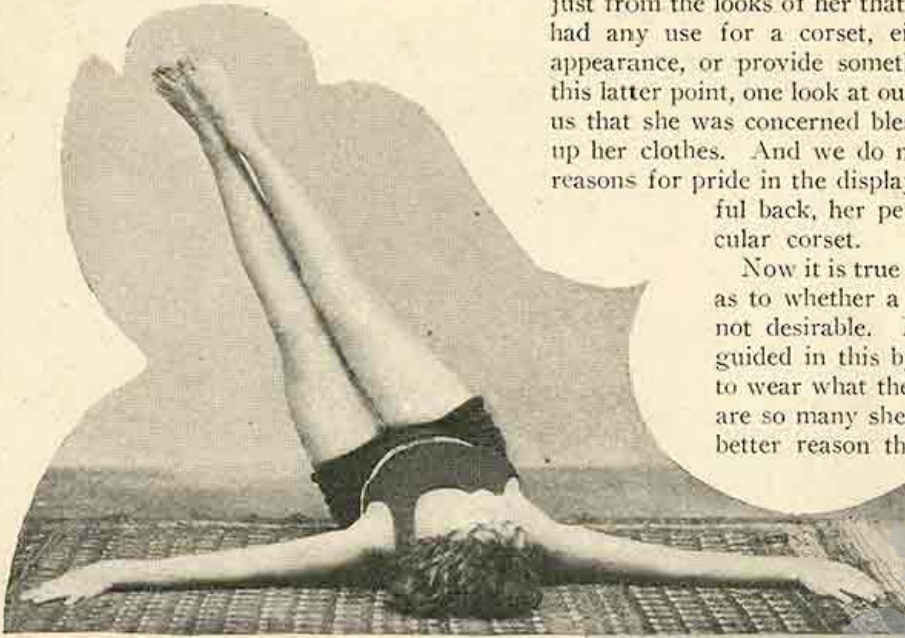
If you find raising one leg easy, then practice the raising of both legs together, (second photograph), doing this slowly and repeating until only slightly tired.

An advanced form of the horizontal leg raising is that of bringing the feet far over the head and touching the floor as in this third photograph. This not only strengthens the muscles but compresses the internal organs and corrects displacements.



stomach in any good copy of the Venus de Milo, you will find the abdominal muscles defined with clear distinctness. You can be sure just from the looks of her that this de Milo person never would have had any use for a corset, either to "hold her up," enhance her appearance, or provide something to hold up her clothes. As for this latter point, one look at our old friend Venus is enough to assure us that she was concerned blessed little about the matter of holding up her clothes. And we do not blame her, considering her evident reasons for pride in the display of that magnificent torso, her beautiful back, her perfect bust and her incomparable muscular corset.

Now it is true that some women may have no concern as to whether a corset—of the external type—is or is not desirable. Many women are quite willing to be guided in this by the fashion of the day. They want to wear what the others are wearing, not because there are so many sheep in human form, but perhaps for no better reason than just because they do not wish to



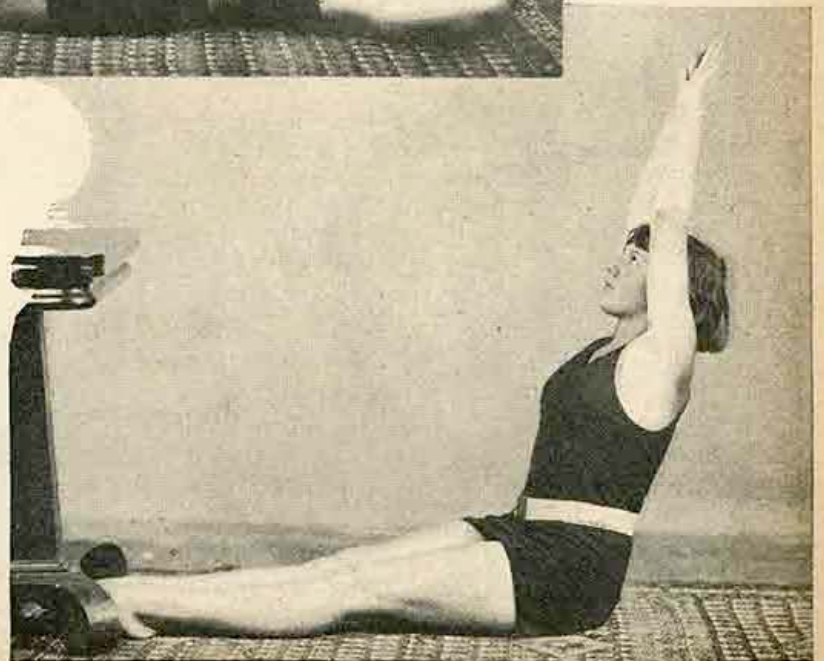
The above exercise is one belonging to the series on the opposite page, affecting the external oblique muscles. Lower the legs to each side as illustrated.

The standard abdominal exercise is that of sitting up from the supine position (on the back). This is most easily done with the arms folded and is more difficult with the hands clasped behind the head as in the next photograph. It is still more difficult with the arms outstretched beyond the head as in the lower photograph because of the greater leverage in this position.



You will probably find in the advanced variations of this exercise that it will be necessary to place the feet under the bureau or some heavy furniture.

seem odd or queer. Following the fashion is not a matter of vanity, sometimes it is merely a matter of modesty, a desire to be inconspicuous. Of course, the woman who fights fashion is conspicuous. So, as I say, these women may not be concerned about the sanitary phase of corset wearing and other considerations, but they are always interested in the æsthetic aspect of the matter. They wish to be presentable, first, last and always, and on that score no woman wants an accumulation of fat in just the one place where fat first accumulates or tends to accumulate. No woman in the world wishes to emphasize her stomach. In the past she has tried to overcome the natural results of inactivity or gluttony, or both, by an artificial contrivance calculated to compress this region even with bands of



bone and steel. It was really because she wanted to present herself with this region of the body as trim and clean-cut as possible. But, of course, the corset exaggerated to the point of deformity and ugliness, and it was manifestly a mistake to try to fashion the figure with external and artificial means.

The internal corset of muscles must therefore appeal to all women upon these grounds of personal beauty. And I can faithfully promise that if any woman will persistently practice the right kind of exercises, requiring only a little time each day, she can reduce this part of the body to a conformation that has the quality of living sculpture, a conformation that represents the greatest quality of personal beauty in itself and at the same time that represents the greatest strength.



The upper photograph continuing the series on the preceding page, is a variation for the external oblique muscles in the way of twisting the body in each instance of rising to the sitting position. The next two photographs show an extremely active and vigorous abdominal exercise, that of doubling up with a smart, sweeping movement to touch the toes and then dropping back flat upon the back. Do it with a quick, smart swing or you cannot accomplish it at all.



The photograph below is an advanced variation of the exercises on the next page, consisting of a sweeping, circular action first in one direction and then in the other.



There is another appeal of interest to the sensible woman in the matter of the protection afforded by sound abdominal walls. Of course, you know that the chest is protected by ribs, but below the ribs there is a considerable part of the body unprotected externally, except by the muscular walls themselves. If these muscles are weak and undeveloped, the internal parts are more easily subject to injury. And not only that, but without strength in these walls there is an exaggerated tendency to the drooping and sagging down of all organs, from the stomach and liver on down, but with a particular prolapses of organs which have given women no end of trouble. Abdominal strength tends to maintain a better carriage of the body and to keep all vital and functional organs in their proper places, which, of course, also means in a natural condition of greater health.

Then of special interest to a larger proportion of



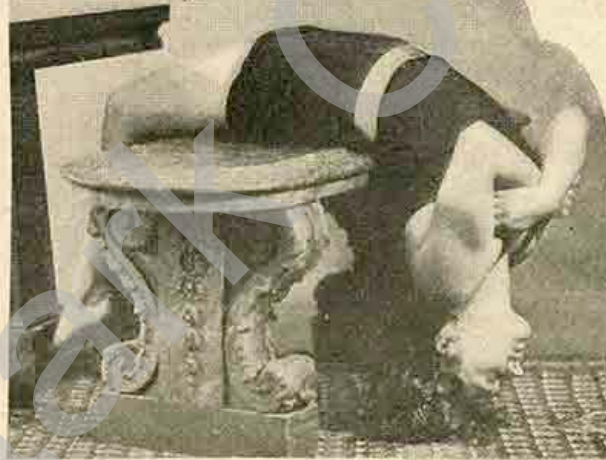
training for maternity, so as to fit themselves for this greatest of creative functions and so that they may meet the ordeal with the greatest safety and comfort, then there is this additional reason for the practice of such exercises as are presented here.

In these exercises the progressive idea has been carried out, presenting the simplest and easiest manner of doing a certain type of exercise with more advanced and more difficult versions of the same type of action. For instance, consider the raising of the legs while lying on the back. The first week try only the simplest movement, and gradually perform the more difficult movements as your strength warrants. Even after you are in good training it will be well each day to do the easy ones first a few times for "warming up" purposes before moving on to the more vigorous exercises. This especially holds in the case of the exercises for sitting up. The movement of lowering the upper body backward over a piano bench is one not to be attempted for some weeks. Make sure you are really strong before trying it. After this becomes comparatively easy, the simpler movements will seem far too easy and will then be useful chiefly as a warming up. Never pitch right in to the hardest of exercises when you are cold or stiff, without some preliminary loosening up.

You will notice that apart from the straight flexing of the body forward, which is the purpose of the rectus abdominus muscles, if (Continued on page 76)



Here is an advanced type of exercise to which you can look forward when the preceding movements have become too easy and commonplace. It is properly a piano-bench exercise though you can use a bureau or any other piece of furniture to secure leverage with your feet, lowering the body straight backward and rising again. This is made more difficult with the hands behind the head and even yet more so with the arms outstretched. Do not strain. Approach the work progressively.



The photograph below is a variation of a piano-bench exercise in that the body is turned or twisted as you rise to the sitting position. Alternate, first to the right side, then to the left side.



people, with many of whom rupture seems to run in the family, is the value of a vigorous muscular corset as a means of avoiding hernia. Once hernia has taken place, I do not pretend to argue for any natural means of cure, since it is a mechanical condition requiring mechanical remedial measures, which in this case means surgery. Rupture calls for a good job of "patching up." But I do hold that rupture can be prevented by the cultivation of strength and the building up of vigorously muscular abdominal walls. And this I know is in line with the teaching of medical schools. Strength in any part of the body makes one invulnerable to ordinary strains, which in the case of those who are weak and undeveloped are productive of disaster.

As an example, consider the value of strength in the crisis of maternity. We train assiduously for athletic games. Artists train their fingers or their voices for years and years to prepare themselves for the concert stage. And if, as some hold, it should be the business of young women to go into

Power of the Punch

The Mysterious Quality of Supreme Resource,
the Capacity for "Energy-plus" in a Pinch, That
Is the Distinguishing Mark of a Champion

By *T. Von Ziekursch*

A GUN barked sharply. Ten thousand people stood up in the stands, craning, tense. There were puffs of dust. The six fastest men in the world sped down the cindered straight-away. One was fighting a last, desperate fight to retain supremacy, a second had been touted as the one to dethrone him. The other four did not count much, although one of them was greatly feared.

That tells the story of the start in the Olympic 200 meters final, as dramatic a race as has ever been run. Those two men were Charles Paddock, long heralded as the world's sprinting king, and Jackson Scholz, who had come back to the crest after five years in the ruck. The third one, who was greatly feared, was Harold Abrahams, the Englishman, who previously had won the 100 meters final.

But this was a race between those first two, a great champion seeking to retain his throne and one who had faded from the heights seeking to scale the pinnacle once again. The others were forgotten. Down the last fifty yards these two kings of speed came, Paddock leading, Scholz at his shoulder. Those ten thousand

in the stands knew the glorious, bursting power of that final Paddock leap—they did not know the other's driving finish. But they saw the gathering for the end. It happened in fractions of a second. Paddock gathered for that famous bound when every last vestige of energy goes into a great leap for the tape—and that gathering of energy brought him defeat. Even as he leaped Scholz drove

through, the fierce, closing spurt when form and everything else is forgotten. Scholz won. The crowd thought it had been Paddock, believed that great leap had carried him over first, or at least in a deadlocked finish. The judges said it was the driven form of Scholz that had breasted the tape.

We'd been talking to Lawson Robertson, head coach of the American Olympic team, on the subject of Paddock and that finishing leap that had so often marked his victories. Paddock has always insisted it was a great factor in his triumph. Robertson and others gray in the lore of the cinderpath have laughed at it.

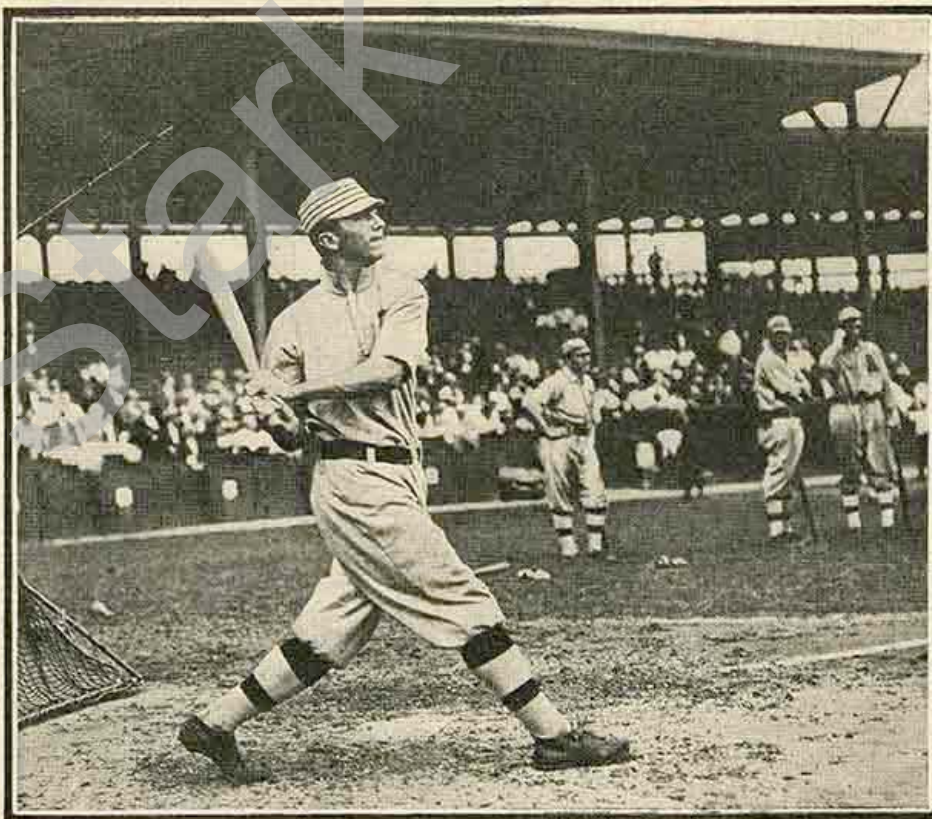
"You write about the power of the punch and about these wonderful finishes," Robbie said, in that deep-voiced drawl with its slightly Scottish accent. "Put this down. Paddock can win with that leap as long as he's far enough ahead, but if it ever comes to a matter of inches he'll be beaten by the man that follows through and gives his last bit of energy and speed in one explosive bit of running instead of jumping."

Robbie was a prophet.

Paddock, the champion, the supreme sprinter of his

time, had the power of the punch, but it never had been tested to the limit, and when the crucial moment came, his throne tottering and his crown wobbling, he did not know how to use it.

For ten rounds Jack O'Brien, probably as scientific a boxer as ever graced the ranks of the heavyweights, literally cut Stanley Ketchell to pieces, actually made the famous middleweight champion look like a novice.



Keystone

Frank Baker, who won fame as a home-run king back in 1911 because he had the power to come through in a crisis.

Bleeding and with eyes almost closed, Ketchell fought on, outclassed, outgeneralled, outfought. But the great Ketchell would not go down to stay. The last round was on and O'Brien cut loose with all his mastery, picking his openings like a great swordsman and shooting the punches through with a snap. And Ketchell kept coming in for more, reeling and groggy, badly beaten. There were a few seconds to go before the bell. Ketchell would save the last remnants of his prestige by avoiding a knockout.

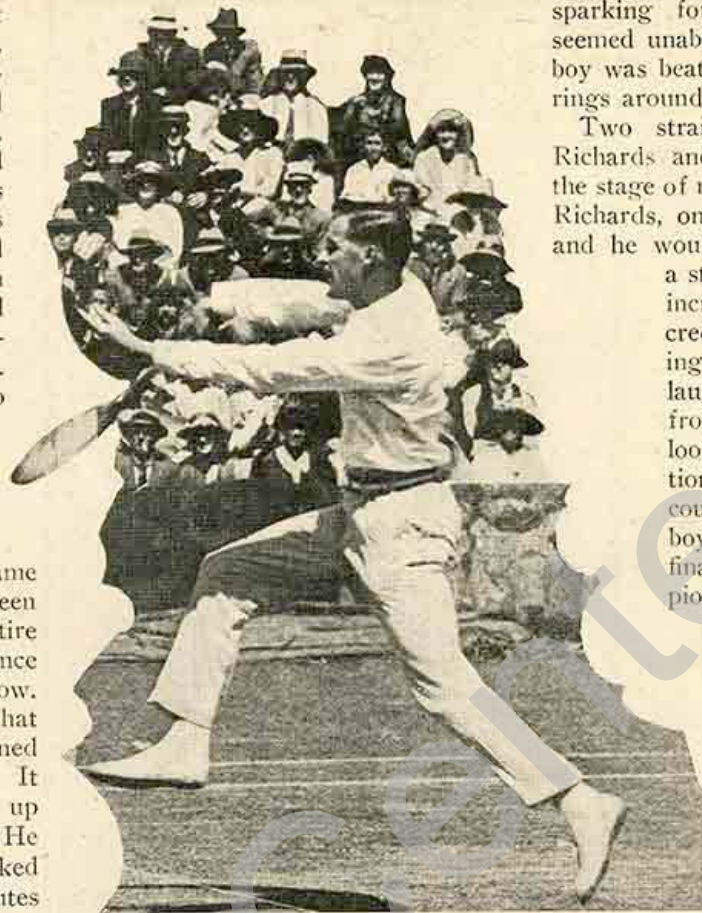
Then something happened. From somewhere came that famous right. It had been flailing away through the entire fight to no avail, had not once landed more than a glancing blow. But this time it swished over that amazing guard which had turned it aside round after round. It landed. O'Brien's heels came up and his head hit the floor. He stayed down, motionless, knocked so completely out that minutes went by before consciousness returned. And Ketchell—well, the great Stanley shambled around the ring even after the final bell rung ending the fight officially, waiting for O'Brien to get up to let him have another one. Here again it had won.

Bleeding, eyes almost closed, outgeneralled, yes, but most decidedly not outfought, was Ketchell, the mighty prince of middleweights. His prestige had been swaying, was almost lost, but he'd had one thing to save it and bring it back—the power of the punch. It is only when it really means something that the power of the punch really counts. Scholz had it in that Olympic final of the 200 meters, so did Ketchell when the crisis came.

Some years ago we saw the arrival of a new meteor in the firmament of tennis stars. It was, if we remember correctly, the final match for the national indoor championship. Tilden was one of the players. The other was a thin, wiry youth then little known to fame, Vincent Richards. What the scores were exactly we are unable to recall; we've seen a lot of tight and thrilling matches since that time.

Tilden, the temperamental, was in one of his streaks of mediocrity. We've seen that happen to him a dozen times. Given an easy opponent and it was almost a sure thing that Tilden would play tennis scarcely better than that of his adversary. And sometimes he didn't play as well. He seems to have overcome a good deal of that penchant recently, but at that time it was most pronounced. And it looked right then and there as though Tilden, the champion and the greatest of them all, was to be shorn of a crown by a smooth-faced child.

Big Bill had simply lazed along. The spark was not



Keystone

Big Bill Tilden is the world's master on the tennis court not merely because he has dazzling speed and technique, but because he has the characteristic psychology of a champion, the power of the punch in a pinch.

sparkling for some reason that he seemed unable to solve himself. The boy was beating him, literally playing rings around him.

Two straight sets had gone to Richards and the third had reached the stage of match point. One ace for Richards, one slight error by Tilden and he would have gone down into a straight set defeat. Sounds incredible and it seemed incredible then. It was amazing. There were quick little laughs, suppressed it's true, from the spectators. They looked at each other questioning, then back to the court where that grim little boy was set to deliver the final thrust to topple a champion. And Tilden could not

get started, had not gotten started all that afternoon.

Richards cut a vicious one over the net toward the far corner of Tilden's court. It looked like an ace and defeat for Big Bill.

Then, again, something happened. There was a lunge of a long, white clad form.

Tilden's racket was there and smashed it back. He had not done that all afternoon. Richards missed it and seemed surprised. It couldn't be the Tilden he had been playing who returned that shot.

There was a service, a close-fought volley and then Tilden killed one, smashed it over with such amazing force that Richards had no chance to even move his racket toward it. Again and again that happened. This was a different Tilden, a man who had galvanized into a fighting wizard of the courts. There were shots that no other human being could have made, blasting volleys, serves of such frightful speed that Richards was aced while standing flat-footed, seeing that streak of white shoot past him but unable to lift a hand to return it.

The tide of battle had changed. It was unexplainable. There was no answer. Out of the mist of those things that are beyond comprehension some mystic impulse had marshalled the reserves and thrown them into the breach. A veritable avalanche of whizzing tennis balls raked the defenses of Richards, battered him over into defeat in that third set. He'd had it match point against a lethargic, slipshod champion, and that champion had changed suddenly, in the midst of play, to a dynamic, unbeatable creature impossible to withstand.

The fourth set and the fifth were different. It was Tilden the supreme conqueror of the nets now, sweeping out with that long and mighty forehand, a back hand almost as deadly, a master of strokes spurning the soft

strategy of lobs and easy cut shots, beating down his challenger by sheer speed and power.

Again the crowd looked at each other questioningly. Few had ever seen such tennis. There was no suppressed laughter now, merely gasps that anyone could hit a tennis ball so hard. Richards was actually swamped. He had come to the high crest of fame, reached for it and been battered back down the long slope by the man to whom tenancy of that high crest belonged.

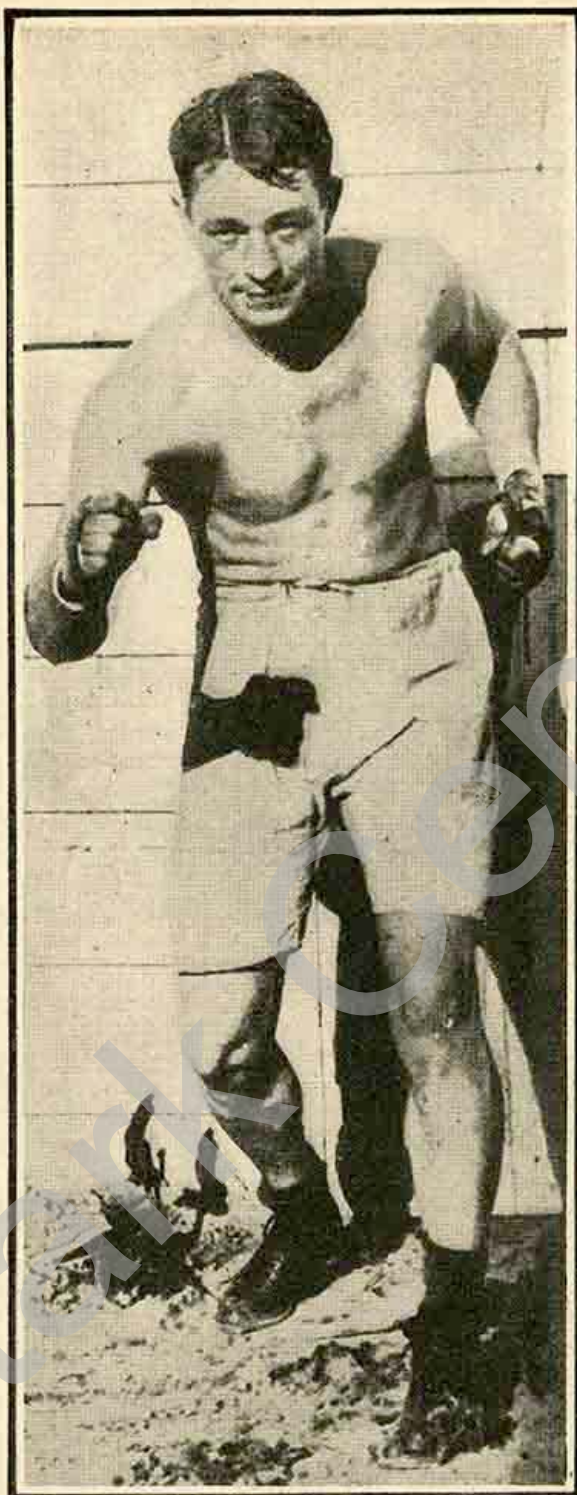
Again, it is only when it means something that the power of the punch really counts, and it meant something to Big Bill Tilden that day.

On an October afternoon back in 1911 Frank Baker, heavy-footed third baseman of the Philadelphia Athletics, smashed a baseball out of the lot against lanky Rube Marquard. It was a fast ball served up by the great left-hander, if memory is still on the job. There was no reason in the world why Baker should have hit that ball for a home run, being a left-handed batter against southpaw pitching, but he did nevertheless. It beat the New York Giants. There was some criticism of Marquard for serving that kind of a pitch to Baker, although Marquard had little or nothing to do with that pitch beyond throwing it. He'd been ordered to pitch just that kind of a ball. But he got the "panning" just the same. That wallop decided the game.

The next afternoon the famous Mathewson went to the pitching peak for the Giants to stem the tide of Athletic triumph with his brilliant "fadeaway."

Once again Baker connected and drove the ball from the park for the hit that beat Mathewson and was the really deciding factor in the world's series.

Never in his life did Baker hit the ball like Babe Ruth. He was "dubbed" the home-run king because of those two hits. He was a great hitter; but one thing, and one thing alone, brought him enduring fame. He had the power of the punch when it meant something. In a time of crisis, in a pinch when nine out of ten fail to deliver, Baker came through the same as Tilden,



Keystone

The late Stanley Ketchell, undoubtedly one of the greatest fighters that ever lived and in his time a middleweight champion of the world.

as Ketchell and as Scholz.

That is the secret keystone on which the foundation of a champion is built—to have the punch when the need for it is desperate, to be able to swing the tide of triumph when the thumbs point downward to the pathway of defeat cluttered with the shades of those who have had the opportunity and failed. It takes something and we've often wondered what—nerve or lack of nerve, some flaming spark that ignites the spirit of the conqueror which will not bow. Whatever the answer may be, look about and note how those who are called champions seem always able to rise when the emergency is greatest. It's the power of the punch—more than that, it's the power to produce that supreme punch when nothing else will do. That seems to be the secret path to the heights which champions know.

This power of the punch as a thing to be valued and prized only when it is capable of coming through in times of greatest crisis has perhaps rarely found a greater exponent than in the case of Babe Ruth during the season which is waning now.

His fame rose to greater heights in other seasons, the plaudits of the mob sounded louder in his ears. But those other triumphs meant little. His mighty bat was a factor in the sweeping conquests of his team, but it was a team that would have won with another in his place.

But this year those veterans of the mound slipped and the war bludgeons of the other sluggers were stilled all too often for the joy of Gotham. Look back through the box scores and a surprise is in

store for you. Where in other seasons Ruth amounted to comparatively little excepting from the spectacular standpoint, and there were many who charged him with being a liability rather than an asset to the game and his team, this year it was different. For once in his sensational career he has delivered at a time when those wallops meant something. In game after game he, and he almost alone, has swung the victory tide. At last the diamond can hand him the palm, for in 1924 he stands almost alone, a symbol of the power of the punch.

Milk—the Supreme Food

When In Doubt, Go Back to Milk, the Miracle Worker—for Nerves, for Growth, for Flesh, for Strength, for Better Blood and Health

By Carl Easton Williams

SUPPOSE for a moment that I am an advertising expert, trying to sell you a mysterious patented food, one that presumably accomplishes wonders in human nutrition. I therefore write an advertisement that reads somewhat as follows:

"There is one perfect and all-sufficient food just discovered.

"It is the great blood food, that is, the one food which is most easily converted into human blood, which is the very stream of life.

"It is the great nerve food, most quickly building up exhausted and broken down nerve cells.

"It is the great growth food, upon which children will grow most rapidly in both size and strength, and upon which infants double their weight and size in a period of five months. Surely, it is a miracle-working food, to accomplish this.

"It is the food that will give one fat, when fat is needed, but it is at the same time the best of muscle building foods, better than meat. It is, in short, the great flesh-building, blood-making, organ-strengthening food."

But, as it happens, I am not an advertising writer and I am not talking about any patented food at all, but about one of our common everyday foods, about which, however, all of these things are true.

You have already guessed it. This wonder-food is milk. It is the one food which in all the great laboratory of Nature is produced exclusively for food and for no other purpose whatever.

Many of our best foods are of greatest service only in combination with others. There is safety in the number and variety of such foods. But this one food in itself satisfies all requirements.

And yet all this sounds too good to be true. There must be a catch in it somewhere. There is. Milk is so good that it may be dangerous. Being the best food in the world for babies, it is also the best food for bacteria, an ideal medium for germ cultures, and therefore carrying with its qualities of benevolence as a life-saver, a similar quality of malevolence as the instrument of disease and

death. While good milk has saved babies, bad milk has killed babies. Like electricity or fire, it may be a blessing or a curse. Its use must be subject to certain conditions. Your local board of health is trying to establish those conditions, but we will come to that later.

Milk is meat and drink for the baby. It is also meat and drink to the adult. It is seven-eighths water and one-eighth solid food. It is literally meat because it contains a considerable percentage of protein, about one-fourth of its solid matter. To put it in another way, every glass of milk contains a material portion of liquid fresh cheese which is easily digested and which is muscle building or tissue building in the same respect as meat.

But milk is more than meat because it is an energy food as well in respect to its fat, the cream of milk or butter fat being the form of fat accepted more gratefully by the human stomach than any other food in the world and more easily assimilated. It is more than mere fat, however, for it has a curious association with the assimilation of organic lime and possibly other elements. Again, cream or milk fat is a nerve food, containing that most important of vitamins, fat soluble "A." Incidentally, speaking of vitamins, the skim milk contains that other important vitamin now classified as water soluble "B." How many more vitamins the whole milk may contain is not yet known.

However, milk is at the same time our best lime food and in general our best mineral food. It is chemically a perfectly balanced food, upon which one never will and never can develop an acid saturated state of the tissues of the body, because milk contains the base forming elements which neutralize acids formed in the system by the end products of the protein which it offers the body. Milk is one of the few foods which is in this way perfectly well-balanced.

Not only is milk the best lime food in the world and therefore of special value in tuberculosis, which seems to be a lime deficiency disease, but it is the best of all foods for supplying the organic salts of potassium, phosphorus, magnesium, sodium, chlorine, iodine, silica, and the other minerals found in the human body in small quantities, but most vitally needed in those small quantities. Iron alone is not

If You Had to Choose One Food Exclusively - - ?

IF extraordinary circumstances compelled you to limit yourself to just one food for a period of months or years, what food would you choose? What food would you feel safest in depending upon exclusively for the rest of your life? If you were wise you would choose milk.

If you were limited to two foods, you would wisely choose bread and milk, meaning by that, of course, an honest whole wheat bread. Actually there are among us occasional dyspeptics who after years of abuse of their stomachs have found it necessary to return to an almost exclusive diet of milk. You will see them occasionally in your restaurant at noon, eating a bowl of milk with Graham crackers or shredded wheat. And they get along nicely, thank you, on that diet.

Since, however, you are not confined to one food exclusively and, in fact, have a whole world full of food to pick from, you may find it advantageous to get acquainted with the extraordinary value of milk as forming at least a part of an ideal diet.

plentifully supplied in milk, the reason for this presumably being that the baby calf, like other babies, has stored up in its liver at birth a sufficiency of organic iron in a quickly available form to last it through the normal period of lactation and until weaning is accomplished. The slight percentage of iron in milk makes it desirable to include in any strict milk diet a certain amount of orange juice or other fresh fruit juices.

We have said that milk is the great growth food. Bulletins of the United States Department of Agriculture recognize this in their insistence that every growing child be supplied with a quart of fresh milk a day, or at least a minimum of a pint and a half, which is three full glasses. That, according to the best authorities, is the minimum of milk to be consumed by every growing child in conjunction with other foods. As a matter of fact, a sufficiency of milk will make a child's diet more or less fool-proof. In other words, irrespective of the ignorance of the parents and the inadequate or unsatisfactory character of other foods in the diet, if only a child can have a quart or a quart and a half of milk per day, this will counterbalance the inadequacy of the rest of the diet so that the youngster has every chance to live and grow strong. An even more ideal arrangement would be a sufficiency of both milk and fresh fruit. It is of course desirable that all foods given to any child are of an adequate blood and bone building quality, but the point is that milk is so wonderful in its value that it will even compensate more or less effectively for the failings of an otherwise improved diet. However, give your child plenty of milk and fruit, plus good whole wheat bread, whole grain cereals, green foods and fresh vegetables from which no water has been drained off in cooking, and he will grow strong and sturdy, as well as being practically proof against disease of any kind.

I know one case of a little girl who was a "finicky" eater. She didn't like this and she didn't like that—and picked at her food. It was pointed out to the parents that from the standpoint of food values, milk, even at the advanced price of the time, was the cheapest food they could buy. They found that the little girl who was so fastidious about other foods would drink plentifully of milk, indeed, almost living upon it when given enough of it. The result was that she commenced to grow at once. She not only grew in size and in weight, but she grew in strength, which is just as important, and sometimes even more important, as an indication of good nutrition.

Apparently the same qualities in milk which provide for growth also are responsible for its influence in favoring the rapid healing of wounds, and also its value as a nerve food in serious cases of neurasthenia. There is no fatigue like the fatigue of worn-out nerve cells. There is apparently no other tissue in the body which when once exhausted or broken down builds up so slowly as nerve tissue. That is why the victim of a nervous breakdown usually requires months and sometimes years properly to recuperate. Milk is of more value in a condition of this kind than any other food we know.

There was, for instance, the case of Mrs. D., who had undergone food privations in Germany during the great war, having been an American interned there at the time the war broke out. By the time the armistice was signed and Mrs. D. was able to return to the United States, more or less starved, she was a nervous wreck. She continued without improvement for endless weary

months until she learned of the value of milk in this condition. Thereafter Mrs. D. used from a quart and a half to two quarts of the best obtainable milk each day and experienced a gradual but steady improvement. Her experience only tallied with that of other sufferers from nervous exhaustion, in finding that milk is the supreme food under such conditions.

Milk provides the means for gaining weight for those who are below normal, not because it is a fat yielding food but because it is at the same time a muscle-builder and a blood-making food. It builds not merely fat but flesh, and provides the means by which organs and glands may build themselves up to normal size and strength. A typical case was that of a newspaper man who for years weighed in the neighborhood of 140 pounds although tall enough for a normal weight far above that. His chronic complaint was he was always tired, never had any energy and had to force himself to his work. But he accomplished a revolution in his physical condition when he commenced to add milk to his food. He simply stopped the use of tea, coffee and ice water, and substituted milk. He told me that he drank from six to eight glasses of milk every day in conjunction with his regular meals, sometimes one or two glasses of milk before going to bed. This man's weight increased from 140 pounds to an average weight of 180 to 185 pounds, at which weight he looked healthy and was never tired. Milk had given him normal health and energy.

Milk is of value not alone as a means of building weight, but since it provides more perfect nutrition, of building strength. As a conspicuous example, I might cite the case of the oarsmen comprising the Washington University crew which this summer came East to take the measure of the best crews of our Eastern Universities, including Cornell, Pennsylvania, and Wisconsin, upon the Hudson River. The phenomenal strength by which the Washington crew was able to defeat the most seasoned oarsmen of the East has been attributed to the use of milk in the diet of the Westerners. They were all required to consume upwards of a quart of milk a day in their training table.

However, just as soon as one begins to speak of milk he meets with the objection that some people simply can't drink milk, either because they don't like it or because it seems not to agree with them. It may be true that there are a few who have such an idiosyncrasy just as one finds rarely those who can't eat strawberries or cucumbers. As a rule, however, the reason why people can't use milk is found in the attempt to add it to a diet already over-supplied with protein. Take, for example, the young man who eats eggs for breakfast or possibly eggs with ham or bacon, who then eats meat for lunch and again meat for dinner, together with odd portions of nuts, cheese, fish and poultry, in salads or otherwise. Such a person has already an over-abundance of protein in his diet. To add milk to such a layout would still further outrage a system already over-taxed. The blame for any distress is promptly placed upon the milk, whereas it is only a case of adding "meat" where one already has too much meat.

The solution of the problem in such a case is to substitute milk, which is a better form of "meat," for a less valuable form of meat. Very few can use meat in the strict sense more than once a day without over-taxing the system. Certainly if one (Continued on page 80)

The Fountain of Youth — *Your Spine*

The Importance of Perfect Alignment of the Spinal Column
Can Never be Overestimated

By *Ira W. Drew, M. D., D. O.*

WHEN Ponce de Leon wasted his life in quest of the fountain of youth it was a pathetic thing that there was no one who might have tapped him on the back in between the shoulders and informed him that there it was. Ponce probably would have thought the other was a madman, all the more so if his informant had explained to him that in between the shoulders is a relatively small area of the body by the proper care of which the slender, well-built figure of youth can be retained; also that by merely making sure this area is as it should be tuberculosis can be made to keep its distance and a great many other bodily ills that make life a burden can be overcome.

There is no spot in the entire body that can cause so much trouble as this and perhaps none to which so little attention is paid, simply because so few people take the trouble to find out the underlying cause of their ailments and overcome the cause. That is the main purpose of these articles—to show what causes physical and mental ills and how to overcome them, and this article is going to be devoted to those troubles which usually come from a spine that needs attention, showing how to correct the source of the trouble and overcome the ills.

It probably sounds far-

fetched to the average person to state that if you are overly fat the odds are heavy that your spine is out of alignment. Also if you are exceedingly thin and cannot put on weight by the ordinary methods of proper food your spine is out of its correct line. But it is true. And that is not all by any means. A very great many of those who die of tuberculosis die as victims to an insidious thing that should have passed them by but for a defect which could have been readily corrected in the beginning.

Between the shoulders in the spinal cord is the nerve center of the great digestive system. If you have trouble there, if the bones of the spine, the vertebrae, are out of alignment in any of the four possible ways, bending to the right or left, in or out, to any degree at all, trouble will follow as surely as day and night alternate. It may be that you will become obese, over-stout, or thin to the extent of scrawiness. It may be that some of the more common ills will beset you, such as constipation, the formation of gas, headaches, a feeling of fullness, a changing from a ruddy complexion of health to a pasty hue, or perhaps you will gradually lose your enthusiasm and pep. You may be affected by drowsiness a great deal and be ready to sleep at any time and there will be gradual auto-intoxication.

Certain nerve cells have been



No. 1 shows the vertebrae thrown backward (corrective treatment for this is shown on following page). No. 2 (circle) shows the vertebrae thrown forward, while No. 3 gives the corrective position.

affected. By the bending of the spine, the pressure on the spinal cord the food supply of these nerve cells has been shut off and they are merely sending out their protest, causing trouble with the part of the body they supply.

That tells the story in a nutshell, but it does not tell all of it. Very often it goes back to your childhood. Frequently it has had its beginning in the way you've carried your bag of school books. They didn't seem heavy, but they were quite a load. If you were not properly nourished at the time (although your parents might have been stuffing you with foods that did not make a complete diet), the trouble had its chance to start. Lack of any of the essential salts in your diet, mainly calcium salts, left the bones wanting the right kind of nutrition. You were probably eating bread made of white flour instead of whole wheat bread. Therefore you were not getting the necessary amount of calcium salts. Also you were very probably eating a good deal of sweets, too much candy and not enough fresh vegetables. Your diet was not balanced.

Bones and muscles alike were not getting all the things they needed. What was the result? There might have been a slight muscular weakness and a deficiency of lime sulphur in the bones, making possible a faulty posture of the body. That is as technical as we'll get and now we'll go on to show the results. That very weakness which would almost surely pass unnoticed, made it possible for the weight of your books, or any other strain that you might never be aware of, to swerve your spine out of its proper curve. Being continued over a period the temporary imbalance becomes permanent. Furthermore, as soon as you develop a swerve or curvature in one part the spine immediately sets about righting the body by developing another curvature to offset the first one.

When you have a curve you have a disturbance in the blood circulation to and from the nerve cells in that particular part of the spine which is involved. That is natural and easily enough understood. The pressure of the unnatural bend on the blood vessels must cut down on the flow of blood. If you have a hose through which a certain amount of water is passing and you press on it the amount of water that can flow through it is cut down, isn't it? The same thing applies to the blood vessels. Nature has constructed them so they are just

large enough to carry the needed amount of blood to each task. The blood is the food of the body. Cut down on the amount of blood that can flow through any blood vessel and you are cutting down on the food supply to the part that blood vessel supplies. Develop a curve in your spine and not enough blood can get through to feed the nerve cells in that particular part of the spine. Therefore the nerves cannot function properly and the distant parts those nerves control do not perform their tasks as they should. From the nerve cells in the spinal cord the nerves pass to every part of the body to control each function, and if they are not fed as they should be they can't work any more than your whole body can work if you do without food and water.

There is no mystery about it, no dark secret or intricate problem. Let us take the scourge of tuberculosis. The germ of tuberculosis is in us all constantly, but it cannot do any harm unless we allow ourselves to get into the condition that makes us an easy prey. The lungs are working continually at their task of cleansing the blood and carrying off the waste of the body. They have to be fed by a constant stream of food in the form of blood just as any worker toiling continually has to be kept well nourished. If you have a curve in your spine at the region where the nerves that control the lung blood supply are to be found, those particular nerves are going to quit their job. They are not being properly nourished themselves, therefore you can't expect them to be always



These two photos show corrective treatment for type of back shown in photograph number one, in which the vertebrae are thrown backward. Head is thrown back by a series of short jerks.

Hanging with the body in this position is the correct treatment for a lateral curve of the spine. This and other conditions of spinal mis-alignment are often the cause of our most common ailments and can easily be corrected if we know how to go about it.

on the lookout, seeing that your lungs get enough fresh blood food. The lungs begin to waste just as you would if you didn't get enough to eat, and Mr. Tubercular Germ hops to it with glee. He's got his chance and he becomes very active.



There is one safe standard by which you can judge, a barometer of your health. If you are losing weight have yourself looked after immediately. If you are normal in weight for your height and age and you put on weight or lose it, there is something wrong. You are not in perfect health.

We haven't exhausted the effects of spinal curvatures yet, by any means. It probably seems a long step from a vertebrae out of alignment to lack of sexual health and powers, or over-emphasis of sex, but that is another effect, for the ductless glands of the body are invariably affected by lesions of this type. And it must be remembered that the ductless glands control all the bodily functions to a large degree. For instance, a slight curvature between the shoulders might affect the pituitary gland, which is located in the brain, and when this gland under-functions the person takes on excessive weight. This entire gland also plays a very important part in sex development.

It is easy to explain how when this gland under-functions you become overly fat. The secretion of the pituitary gland prevents too much absorption of carbohydrates. When the gland is under-functioning there is not enough of this secretion and there comes an increased tolerance and desire for carbohydrates, often accompanied by a ravenous appetite. This often accounts for the almost unbelievable capacity of children, and even adults, for candy, cake, ice cream and such.

And you can put your pituitary out of order by over-indulgence in such foods, thus creating a vicious circle by which it demands constantly more and more of them.

It is not my desire to grow technical and there is an example that will show the effect of pituitary trouble. A noted research worker explains that the hibernation of animals, such as bears and woodchucks, is caused by under-activity of the pituitary, and people with similar trouble become excessively sleepy. There are other symptoms. In younger individuals there is frequent lack of growth and the growth is slow. There is apathy, dullness, the individual is easily discouraged, has little self-reliance or self-control. Also the sleep that comes does not bring proper rest. In girls and women suffering from under-activity of the pituitary, menstruation appears late and in severe cases not at all, or is irregular and scanty. The hair is sparse and the breasts likely to be large. Boys are apt to assume something of the female form about the hips and chest. The teeth go bad and the face is likely to be unintelligent and the skin dry and soft.

But there is the other side of it. When this little gland secretes too much there is a large and tall bony frame, devoid of fat. The eyes are wide apart, the face is broad, the cheeks prominent and the jaw square, while the hands and feet are large and awkward. Hair grows luxuriantly and the body perspires freely. Sex development is early and exceptional. The individual is keen, bright and excitable, but has little decision and is petulant. A lot of so-called temperamental artists are affected this way.

It all sounds quite horrible and involved, doesn't it? Well, it isn't. It isn't nearly as bad as you'd think, because it is comparatively easy to overcome if handled properly. It has not been so long that we've known how these spinal curvatures and these ills of the ductless glands hold multitudes of human beings in physical bondage, but now that we know it, we also know that

you can often help yourself to overcome them.

In rare cases brain tumor causes them, but usually they are the result of purely mechanical abnormalities and wrong habits of living. Fortunately the majority of cases of spinal curvature and pituitary disfunction are of minor types and respond promptly to continued treatment when recognized before they have gone too far. Osteopathy is without doubt the best single agent to employ in combating these disorders, but you can get very definite results yourself.

Here are the home treatments that you can go through, but you must understand that they simply have to be given ample opportunity to work. You've got to continue them if you are going to get results.

If your spine curves too far in at the shoulders lie on your face at night with a pillow under your chest.

Also:

Lie on your back with your hands behind your neck, the fingers interlocking. Throw the head slightly forward and pull with a series of easy jerks until the chin is on the chest. Do this twenty times a day—ten at morning and ten at night.

If your spine curves too far out at the shoulders (if you are developing a "hump") put your hands behind your neck, the fingers interlocking, and throw the head back by that same series of easy jerks. And hold your stomach in while you are doing it.

If your spine has a lateral curve (to one side or the other), hold to the top of a door with opposite hand and simply let the weight of the body hang. This can be done at intervals, a number of times each day.

Those are about as simple as any exercises can possibly be. There is no effort, no tiresome, boresome work, and an amazing amount of the evils that beset humanity can be overcome by them.

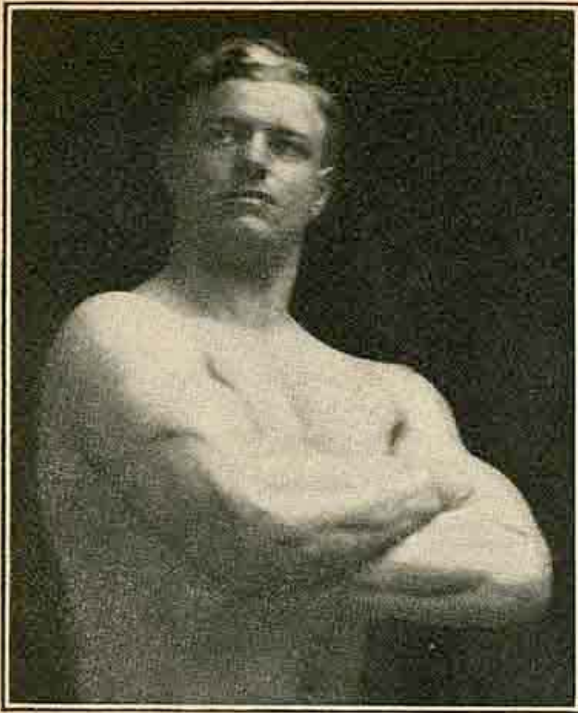
Of course, if the trouble has reached the "far gone" stage where you are fifty pounds overweight, or you have a case of advanced tuberculosis, or you are six feet six and still growing, or you cannot keep your eyes open even when you are eating, simple home exercises alone are not going to cure you in a few weeks. You need an expert then. But in a very large majority of cases you can prevent any such things.

And you've got to take this tendency toward spinal curvature in the human race into consideration as applied to yourself and to your children if you have any.

When they are complaining about their physical condition, make sure that this region is not affected. It will be well worth the trouble to set your mind at rest on this point, as well as to ward off further ills. If they are "dragging around" and you know of no reason for their apathy, an examination will do no harm and may do worlds of good. Take no chances where their health is concerned. Stick to the old saying, "An ounce of prevention may be worth a pound of cure."

To be "gone over" by an expert every now and then is not very costly and is a great safeguard against these conditions. A spinal misalignment, if not longstanding, can be quickly and easily corrected and will leave no bad effects whatever. We all know the danger of neglecting the human body, and now that we know the importance of the spinal region with its great nerve centers, we will not mind giving a little additional care to that region.

In my next article I am going to take up foot ills and go on to the bodily ailments they cause, showing how to overcome them by the simplest of treatments.



Joe Nordquest in 1917.

Who Is Joe Nordquest?

The Supreme Example of
Arm and Shoulder Strength
—Holder of American Rec-
ords in Overhead Lifts

By
Alan Calvert

WHEN writing some of the articles on the subject of muscle-building which have appeared in this magazine in recent months, I have had occasion to refer to the extraordinary strength and development of Joseph Nordquest. This great lifter's feats of strength are familiar to the older readers of the magazine; but judging from the letters I receive there seems to be a very large number of the present readers to whom Nordquest is merely a name. This may be due to the fact that he retired several years ago from active exhibition and competition.

I first met Nordquest early in 1915, although I had been corresponding with him for several months previous. At that time the American Amateur Record for the one-arm bent press was 241 and a fraction pounds. So when Nordquest wrote me that he was lifting 255 pounds regularly in practice I considered that his claims were really worthy of a personal investigation. The name of Nordquest was well known to me because I had years before sold a bar-bell to Arthur Nordquest, the oldest son of the family. Also I had seen on the stage the remarkable performances of Adolph Nordquest, a brother of Arthur, who was known on the stage as "Young Sandow."

Right here a little explanation is necessary. That part of the public which is interested in athletics is well informed regarding all the records made in such widely practiced sports as running, swimming, jumping and weight throwing; but when it comes to weight-lifting records the athletic public is blithely ignorant. The average man has so little strength that he is unable to put up with one arm a weight of 50 pounds and, therefore, quite naturally considers that a man who can put up 100 pounds is very unusually strong. In many gymnasiums you will find a single hundred-pound dumb-bell and it is frequently the case that there is only one man, among those who use the gym., who can put that weight to arms' length above the head. Once the limit of 100 pounds is passed the public is no longer critical. It seems to consider that when a man can lift aloft more than 100 pounds his strength is beyond their comprehen-

sion. Lifters, being quite human, are prone to take advantage of this lack of knowledge and there have actually been cases where athletes have gained widespread reputations as lifters on no more basis than their own unsupported statements that they had lifted so-and-so many pounds. Due to my connection with the lifting game, I have received a great many letters from different parts of the country in which the writers claimed to have made extraordinary lifts. Whenever it was possible I have made a personal investigation. If it happened that the claimant lived at a great distance I would get some other lifter in his neighborhood to investigate and make a report. I am sorry to say that in many cases the lifter was unable to live up to his claims. Sometimes it happened that a man who said he put up 200 pounds with one arm could do no more than 150 pounds, if he were really forced to a showdown. In other cases a claimant who claimed a record of 200 pounds would actually succeed in raising 185 or 190 pounds, and in such an event his claim was not doubted because very few men are able to duplicate their best performance at will. There are many athletes who can do better in practice than in a public competition or exhibition, and if a man can lift ninety percent of his best record the first time he makes an official trial before strangers, I, for one, am quite ready to believe what he claims to have done in practice.

You would be surprised to know how many athletes there are who can press to arms' length a weight of 200 pounds. Almost any good hand-balancer can quickly acquire the power and skill necessary to put up a 150-pound weight. Almost any good professional "strong man" can put up 200 pounds without much show of exertion. Many first-class amateurs have done more than 200 pounds. A "strong man" who can make a one-arm bent press with a 200-pound bar-bell ranks just about the same as a college athlete who can clear 6 feet in the running high jump. The lifter who can bent press 235 pounds ranks with high jumper who can clear the bar at 6 feet 3 inches. As you all know, the jumper who can consistently beat 6 feet 3 inches has a good chance of at least winning a place in any com-

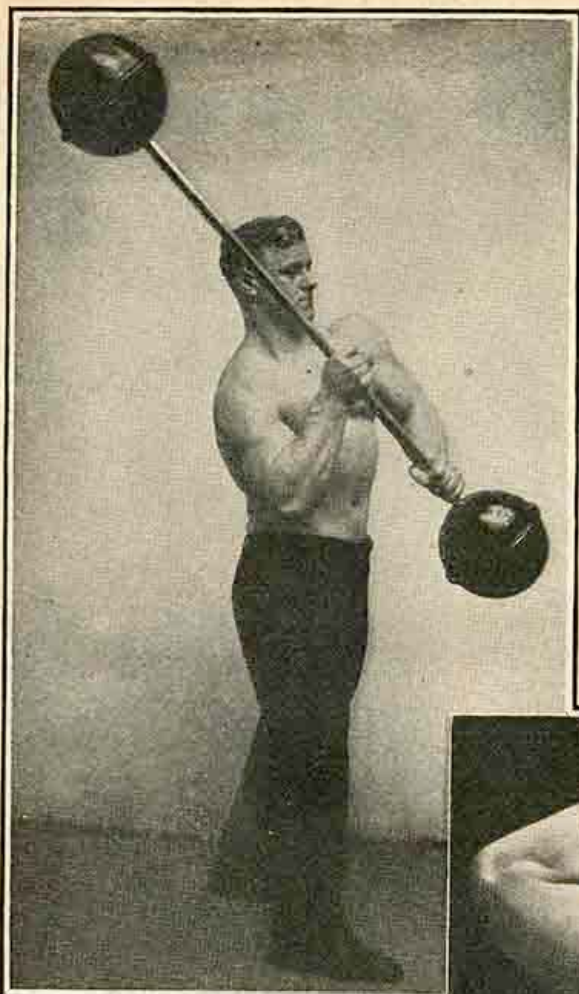


Figure 2. Nordquest does a "wand drill" with a heavy barbell, holding it off-centre just to make it interesting.

Figure 4. Illustrating not only the great size but the smooth outlines of Nordquest's development.

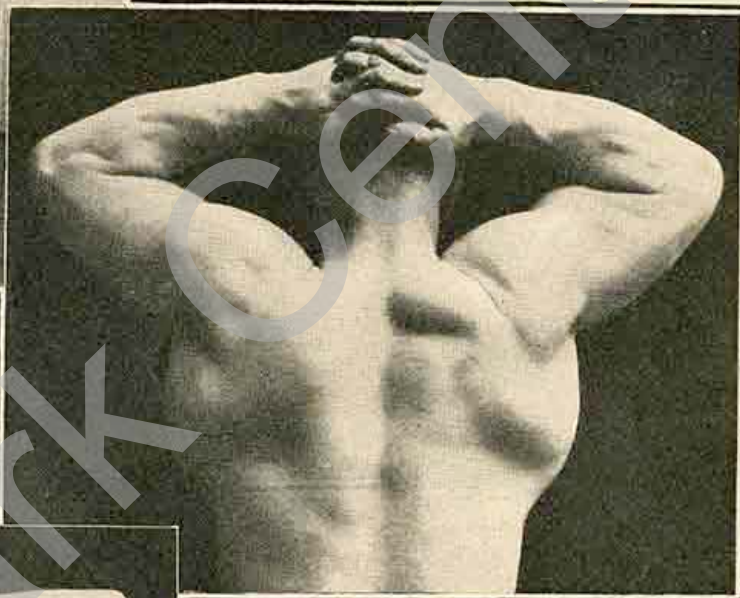
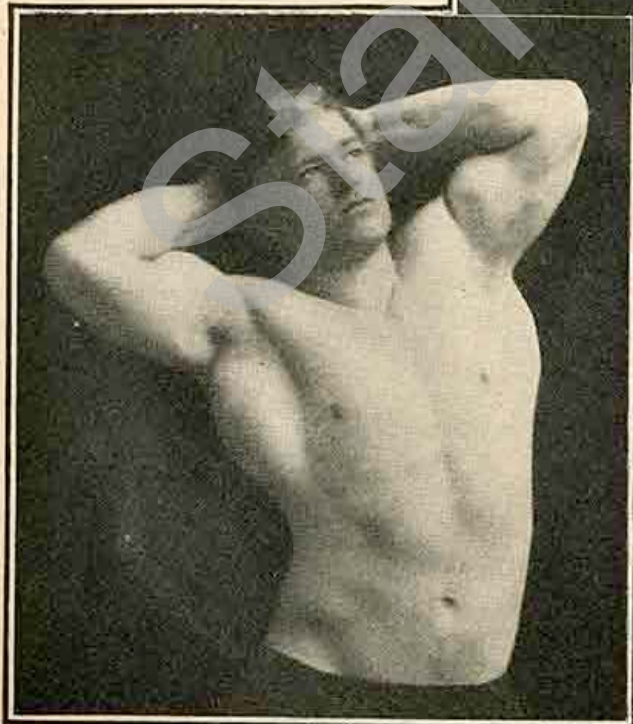


Figure 3. Taken to show control of shoulder-blades, displays also the difference between the right and left arm, which is a normal difference. Yet Nordquest makes his bent press record lifts with his left arm because of his injured left leg.

petition he chooses to enter, and I can assure you that a lifter who can consistently bent press more than 235 pounds is good enough to beat most of the "strong men" whom he would meet in competition.

Since the amateur record in 1915 was but a trifle more than 241 pounds, I was keenly interested in Joe Nordquest's statement that he could press 255. If I had not known his older brothers I would probably have considered that his claim was beyond belief; but having seen Adolph lift and being in possession of pictures showing the wonderful development of Arthur, I decided to write and ask Joe to send me some snapshots of himself. He immediately responded by sending some snapshots showing him lifting living weights; and those pictures revealed such a tremendous development and such knowledge of lifting positions that I quickly arranged to make a trip to the Nordquest home at Ashtabula, Ohio.

The Nordquest family are in their way just as remarkable as the famous Saxon family of lifters. Arthur Saxon was famous for two things: First, that he could put up with one arm a greater weight than any other man in history; and second (which is even more remarkable), that he never exaggerated his performances. If you put Arthur to the

test it usually turned out that he could actually do more than he claimed. The Nordquests one and all have this same characteristic. With me their word is better than another man's affidavit. If one of that family tells me that he has made a certain lift I accept his statement without hesitation, because I know that he would not say it unless he had made the lift, not once, but on several occasions.

Before I left Philadelphia I expressed to Ashtabula a huge bar-bell of the adjustable variety. I figured that if Joe could actually do what he claimed it would be nice to have some pictures of him in the act of lifting, and that if he succeeded in lifting 255 pounds with the adjustable bell he could change its weight and try 260 pounds or more. Never depend on an express company. It always fails you when you need it most. I reached Ashtabula about one o'clock and we decided that Joe should make the lift at about three in the afternoon. At that hour the express company had not yet delivered the bar-bell, but as the light was getting bad we finally decided to let

Figures 5 and 6 illustrate Nordquest's control over his shoulder-blades. In Figure 5 the shoulder-blades remain in their normal position, this being a photograph of Nordquest's wonderful chest. In Figure 6 (circle) Nordquest has spread his shoulder-blades, giving him prodigious "chest expansion."

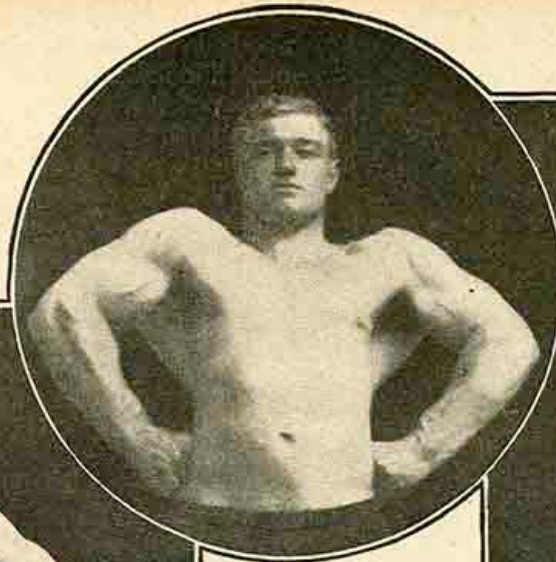
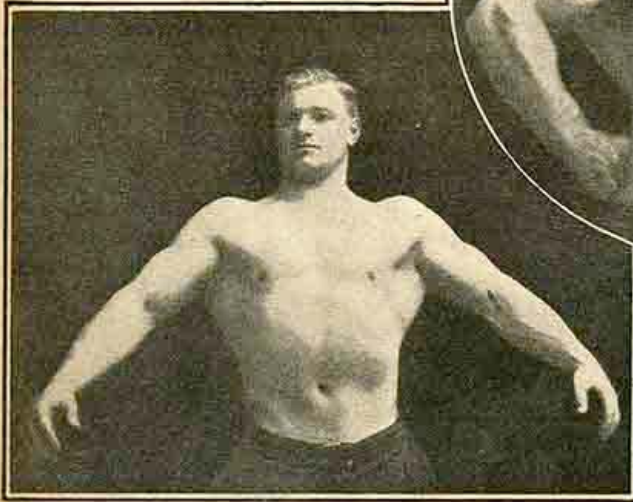


Figure 7 (at the right), another example of shoulder-blade control, a pose originated by Sandow. Note trapezius and triceps muscles.



Joe use such weights as he had at hand. The family owned one of the original Milo bells; but that was not heavy enough. They had a bar-bell with solid ends weighing about 150 pounds, and to each end of this bar-bell Joe tied a heavy iron weight. The scales showed that the assemblage weighed exactly 255 pounds. Joe lifted it to his left shoulder with two hands and then leaving go with his right hand, pressed the bell to arms' length overhead with his left arm. In order to make the surest of the sure the bell was again weighed and again the scales registered exactly 255 pounds. Next Joe elected to attempt a record while lifting in the wrestler's-bridge position; that is, with the weight of the body supported on the soles of the feet and the crown of the head. In this lift both arms are used, and Joe pulled the 255 pounds of iron around to the chest and then slowly pushed it to arms' length without much exertion. By this time quite a crowd had collected and Joe entertained them by doing a series of remarkable feats of strength. Just as we were about to adjourn to the photographer's gallery to get some muscle poses, the express company arrived with the big bar-bell. There was no time to load up the bell; so we hurriedly took one or two snapshots showing Joe making the bent-press. We then hurried to the photographer's gallery and a few poses were taken. At that time Joe weighed 168 pounds, had a 44½-inch normal chest, 16½-inch upper arm, 13¾-inch forearm and 25-inch thigh.

I would have considered myself sufficiently rewarded for taking the trip if Nordquest had pressed only 245 pounds, and it would not have surprised me if he had made several unsuccessful attempts before he managed to raise 255. After I saw him make the lift the first attempt I could readily believe his statement that he could lift that amount any time he tried. Instead of saving himself up for the trial, he had lifted 255 daily for three days previous to my visit, and it appeared that

the only reason that he confined himself to 255 pounds was because that was all the weight he had.

Some time later he wrote me another letter saying that he had done well over 270 pounds in practice, that he was contemplating visiting New York and that he would like to stop over in Philadelphia and make an attempt to beat 275 pounds. Sandow's best record in the bent press was about 271 pounds; Louie Cyr had done 273 pounds; John Y. Smith of Boston and Adolph Nordquest had both done just about 275 pounds, unofficially. I told Joe to come whenever he was ready and he in turn notified me that he would take the next train. He arrived in Philadelphia at about ten in the morning, having sat up all night in the day coach and getting no sleep whatever. We sent out a number of invitations by telephone and got together an audience of about a dozen experts. Joe ate a light lunch, spread himself out on a bench and got about a two hours' nap; but when the audience assembled and the lifting was started, Joe was very palpably tired. He lifted 270 pounds at the first attempt and then made two or three unsuccessful attempts at 277, and then announced that it was not his day. None of us who were watching him had ever seen 270 pounds lifted by any man except Arthur Saxon; so we were pretty well satisfied with what Joe had done. He moved on to New York, returned to Philadelphia a couple of weeks later, and before a much larger audience did 277¼ pounds.

He visited my factory on various occasions in 1916 and 1917 and did some wonderful lifting. In February, 1917, he lifted 388 pounds in the style known as the shoulder bridge, beating Arthur Saxon's record by 2 pounds. Previous to that he had broken the record in the lift known as the 2-arm press on back, raising 363½ pounds in this style and breaking Hackenschmidt's record by 2½ pounds. One of the pictures accompanying this article shows Joe making that record lift.

Joe's great ambition was to be the first American

lifter to raise 300 pounds in the "bent-press" style. The only reason he failed to create an official record with that weight was because of the way he trained. He never had any idea of saving his strength and every day he practiced he would "go all out," as the trainers say; that is, instead of practicing with a weight somewhat less than his best record he would use every day the heaviest weight possible. On one occasion I announced that he was going to try for 300 pounds, and when the day of the exhibition arrived he could do no more than 284 pounds, and he was so disgusted with himself that he refused to claim that figure as his record. Several of my New York friends had been watching him train and told me that for several days in succession previous to the trial he had lifted more than 300 pounds at the Greek-American Athletic Club in New York. To make a bent press with a heavy weight takes tremendous strength in the sides of the waist, and Joe had practiced so hard and his side muscles had become so sore that it was painful to lift. I firmly believe that if he had done his daily practice with 265 or 270 pounds, and lifted his 300 only once a week, that he might have done as much as 310 pounds on the day of the exhibition. I have not heard from him for several years, but I still believe that any time he takes the trouble to train he can beat 300 pounds.

Owing to an injury to his left leg it is impossible for Joe to practice the "quick lifts," and when he makes his one-arm bent press he is compelled to use his left arm, because when making a bent press the weight of the body is carried largely on the other leg; that is to say, if you are pressing with the right arm your left leg is the important one, and vice versa. If Joe had been able to use his right arm (which was noticeably bigger and stronger than the left one), he would quite possibly have given Arthur Saxon a race for his honors. It would be difficult to find a man who could approach Joe in sheer arm and shoulder strength. Hackenschmidt and Saxon are widely recognized as being two of the strongest men who

ever lived, and in tests like "lifting while lying on the back" Joe had not the least trouble in breaking the records made by the two athletes just named.

All the members of the Nordquest family are powerfully built. As I recall it there were six brothers. Arthur, Adolph and Joe, who trained with bar-bells, all became famous "strong men." One other brother was a noted artists' model. The two younger brothers are noticeably big and strong, but so far as I know they have never trained and consequently are not nearly as strong nor as powerfully developed as the older members of the family. Joe did all his preliminary training with the old style Milo bar-bell which I sold to Arthur many years previous to 1915. At the start of his training he was the weakest of the family and no one thought that he would ever be able to equal the exploits of Arthur and Adolph. But then no one took into account the persistence and the bulldog determination which are such marked characteristics of Joe's make-up. He told me that many a time in the first few months he was utterly discouraged and about (Continued on page 88)

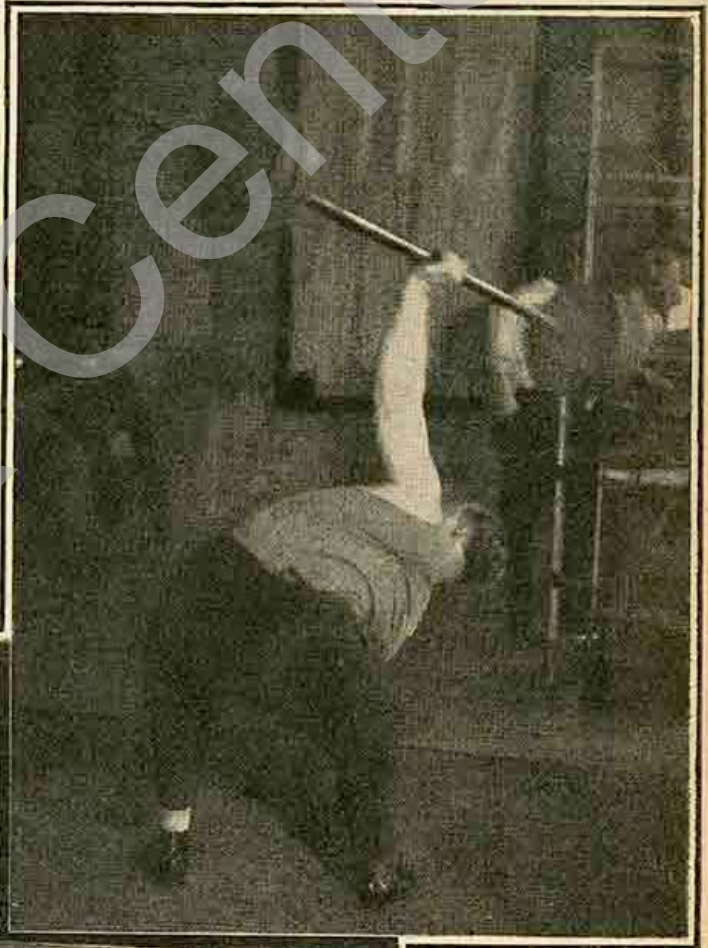
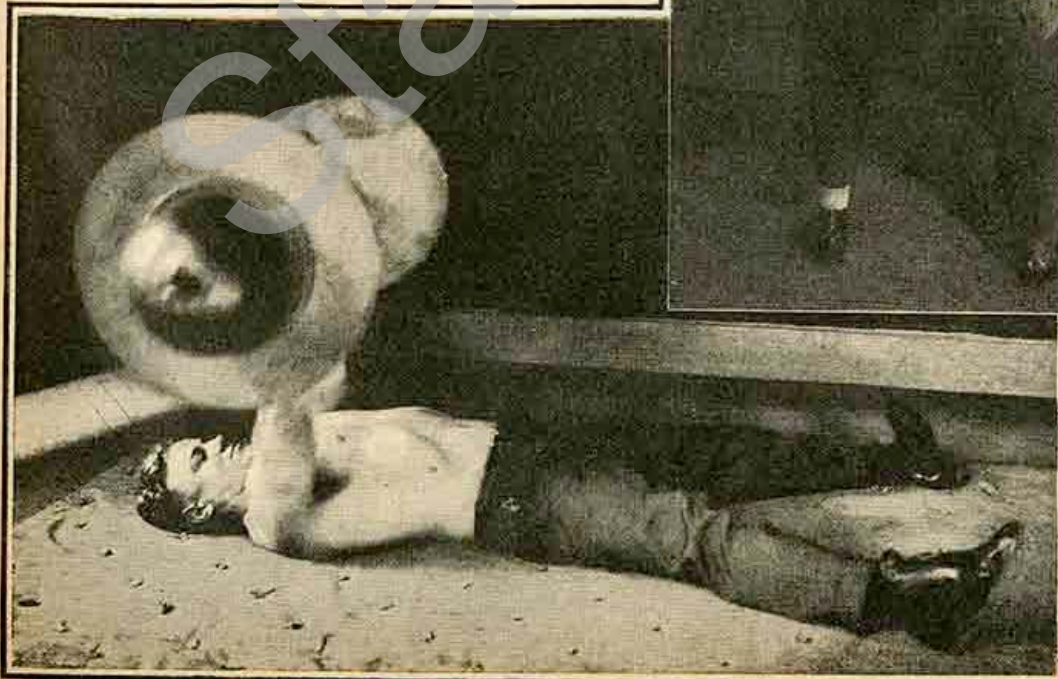


Figure 8, (at the left) showing Nordquest breaking Hackenschmidt's record while lying on the back. Figure 9 (above) illustrating Nordquest's style in bent press lifting, with his left arm. This is a mere "warming up" lift with 228 pounds.



Keystone

Horseback riding, the greatest of all sports for liver-shaking.
(Miss Marie J. Leary, well-known equestrienne).

IT is advisable to put shock absorbers on your car, but be sure to keep them off your liver. This is to say, that your liver needs a reasonable amount of shaking up. This is especially true with those who lead a sedentary life. To make this plainer, there are certain exercises, or rather jumping movements, which are very beneficial to the liver. These movements shake up and consequently stimulate this organ, which enables it properly to do its very important work.

For the benefit of those who are familiar with liver only from seeing it on a bill-of-fare, I will give a short description of this organ and its duties in order to enable you to realize the importance of keeping it in the best of condition. Then I will outline the movements which put it into perfect health and keep it there.

To begin with, most people do not know that the liver is the largest gland in the body. Its position is on the right side just below the diaphragm, and it partly covers the stomach in front. This organ receives two kinds of blood: Pure blood from arteries and impure blood from veins.

Bile is golden brown or greenish yellow. Bile is both a secretion and an excretion. It contains certain constituents found only in the substance of the liver, which substances ultimately play a very large part in nutrition. Not alone has bile the power to prevent the putrefaction of the foods in the small intestine, but it is also the natural purgative of the bowels.

Thus you can see that the exercises I will give you are fine for curing, through stirring up the liver, that greatest of all evils—constipation. If you are troubled with this curse use the forthcoming exercises, for the presence of constipation proves that your liver is not what it should be.

Shaking Up Your Liver

By
Charles MacMahon

One quart of bile is secreted daily. This bile is stored away in the gall bladder, which is a small sac attached to the liver. The main duty of the bile is to aid digestion. While its action on the food is not entirely understood as yet, it is, however, known that the action of the bile is absolutely essential for perfect digestion.

The other activities of the liver include the destruction of poison in the blood, aid in making blood, storing up sugar, excretion of urea (a chemical waste of the body) and the digestion of fat. These are things a healthy liver will do. The undesirable conditions that a poor liver brings down upon its possessor are many and serious enough.

The liver must be normal; that is, it must produce just the right amount of bile. The secretion of too much bile is as bad as not enough. A liver in poor condition causes constipation and biliousness. A bad liver causes what is known as jaundice, which is an acute catarrhal inflammation of the mucous membrane of the gall duct. Symptoms: poor appetite, coated tongue, nausea, frequently with vomiting, and loose bowel movements. The whites of eyes become yellow and gradually jaundice appears over entire body. The skin becomes dry and itchy. Constipation, the stool being whitish or clay colored, colic and gas.

Gall stones is another condition brought about by a sick liver. These stones result from the precipitation of crystallizable cholesterol, one of the constituents of bile, in combination with thickened mucus in the gall bladder and ducts. Symptoms are: fainting, spasmodic trembling, and possibly convulsions, in addition to the common severe pains.

In view of the fact that these so-called stones are concrete pieces, from the size of a shot to one inch in diameter, which form in the gall bladder and cause unbearable pain when they try to get out, I fully believe that the shaking movements I will give you before I am through will help greatly in preventing these stones from forming, as well as in keeping your liver healthy.

My theory is this: Everyone knows that most all liquids when left to stand unshaken for a time accumulate a sediment at the bottom. It is possible to move bottles or any other container of liquids and not stir up this sediment. And only when the liquid

is well shaken is it possible to pour it entirely out.

The same principle holds good with the human gall bladder (or for that matter with the human bladder itself, which is an entirely different sac from the gall bladder). The person who lives an inactive life—who does not exercise, play strenuous games, never tries tumbling stunts nor jumps around, possesses a liver, gall bladder and other organs and sacs like the above-mentioned bottles which are never shaken up. What is the result? Simply that the organs are never stimulated in the natural way (exercise) and the liquid sacs become covered on the bottom with sediment which cannot be run off with the liquid itself until it is stirred up by the different forms of exercise. Gall stones and stones in the bladder are nothing more than this dormant sediment which, by practically no shaking up and by bad functioning of the organs, become concrete. How could these stones form if everyone took care to jump around, turn hand springs or stand on his hands or head at least once in a while?

Livers are like wasps — they must be stirred up to start something.

This, in my opinion, is why old people and women are more apt to be afflicted with these stones than a young male person—simply because they are, as a rule, inactive.

The passing of gall stones is, as I have said, a painful ordeal. But aside from this, the liver is rarely blamed for the pains in the back, often as high up as the shoulders, for which it is often really responsible. These pains are usually blamed on the heart or other organs of the body.

If dizziness is experienced while or after exercis-

ing, don't be alarmed. Lie on the flat of the back with arms over head and inhale deeply and dizziness will pass.

Drink the juice of one-half a lemon before retiring and on getting up. No sugar and no water to be added.

When you feel drowsy, especially after a small-sized meal, and you don't care what happens—look to the liver—or better still, give the liver a rough ride and stir things up.

Some years ago a common greeting between friends was, "How is your liver?" People felt if the liver was O. K. the rest of the body would be also, because where you find a good liver you may count on good digestion; where you find good digestion the blood supply is usually good and pure; where the blood supply is good the heart, lungs and other organs are usually in good order. Thus we find the liver is the "goat"—when it



International

In rope-skipping, slightly bending the legs will give height to the jump and the landing should be made with the legs rigid. The jar produces the stimulation desired.

starts bucking, look out for trouble.

A liver in good order is a blessing. A liver out of gear is one of the most troublesome things imaginable. Liver pill manufacturers, as well as vendors of liver pads, have made enormous fortunes because of the many people whose livers are on strike and who are lazy. Ever since the days of Adam and Eve people have been lazy, and rather than spend ten or fifteen minutes a day exercising they spend their hard-earned money at the corner drug store for Love's Liver Lozenges or Blank's Back Blisters. By nature I am lazy and so are you, and if our livers function properly it only shows we are less lazy than are those who suffer from stagnant livers.

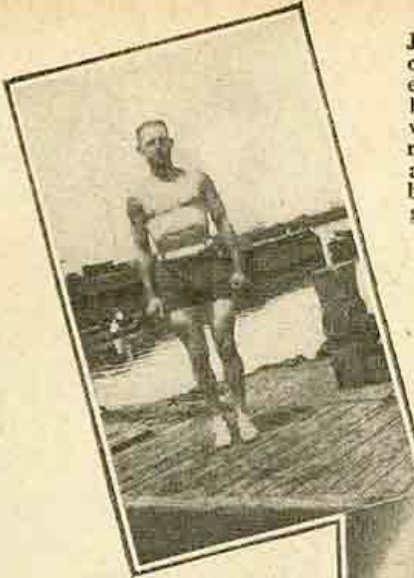
Some people are born with bad livers—the majority, however, bring the trouble upon themselves through heavy eating of highly spiced and other wrong foods, but principally through their lack of vigorous exercise.

There is one very bad condition of the liver to which these minor ailments may lead—and that is cancer. However, do not let this dreadful disease in connection with the liver worry you, for I am glad to say that as much as a good liver means to one's perfect health, a poor one is very seldom held responsible for a death. Besides that, it is not my intention of scaring any one into a physical culture life because it is not the frame of mind that helps to bring the best results.

I realize that liver, even at its best, is a very dry subject, so I will stop describing it and will get to the jumping movements I promised.

We will start with the classiest exercise for this organ and gradually come down to earth. Horseback riding, for the elderly, those who can afford it in the city and the farmer in the country, is both beneficial to the liver

Jumping exercises may be even more beneficial without the rope, as the attention will be entirely given to the work.



horseback riding for this organ is in the fact that the Prince of Wales, to my knowledge, has never complained about his liver.

Of course, the majority cannot ride horses to any extent. Therefore, there must be other exercises that will take the place of horseback riding and give as good results.

The next exercise of this kind that will find more seekers after health able to indulge in, is jumping or bouncing on a springboard. The board can be of the swimming-pool variety or of the type used in gymnasiums. In using the springboard to stimulate the liver, you jump

The photograph above shows the flat-footed landing. The one to the left shows a bending exercise, and that to the right a more vigorous movement for stirring up the liver.



up and down with the legs practically rigid and the feet flat. This, you will notice, will give your body a greater jar than if you jump on your toes and bend the knees slightly as your weight comes down. I have noticed on many occasions men and boys (and women for that matter) performing the exercise for the sheer joy and thrill of it, not knowing of the great benefits their internal organs were deriving from it.

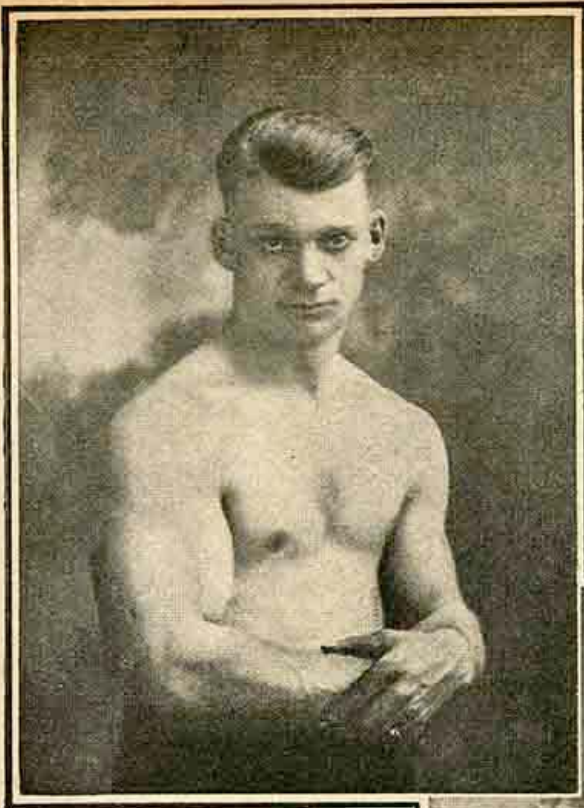
But again we have difficulties. It is impossible to have either type of springboard available at all times, as very few people would care to have one around the house because of its bulk.

In this case, we can fall back on tumbling—one of the best liver shakers to be had. Even the simpler feats are very beneficial. But even this great form of exercise cannot be used by every one. Some people have never taken the time to learn (Continued on page 86)

Strength— Even for Cripples

The Heroic Story of David Gaynor

By Milton MacGregor



EVERY man who has two sound arms and two sound legs and is still a weakling should gaze thoughtfully upon these pictures of David Gaynor of Flushing, Long Island. He is a reproach to many whose opportunities are far greater than his have been.

If there was ever a boy who seemed to have little chance of becoming an athlete, it was little Davy Gaynor. He was one of a large family, and was not over-strong in infancy. When he was four years old he suffered from a terrible attack of infantile paralysis which left him with a curvature of the spine and caused his left leg to become crippled and shrunken. For several years the leg seemed to grow hardly at all, and finally was left several inches behind the other in length.

David always yearned to be strong and athletic, and his crippled condition was a sore trial to him. Even as a boy he seems definitely to have decided to do what he could to overcome his affliction. He was not more than twelve when he began systematically but cautiously and progressively to exercise the shrunken leg. Its response, of course, was very, very slow, and many a person less determined and less optimistic than he would have given up the fight. He also saw possibilities in developing the rest of his body, and at fourteen he began systematic exercise for his arms and chest, balancing himself principally on one foot as best he could, and using dumb-

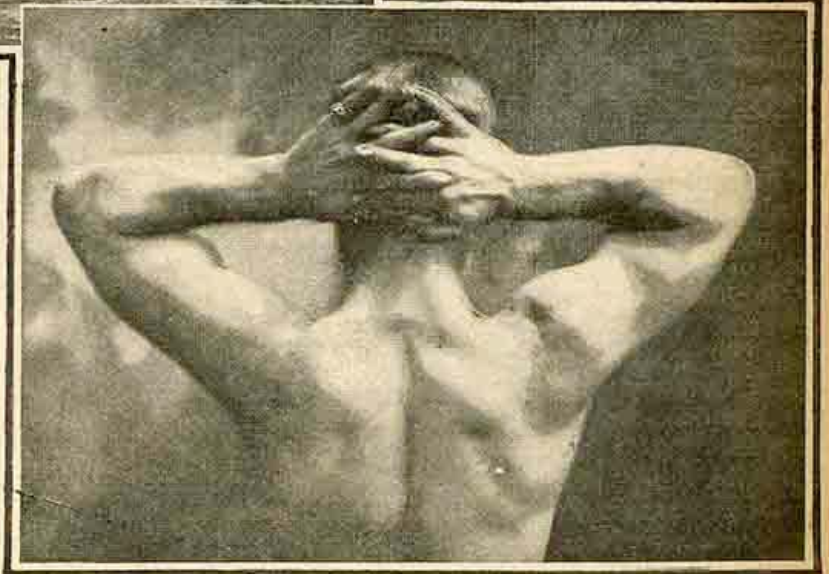


bells and an exercising machine.

You big overfed chaps who find it so irksome to do a few setting-up exercises early in the morning, and who, in fact, sneak out of doing them several mornings in the week, think of the grit and perseverance that must have been required on the part of this boy to go through his self-imposed stint. Those who know him say that his persistence was little short of wonderful.

He went to a neighboring friendly physical culturist for advice, and followed his instructions faithfully. He did his exercises mornings and evenings, and several times more on the days when he was not employed; for David has had to do his part in helping to support the family during most of his youth, and

(Continued on page 86)



Yes, these are all three photographs of the same man. These remarkable pictures "speak louder than words" in telling the story of David Gaynor, and show what can be accomplished through intelligent and assiduous training even by the victim of infantile paralysis.



The DINNER TABLE

— Conducted by Jane Randolph

Save Fuel and Simplify Your Cooking

I took a man to show me what I didn't know about one of the most versatile articles in my kitchen, the cold-pack steam canner.

His name was Warner; and he was demonstrating aluminum cooking utensils in the kitchen of one of my neighbors. I never saw thirty women more astonished than when he asked us to sit down and watch him prepare a full meal in one utensil, over half a flame in an hour and a half. We were even more astonished when we ate the meal and agreed that it compared favorably with our best. In short, the salesman sent us home liberally supplied with food for thought.

Here was a man—just a man, you understand—who was not supposed to be engaged in the business of running a home at all. He was simply a good business man, with lots of masculine horse sense; and he was earning a living selling hardware. And yet he had done, in less than two hours, what any woman present would have stewed over for a week—actually cooked and served a dinner for thirty people, and without even putting on an apron or getting hot.

It wasn't just an every-day square meal, either. It had all the aspects of a party; for while the substantial dishes were in the process of cooking he casually threw a cake together, baked it in an omelet pan on top of the stove, and then iced it. Also he made *café noir* to go with it. He made it in a percolator that kept it hot for an hour after it had been removed from the fire.

Clever? He wasn't a bit more clever than you or I. It was just that he was putting what brains he had into his business, which in this case happened to be showing women how to put what brains they have into the business of feeding their families.

The next day, true to his word, he came to call on me, and I bought the canner—bought it in spite of the fact that it was the Fall of the year, when all good canners are supposed, like the women who own them, to have done their duty, and are now stored away on the pantry shelf, along with impressive rows of glass jars which they have filled with fruit and vegetables.

When I bought the canner I got a bargain, for I got an idea along with it. I resolved then and there to put what brains I had into my business, the business of feeding my family. If a man could cook a dinner for thirty in that canner, why surely, with such a utensil, a mere woman could produce the eats for a full day for four,

or—if there happened to be company—for six or even eight. And I did.

If you already have a good canner you can, with a little ingenuity, use it in much the same way.

Mine is made of the very best grade of rolled aluminum. No other kind of aluminum can retain the heat so long or distribute it so evenly. There are different kinds and qualities of this metal. Heavy sheet aluminum, rolled many times to increase its density, will cook more quickly, more thoroughly, and more evenly than the lighter grades or any of the spun aluminum utensils. It costs a little more in the beginning, but it will last a lifetime, and will do more work with less trouble all the time. If you buy new utensils, don't be tempted by a bargain that is "just as good." Pay the price necessary to obtain the very heaviest rolled article and thus be really "economical."

If you haven't already got an aluminum steam canner or cooker or roaster, it will pay you to get one and to get this particular model. It is made in four separate pieces, a bottom pan, a middle section which has neither top nor bottom but sets over the bottom pan and forms a tall side wall for the canner, and a top that can also be used as a tea tray. Inside the middle section is a rack which is the real feature of the canner. It is a single sheet of aluminum perforated with holes to allow the steam to circulate, and is adjustable. It can be placed at the bottom of the middle section, allowing enough space above it for quart mason jars or for any foods to be cooked, or it can be turned the other way round and allowed to rest on small pegs that project out half way up the sides of the middle section. This position makes room for a large roast or fowl or any foods to be heaped high in the bottom pan.

When the whole is put together and placed over a good flame it becomes heated evenly in every part and its high polish on the outside, combined with its heavy, dense quality, make it retain the heat so that after about ten minutes the flame can be turned down half way. The liquid in the bottom pan, whether it be plain water or food cooking in its own juices, forms into steam which circulates throughout the whole cooker and is constantly recondensing and cooks the food that is on the rack. The most valuable thing about this arrangement is that it cooks the vegetables without extracting one bit of their food value. All the mineral salts remain to be eaten by the family.

Perhaps your canner is made with a rack that rests directly on the bottom pan. Your problem then is to find some way of propping the rack up high enough to make room for water or some juicy food to go in the bottom pan. You might do such a thing as use a couple of aluminum measuring cups turned upside down with the rack resting on them. But this would be a makeshift arrangement. It would be better to find a tinsmith and have him make some small wire frame supports that would hold the rack in place without danger of upsetting.

The first picture shows how all the food for one day can be arranged in the canner. Beet greens go in the bottom pan and the water that clings to them from the washing will provide enough liquid to keep them from sticking and form the steam to cook the other food. At one end of the rack in the middle section is placed the custard, which is displayed in the picture on the front of the table. It should be covered and cooked in the oven glass dish in which it is to be served. On top of it goes the pan containing the breakfast cereal of cracked wheat, which is better left uncovered. At the other end of the rack and around the pans of custard and cereal are laid ears of corn in their husks and potatoes in their jackets, and then the whole is covered tightly. After the whole vessel is thoroughly heated, it will take about an hour and a half over a flame turned half way down to complete the cooking of all the food.

But the custard is likely to get done first and ought to be taken out and allowed to cool before it is eaten. The corn, if it be young and tender, will take only an hour or even less and ought to be put in after the cooking has proceeded for about half an hour.

In opening the canner be careful not to burn yourself with the steam that will pour out of it when the lid is lifted. Pick it up at one end and slide it off away from the canner and then wait till the steam scatters before putting the hands over the top. Some of the condensing steam is lost in this way, and if you open the canner many times you may have to replenish the liquid in the bottom pan with hot water.

When the food is done, the corn, potatoes and custard can be served immediately for dinner. With the addition of a green salad, they will make a complete meal. The greens, reheated and garnished with eggs, can be used for supper or luncheon the next day and the cereal will combine with fruit to make a perfect breakfast.

The second picture shows the construction of the canner with the rack in place. Observe the steam valve at the right of the handle on the front. During the cooking process this valve should be kept closed in order that no steam may escape. But if the food is to be browned as with a roast, it can be opened to let the steam out just before the cooking is completed.

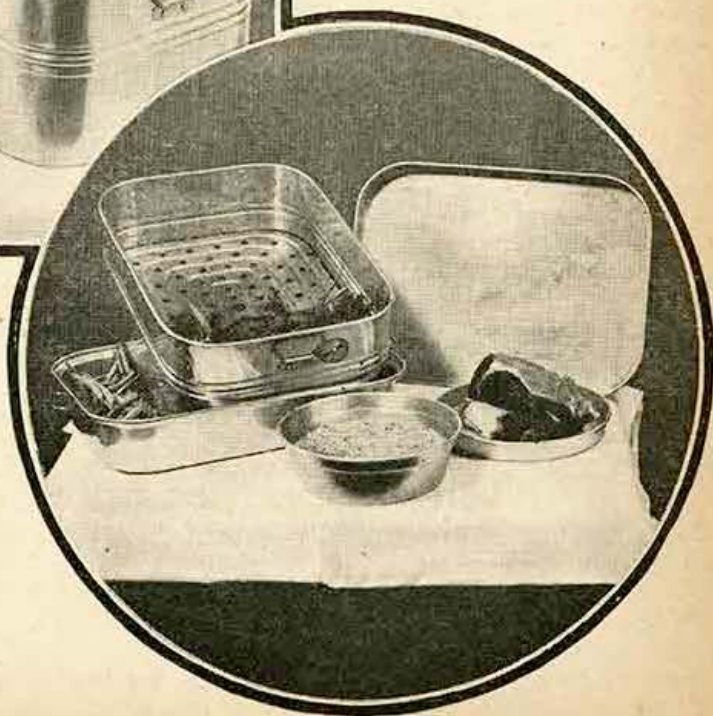
This dinner consists of pot roast, natural brown rice, new beets and green string beans. It is cooked in the same way as the first dinner except that the meat is seared well on both sides in the bottom pan, the beans placed around it, and a little water added to start the cooking. When done, the beans can be served as a garnish with the meat on the platter, and the remaining gravy can be thickened with whole wheat flour and will

(Continued on page 76)



Photos by W. H. Trippe.

Why can the canner? Make it earn its way all the year round and save your time as well as money. The above picture shows how all the food to be cooked for one day can be arranged in this canner and cooked over half a flame in an hour and a half. Corn, potatoes and custard for dinner; beet greens for lunch; and cereal for breakfast. The picture at the right shows the construction of the inside of the canner. The rack is in place inside the middle section and the steam valve shows on the front at the right of the handle. The dinner consists of pot roast, natural brown rice, new beets and green string beans.



THE MAT

Analytical Comment on Subjects Connected with Body-building, Muscular Development, etc.

Coin Bending with Teeth and Hands

EDITOR OF "THE MAT."

DEAR SIR: I have just heard a story of a man in our town who claims he can bend a twenty-five cent piece. There are a number of people who have seen him do it. Here is how one of them passes the story to me: He gets it between his teeth and then sets the heel of his hand to the exposed edge. Then he places his other hand on the wrist of the hand that does the work. I have never heard of anyone doing a stunt like that. If you think the feat anything extra I will get all the information I can. He can also bend a dime the same way. As I don't know anything about such stunts I can't pass judgment on them.

Yours truly,
WM. A. MANY.

UPON receipt of the above letter I wrote to Mr. Many and asked him to investigate the matter further. In his turn he sent me a ten-cent piece and a twenty-five-cent piece, and in the subsequent letter he said that he had actually seen Mr. Cartell bend the coins in the manner described. Both of the coins show toothmarks. Mr. Many says that Mr. Cartell is an enthusiastic wrestler who stands about 5 feet 1 inch in height, weighs about 145 pounds and is big boned. I would judge myself that Mr. Cartell has an unusually strong and solid set of teeth and that the flesh of his hands is very hard. The stunt is a very clever one. The coins show that Mr. Cartell gripped them near their edges with his teeth, and this gave him a longer leverage when he pressed against the opposite edge of the coin with his hand. Mr. Many is an old correspondent of mine and I have always found his information to be reliable. He says that he can furnish the names of a dozen other men who saw the coins bent. This is the first positive evidence of coin bending that has ever been sent in to me. Now I would like to get some coins that were bent by the strength of the thumbs and fingers. Coins bent in that way would show the crease right across the center; but it seems to me that would be a harder stunt than bending them near the edge. I have received many letters from men who stated that they had seen other men bend coins with the fingers, so that some of my correspondents ought to be able to send in coins bent in that way. If any of you fellows can furnish the evidence please send it along. I think it would be interesting if I were able to publish a picture showing a man in the act of bending a coin. The picture would have to be taken at a very close range, what we call a "close-up." Then we would be able to see just how the athlete held the coin and would also be able to get an idea of the kind of hands and fingers which are necessary to perform a feat of this kind.

The Strength of the Human Teeth

A number of you have written and asked me whether I believed it was possible for a man to crush with his teeth one of the links of a steel chain. I believe this stunt is being done at the present time by two or three vaudeville performers. Personally I do not believe that human teeth are strong enough to crush the links of a

steel chain, even if the links are only one-eighth of an inch thick. I have talked with two or three professional lifters and several dentists, and their verdict was unanimous. They all said positively that the teeth would crack before the steel link was even dented. The strength of the muscles which close the jaws is almost incredible, and it is quite possible that there are men who have sufficient strength in the jaw muscles to bite into steel; but that does not mean that the teeth would stand the strain. I have seen men crack hickory-nuts with their teeth, and there are lots of men who can bite deeply into hard wood, or who can even make indentations in a soft iron bar; but steel is an entirely different matter.

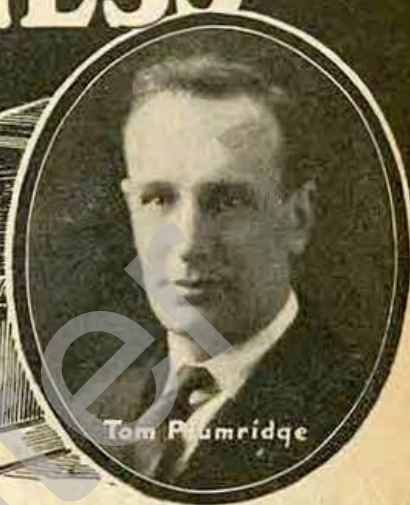
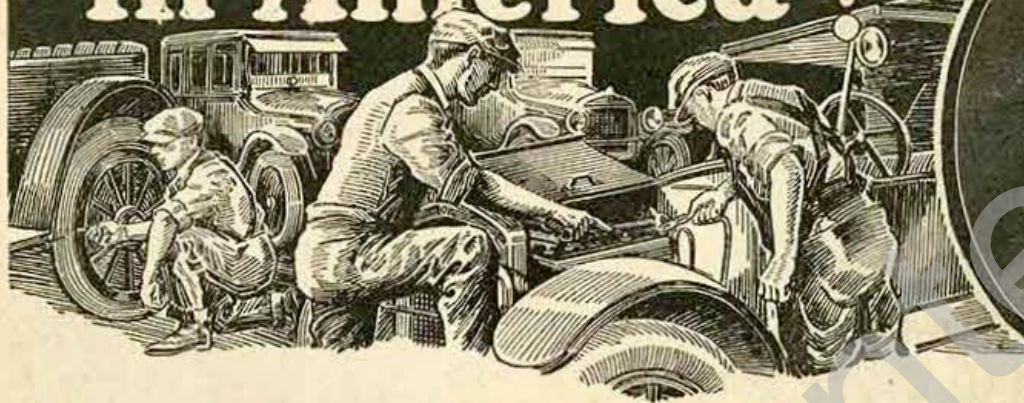
About once a week I get a letter asking me to tell the writer where he can get a mouthpiece for teeth lifting. I have referred most of those letters to Mr. Warren Travis, but Mr. Travis has written to me and said that while he is willing to furnish such mouthpieces, he thinks it unwise for a man with an average set of teeth to practice iron-jaw stunts. He agrees with me in believing that such feats are unnecessarily hazardous. Your teeth are one of your most precious physical possessions. A broken bone can be set and may become even stronger than it was before; a strained muscle can be restored to its former strength and condition; but you can do little or nothing for a broken tooth, and when a tooth is broken it means that the adjoining teeth are more liable to damage than they were before. To break or crack a perfectly sound tooth is nothing short of a calamity. All the applause you would get for performing "iron-jaw stunts" would not compensate for a damaged set of teeth. This advice does not necessarily apply to those few fortunate individuals who have teeth like Mr. Cartell.

This Department

I originated this department, called "The Mat," about eighteen months ago. My idea was that it could be used as a sort of open forum in which the readers of STRENGTH could express their opinions regarding subjects of general interest to all those who are interested in athletics, the creation of strength, the maintenance of health, etc. Also there was a hope that the readers of STRENGTH would seize the opportunity to state their preferences about the kind of articles they wish to see published in the magazine.

For two or three months the scheme worked finely and the letters received were full of suggestions for future articles or else they pertained to some controversy which had already been started in the department. But during the last few months I get very few letters of that kind. Because I write other articles for the magazine, and further because in those articles I usually write concerning muscular development, some of you seem to have gotten the idea that I am a general bureau of information. Almost every letter I get nowadays is full of requests for information of a purely personal character. One man will ask me to give him instructions for developing his arms; (Continued on page 92)

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Faith in yourself and ambition to learn is all you need. Are you willing to back yourself to win? All men are much alike from the head down. Invest a few dollars in your head and make it quadruple your pay, as it has done for thousands of my other students.

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Stay right at home—keep your present job—spend a few hours each week of your spare time—and I guarantee to make you an Auto Expert ready to go right into a Big Pay job. This trade knows no locality.

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You don't have to be a wonder—just an ordinary, everyday ambitious man. And you don't have to wait until you finish my course before you begin to earn. Earn as you learn. Almost from the start, you can begin to make good money on the side.

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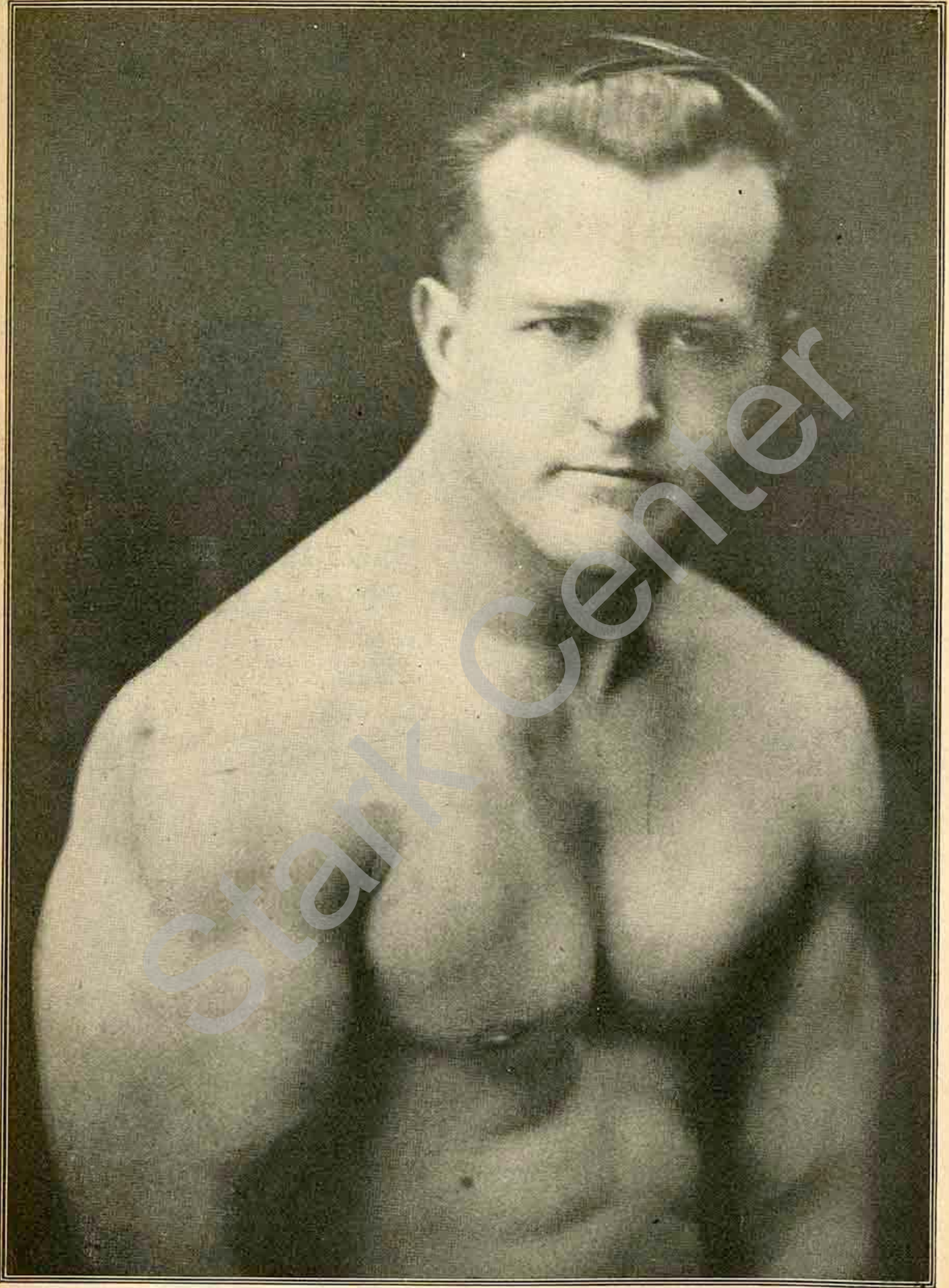
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EARLE E. LIEDERMAN
The Muscle Builder

How Strong Are You?

Can You Do These Things?

Lift 200 lbs. or more overhead with one arm; Bend and break a horseshoe; Tear two decks of playing cards; Bend spikes; Chin yourself with one hand.

CAN you do any of them? I can and many of my pupils can. It is remarkable the things a man really can do if he will make up his mind to be strong. It is natural for the human body to be strong. It is unnatural to be weak. One leading writer on physical culture says: "It is criminal to be weak." I have taken men who were ridiculed because of their frail make-up and developed them into the strongest men of their locality.

I Want You For 90 Days

These are the days that call for speed. It once took four weeks to cross the ocean—now it takes less than one. In olden days it took years to develop a strong, healthy body. I can completely transform you in 90 days. Yes, make a complete change in your entire physical make-up. In 30 days I guarantee to increase your biceps one full inch. I also guarantee to increase your chest two full inches. But I don't quit there. I don't stop till you're a finished athlete—a real strong man. I will broaden your shoulders, deepen your chest, strengthen your neck. I will give you the arms and legs of a Hercules. I will put an armor plate of muscle over your entire body. But with it comes the strong, powerful lungs which enrich the blood, putting new life into your entire being. You will have the spring to your step and the flash to your eyes. You will be bubbling over with strength, pep and vitality.

A Doctor Who Takes His Own Medicine

Many say that any form of exercise is good, but this is not true. I have seen men working in the mills who literally killed themselves with exercise. They ruined their heart or other vital organs, ruptured themselves or killed off what little vitality they possessed. I was a frail weakling myself in search of health and strength. I spent years in study and research, analyzing my own defects to find what I needed. After many tests and experiments, I discovered the secret of progressive exercising. I have increased my own arm over 6½ inches, my neck 3 inches and other parts of my body in proportion. I decided to become a public benefactor and impart this knowledge to others. Physicians and the highest authorities on physical culture have tested my system and pronounced it to be the surest means of acquiring perfect manhood. Do you crave a strong, well proportioned body and the abundance of health which goes with it? Are you true to yourself? If so spend a pleasant half hour in learning how to attain it. The knowledge is yours for the asking.

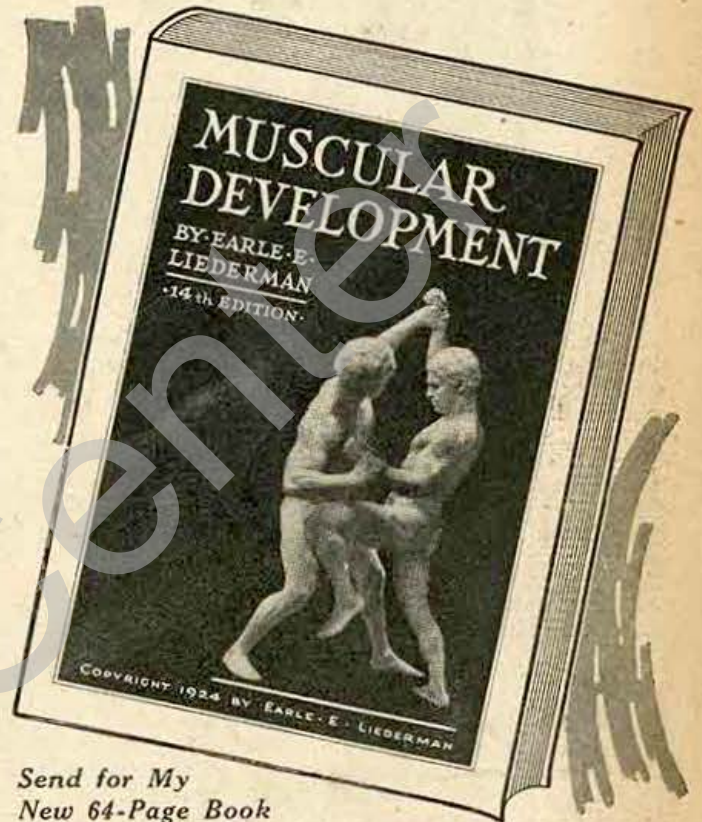
Contest Closes Oct. 1st

All Earle Liederman pupils are requested to mail their photographs in time to reach me before October 1st. You are also requested to send present measurements with name and address (printed) on separate sheet of paper.

On October 1st all photographs with measurements submitted at time of enrollment and new measurements of each pupil will be turned over to the Committee of Judges, who will decide on the winners of the \$1000 and smaller cash prizes—also as to those entitled to medals, etc.

Remember, these prizes will be awarded to those showing the most marked improvement since time of enrollment. Every man stands an equal chance. Better mail photos, etc., by Sept. 15th, that they may reach me on time.

The above announcement is meant for those who are already my pupils. All pupils enrolling now will have advantage for next contest. Sign up at once and get the jump on the bunch.



Send for My
New 64-Page Book

"Muscular Development"

IT IS FREE

It contains forty-three full page photographs of myself and some of the many prize-winning pupils I have trained. Many of these are leaders in their business professions today. I have not only given them a body to be proud of, but made them better doctors, lawyers, merchants, etc. Some of these came to me as pitiful weaklings, imploring me to help them. Look them over now and you will marvel at their present physiques. I want you to have this book with my compliments—**absolutely free**. Fill out and mail the coupon or send me a postal today—before you forget it.

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Dept. 709 305 Broadway, New York City

It Is F R E E	DON'T SEND ONE	EARLE E. LIEDERMAN Dept. 709, 305 Broadway, New York City
	PENNY	Dear Sir: Please send me absolutely free and without any obligation on my part whatever, a copy of your latest book, "Muscular Development."
	YOUR	
	NAME AND ADDRESS	Name.....
	ON A	Street.....
	POSTAL	City..... State.....
	WILL DO	(Please write or print plainly)

"How I Cured My T. B."

(Continued from page 25)

live when awake. Sitting up, reading, writing letters and talking to people all take more or less effort. Only your physician can determine whether they can be permitted and only he can say when you are ready for the next step.

This takes care of you physically but not mentally. Do not worry. This is easy to advise but not always so easy to practice. Nevertheless it is quite as important as that you do not exercise. If you want to speed up your cure forget your troubles, keep your mind occupied with pleasant thoughts, the things you are going to do when you are well, or knit, read, run the government or figure batting averages—what you will, so long as it gives you pleasure and does not stir you up.

Many people are obsessed with the idea that when lying in bed one grows weaker and weaker. Nothing could be further from the truth. Only after extremely long periods in bed is there any feeling of weakness or uncertainty of movement, and this quickly disappears as activity is gradually restored. On the other hand, with the body at rest the digestion processes are distinctly improved. Nor is it true that if you sleep in the afternoon you cannot sleep at night, for experience has shown that if you become accustomed to going to sleep at a certain hour you will drop off readily at that time, and an afternoon nap, far from hindering, helps rather to induce a peaceful night's sleep.

If you have not been accustomed to turning in before eleven or twelve o'clock you will at first find it difficult to sleep at nine o'clock; but if you avoid all mental excitement after supper, yawn a couple of times as though you were sleepy, heave a good sigh and then relax completely, nature will do the rest.

Many patients run no temperature, particularly early cases, and for these the prescription is rest without exercise. You may dress slowly; you may walk slowly to meals; you may read some, talk some, write a letter or two, but you may not do anything that is or looks like exercise either mentally or physically, and be it said that once you begin to come back this is the hardest thing in the world to do and the point where many people break.

By the time you reach the stage where you can do a little something, you feel that you can do anything. Health is just surging in you. You just can't wait. You must do something. A friend of mine was getting along fine when one day he conceived the idea that he must play a little golf, just a hole or two, and then he was coming right back. So he rode half a mile in the bus to the course and did the two holes. And they did for him. He had broken down that delicate scarf tissue which was holding the bugs in check and out they streamed. For weeks afterwards he ran a temperature well over one hundred. Be warned, to loaf a little is easy, but to stand still

when you want to go, to rest easy when every urge is for you to do something, is the hardest work you ever tried.

The easiest way of staying in the straight and narrow during this crucial time is to avoid being tempted by staying as much as possible by yourself, or better still, by palling with someone who is chasing the cure as seriously as yourself. Playing bridge or poker as a means of killing time is very common around sanatoriums. The stakes are usually small; but few can lose with equanimity or win without a thrill, and there is always a certain amount of excitement and tension which is bad for you. Smoking is also bad if it makes you cough. Otherwise it is permitted in great moderation. Cigars or a pipe are to be preferred and cigarettes to be avoided.

But there comes a time when you must exercise, with gradual increases from day to day until complete activity and endurance are restored, and here again only a competent physician can determine when exercise may be begun.

So this is the rest program, absolute rest, moderate rest, exercise and finally activity.

If you have a family it is unwise to take them with you while chasing the cure, unless the wife or husband fully understands and accepts the necessities of the situation. There is always the desire to do apparently little things, and if you look well and feel well it is difficult to say no. But in fighting T. B. you have to give up to win, and getting up when you should be in bed or working when you should be resting are fatal to success. Don't chase the cure by halves. If you start, see it through. Once thoroughly well, you will stay well if you take decent care of yourself.

Of no less importance than rest is fresh air. The tuberculosis patient must remain in the fresh air at least twenty-two out of the twenty-four hours, the remaining two being spent at meals. You may sleep in a room, on a porch or in a cottage by yourself, but it must be open on three sides wherever you are, rain or shine, winter or summer. A cure cannot be achieved in an ill-ventilated bedroom. It may be possible to find a bedroom with two windows which can be properly ventilated, but the chances are great that it will not prove satisfactory, and it is better to err on the side of too much rather than too little fresh air. This does not mean that the patient must be exposed unnecessarily to drafts, for the current of air can always be directed so that it will not blow directly over the patient, and in any event mild drafts are entirely harmless and may safely be ignored.

Now we come to the question of climate. The whole truth of the matter is that with other conditions right, T. B. can be cured anywhere. But it is equally true that progress is rapidly hastened where the humidity is low; in other words, where the air is dry. This

being the case, you may go where it is cold and dry as at Saranac, New York, or to Colorado, New Mexico or Northern Arizona, where it is very high and dry, and consequently cold during nine months of the year, or to parts of Texas and Central Arizona, where it is dry and warm for nine months and very hot for three months of the year. California is not, as many think, the ideal climate for T. B. Near the ocean it is moderate the year round, a distinct advantage, but the fogs which roll in twice a day add considerably to the humidity. These rise as they are blown inland, but if you go far enough behind to avoid them you have in the summer a climate quite as hot as Central Arizona.

Some years ago rare air was thought to be the thing and people rushed to points like Denver and Colorado Springs, Silver City and Santa Fe in New Mexico, and Prescott and Flagstaff in Arizona, all at altitudes ranging from over five thousand feet to nine thousand feet high. But however pure the air may be, your lungs have a great deal more work to do to get the same amount of oxygen than is necessary lower down, one result of which is that patients remain in bed longer and exercise is only undertaken in extremely gradual steps. And anywhere above five thousand feet the winters are unquestionably severe.

My idea is, if you like cold, climb to it, but personally I do not care to risk my neck when all of the advantages claimed for these points can be obtained with none of the risk which attends severe climates. They will tell you at the cold resorts that somehow the patients do better in the cold months, but I will tell you that when you are covered up to your neck with from eight to a dozen blankets, with a skating cap on your head and a hot-water bottle at your feet, you can't move much and that is why you do better in the winter. Excuse me from the twenty degrees below weather. I'm going West.

Now up in Prescott, and probably in all other mountain resorts, they will tell you that down around Phoenix and Tucson the air is not pure. Pure or not, it is so crystal clear that you can drive out on the Thomas road north of Phoenix and see mountains which are sixty miles away. I spent a month in Prescott, and if the air is any purer there than it is down below it is a matter of theory and not of experience.

They will also tell you that the dust storms are very bad and that irrigating the land makes it very damp. Now I suppose there are occasional dust storms; but I was there six months and didn't see any, and my idea is that if they are six months or nine months apart it isn't anything to worry about, and if they do come probably the best thing to do is to put down your flaps for half an hour and wait until the blow is over.

(Continued on page 74)

How I Saved My Hair!

The Tragedy of Baldness

By ALBERT WOODRUFF

WHEN the barber told me my hair was getting thin I merely smiled and let it go at that. When my wife said, "Bert, I do believe you are becoming bald," I gave a little laugh and passed it off with a jesting remark. I took the gibes of my friends in the same spirit—and I laughed when the comedian at the theatre made his "cracks" about candidates for the "bald-headed row."

But it wasn't until my business associates commenced to notice that I was rapidly becoming bald and gray that I worried. For while I was just as full of pep and vim as I had ever been—while my business judgment was just as keen as ever, yet I worried for fear my associates might think of me as heading toward the "has been" class. I decided to try to save my hair—if it could be saved.

Then I became a slave to hair tonics. If a tonic was new I bought it on sight. I tried every kind of shampoo that I heard of. I was a victim of the barber's wiles. The money I spent—and all to no purpose. My hair continued to come out just as fast as it ever did before I had tried to stop it. Every time I combed my hair it told the story.

How I Prevented Baldness

One day I read a very interesting advertisement by the celebrated Physical Culturist, Bernarr Macfadden. Now, it so happened that I had seen Mr. Macfadden several times and I knew that he himself had wonderful thick hair. Naturally I was interested—although it was news to me that Mr. Macfadden had made a study of the hair and had written a book on the subject, entitled, "Hair Culture."

In the advertisement Mr. Macfadden said he was amazed to learn how little really authoritative information had been written about

the proper care of the hair and scalp. He said that one need not let the hair grow thin and gray. He said that if the hair is falling out or getting gray a reasonable amount of proper care will restore it, unless one is completely bald. And this same care will keep the hair strong and healthy throughout life. He spoke of simple, natural and effective methods for treating the hair and scalp by following a few laws of nature. Then he casually mentioned that he was startled at the tremendous demand that existed for his comprehensive work. In fact, the first edition of his treatise was very quickly sold and a new edition had to be printed to take care of the orders that were flooding in on each mail.

I made up my mind right then that since Mr. Macfadden had written the book it was sure to be very practical—and the fact that so many had been sold clearly proved to me that the treatise must be filling a popular demand.

So I just jotted my name and address down on the coupon and returned it. When I received the book on five days' free examination



"Only a short while ago my hair was falling out by combfuls, yet today I have fine, thick hair, with not the slightest trace of baldness or dandruff."

If you will examine the book I am quite sure that you will agree with me that it is one of the most valuable—if not the most valuable—and instructive books ever written on Hair Culture.

Albert Woodruff.



Women! Keep Your Hair Youthful

If your hair is graying prematurely you have every reason to hope that it can be stopped and that much can be done toward restoring it to its original youthful and becoming color.

If it is losing its luxuriant quality and glossy sheen the few simple rules taught by Bernarr Macfadden in his new book HAIR CULTURE will enable you to bring about an almost unbelievable improvement. Why spend time and money at the hair dresser's when you can give your hair a better home treatment in only a few minutes a day by this new method? You can easily have hair that is wonderfully silky in texture and your scalp can be cleansed of every trace of dandruff or scurf.

I immediately read it very carefully and that very same night I started to follow the few simple rules. I must confess that within a very short time I noticed a decided improvement in the growth of my hair—it became thicker and more glossy. Then dandruff disappeared. Today, after following the rules laid down in this new method, I have just as fine a head of thick hair as you would see on any man—even a young man of eighteen or twenty has no thicker or glossier hair than mine. In fact, many haven't anywhere near such fine hair. The grayness has all disappeared and my hair has the glowing color of youth. My wife and children also adopted the rules which we discovered in Mr. Macfadden's treatise entitled "Hair Culture" and their hair is the admiration of all their friends.

Bernarr Macfadden's Secrets of Hair Culture

These chapter titles will give you an idea of the scope and value of this remarkable book:



Bernarr Macfadden. Note his thick luxuriant, healthy hair.

Superfluous Hair. Hair Tonics.

Hair as an attribute to beauty.

Facts everyone should know about hair.

Care of healthy hair.

How to care for baby's scalp.

Facts about soaps and shampoos.

The cause of hair troubles.

Dandruff.

Dry Hair, Oily Hair, Split Hair.

Falling hair.

Baldness.

Gray hair.

Hair Dressing.

Eyebrows and Eye-lashes.

MACFADDEN PUBLICATIONS, INC.

Dept. S-9, Macfadden Building

1926 Broadway, New York City

MACFADDEN PUBLICATIONS, INC.

Dept. S-9, Macfadden Building

1926 Broadway, New York City

Without obligation on my part, please send me a copy of Bernarr Macfadden's Book giving me all of Nature's simple methods for preserving and beautifying the hair. I will pay the postman \$2.00 on arrival, but I also have the privilege of returning the book if I desire and you will refund my deposit.

Name.....

Address.....

(Continued from page 72)

As to irrigating there is very little done during the winter months; but I had an irrigation ditch at the back and side of my cottage, and in the late spring and summer water was run in twice a week. A hand's breadth away from the ditch the soil was dry as a bone and never did I feel the slightest change in the atmosphere whether irrigation was going on or not. Watering the desert is not a business, I assure you, which leaves any dampness in the air.

And now that you have been told what Central Arizona is not, let me tell you what it is. Only a few years ago the country around Phoenix was entirely desert. Then came the Roosevelt dam and with it came water. Now this is one of the most fertile spots you will find anywhere. With water this desert turns out the finest cotton in the world, oranges and grapefruit that are unsurpassed and other products, such as alfalfa, are grown in enormous quantities.

North of Phoenix is Paradise Valley, and truly it is a paradise nine months of the year. From September fifteenth to June fifteenth no one could ask for a more perfect climate. In mid-winter the thermometer may go as low as 40° in the early morning hours before the sun is up, and that is cold enough when you sleep outdoors. But after sunrise it warms up gradually until about three o'clock in the afternoon it is 75° or 80°. Then gradually it gets cooler. Between the high and low temperatures of any twenty-four hours there is always a difference of from 30° to 40° and this has a very stimulating effect. In the early fall and late spring the mid-day temperature will vary from 90° to 100°, but the nights will be cool at 60° or 65° and sleeping is delightful. From the middle of June to the middle of September, however, the days are long and very hot and the nights do not get thoroughly cooled off. The thermometer rises occasionally to 115° and the temperature will average well over 100° during these three months. Do not think, however, that 100° in Arizona is the same thing as 100° in the East or Middle West. On the contrary, it is at least twenty degrees cooler. Thus a one-hundred-degree day in Arizona is about the same as an eighty-degree day in the East, and only when the temperature rises above one hundred and ten degrees do you have weather comparable to a ninety-degree day in the East. This is due to the extremely low humidity. Rain is precipitated at one hundred and the average humidity in the East will run about sixty. In Arizona, however, the humidity for weeks on end will not exceed seven or eight. This excessive dryness causes the moisture from the pores in the skin to immediately evaporate with a consequent cooling just as when you take an alcohol rub it cools you at once by its rapid evaporation.

But there is no need to stay in Southern Arizona if you don't want to. It is only six hours and as many dollars to Prescott, five thousand three hundred fifty feet up in the mountains, where you

find it spring through these hot months.

One thing I have not mentioned and that is sunshine. In Phoenix and, of course, in the country around, more than three hundred out of the three hundred sixty-five days are days of brilliant sunshine. I do not mean clear days or days that are partly cloudy or days where it rains a little and the sun comes out, but days that are crystal clear, sparkling with sunshine, the kind of day that in the East is only seen in spring, and only rarely then. From February fifth to July thirty-first, while I was there, there were only three rainy days. There may have been three more that were partly cloudy, but the rest was pure, unadulterated sunshine. The average annual rainfall for Phoenix and vicinity is six inches, but when I left at the end of July the total rainfall since January first was still under two inches, and Phoenix has gone without rain for twenty-two months. If you are in the raincoat, rubbers or umbrella business, stay away from Arizona.

Sunshine is an all-important factor; then the time comes for exercise and sun baths. In bone tuberculosis the sun's rays are replacing the surgeon's knife; but in pulmonary tuberculosis, that is where the lungs only are affected, sun baths may not be used until the inflammatory stage is passed and the fever has subsided. Then they are an invaluable aid, but discretion must be used at the start of the treatment. With the body stripped, only the feet are exposed for five minutes. The following day the covering is moved up so that the ankles as well as the feet are exposed ten minutes. This process is repeated, raising the covering to the knees, waist, chest and face so that the entire body is finally uncovered. Increase the time five minutes each day. The whole body will then be exposed thirty minutes, half of which should be face down, the other half face up. The sun bath is taken daily.

Sunshine every day means also that your progress in exercise is uninterrupted. You don't have to wait over rainy or cloudy days, but you can get out and do your bit every day.

The last important factor is food. It is surprising how little is known or attention paid to the food problem in sanatoriums and other resorts. It is not so much quantity as quality and correct preparation which is necessary. Stuffing has gone out of date and the modern dictum is "meet your appetite." But it is important that you have enough, and still more so that the foods are of the right kind, nicely balanced and well cooked.

I was so fortunate as to find a place where there was such an abundance of everything that it was easy to pick and choose. What is wanted is first plenty of fresh whole milk, about two quarts a day, three or four eggs, either soft boiled or beaten up in the milk, which may be flavored with vanilla if desired; plenty of whole-wheat bread and lots of good butter, whole grain cereals, thick creamy soups or those made in beef stock with fresh vegetables, fresh fruit, especially oranges and fresh veg-

etables in abundance. Broiled or roasted meats once a day. Crisp bacon or a very little ham may be had at breakfast.

Many people have the idea that they do not like milk, or that it does not agree with them, or that it is very constipating. In the first place, it will pay you to learn to like it; in the second, if too much acid is contained in the stomach this is due to faulty diet and not to the milk, and the remedy lies in eating more foods containing the alkaline base forming mineral salts. These are contained in all fresh vegetables. Finally, milk is only constipating when your diet does not contain the proper amount of roughage. This may be obtained from whole grain cereals, lettuce, spinach and prunes. If you cannot persuade yourself to eat enough of these foods to do the trick, a laxative is necessary as it is absolutely essential that poisonous and waste matter be eliminated from the system regularly. Such a one as Laxative Chocolate Agar is non-habit forming and promotes the natural action of the bowels with none of the purging effect of the average cathartic.

Of late some very remarkable results in the cure of T. B. have been obtained by the use of a diet designed to furnish the body with a superabundance of lime out of which the protective scarf tissue is built, but this involves considerable technique and cannot be described here.

If you find your diet contains too much starchy or greasy food it would be well to pass these items, and if what remains seems inadequate you can make up the deficiency by taking a tablespoonful of maltine and cod liver oil afterwards. This is food of the most concentrated character and it is not a bad idea to take it regularly.

Only one or two other things remain to be said. Coughing should be controlled as much as possible. Do not cough unless you absolutely have to and do not attempt to raise sputum until you can do so by merely clearing the throat. Under no circumstances swallow sputum. It is both unnecessary and dangerous and may result in T. B. of the intestines if your stomach is in bad shape, though this danger is sometimes greatly exaggerated. Finally, every tubercular person should practice the golden rule in the careful disposal of infectious matter. Sputum cups should always be used and burnt within twenty-four hours.

This is the cure for T. B. For seven months day in and day out I followed this routine. It made me a well man and it will you or whoever tries it if they follow it faithfully. And let me say that it matters not how far the disease is advanced, it can be beaten if you get started right and stick to it.

I'm back East now and working hard, but not to stay. The memory of those seven months has stuck and when things shape right I'm going back to the land of sunshine, purple foothills and orange blossoms. I want to live every day, not just once in a while. And to me that means Paradise Valley.

Make 'Em Show You!

Be From Missouri When You Select a Physical Culture Course

GET all the facts first. See the apparatus that comes with the Course. Find out whether it will develop all of your body or whether you have to buy a lot of extras. Apply the same common sense to the selection of a Physical Culture Course as you would if you were buying a suit of clothes, a watch or anything else. I am firmly convinced that you cannot build up your entire body as it should be, without the aid of a complete set of exercisers for every muscle in the body. That is why I have invented the TITUS PROGRESSIVE AND AUTOMATIC EXERCISER, for I have found that no single exerciser will reach all of the hard-to-get-at muscles.

I Show You My Complete Exerciser Before I Ask You to Buy It

That's my method of doing business. I conceal nothing from you. Right here on this page are several pictures of my Exerciser in use. Pictures describe it better than words, and leave nothing to your imagination. Compare it with any other apparatus you can find. It gives you the same results as dumbbells, barbells and all other exercisers combined. It is built on the *Progressive Resistance Principle*—you increase the resistance as your muscles grow in strength. Yet with all these advantages, my course costs no more than others, some of which include no apparatus at all.

How Do You Expect to Develop Great Strength Without Apparatus?

Show me a really strong man who does not use apparatus! Show me a weight-lifter, boxer, in fact any kind of athlete who does not use a gymnasium. The TITUS PROGRESSIVE AND AUTOMATIC EXERCISER is a complete gymnasium in itself. It is a barbell, dumbbells, chest expander and everything else all in one and with it you can develop enormous muscles in a very short time. Yet the complete outfit takes up practically no room at all. Can be set up for any exercise instantly—anywhere. Nothing to fasten to the floor, wall or woodwork. You can make any room in the house a complete gymnasium at a moment's notice.

I Am the Only One From Whom You Can Get the Complete TITUS PROGRESSIVE AND AUTOMATIC EXERCISER and the Titus System of Exercise

Don't let anyone tell you that they will give you an outfit similar to the Titus Progressive and Automatic Exerciser. They cannot do it because my apparatus is patented and no one else has a right to sell it. Don't let them tell you that they give you the same course of instructions. My system is prepared especially for my apparatus. This is the same system that has been used by such famous strong men as Rolandow, the great Barnes, Arthur Saxon, William D. Waring and many other world-renowned strong men. They all endorse my System and you can see their photographs and read their letters in my big, new book, "Building Better Bodies."

Get This Big, Revised Book

It is a new and enlarged edition profusely illustrated with photos of many of my pupils as well as myself. It is a complete treatise on health and body building. It is an education in itself. Every man and boy should read it. It is proving an inspiration to thousands. If you want to be a real strong man, don't fail to read this book. It contains sections on diet, exercise, breathing, the skin,—in fact it has been pronounced the most complete and up-to-date manual of its kind ever written.

Accept a Copy With My Compliments

I could reasonably charge a good price for it, but I will send you a copy with my compliments if you will send me 10c to cover actual mailing costs. It is the greatest book you ever read. Send for your copy TODAY.



PROF. HENRY W. TITUS

Dept. 32, 105 East 13th Street, New York City

Dear Sir:—I enclose 10 cents, for which please send me at once your book, "Building Better Bodies." It is understood that there is no obligation on my part whatsoever.

Name

Street No.

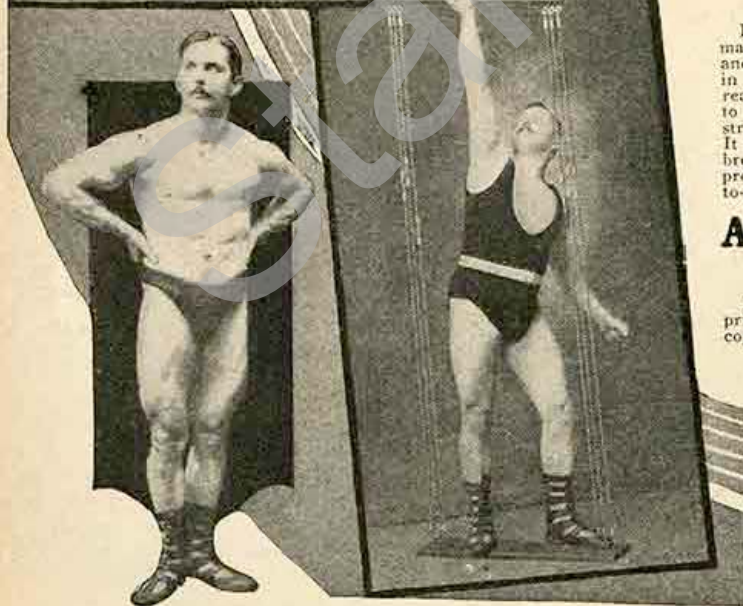
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Can you do all of these exercises with any other apparatus?



These illustrations show you the TITUS PROGRESSIVE AND AUTOMATIC EXERCISER and how it is used. There is an exerciser for every part of the body. Notice how compact, yet complete the whole outfit is. This provides the kind of exercise that not only builds Muscles, but heats and strengthens weak and ailing Vital Organs, improves Circulation, steadies the Nerves, Builds up and gives Tone to the Whole System, imparts Vigor, Snap, Enthusiasm, Joy and Ambition to young and old people alike.



Prof. Henry W. Titus
105 E. 13th St., Dept. 32, New York City

The Dinner Table

(Continued from page 67)

contain any nourishing juices that may have cooked out of the food.

These are just samples of the various combinations of meat, vegetables, desserts and cereals that can be cooked all at one time. Almost any of the menus for any one day that appeared in this department last month could be cooked in the same way.

If you will do a little experimenting of your own—and I hope you will—you will be amazed to find what a large variety of food you can put in that canner and how much you can save in time and fuel. You can even combine the cooking of food with the canning process. A mess of chard may be cooked in the bottom pan and provide the steam for sterilizing half a dozen jars of tomatoes. Or if you have only four jars you might put the breakfast food or an apple betty in the other corner. You can steam apples in their skins or you can pare and quarter them and cook them into sauce, putting them in a pan just as you did the cereal.

Dear Mrs. Randolph:—

We think a lot of buttermilk in our house and the other day I found out from a dairyman that the city buttermilk was just skimmed milk artificially soured and was not nearly so wholesome as country buttermilk. Is this so?

"CONNECTICUT."

Milk artificially soured and so converted into "buttermilk" would, if properly handled, be preferable to country buttermilk. Both contain all the nutritive qualities of skimmed milk unless the dairyman has been generous enough to use whole milk for the souring process. In that case of course the artificial buttermilk would contain in

addition the butter fat of the cream, which would greatly increase its food value. Although the lactic acid forming bacteria in ordinary buttermilk are harmless, they are of no particular value because they do not survive the digestive process. But if the artificial product has been made with the true *B. Acidophilus*, these bacteria live and grow in the intestine, and they effectively combat the process of putrefaction.

Dear Mrs. Randolph:—

Which do you think is the more wholesome, high-grade canned fruit such as peaches, pears, etc., or the same fruits dried? If you can answer these questions you will help me very much. Thank you.

Very truly yours,

R. B. B.

The relative value of canned and dried fruits depends on the way they have been handled. Both are wholesome when the quality is good. The vitamin content of both, however, tends to deteriorate with time. Canned fruit ought to be put up in glass or in lacquered tins with no preservative except pure sugar. The object of the lacquer is to prevent the fruit acids from dissolving the poisonous fluxes used in soldering the tins. It also prevents these acids from acting on the tin itself. Tins, if properly made, are soldered on the outside. This is particularly essential if no lacquer is used.

Dried fruits are about equal in food value to properly canned fruit. Prunes, raisins and currants are usually sun dried and not bleached, and therefore wholesome. But apples, peaches, pears and apricots are more often than not sulphur bleached. Some people think

it improves their looks, but sulphur is not good for anybody and had better be left out of the menu. These fruits as well as black figs, all sun dried, can be bought of the Carque Pure Food Company, Los Angeles, California. They send price lists on request.

Dear Mrs. Randolph:—

I have noted with interest the inquiry in this month's magazine regarding brown sugar.

You mention that such brands as Jack Frost and Leggett's "Old Fashioned Brown Sugar" are un sulphured. However, are not these brands refined and processed?

If so, is there not some brand which is the natural cane sugar, which has not been refined and processed?

Also, can you mention a brand of the unpearled barley? Also whole oatmeal?

Yours very truly,

W. K.

I asked Mr. McCann this very question about the sugar. He said that the brands mentioned were refined so little that practically none of their food value had been removed, and if they were treated with sulphur at all that it was in such small quantities as to be harmless.

Most of the large and reputable companies who deal in sugar have many grades of "dark brown sugar" and of various shades, some of them quite inky black and entirely unrefined. But these cannot, so far as I know, be bought retail. If there is anyone who knows where such sugar can be bought I would be very much obliged if he would write me about it.

The Great Valley Mills at Paoli, Pa., fill mail orders for whole, unpearled barley and whole grain oats, cracked for use as a breakfast food and containing all of the outer shell.

Girls, How's Your Muscular Corset?

(Continued from page 49)

you want to call them by their technical and proper names, meaning the muscles which run straight downward over the stomach, we have included an exercise in each instance for a twisting action of the body in conjunction with its flexing. These turning or twisting movements involve the external oblique muscles already referred to as so conspicuous in Greek sculpture. Every time you swing the body around one way or the other as in batting a ball, swinging a tennis racket, or turning to look behind you, you use these muscles. They are an important part of the abdominal structure. They have much to do with the acquisition of a trim waist line and the possession of vigorous strength in our so-called muscular corset.

Miss Esther Greene, who posed for the pictures illustrating these exercises, is an example of athletic girlhood. She has grown up that way and she looks it.

She says that she practically grew up in the water, having been able to swim as far back as she can remember. She still swims at every possible opportunity. She represents, however, that combination of swimmer and dancer which invariably produces the very finest results in body building. She has been dancing on the stage from the time she was ten years old, as well as playing important dramatic parts. She has not, however, neglected her mental development, and through pure ambition and hard study completed her high school course at the age of fourteen. In short, Miss Greene has accomplished splendid things in the way of her all-around personal development, while other girls following the flapper ideal have been wasting their time and have made nothing of themselves.

And now just to make the matter a little more personal, how is your own muscular corset? How is your stom-

ach, your waist line? Is your body soft, with just a little too much fatty tissue right where you don't want it? If you don't look just about right, and capable of giving Venus a run for her money in any modern beauty show, at least in this respect, all you need to do is to make up your mind to give ten or fifteen minutes every day to the job of remodelling the architecture of your mid-section. Or if you are, on the other hand, too thin and therefore have the sense of weakness that comes with undevelopment of this part of the body, then you can become vigorous and shapely by acquiring, not fat, but a muscular conformation of the torso. This particular feature of physical development will not be all that you need to give you a generally good figure, but so far as a part of your figure is concerned these exercises are mighty important.

Do You Make These MISTAKES IN EATING Every Day?

Are you eating your way into Bright's Disease?

Are you "eating" the substance of your own teeth and bones, exhausting your very own tissues for the need of elements you should get from your food?

Are you eating foods that produce constitutional acidosis, an acid-saturated system?

Are you starving and undermining your nerves with worthless foods, when there is one food that will build them up?

Do you eat "unbalanced" meals, thus producing an unbalanced body chemistry?

Are you eating foods that make you "tired," fill you with fatigue even without exertion?

Do you accumulate "carbon in your cylinders" by introducing a too rich mixture that you cannot utilize, thus producing a "knock in the engine" that is not there when internally clean?

Do you live on a diet that inevitably tends to produce anemia, asthma, biliousness, diabetes, neuritis, sleeplessness, heart palpitation, dizziness, shortness of breath, puffy swellings of the limbs, easy bleeding and various other disorders, often mysterious? Are you eating your way slowly toward the grave?

Things You Need to Know About Food

(As given in this Course)

Lesson One.—What is a balanced diet?—The calorie fallacy—Food as building material—Fuel foods—Mineral foods—Vitamins.

Lesson Two.—Applying food science—Fool-proof classification—Natural and unnatural foods—Abuses of cooking—Correcting digestive troubles—What causes acid stomach?—Analyzing your mistakes in eating.

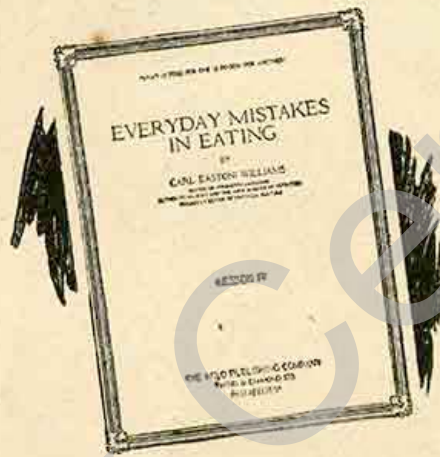
Lesson Three.—Curative aspects of diet—What it means to be run down—Scurvy, pellagra—How quickly to correct acidosis—Is fasting desirable?—Weak point of the theory—The milk diet—Anemia—Auto-intoxication—Constipation—Biliousness—Bright's Disease—Catarrh, Colds—Diabetes—Insomnia—Liver trouble—Headache—Muddyskin—Neurasthenia—Rheumatism—Teeth—Tuberculosis.

Lesson Four.—Your correct weight—Reducing surplus—How not to do it—Two dietetic plans, without inconvenience—Menus for reduction—How to gain weight—Exercise for gaining weight, for reducing.

Lesson Five.—Diet in relation to your occupation—Diet and climate—Diet for middle age—When traveling and in hotels—Food preparation—Cooking vegetables—How to bake whole wheat bread—Candy and ice cream—Tea and Coffee sense—Food combinations—Base-forming foods—Acid-forming foods.

What Is the Effect of Making the Same Mistake 1,000 Times a Year?

Especially when that mistake so closely touches the condition of the blood and nerves as the kind of food you eat. Stop and think. If you are making mistakes in eating, you are making them every day, probably three times a day—a thousand times a year. We all make mistakes, but try not to make the same mistake twice. You hope to eat forty to eighty thousand more meals in your lifetime. Stop making that overwhelming total of mistakes in eating.



How to Correct These Mistakes

For the first time in the history of the world, humanity during the past few years has developed a definite food science. The task has remained to simplify this new knowledge of food, so that the great public can quickly assimilate it. This task has been undertaken by Carl Easton Williams, the Editor of STRENGTH, and former editor of *Physical Culture*, who has given us the comprehensive truth about food in five pithy, pointed, helpful lessons, of altogether 15,000 words, comprising a remarkable course entitled:

"Everyday Mistakes in Eating" By Carl Easton Williams

This course presents the a-b-c of modern dietetic science, as well as the big truths and ripe conclusions made up of those a-b-c's. Tells what foods are real foods, that will build blood and bone and sound teeth, strong nerves and untiring energy, as against those fake foods which mean pale faces, raw-edged nerves, impoverished blood and over-taxed organs.

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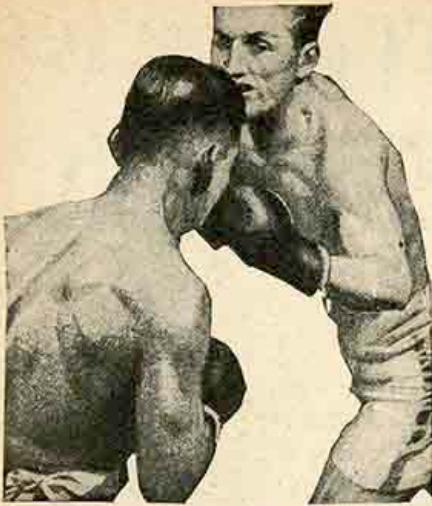
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(Continued from page 41)



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And to complete your knowledge of self-defense, we teach you the best and most famous holds in Jiu-Jitsu and Wrestling.

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"I have always been proud of the strength of my voice," he explained. "I developed it as a glass-blower during my youth in Sweden. I used to blow whiskey bottles.

"I have carefully preserved the lung development attained in this way by loud talking and deep breathing in the fresh air. I always sleep with my windows wide open, no matter how cold the night. At present I have an eight and one-half chest expansion. This has proved a great asset in public speaking, something I enjoy immensely.

"It is a curious fact that, while most men are worn out by speaking tours, nothing makes me feel better. At present I weigh 202 pounds, of which 24 pounds were gained last summer during an extended speaking tour in a Ford."

"Have you ever been sick?" I asked. "Only once in my life, when I had a little ear trouble. I have always kept physically fit by plenty of exercise, hard work on the farm and long walks in the city; by plenty of sleep, eight or nine hours every night; by plenty of fresh air, deep breathing with the windows open.

"But when in the fresh air the body must be shielded from the cold. I always wear heavy underwear, particularly as a protection for the stomach, the most vulnerable part of the body."

Senator Johnson believes that every man should shoulder his own responsibilities and see for himself that his body is serving him properly.

"That is the way to happiness, to success and to the elimination of doctors' bills," he laughed.

"No matter how many secretaries or doctors or advisors you may have," Magnus Johnson continued, "there will come a time when you must make your own decisions. Many great men have failed through just one wrong decision.

"Last of all, it is very important to keep calm. Don't let yourself get excited; keep your emotions under control. By keeping calm you will never say anything you will have to apologize for.

"I never permit myself to worry about anything; the night before my election I slept as soundly as ever. Nothing is more injurious to the health than to have the mind constantly racked by anxiety or excitement. Whether working or playing, put your whole heart into what you are doing and then, when you are through, forget about it, give your mind and body a chance to relax. It is a wonderful advantage if you can conserve your energy in this way.

"Health depends quite as much upon right action of the mind as upon bodily development. By trying to keep my mind thinking right thoughts and by taking what little exercise I can find time for, I have been perfectly well

all the time I have been here in Washington, although my past life has consisted of eight or ten hours daily of hard physical work."

Frederick Huntington Gillett, Speaker of the House of Representatives for the past three Congresses and a member since 1892, is an impressive figure on the floor of the House. Forceful and vigorous under a suave and polished manner, he is a man few persons would take for 72. Despite a naturally rather delicate constitution, he stands almost alone as a man who has passed unscathed through the nervous strain of thirty-five years of public life.

How has he done this?

"Every man, no matter what his position, must have a definite amount of daily exercise," Mr. Gillett told me. "Exercise, especially outdoors, will keep the body young.

"In my youth I was an enthusiastic baseball player; I can remember spending many happy hours running about on the diamond. After that I took up tennis and for many years stole all the time I could from business for the tennis courts and became the champion of my district."

Overcoming the natural delicacy of his constitution by this vigorous regime of exercise in his youth, Speaker Gillett is today far better physically equipped than many of his younger associates.

"What is your present system of exercise?" I asked. "Do you believe in calisthenics?"

"No doubt a system of morning setting-up exercises is an excellent thing, but I happen never to have adopted this method; I have always tried to take my exercise outdoors. I find regular walking a great benefit; every morning I walk from my home to the Capitol, a distance of over two miles. Then, when time permits, I enjoy playing a game of golf."

"How about dancing?"

"Dancing is a beneficial form of exercise easily combined with social duty. I am heartily in favor of dancing, though I have not indulged in it for years."

"What about diet?"

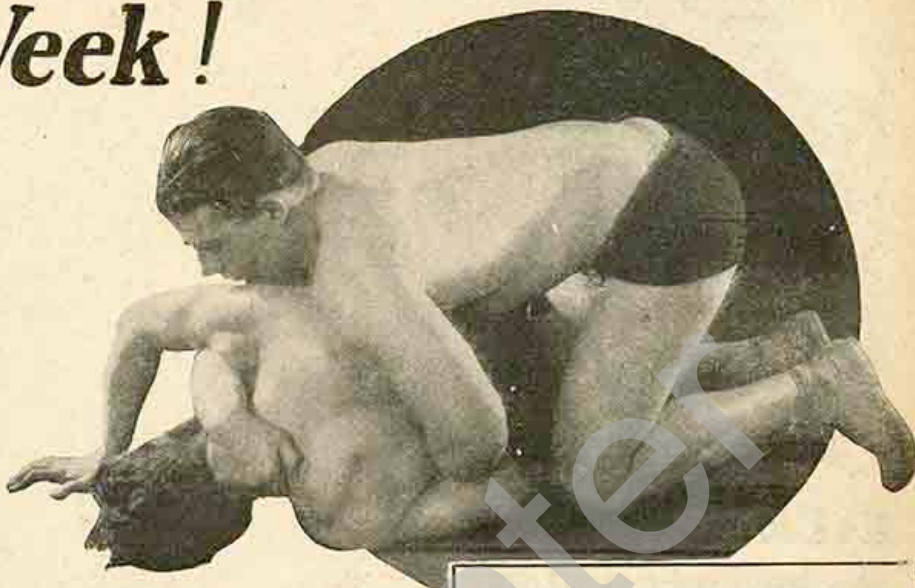
"The essential thing there for me is moderation; in fact, the whole secret of health lies in moderation. We must learn to moderate many of our bodily desires.

"I rarely deviate from a carefully selected diet. I abandoned smoking fifteen years ago and ten years ago I became a total abstainer from alcoholic drinks. *These sacrifices have been a wonderful benefit to me, enormously increasing my vitality.*

"An equally important factor for me is regularity of sleep. I cannot expect to stay up late at night and retain a high degree of efficiency in my daily work."

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How I Could Whip Jack Dempsey

By Nat Pendelton

THIS is an article by Nat Pendelton, who claims that, in a rough-and-tumble fight, he could overpower Jack Dempsey in less than 10 minutes. Many sport followers claim that this feat is impossible. Yet in this extremely interesting article Mr. Pendelton describes how he would meet every onrush of Dempsey, and explains and illustrates the holds and methods he would employ to quickly down his opponent. Can a wrestler beat a boxer? Read this article in the September "Muscle Builder" and form your own judgment.

I Can Support 850 Pounds on a Wrestler's Bridge

This is an article by Joe Lambert, whose ambition is to be the strongest man that ever lived. When only a

frail child, a band of gypsies carried him off, and forced him to lift heavy weights every day. He was finally sold to a travelling circus, who featured him as the world's youngest weight lifter. Today this "Modern brother of Hercules" can lift seventeen men while lying on his back. Read Lambert's article in the September issue of "Muscle Builder." It's well worth while.

Still Pinning 'Em to the Mat at Fifty

This is an article by Stanislaus Zybyzsko, fifty years old and a veteran of twenty-seven years in the professional ring. Zybyzsko recently pinned to the mat Yousiff Hussane and Tom Draak within the space of a few days. His advice and life story prove the immense value gained from clean living and systematic muscular development. Read this article in the September issue of "Muscle Builder"—Don't miss it!

Other Features in September Issue—Don't Miss Them!

The Secret of Making All Your Muscles Alive.

Famous body building secrets by Edwin Gray, M. D.

Muscles in the Movies.

How Famous Movie Stars Keep Fit for Film Fights.

Making the Limbs Strong and Symmetrical.

By Bernarr Macfadden.

How To Be An Acrobat.

Tells the most interesting way of exercising and developing muscular strength.

The Weakling Who Came Through.

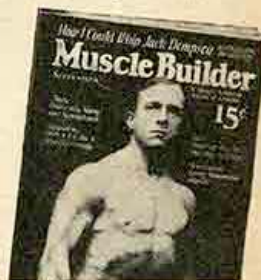
The story of the making of a man out of a mollicodde.

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Milk—The Supreme Food

(Continued from page 54)



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RELIEF at last for those deep-lying pains that surface treatments, liniments, plasters and massage have failed to touch!

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All the healing and curative powers of the sun's rays are concentrated in Stein-O-Lite. It is controlled sunlight, ready for use day and night, wherever there are electrical connections. In Stein-O-Lite modern science has produced a powerful, yet gentle and soothing ray that sends its combined warmth and light as far as four inches beneath the surface of the body.

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uses milk freely in his diet, he cannot afford to use much in the way of either meat or eggs. Indeed, if one uses from one or two quarts of milk a day it would perhaps be better to eliminate meat entirely, there being a sufficiency of protein supplied in that case through the milk. I commend this plan and this fact to the consideration of those who have formed the notion that milk is a food which doesn't agree with them. They should learn to think of milk not as a drink, but as a food.

There are cases of extremely low vitality and emaciation in which the digestive organs are so lacking in strength that they have difficulty in contending with ordinary foods. In such a case an exclusive diet of milk is often found to be ideal. One may proceed upon the theory that the stomach of such an invalid, greatly reduced in strength, parallels the condition of an infant, which is incapable of assimilating ordinary foods. And since the baby can digest and assimilate milk, so can the run-down adult. The exclusive milk diet for an adult calls for four to six quarts of milk per day, as fresh as possible and preferably fresh from the cow. In any event this milk should be taken not ice cold from the refrigerator, but warmed to the temperature of the blood, that is, 98° or thereabout.

The exclusive milk diet has been found very successful under the plan of consuming a glass of milk every half hour during the day, sipping it slowly or taking it through a straw so that it will be perfectly masticated. There is no reason or justification for pouring milk down as one drinks water. It needs "chewing" or treatment with the saliva. A liberal portion of orange juice would advantageously begin the day's diet with more orange juice, diluted lemon juice, stewed prunes (without sugar) or apple sauce used, if desired, at intervals throughout the day.

For the best results on this exclusive milk diet one should have fresh raw milk which is the product of healthy cows fed on good green grass under ideal conditions. The feeding of the cows will determine in large measure the quality of the milk. It is found that there is a difference in the quantity and quality of vitamins supplied by cows fed on different kinds of food. But granted that this is the case, one may assume that for the most part our cattle secure either grass or hay and sufficient grain foods so that they are on the whole better provided for than our badly fed human race.

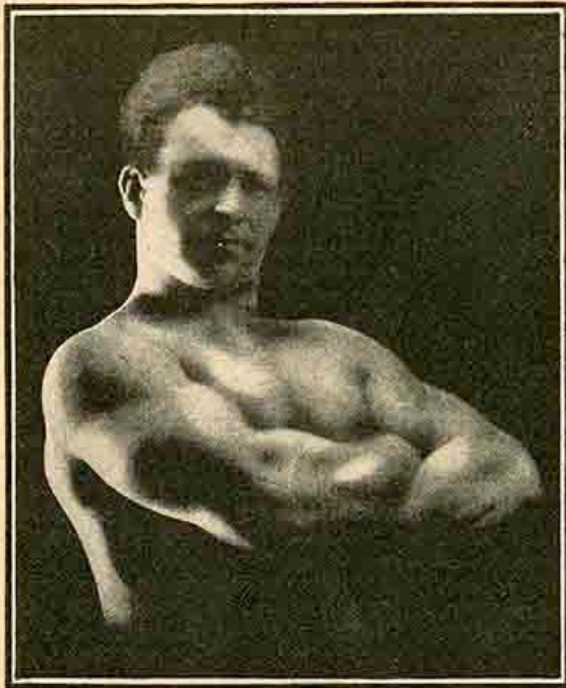
Babies also do better on clean fresh raw milk than on pasteurized milk. And yet where there is doubt as to the health of the milk-producing cattle, or of the standards of cleanliness in the handling of the milk itself, pasteurization is the only safe policy. A material percentage of cattle in many localities are tubercular. While adults seem incapable of contracting bovine tuberculosis, yet young children appear easily

capable of doing so, and the only safe policy is that of general pasteurization of the mixed milk supply of towns and cities. There is no question that this practice of pasteurization, which destroys any disease-producing bacteria found in milk by subjecting it to a temperature of 158° to 165° for from twenty minutes to half an hour, according to different systems, has saved the lives of thousands of children. Of course, the only drawback about pasteurization is that it tends to destroy some of the vitamins for which milk is so valuable, and because of this it is always desirable in the feeding of babies to supplement the milk with fresh orange juice, the lacking vitamins thus being supplied through the orange juice.

Special provision is made in many of our cities for a supply of fresh raw milk produced under sanitary conditions and subject to rigid and frequent inspection by the health authorities. This milk is therefore certified to be clean as well as fresh, and is sold under the name of "certified milk," with the date on the cap of each bottle. There may be instances of careless handling, but for the most part this certified milk is fairly good and clean raw milk, probably worth the advance price at which it is sold. Rigid safety, however, would still prompt the use of the best pasteurized milk procurable, for general use.

Buttermilk is a popular and valuable drink for the same reason that fresh milk is healthful. But one should understand that all sour milk is not necessarily as good as it should be. Our commercial "buttermilk" of today is more likely to be skim milk fermented with a proper souring bacteria, rather than actual buttermilk, which is the by-product of the manufacture of butter. Skim milk soured in this way is an almost ideal food, containing all the protein, lime and other elements of the whole milk but with the butter-fat alone lacking. Fresh raw milk, left to itself, will eventually sour and turn to clabber, which is the thickened sour milk that we are familiar with, and which when beaten up with an egg beater is most delectable. The raw milk sours in this way as a result of the souring bacteria normally found in the milk. But in the use of pasteurized milk for souring, a word of caution is required, for the reason that the natural souring bacteria are destroyed through the process of pasteurization. Ordinarily pasteurized milk will stand for days without turning sour. And then, instead of *souring* in the usual manner to produce a healthful drink, it will more likely *rot* as the result of some bacteria other than the proper souring bacteria. For this reason it is unwise to use pasteurized milk which has turned sour by itself. Satisfactory results are obtained by introducing the right kind of milk-souring bacteria. You can buy a culture of this kind in dry tablet form at your drug store.

For You! A Different and Better Way to Muscular Power!



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Since Breitbart first announced his new method of strength development, he has been overwhelmed with requests for information. It has astonished and gratified him to know that the Manhood of America is hungering so for a really successful method of building strength and muscle.

I'm sorry now that I kept my secrets of strength building to myself so long. I never realized how much you wanted the strength and power that I've gloried in. Even though for years I have been called the "Super-man of the Ages," I've never begun to know what I have been keeping from you. But now you can have it. Your response to my early announcements has given me a new realization of what this power of crushing strength means to you. Now you can know anything I know—just ask me. I want to tell you all.

I don't care how weak or small you are I'll give you a body to be proud of; health, vitality, pep and the Success that the new life will bring you. If you're underdeveloped, I'll amaze you with what my system can do. If you're an athlete, I'll make your muscles bigger, your strength greater. There is no man I cannot help, no matter who or where you are, or what your occupation is.

I Know You Want Strength!

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I am talking plainly to you—and sincerely. I have proven time and time again that anyone who faithfully follows my unique methods can do the things I do. There is nothing else like my method. It is a systematic, scientific way to muscular development, and power. It is based on principles of muscle building that I alone have known, because I have developed them myself; there was nothing else available. And see what I've been able to do myself. I bend twelve iron horseshoes with my bare hands, in the same time that a trained blacksmith fashions one with hammer and anvil. I support more weight on my chest than any other man. I drive heavy nails through alternate layers of oak planks and sheet iron. I bend and break, crush and lift—with the sheer power of trained muscles. And so can you!

My New Method Gives You Strength

There are many ways to increase the size of your arms, but many of them fail to give you real strength. My method gives you both; big bulging muscle, and power as well. Power to bend, lift and

break as the mind commands. Are you satisfied to live a second rate existence? Can you be proud of scrawny baby arms and matchstick legs? Or are you a real, live, vital he-man who wants muscle strength and power? Is there red blood in your veins? Have you a man's heart? Then let me give you what you really want—what I have given thousands of others.

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It is the most remarkable and finished book on strength ever published. Illustrated with my photographs showing me performing those unique feats of strength, which have caused countless prominent people to attest their genuineness. Take this book, turn to page 37. An actual photograph of me driving steel nails thru oak planks and metal. Now page 21. Biting a steel chain in half with my teeth is illustrated. On page 39, there I am supporting a moving merry-go-round mounted with six men, on my chest. Again on page 44, I demonstrate that I actually hold 4,000 pounds of granite on my chest, while several husky men pound it with sledge hammers. Or on pages 32 and 33, the motor cycle race, while I support the motor drome on my chest. If

you want a new start in life, ask for my book, "Muscular Power" It is yours. Don't hesitate—All I ask is that you enclose 10c to cover postage and mailing.

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"What Do Those Finland Athletes Eat?"

(Continued from page 21)

whose names will always be associated with his in sportdom share with him in the possession of the attributes of health by which he, at the age of forty, has put to shame nearly all male humans of the same age throughout the world.

What is behind all this? There is an old book, now out of print, published 1912 by George H. Doran Company, from which the writer may quote without stealing anybody's thunder, for the reason that he wrote it himself. You will find on page 104 of "Starving America," which may still be referred to in the average public library, a plain statement concerning the dietary of the Russian laborers.

At the time the book was written Finland was a province of Russia. Its diet was the diet of Russia. Its diet has not changed. The following is quoted verbatim from "Starving America": "The Russian laborers, millions of them, eat black bread with a bunch of garlic supplemented with cabbages, mushrooms, vegetables and milk. Those who can afford it have boiled millet pudding, goat's cheese, onions, cake made of unbolted Indian corn, vegetable soup, black broth and weak tea."

The next paragraph refers to the consumption of herrings and mackerel in that part of the world.

The *Times* correspondent, in his well-intentioned but hasty effort to get at the secret of the performance of the Finns, picked two of the foods and reported them in the sentence, "Their main diet is fish and a kind of maize cake hard as biscuit."

The maize cake to which he refers is the cake made of unbolted Indian corn reported in "Starving America." He makes no mention of the black bread made of rye, of the cabbages, mushrooms, vegetables, millet pudding, goat's cheese, onions, vegetable soup, etc.

As a matter of fact the Finns do include a considerable quantity of fish in their diet. A large proportion of the Russian population is supported by the sturgeon fisheries. The fish are salted, dried in the sun, or smoked. In this condition they can be shipped great distances.

Everybody knows what Russian caviar is. True caviar is the roe of the sturgeon, of which there are many imitations in America. The Russians also eat the sander, of which they take upwards of 100,000,000 annually. They salt down from 60,000,000 to 100,000,000 herrings every year, approximately 50,000,000 bream, 10,000,000 lake smelt, together with unnumbered millions of pounds of cod, carp, silurus, salmon, coregonus and herring.

The Finns are fond of a fish product, "balyk," consisting of the back flesh of the so-called white salmon, from which the head, tail and nape are removed. On the average these fish foods are consumed not oftener than three times a week, so that the bulk of the Finns' diet consists of black, whole, unbolted

rye bread, yellow, whole, unbolted Indian corn cakes, cabbages, potatoes, onions, garlic, goat's cheese, vegetable soups, and weak tea.

There is no over-indulgence in nitrogenous food of animal origin. Unlike the American diet, there is no over-indulgence in carbohydrates, starches, and sugars. The Finns know nothing of refined foods. They get all the mineral salts and colloids, all the vitamins, all the amino acids, all the substances essential to a normal blood stream.

Their red corpuscles are properly freighted with hemoglobin. The important oxidizers, iron and manganese, are ever present in their daily pabulum, and therefore in their blood. They are remarkably free from the need of the patented laxatives consumed by the ton in America. Their diet not only maintains physiological equilibrium, but it sets up and controls a normal peristalsis.

Jack Dempsey, if he could be persuaded to adopt the diet of Stenroos, would be unbeatable during the next ten years.

If the owners of the Yankee ball team could make Babe Ruth see the wisdom of living as the Finns live, he would still be batting out home runs in 1940.

The *Times* correspondent sincerely believes that "there is something remarkable about the training system of these Finns which is yet to be discovered." There is nothing remarkable about it. It is normal and natural. It has not yet to be discovered. It is fully known.

There are ten universities in America, and twice that many in Europe, particularly in France, Germany and England, from which every year new dietetic truths are published, all of which make clear and understandable the so-called "yet to be discovered secret" of the training system of the Finns.

No wonder they never seem to lose their wind! No wonder their hearts beat out distance as steadily as their legs!

Man's body is an extraordinary piece of mechanism, the most beautiful combination of mechanical perfections, engineering wonders and chemical miracles the world has ever known or ever will know. It is controlled by fixed laws as inexorable as the laws that maintain harmony among the heavenly bodies. It requires certain substances which in the boundless generosity of Nature are widely distributed. All it has to do is to open its eyes to the truth in order to select that which is ever near at hand if it would maintain something like the physical perfection of Stenroos and his fellow-Finns.

It is endowed with natural immunity which is only broken up by unnatural habits. It is endowed with natural resistance which is only broken down by unnatural habits. It performs its own self-repair. It maintains its own re-

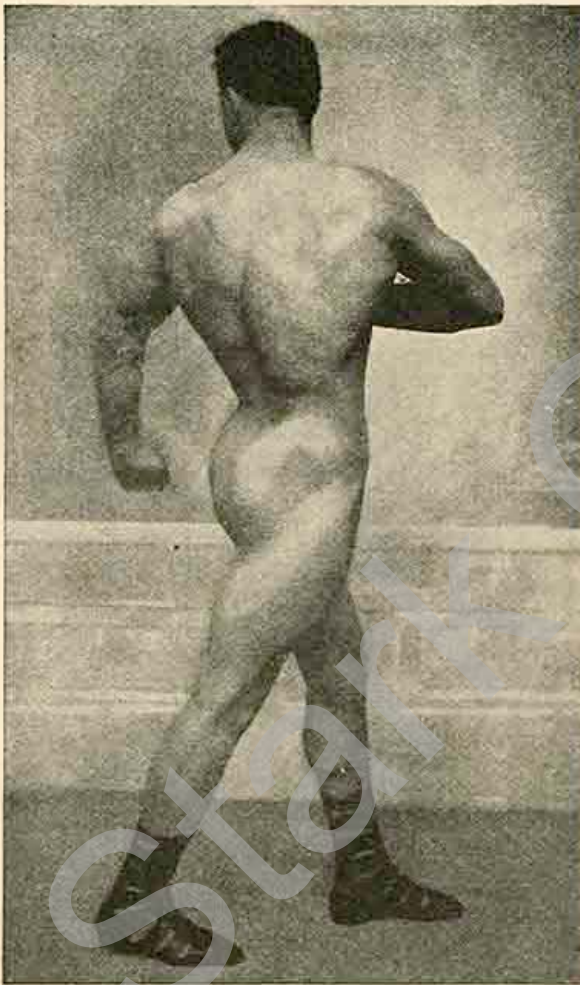
(Continued on page 84)

A Book That Will Revolutionize Body-Building Methods "SUPER-STRENGTH"

Written by
ALAN CALVERT

The former editor of the "Strength Magazine"

is winning golden opinions from its readers. Here are quotations from a few of the many letters which we receive daily:



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THE FLINT COLLEGE CO.

Dept. 579 Cleveland, O.

(Continued from page 82)

serves to draw upon in all emergencies.

The simplest tooth canal contains a thread-like structure which, small as it is, houses arteries, veins and nerves. Normally nourished, they function as Nature designed them to function.

A 5 per cent. departure from normal sets up abnormalities to the extent of 5 per cent. A 10 per cent. departure increases the burden. A 25 per cent. departure adds to the confusion. A 50 per cent. departure leads a long way from home. It is safe to say that most Americans have departed at least 50 per cent. from normal through their absurd devotion to refined, processed, denatured, demineralized foods.

The Finns are still primitive in the matter of diet. They are still close to Nature. Those of simple habits are probably as near to 100 per cent. as Stenroos and his fellows obviously are. That they should give such an extraordinary account of this is not remarkable at all. It is natural, and under any honest scrutiny of the facts is exactly what would be expected.

Stenroos at the age of forty is as young as the average American boy of nineteen, perhaps younger. The lesson he teaches to the rest of the world will doubtless be disregarded, as the lessons taught by the universities are disregarded.

The whole secret is summed up and symbolized in America by honest whole wheat bread, which represents the first return to a natural diet. Happily whole wheat bread has demonstrated by its continuous growth in the American metropolis that it has come to stay. As the American public becomes acquainted with the full truth larger numbers of thoughtful people will take advantage of it to their own benefit, and to the benefit of their children and their children's children.

The pity is that Stenroos, by his example, should set up such a dismal contrast between himself and his average fellow-man.

What's the Secret of Great Ball Pitching?

(Continued from page 45)

That right arm of his starts to swing from in back of his left shoulder and comes all the way around with the ball like the weight swung by a hammer thrower.

Bender had almost as great speed as Johnson, but he got it by starting his pitch from in back of his left ankle and bringing his arm up and over, for he was a perfect overhand pitcher. Bender couldn't use it as often, for he lacked the physical power of Johnson.

Waddell was the equal of Johnson as a fast ball pitcher, and the Rube was one of that wonderful old school of straight overhand pitchers who ruled the mound at a time when managers wouldn't look twice at a side arm pitcher. That was before Alexander came along, however.

A curious thing about the Johnson-Waddell class, in fact all fast ball

pitchers, is they are all men with tremendous hands and long, powerful fingers. We recall shaking hands with Walter Johnson. He could crush the paw of the ordinary blacksmith. Any of the great speed pitchers are men who can wrap their fingers around a ball, and there's one of the secrets of it. The fast one has got to be held tightly and "whipped" over with a "follow through" of the wrist, while the curve must be held without so great pressure of the fingers.

Occasionally one comes along as the exception that proves the rule. When Joe Wood was right he pitched that famed "smoke" ball of his as no other pitcher hurled the fast one. He did it with a sort of jerk of the arm, but the baseball world well remembers that Smoky Joe didn't last long as a pitcher. No human arm could stand that awful strain any more than it could stand the jerk on the muscles of the fast breaking down curve continually.

Some seasons back Washington had a pitcher named Joe Boehling who was virtually unhittable. Almost every pitch was a sharp hook. But he had little else, and the continued strain of it broke him down.

It's the ability to ease up, to put that ball where the batter does not want it and where if he hits it he'll have to hit it about where you want it to go that makes for greatness on the pitching peak.

Every situation calls for different treatment by the pitcher. The way the batter stands, the position of base runners, the number of outs, have got to be considered. A pitch that one type of batter will loft into the air for a fly another will smash along the ground. You've got to figure that out, too.

It's easy enough to teach the man with natural ability and the necessary physical strength how to pitch a fast ball and how to master the curve. But that doesn't make a real pitcher. It's learning to analyze each situation and having control enough to be able to put the ball just where you want in order to force the hitter to hit it where you want, that makes a pitcher great.

The Modern Sir Galahad

My good blade carves the casques of men,
My tough lance thrusteth sure,
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Because my food is pure.

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I fear no man as dangers fly—
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For I've just been examined by
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—H. I. PHILLIPS in the *New York Sun*.

You Can Become the Kind of Man You Would Like to Be

When it comes to the question of muscular development and physical proportions, every man has his own secret ideal. If he happens to be as thin as a rail, he positively craves a fine development and beautiful bodily proportions. He tries to picture himself as he **would** look if he had a big chest, broad shoulders, and magnificently muscled arms and legs. If he is fat, with a waist-line which is several inches bigger than his chest measurement, with smooth, soft looking arms, and with upper-thighs so thick that they "interfere," then he tries to picture himself as he would look if his waist was 10 inches smaller than his chest, his hips narrow and compact, and his arms and legs clean-cut and muscular, instead of merely smooth and fleshy.



A Milo Pupil

It Is as Easy to Get Big Results as Small Results—IF You Know How

The average thin man is almost bound to be disappointed with the results obtained if he practices the usual and well-known forms of light exercise, bending movements, and calisthenics. He will train vigorously,—nay, almost violently—for several months, and at the end of that time will have increased his chest only one or two inches, and will show only a few stringy muscles on his arms, legs, and back. Disgusted with such small results, he tries to console himself by saying that he is "naturally of the greyhound type," and that nature did not intend him to be well built, or to have a fine muscular development. Because other slender friends have had the same experience, he concludes that no thin man can possibly attain a perfect build. We have taken thin men, and by giving them the right kind of progressive exercises with an adjustable bar-bell, have enabled them to add six or eight inches to the girth of their chests, and given them a magnificent muscular development in a shorter period of time than they spent in making a fraction of that improvement when they were practicing the ordinary forms of light exercises.

The accompanying picture of Mr. Walter Donald shows the kind of development produced by our training methods. This man started in training after he was thirty. His frame was small, and his bones were light—but look what we did for him. He is still built on slender lines. In his street clothes he impresses you as being splendidly built, but not in the least heavy. In exercising or swimming costume, he appears a Hercules; whereas, when in street costume he appears to be of the slender Apollo type. His is the kind of development which almost any light-boned man can obtain.

The average fat man will train, and sweat, and diet, and spend a lot of time daily at practicing bending movements,—and if he is lucky, he will reduce his weight by ten or twenty pounds, and cut two or three inches off his waist measurement. But he is still a fat man, only a little less fat than he was before. We have taken fat men, and by a few months' training, changed them into shapely athletes. Fat is a sign of either laziness or failing vigor. A fat man worries more about his lack of shape than about the discomfort caused by his surplus flesh. He knows that if his waist is smaller than his chest, that he is physically on the decline. When we train a fat man, our idea is not to reduce his weight by ten pounds, but by fifty or sixty pounds, and this we accomplish by means of progressive exercises which first remove the fat, and then put muscle in its place. We had one case where the man, at the start, weighed 230 pounds, had a 40-inch chest, and a 44-inch waist, and in three months we increased his chest to 44 inches, and reduced his waist to 34 inches, and his bodily weight to 175 pounds. His personal appearance changed from that of a broken-down middle-aged man to that of a husky young looking athlete, hard as nails, and capable of any task, physical or mental.

Have You Any Idea of Your Own Possibilities

You may think that because you have a 6½-inch wrist, a flat chest, narrow shoulders, and skinny arms and legs, that perfection of form is not for you; or you may think that because you are past forty years old, are stout, and in poor health, that there is no way for you to regain the superb proportions and beautiful development of vigorous youth. If such is the case, we recommend most earnestly that you send for the two special pamphlets mentioned at the bottom of this advertisement. The one entitled "**How Much Should I Measure and How Much Should I Weigh?**" will give you some entirely new ideas about **the kind of man you can become**, because it will outline for you the possibilities of development for men of different heights, and different sized bones. The pamphlet called "**How Much Can I Improve at 20—at 30—at 40 Years?**" describes genuine cases in which the most amazing gains in health, shapeliness, and strength were made by men of different ages. These two pamphlets (and also our big booklet) contain some of the most wonderful pictures you are ever likely to see,—of athletes of all ages whose physical proportions and unusual development will be a source of inspiration to you as well as proof of what can be accomplished by proper training methods. You can obtain these booklets just by asking for them. You will be under no obligation. If you will take advantage of this offer, you will get information that you cannot obtain from any other source. Furthermore, you will get an idea of the scope of the famous **Milo Service**.

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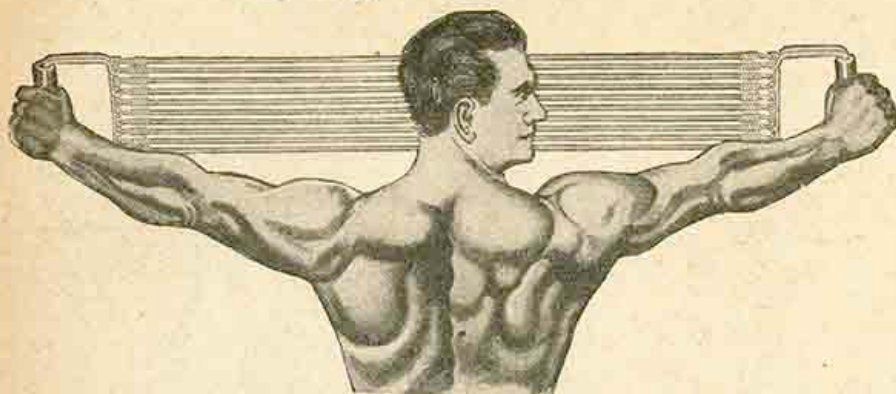
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No man can claim to be a *strong man*, unless the muscles of his neck are fully developed. The McFadden Patented Head Gear will positively increase the size of your neck **ONE FULL INCH** in a few weeks. This apparatus

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MICHAEL McFADDEN Dept. 61, 103 E. 13th Street
New York City

Shaking Up Your Liver

(Continued from page 64)

even the simple feats. There are a few who could *never* learn, it seems. And those who can do tumbling, or try to, find it hard to find a suitable place to perform. We cannot expect elderly people, especially those who have not lead a physical culture life, to start in tumbling. Therefore, we must get other exercises which are more plausible.

This brings us down to rope skipping. Any form of step is beneficial. But the best results are to be gotten from the stiff-legged skipping. If for any reason you cannot skip a rope, then turn to the simple two-legged stiff-knee jump. In performing these stiff-legged jumps, it is best to completely relax the entire body above the hips.

If you are in such a physical condition that you cannot jump about as in these exercises, then the only exercises left are the bending movements at the waist, especially the very easy one in which you stand erect, with feet together and legs straight, and bend from side to side as far as you can.

This side-bending exercise can be performed in three ways. The easiest way is to let the arms hang to the sides and bend from side to side as far as possible. You will find this exercise a little more strenuous when you hold your arms out to the sides at shoulder level. You can make this same movement *very* strenuous by simply clasping your hands above your head while keeping your arms straight. Five or ten pounds held in the hands will make it strenuous enough for the very strong.

Strength—Even for Cripples

(Continued from page 65)

has had comparatively little time even to go to school. Of course he had always before him the necessity of being cautious and conservative in his exercise because of his crippled condition, lest he overstrain some part and do himself more harm than good.

Today when one contemplates the magnificent arms, chest, back and shoulders of the nineteen-year-old Hercules seen in the accompanying pictures, it is hard to believe that he has been developed from that tiny child with the breath of life fluttering very feebly in his body and so wizened that one would almost have been pardoned for asserting that he was hardly worth saving. His stunted leg, although still shorter than the other, has been so strengthened both in muscles and nerves that he has no trouble in getting a chauffeur's license. He can manipulate the pedals of a car or truck with that leg as skilfully as with the other one. He can pick up a one-hundred-and-fifty-pound bag of grain and toss it into a truck far more easily than many a man with two good legs. He is a living exemplar of the old adage, "Where there's a will there's a way."

Greater Beauty, Through Dancing or Swimming?

(Continued from page 19)

noted again and again the wonderfully developed calves, trim, beautiful knees and altogether perfect leg conformation of famous ballet dancers, only to note at the same time an undeveloped pair of arms and an upper body quite out of proportion. This may be ideal from the standpoint of speed and whirling rhythm in dancing, but it is not consistent with our best notions of symmetry. Of course, this is not always or necessarily true, for there are dancers who have cultivated their upper bodies, perhaps through gymnastics, and who present to the eye a perfect picture of physical excellence.

On the other hand, we think that it does not follow that a swimmer is necessarily "top heavy." It is only the general rule that swimmers and dancers tend to these particular types of development. While we would not wish to dispute the authority of our teacher of ballet, we are still skeptical about the impossibility of a champion swimmer becoming a first-class dancer. There was Annette Kellermann, for instance. We would not wish to mention how many years ago it was that Annette Kellermann was the swimming and diving sensation of Australia and later of the whole world, the original feminine world's records smasher. Later, capitalizing her athletic popularity, she went into American vaude-

ville with her fancy diving act, an innovation at the time which took the public by storm. Still later, to supplement her diving act and give her program more "class," Annette took up fancy dancing. Shortly after this, however, she became interested in moving pictures and was thereafter seen to most advantage in photoplays, such as "Neptune's Daughter," which gave her a chance to swim and dive in the one and to display her dancing in the other. Miss Kellermann has been regarded as one of the classic examples of a professional modern Venus. She had—doubtless still has—a slender and perfect development, though it must be said that in her days of greatest swimming speed she was heavier and more robustly built than in her later period of theatrical activity. Her earlier photographs showed that she had more strength, as she must have had to make her swimming records. Perhaps our ballet teacher would remind us that Annette Kellermann was not a great dancer. If so, the reason may be that she did not commence to dance as early in life as she commenced to swim.

On the whole, it would seem that swimming offers a greater opportunity for symmetrical development, because it involves more nearly the use of all parts of the body. Especially it employs the muscles of the arms, back

and chest to such an extent that a superbly feminine type of development is acquired. It may be said that the more modern varieties of dancing call for much bending of the upper body and the use of the arms and shoulders (not referring to the "shimmy"), but it is still true that dancing is a more one-sided activity than swimming. And yet it is an exercise that calls for co-ordination of all parts of the body, which means that no part is completely neglected.

Why not a program, however, that includes both dancing and swimming? Why not follow the example of Annette Kellermann and the other girl swimmers who have found dancing to be the best out of the water activity and ambitiously undertaken to excel in that art as well? If you are looking for channels toward physical perfection, in which the element of interest in the thing itself would keep one at it, then you can do no better than to plan an extended course in dancing, covering a period of some years, by which you will perfect your body from the waist down, and during the same period of time engage in swimming to the limit of your opportunities. In short, the combination of swimming and dancing is a recipe for womanly beauty that is both delightful in its pursuit and unflinching in its achievement.



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Who Is Joe Nordquest?

(Continued from page 61)

ready to quit. His big brothers handled 200-pound weights as a pastime; but it took a year's hard work before Joe was able to "put up" as much as 125 pounds. Under the circumstances most young fellows would have quit; but not Joe. His first year of constant training seemed to give him an immense reserve of vitality and strength and he actually gained much more in size and strength during the second year's training than in the first twelve months. When I saw him in 1915 I thought that he was just about as well developed as any young man could hope to be; but when he visited me in Philadelphia a year later he was much more powerfully developed. The last time I measured him, which was about the beginning of 1917, his normal chest had increased to 47¾ inches, his upper arm, when held straight, measured 17 inches, and when flexed, 17¾ inches. When he held his arm straight, his forearm measured 14½ inches. When he bent the arm at the elbow and flexed all the forearm muscles the measurement was 16¾ inches. His waist measured 36 inches, which was nearly twelve inches smaller than his chest. His neck measured 18 inches; his right thigh 29½ inches and his right calf 17¾ inches. The gain in the size of the muscles seems to have been accompanied by a corresponding gain in the size of the bones, because in 1915 his forearm measurement (arm straight) was 13¾ inches, his wrist 7¾ inches, while in 1917 the measurement for his forearm was 14½ inches and the wrist 8¾ inches. The accompanying pictures will give you some idea of his wonderful development; but you must remember that all this development came to him naturally. He never spent any time in trying to make his muscles bigger. All his interest was in lifting. He practiced so many different kinds of lifts that every muscle got its share of the work. If he had spent part of his time (as most strong men do) in practicing developing exercises to increase the size of his muscles, he unquestionably could have gotten even larger measurements because his bones are plenty large enough to justify a 20-inch biceps.

Another way in which he resembled Saxon was that he cared very little about displaying his muscles. He would lift as long as anybody would lift with him. When he attended the exhibitions at the Milo Bar-Bell Factory he was even more eager to see the other lifters perform than to do his own unapproachable lifts. On those occasions the audiences were not very large. There never were more than one hundred men present; but if there happened to be eighty men in the audience, at least seventy-five of them would be expert lifters. Consequently after the regular exhibition was over the audience would come forward and meet the performers who had done the lifting, and then a general lifting carnival would take place. One time the

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whole crowd stayed around and performed feats of strength for three hours after the regular exhibition was over, and during that time there were stunts performed that would have brought thousands of dollars to the box office of any vaudeville theater. It was at such times that Joe did his very best. He would meet every newcomer at his special stunt and usually carried away the palm.

He turned professional some time in 1917, but remained on the stage only about a year, and when he retired the lifting game lost its most famous American exponent.

The Pictures

Figure 1 shows him as he was at the time he made his one-arm bent press of 277 pounds. I like the picture because it shows his proportions and because it gives one an idea of what he looked like when he was standing at ease. This is one of the accepted positions for displaying the arm muscles; but the remarkable thing is that Joe never had to flex his muscles to make his arms look impressive. Take, for example, Figure 2, which was snapped as he did a sort of "wand drill" with a heavy bar-bell. He was not even thinking of his arm muscles, but because he had the bell off-center the leverage was sufficient to make his muscles stand out.

In Figure 3, which was taken to show the control of his shoulder blades, you can easily see the difference between the size of his right and his left arm. (That, by the way, is a perfectly natural condition. Every man's right arm should be bigger and larger than his left and it is a mistake to try to make the left arm as big as its mate.)

Figure 4 is another pose in which the tapering effect of the body is produced by spreading the shoulder blades. This picture is notable because it shows not only the great size, but the very smooth outlines of his muscles.

Figures 5 and 6 are reproduced to still further illustrate his great control over his shoulder blades. In Figure 5 he has slightly expanded his chest and flexed the muscles across his back, but has allowed his shoulder blades to remain in their normal position. He actually had a chest just like that, and his arms were even more wonderful than this picture shows, and at that I doubt whether you have ever seen an arm which, when held straight and limp, was anything nearly as impressive as the right arm in Figure 5.

Figure 6. The effect is gotten by spreading the shoulder blades to their greatest extent and by leaning back a bit from the waist. This has often been characterized as a freak pose; but nobody else has been able to duplicate it; principally because no one else has

as big muscles, or as much control over them, as Joe has. No other portrait shows off his forearms to such advantage, which is odd because he is making no attempt to display the forearms.

Figure 7 is still another stunt of shoulder blade control. Sandow originated this position and every lifter since his time has taken a shot at it. I know several men who can do the pose better than Joe does it, that is, they can show more muscles on their back; but none of them can show as big muscles. His deltoids or shoulder muscles are so big that they press in the sides of his neck. The triceps and the outside of the upper arms are tremendous in size, while the trapezius muscles at the base of the neck are simply phenomenal.

Figure 8 is the one that shows him breaking Hackenschmidt's record in the two-arm press on the back, while Figure 9 shows his style in the bent press. It was taken while he was making a "warming up" lift with 228 pounds. The ordinary lifter when about to attempt his record, would make his preparatory lift with a bar-bell weighing 125 pounds or 150 pounds, but such weights were not sufficient to satisfy Nordquest. Imagine a man who needed more than 200 pounds in order to "warm up." But then in almost all lifts he began where the other fellow stopped.

During the time he was a professional he lived in New York City, and he created quite a sensation when he went around to the different gymnasiums and displayed his strength. New York is the headquarters for professional "strong men." If they are at work, their engagements in New York City are far longer than in any other place; and if they are looking for engagements New York City is the easiest place to get them. As I have already said, the average professional "strong man" can press at least 200 pounds with one arm; but 235 pounds is the stopping point for most of them. Consequently when Joe visited a gymnasium and asked the privilege of making a lift with a heavy bar-bell, he was never expected to do more than 235 pounds at the most, simply because no one else was using more than that weight. When they gave him 235 and he had pressed that and asked for something heavier and made the press with 250, or 260, or 275 pounds, he vastly surprised some members of the profession who had sized him up as just an average "strong man." His decision to retire from active lifting caused regret among all his friends. I do not believe that he will lift again until some American beats his records. If that ever happens I expect to see him come forth and make some lifts which will go down in history.

GIRLS

Up to this time a great deal has been said about natural beauty as regards the figure, but so far no mention has been made of that natural beauty of face and neck which every woman desires. Next month Marjorie Heathcote will tell you how to attain the firm contours and charming complexion that is yours by right.

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Men in the Making

(Continued from page 37)

thumbs front, the camera sees the arms from an angle which makes them appear thin. If Mr. Turner had turned his palms towards the camera his arms would have appeared much bigger. The reason he did not do so is because that would have prevented him from showing the full size of his chest. This young man is a fine lifter, as any expert would know after one look at the breadth of his back and the great size of his muscles at the points of his shoulders. Here is a man who, while originally of the "greyhound type," is now noticeably broad-shouldered. His case ought to be a lesson to those among you who hold the mistaken idea that because you always have been thin you always must be thin. If you are willing to train as faithfully as Mr. Turner trained you will in course of time be able to show a chest and shoulders like his, even if at present you wear a size thirty-two coat.

Figure 7 shows another man who always finishes his reports by saying, "But I am not satisfied." When that man started his training, about eighteen months ago, he had an upper arm which measured 12½ inches when flexed. In a recent letter he says, "I have greatly increased the development of my arms and shoulders." Well, I should say he has. He failed to say what his arms measure at present; but since he is 5 feet 10 inches tall, surely his arm must measure at least 15 inches at the present time; for in this picture his arms and shoulders look simply Herculean. His source of dissatisfaction is with his legs. Undoubtedly he became so fascinated with the rapid increase in his development above the waist that he devoted most of his time to still further stimulating that growth. At present he is working on special thigh exercises and doing Roman ring work to strengthen the muscles of the hips and lower part of the trunk. In my opinion the thighs are easier to develop than the upper arms and it will not be long before this gentleman will have a leg development equal to that of his arms. He says that at present he can chin the bar three times with one hand and once with one finger and can raise a bar-bell as heavy as himself in the one-arm bent press. As his legs become bigger, heavier and stronger, he may not be able to improve his records in chinning, but he will unquestionably be able to vastly improve his records in bar-bell lifting, especially in the bent press, because thigh and lower back strength are big factors in making a thigh lift.

Figures 8 and 9 are of a young man from the western part of Pennsylvania. He sent them to me a year ago, saying, "You can use them if you wish to; but remember that I have been training only a short time and if you will wait a few months more I will send you pictures showing a great deal more in the way of development." When those

pictures come in I will be pleased to show them. Here again is the case of a young man who is dissatisfied with a development of which most men would be vastly proud. His pictures show some points of special interest, among which is his ability to display the muscles on the front of the abdomen without finding it necessary to bend the body forward. When the outlines of the abdomen muscles are apparent when a man is standing erect as he is, it is a sign of extraordinary development in that region. In Figure 9, the side view where he has just pressed up a kettle-bell, the interesting thing is the great development of the calves of the legs. They are deep from front to back and the big curve of muscle on the inside of the right leg indicates that they must be equally wide from side to side. In his next set of pictures this young man ought to show us something startling.

Those of you who are small-boned should be interested in the picture of Mr. Malloy, Figure 10. In his letter he says, "I have improved greatly, much to my satisfaction." I suppose that is because when he started his bones were so extremely small and he is rather short in stature. As I told him, his bones were about the smallest I had recorded for a man of twenty-one. So I have nothing but praise for Mr. Malloy's proportions of all-around development and he should be an inspiration to other small-boned men, because his wrist measures only 5¾ inches and his ankle 7 inches.

Figures 11 and 12 show Mr. George Dickman, who said, "While I am fairly well satisfied with the gains that I have made, I am going to continue to train persistently and I hope in time to become a really good example of the benefits which can be obtained through practicing the course you teach." Here is a six-foot specimen who has bones of an average size for a man of that height. At the start of his training his normal chest measured 41 inches and his upper arm flexed measured 13½. At the time of his last report his normal chest was 46 inches and his upper arm 16 inches. That means that he has a chest as big as the famous George Zottman has, and one that is an inch larger than Sandow's. A 46-inch chest is something to brag about; but I doubt whether this man will be satisfied until his chest is 49 inches—as big as that of Professor Lange.

Figure 13 shows Mr. Wudtkee of Chicago. He was inspired to become well developed because he has seen the progress made by his friend, Mr. A. P. Hedlund, whose pictures have often appeared in this magazine. Figure 13 shows an arm and shoulder development which would more than satisfy most of you. Its owner thinks that it is "pretty fair, but not what it should be."

Figure 14 is that of a young man who wrote and freely confessed that he

had spent too much of his time at arm and shoulder exercises and had suddenly come to the realization that his leg development was not what it should be. There is the spirit which I almost invariably find in the fellows who make big gains. Before you can improve you must be willing to admit that there is room for improvement. Any young fellow who developed arms, shoulders and upper back muscles like these can develop hips and legs equally fine. The interesting part of this pose is the appearance of the trapezius muscles at the base of the neck. When the arms are raised in this way and all the upper back muscles tightened, the trapezius muscles assume the shape of a ring or quoit such as you see at the base of the neck in Figure 14.

Figure 15 is an almost similar case; but in this instance the correspondent said, "While my upper back muscles are very clearly defined, they seem to lack bulk." Compare the trapezius muscles in Figure 15 with those in Figure 14. In Figure 15 they form the letter T, the horizontal fibers near the base of the neck forming the top of the letter and the vertical fibers which run half-way down the spine forming the upright of the letter. It would have been impossible to show the vertical fibers in this way unless the shoulder-blades had been jammed together.

Figures 16 and 17 are pictures of Mr. Solat, a young citizen of Porto Rico, who has used progressive weights for the purpose of increasing his strength and development. He offered the pictures for my inspection and said that I was at liberty to make public criticism of them, whether favorable or otherwise. After one of his reports I told him that he could get more chest development; but after studying Figure 16 I doubt whether a larger chest would add anything to his proportions. He says that when his legs are viewed from the side they appear deep from front to back, but that when viewed from the front they look thin and he thinks this is because his waist is so small. I fail to find anything "thin-looking" about that pair of legs. The ankles are small, it is true; but the calves are plenty large enough and very shapely and the thigh muscles, instead of looking thin, appear to be much larger than the average. On the front of each thigh you see two shadows which form a V, indicating an unusual development of the straight head of the quadriceps muscle. The thighs would look a bit wider if the outer heads of the quadriceps extensor had a bit more development; and in order to get that development this man will have to practice squatting with his knees pointed wide apart, and also practice exercises which develop the muscles at the sides of the waist, because any exercise which develops the side muscles builds up the outside of the thighs. It may surprise you to know that this man's wrist measures only 6 $\frac{3}{4}$ inches. Mr. Solat's development interests me; but his desire for further improvement interests me still more.

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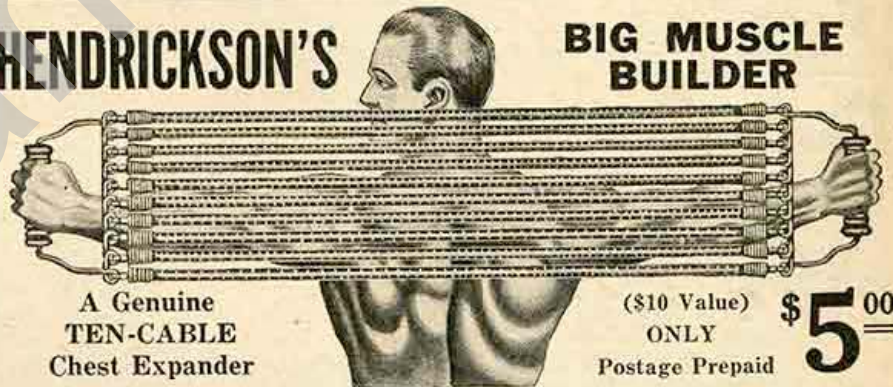
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The Mat

(Continued from page 68)

another man wants to know how to train for a bicycle race; a third wants me to give him some points about swimming, and so on through the list.

Now I do know something about running, and how to train for the different distances. I know little about bicycle racing, and nothing at all about swimming. For every letter I get on the above subjects I get a dozen in which the writers ask me to outline for them a general training course. My time is so taken up that I can give only a few hours each month to this department; but the correspondence has grown to such an extent that if I dictated eight hours a day for ten days in the month I could not possibly answer all the letters that I receive as the conductor of this department. Once again I ask you to remember that "The Mat" is not a question box, nor a department for giving personal instruction.

At the same time I believe that the readers of STRENGTH are entitled to such information, and so I have suggested the creation of a "Questions and Answers Department," which will give you fellows an opportunity to get expert advice on your personal problems. At one time we ran a "Readers' Service Department," the purpose of which was to tell you where you could get different kinds of gymnastic and athletic apparatus, sporting goods, etc., but this "Questions and Answers Department" will give you a different kind of service.

Meanwhile if you have any suggestions regarding the way the magazine should be conducted I will be very glad to receive your letters. If you are particularly interested in one branch of athletics, gymnastics or body-building exercise, and wish to see an article dealing with that subject in this magazine, write in and make your suggestions and I will see that they are submitted to the proper authority. We aim to please. Our greatest desire is to give you the kind of articles which you like best, but until you state your preferences we cannot know what they are.

How Often Should a Man Exercise?

Some of my correspondents are very much surprised and apparently grieved because I have told them to exercise only once in forty-eight hours. They seem to think that no man can keep himself in condition, much less make any improvement, unless he takes daily exercise. It all depends on the kind of exercise you mean. Health-preserving exercises are quite a different thing from body-building exercises. If a man's one idea is just to keep himself in such condition that he can go through his daily work, and to maintain fairly good health, then daily exercise should be taken by all means. Of course, we all exercise every day. Every time you climb a flight of stairs

you are getting good leg-and-back exercise; and every time you lace or unlace your shoes you have to do a bending-movement. There are people who keep themselves in very fair physical condition by spending five minutes a day at doing calisthenics or bending exercises; but such people rarely make any marked change or improvement in their physical condition from one year's end to another. Very few readers of STRENGTH are in this class; that is, if I am to judge by the hundreds of letters which I receive. The great desire seems to be for considerably more strength, and abounding health, and a vastly improved physique.

I happen to be connected with a concern which teaches a rather vigorous form of exercise, and my experience with thousands of pupils of that concern has proven to me that when vigorous exercise is taken, a man will make better progress if he exercises three or four times a week than if he exercises every day. When the body is overworked it positively will not develop. Few athletes train as hard as do prize-fighters in preparation for a bout. The men who train fighters long ago found out that it is a great mistake to prolong the training for more than six weeks. As you probably know, prize-fighters are a self-indulgent set and are apt to take life easy between their battles. Consequently when they start training they are often many pounds overweight and their wind is poor and their muscles are soft. Nevertheless, six weeks seems to be sufficient time not only to bring them to a hard condition, but also to raise them to the very peak of their powers. During the last part of the training the work is very severe. If the training period were continued for more than six weeks the fighter would commence to grow stale and would gradually lose his pep and endurance.

Baseball players cannot do themselves justice if they have played their game the whole year round. During the season they have to spend their strength prodigally, and so during the winter months they take life easy and recuperate their energy. A major-leaguer could pick up easy money playing in California during the winter months; but this is prohibited, because the managers know that a man who plays all winter will be far below his best during the next summer season.

Candidates for the track-team of a college or athletic club train for only a few weeks previous to the season of competition. There are trainers who will not allow the athletes to practice more than three or four days each week. Such trainers know that the important thing is for the athlete to possess the largest possible reserve of energy on the day of competition and they know that if the athlete has practiced too hard and too frequently he will lack energy.

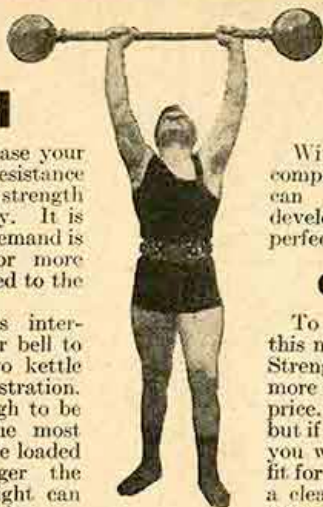
You may object that training for one contest, whether it be a fight or a foot-race, is quite different from training for permanent improvement; but nevertheless, the general principles are the same in both cases. Every individual has just so much energy, and the stock of energy can be increased by judicious and proper training, or it can be lessened by unwise training. The average man takes a long time to make up his mind that exercise is necessary in his case; but once he has made up his mind he is more apt to exercise too much than too little. After he has finally decided on the particular method, or course, that seems best suited to his case, he is all impatience until the apparatus or course of instructions arrives. As soon as it reaches him he plunges right in and is apt to practice as much as a couple of hours daily during the first two or three weeks. At the end of that time he is either so stiff that he can hardly move or else he is so thoroughly tired out that he seeks every excuse to omit his exercise. He starts out with a great deal of enthusiasm, and figures that the more he exercises the quicker his improvement will be. He is obsessed with the idea of becoming a great athlete at the end of the first month's training. Nine times out of ten men who start this way will quit training at the end of the first month and swear off exercise for the rest of their lives. If you argue with them about it they will reply, "Oh, I gave exercise a thorough tryout and it did me no good. I was in worse condition when I stopped than when I started."

Exercise should be started gradually. Nature is opposed to sudden changes. The wise thing is to build up your body slowly and steadily. For that reason I am opposed to daily training if the exercise is of a vigorous character. Every month I lay out courses for hundreds of men and boys who are about to start training at a system which calls for the use of graduated weights. The program for the average man will include a dozen or more exercises which afford work for every part of the body. After sizing up the applicant's measurements, height, weight, age and previous training experience, I tell him the amount of weight with which he should start his training; and when I do so I deliberately specify a weight which I feel sure he can handle with the utmost ease. My reasons for doing this are as follows: *First*, it is absolutely essential that he learn to do the exercises in the exactly correct manner, because if he does the exercises correctly he will gain about four times as rapidly as he will if he does them incorrectly. It would be impossible to do the exercises in the manner described if I made him use a weight so heavy that it took all his strength to elevate it. *Second*, if I gave him as much weight as he could handle in the first one or two exercises he would be all in by the time he had gotten half way through his list; and then the likelihood is that

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he would quit for the day, thus omitting the last half of the exercises and neglecting to give work to other sets of muscles which are just as important as the muscles used in the first few exercises. *Third*, and most important, is that if I gave him as much as he could handle and he did go through the list, he would finish up so tired that he would fail to properly recuperate. I further tell the pupil that he must practice only once in forty-eight hours. This gives him a chance to rest up and to store a reserve stock of energy.

Naturally there are exceptions to the general rule. When the pupil is in very poor physical condition, is overly fat, or very much below the average in size and strength, I make him work for a few minutes before breakfast every morning, at four or five exercises which are very moderate in character; and he has to do this in addition to the regular once-in-forty-eight-hour period, when the exercise is taken either in the afternoon or the evening. Usually one month of that program is sufficient to put a pupil in such condition that he can dispense with the early morning work, and thereafter confine himself to the once-in-forty-eight-hour plan.

For the man who wishes to improve, the two most important and valuable possessions are persistence and common sense. You simply cannot get results by working hard for a couple of weeks and then idling for a couple of months; then exercising for another two weeks and so on. If you exercise every day it is more likely than not that at the end of two weeks you will be quite ready to quit for a while. If, on the other hand, you exercise once in forty-eight hours you will never get over-tired, because after the one day lay-off you will come to the exercise period with a feeling of immense energy and with a real enthusiasm for the work. It is far better to exercise forty-five days out of ninety (with a day of rest between exercise periods) than to exercise for thirty days in succession and then to loaf for the remaining sixty.

I do not mean to imply that the exercises must be taken at exactly the same hour on alternate days. Few of us are able to live on a fixed program and there are days when it is most convenient to work at 5 P. M. and other days when 11 P. M. would be the most convenient hour. Sometimes you might be so busy that you would have no time to spare for exercise on the allotted day; but if it happened that you had to lay off two days in succession it would certainly do no harm to exercise two days in succession before going back at the regular program. The important thing is to get your exercise three or four times a week without fail.

Because most people have to work for their living between breakfast and supper time, a great many instructors advise their pupils to take all their daily exercise before breakfast. It is perfectly all right to do a few light movements at that time; but in my opinion, *no really vigorous exercise should be*

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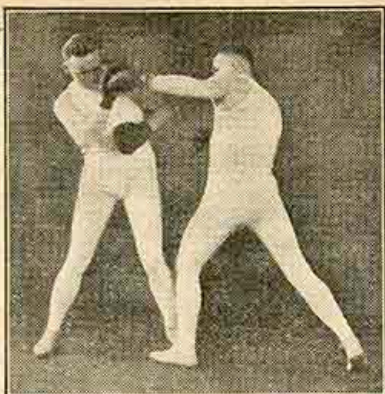
taken before breakfast. The body has then been for twelve hours without nourishment and is not nearly as strong as it is later in the day. A man who rises at 7 A. M. and goes to bed at 11 P. M. should be at his best physically about 4 o'clock in the afternoon. That is the ideal time for exercise; but if you can't exercise at 4 P. M. it is better to do your work about 9 in the evening than to do it before breakfast.

Do Manual Workers Need Exercise?

I am often asked whether it is possible for a man who does heavy labor to improve himself by systematic exercise. My answer always depends on the length and character of the man's work. Nowadays there are comparatively few jobs which are of an exhausting nature. A truckman has extremely heavy work; but for every hour he spends in loading heavy cases on his truck he spends two or more hours in driving the truck around. The modern farmer does almost all his work by machine. A steam shovel will take the place of a dozen laborers, and so on. A man who works in a factory and has to give unremitting attention for hours at a stretch to some rapidly moving machine will finish his day's work more exhausted than another man who lifts or moves heavy objects for only two or three hours in a day. Every day I lay out courses for farmers, mechanics, men who drive trucks, automobile repairmen, and so on. Also I lay out courses for bankers and merchants, physicians and stenographers. All such men can be benefited by regular exercise of a character which employs every muscle in the body. It frequently happens that a factory operator who works in a cramped position all day needs the exercise more than the physician who spends his day in his office or driving around in his car. So far as I can see, the men who do seven or eight hours' physical work improve just as rapidly under scientific, systematic training as do the other men whose work is purely mental.

I have gotten very far from my subject. My main idea is to caution you against too much exercise, especially when you are first starting to train. If you make the work easy at first and gradually increase the severity of the exercise, and if you give yourself a chance to rest and recuperate between exercise periods, you will make several times as much improvement as you will by working too hard at the start; mainly because the once-in-forty-eight-hour plan will keep up your energy and enthusiasm.

Since dictating the first part of this article I happened to read a letter from an applicant who said that he was very anxious to improve rapidly, and he said that he is willing to exercise five or six hours every day if I considered it necessary. When he gets my reply telling him to exercise about forty-five minutes at a time once in forty-eight hours I suppose he will be pretty well discouraged. And yet that is the plan by which he may hope to improve most rapidly.—A. C.



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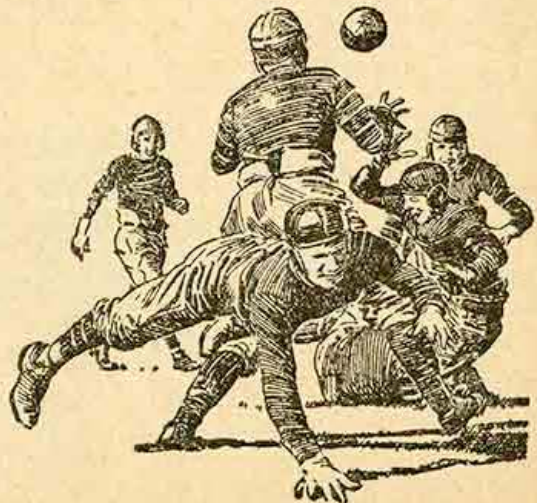
From the start we have kept uppermost in our mind in forming the policy of this publication the essential that to achieve the success that the effort warrants and to attract the better class of readers in the wide field of general publications we must produce something exceptional in the line of sports publications—a periodical that is clean, wholesome, instructive and has a vital reason for existence aside from the mere publication of something interesting that has happened; that is inspirational and that the reader will lay down feeling better for having read it—not the conventional style of sports publication which considers sports sufficient unto themselves, that leads nowhere in particular beyond the sporting field itself.

OUR CREED IS BETTER MEN RATHER THAN GREATER ATHLETES

The policy adopted by this publication has been that unless sports lead somewhere beyond the sporting field itself, unless the qualities developed therein are applied to a better and higher purpose, then the best that there is in sports is passing you by and indulgence in sports becomes a vice. Our contention has been that the most praiseworthy view of sports is that view that has been almost wholly submerged in existing sports publications by the preponderance of attention that is paid to the winners—the view that looks to the development of qualities that make MEN, not CHAMPIONS. Our religion has been the religion of FAIR PLAY—which, after all, is simply the Golden Rule boiled down, a shorter and plainer way of saying "do unto others as you would have them do unto you." And in this we mean a spirit of FAIR PLAY that has only its birth on the field of sports, and that moves out into the business world, into the homes, into the church, where it lives and has its being to the betterment of mankind in general. The gospel we preach is the gospel of better MEN, not greater ATHLETES—that the development of manly qualities is a greater triumph than the winning of a championship, that the greatest good to be gained from sports is to take from them the best that they have to give and apply it to a higher purpose in the Game of Life.

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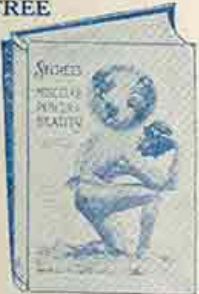
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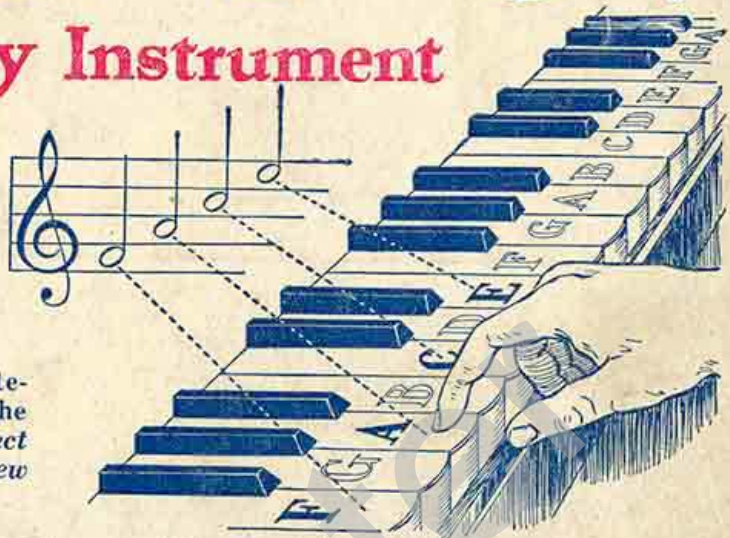
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The amazing success of students who take the U. S. School course is largely due to a newly perfected print-and-picture method that makes reading and playing music almost as simple as reading aloud from a book. You simply can't go wrong. First, you are *told* how a thing is done, then a picture *shows* you how, then you do it yourself and *hear* it. No private teacher could make it any clearer. The admirable lessons come to you by mail at regular intervals. They consist of complete printed instructions, diagrams, all the music you need, and music paper for writing out test exercises. And if anything comes up which is not *entirely plain*, you can write to your instructor and get a full, prompt, personal reply.

Whether you take up piano, violin, cello, organ, saxophone, or any other instrument, you find that every single thing you need to know is explained in detail. And the explanation is always *practical*. Little theory—plenty of *accomplishment*. That's why students of this course get ahead

twice as fast—threetimes as fast—as those who study old-time, plodding methods! Read some of the letters on this page and see for yourself. They don't guarantee that *every one* can become a good player in three or four months; but they are written by people who didn't know any more about playing when they started the U. S. course than you do now. (Note that if you do know something about music now, the U. S. School of Music grades you and instructs you accordingly.)

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Organ	Harmony and Composition
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Tenor	Hawaiian
Banjo	Steel Guitar
Mandolin	Harp
Clarinet	Cornet
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about music now, the U. S. School of Music grades you and instructs you accordingly.)

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The whole interesting story about the U. S. School course can not be told on this page. So a booklet has been printed—"Music Lessons in Your Own Home." You can have a copy absolutely free, for the trouble of filling out the coupon below—and in the booklet you will find a special offer that makes the U. S. course available to you at a very low price—if you *act promptly*. With it will be sent an Illustrated Folder which explains better than words how delightfully quick and easy the Print & Picture Method is. There is a good reason for this big reduction, as you will see on reading the booklet, but since the special offer reduces the lessons to a few cents each, we want only people who are seriously interested to take advantage of it! If you are really anxious to become a good player on your favorite instrument, mail the coupon *now—today*.

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