

PHYSICAL CULTURE

DEVOTED TO HEALTH, STRENGTH, VITALITY, MUSCULAR DEVELOPMENT, AND THE CARE OF THE BODY

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No. III

Tensing Exercises Made Easy

By BERNARR MACFADDEN

(SECOND INSTALLMENT)

THE system of exercises I am presenting in this series, may be termed one of the most natural methods of using the muscles of the body that I have presented in this magazine for some time. Of course, if the system is carried to the extreme of securing control of each of the muscles to such an extent as to be able to flex and relax it by a mere effort of the will, it can hardly be called a "natural system." This, however, is not, by any means, necessary in order to secure the benefit of the exercises illustrated in these articles. When I say that it is "natural," I refer to the exercise that is taken under the influence of an inclination to yawn, which one can easily bring about with slight effort. Yawning and these exercises should go together. You can easily see, therefore, that this system will not require a great amount of time. This exercise can be taken whenever you have leisure. All you need is some place where you can have a plentiful supply of air and where you will not be bothered by outside influ-

ences of any kind. Then begin to flex the muscles of the arms, back, chest, abdomen, and legs vigorously at the same time that you are yawning. Do not make work of the exercise, simply carry it out in accordance with your inclination, as influenced by yawning. Begin by tightly flexing the arms, then stretch them high

overhead and assume the various positions that I have pictured in these articles, or any of your own that might especially appeal to you, being careful to as nearly as possible, use all the muscles of the body.

In previous articles, I have referred to the value of

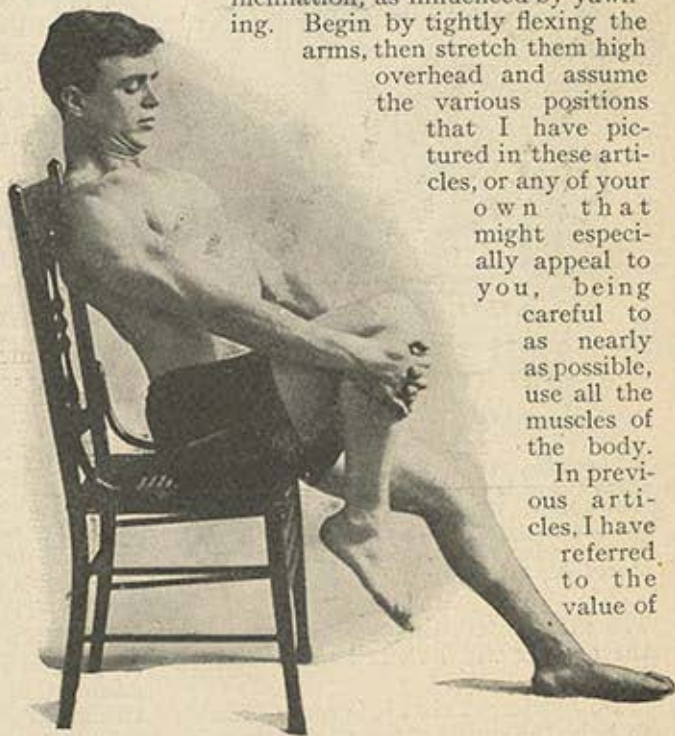


Photo No. 5.—Interlace fingers around the leg below knee, as shown in photograph, and pull up as strongly as you can. Relax and repeat the exercise. Take same exercise interlacing fingers over knee of other leg. Continue until tired.

exercising before a mirror and if the movements now under consideration are taken in this manner, you will find that they will be much more interesting. The study of the contour of the body while exercising, gives one a valuable idea as to what constitutes proper form, and also enables one to more clearly understand his physical defects. What is perhaps just as important, it makes the exercise more pleasurable. You really cannot get too much pleasure out of your exercise.

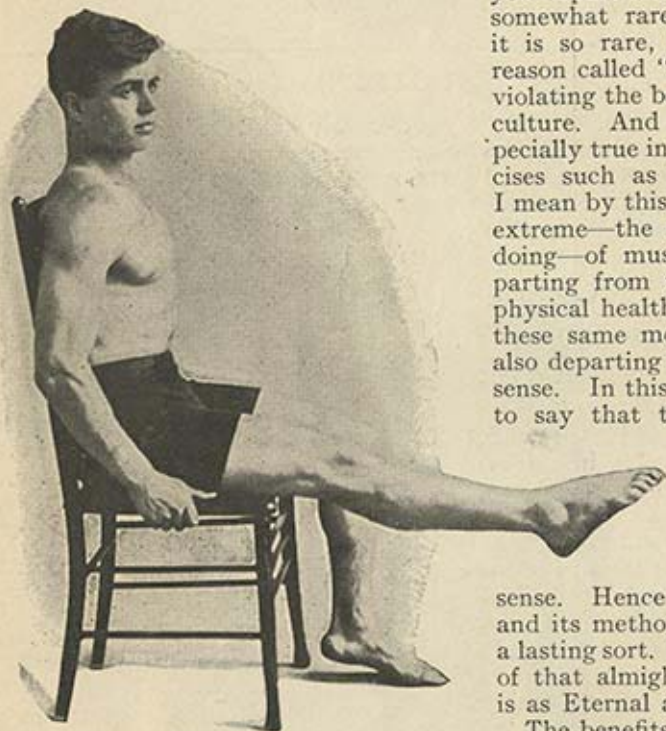


Photo No. 6.—Straighten the right leg and reach out as far as you can with the toes, as shown in the illustration. Relax and repeat the same exercise with other leg. Alternate from one leg to the other until muscles are thoroughly fatigued.

The more interesting you can make it, the greater will be the benefit derived from it.

Do not forget that it is quite possible to hold the muscles tensed for too long a period. In fact, if you secure a thorough control of the muscular system, it is easily possible to tense one's muscles too strongly. I have known

athletes to rupture a blood vessel when the muscles were tensed and held in that condition for too long a period. There is little danger, however, of results of this character in those who merely take up these exercises for ordinary usage and the building up of the general health.

Never forget that everything which has to do with physical culture has to do also, with common sense. In fact, the two terms are in a sense interchangeable. It follows then that the moment you depart from the promptings of that somewhat rare quality which because it is so rare, is, for some mysterious reason called "common" sense, you are violating the basic principles of physical culture. And this remark stands especially true in the instance of any exercises such as we are now describing. I mean by this, that if you run to either extreme—the underdoing or the overdoing—of muscle-tensing, you are departing from the road which leads to physical health through the medium of these same movements. And you are also departing from the path of common sense. In this connection, it is in order to say that the reason that physical culture in any of its phases, is as sane as it is successful and beneficial as both, is, that it is the practical embodiment of good sense. Hence its principles, its means and its methods must necessarily be of a lasting sort. For it is part and portion of that almighty common sense which is as Eternal as the Omnipresent.

The benefits which arise from tensing exercises are due to a well known physiological fact, which, for that matter, underlies each and every athletic exercise. It is to the effect that Nature only yields a supply in the case of a demand. Thus if you do not use your brain, Nature says, "Very well, then, the gray matter in your skull shall not be stimulated, shall not receive added circulation, shall not be that fruitful thing which I intended it to be. You shall remain that which you are, with no new ideas, no brightening thoughts, no added hopes for the future and with no ideals to comfort, sustain or

incite you to wholesome mental effort." And if you do not use your muscles, she speaks in the same kind though not in the same fashion. Your ligaments and brawn not only do not increase in growth, but they become atrophied to a smaller or greater extent. Do not be mistaken, that which has just been stated is absolutely true. There are degrees and stages of atrophy precisely as there are degrees and stages of insanity. With the mind as with the body, where there is no exercise there is no growth, and where there is no growth, there is no progress, but exactly the reverse. If your muscles are flabby, soft to the touch and insignificant in size, you are a victim of muscular atrophy. It does not follow that such muscles will waste away and disappear altogether as they do in extreme cases of the disease, but the malady is there nevertheless. And the only thing that prevents you from becoming a good imitation of a living skeleton is the small amount of exercise which your daily duties call for. Those unhappy creatures, the so-called "living skeletons" of the museums or side-shows, are, as a matter of fact, victims of an advanced form of the disease to which we have just alluded. They exhibit in an exaggerated shape, that which every man or woman who is not up to a normal muscular standard, is suffering from. And it may be added that the fault rests with the victim. With the use of the tensing exercises which we are now describing, and others which are equally as simple and satisfactory, there is no reason in the world why such a condition of body should exist.

When you attempt to wear a tight and fashionably shaped shoe—if indeed, you are silly enough to do so—some part of that shoe will begin to rub against the skin of the toes, or the ball of the foot. Nature immediately rushes an added supply of skin-making tissue to the affected place, so that the true flesh below may be protected. If the friction is continued, more coatings of skin are formed, until you have finely formed corn, or an excellent specimen of bunion or callous. The whole process is an illustration of what we have just remarked in regard to Nature only sup-

plying a demand. In this case there is a demand from the flesh for protection and she is "on the spot" in more senses than one. So when by exercise, you begin to use up the tissue of a given muscle, or a set of muscles, Nature once more is equal to the emergency and replenishes the depleted tissue with new and vigorous material. If the drain on the muscle continues, Nature would appear to say, "Well, I will be a little ahead in this matter and not only supply the tissue that is burnt up by the movement or exercise which this man is

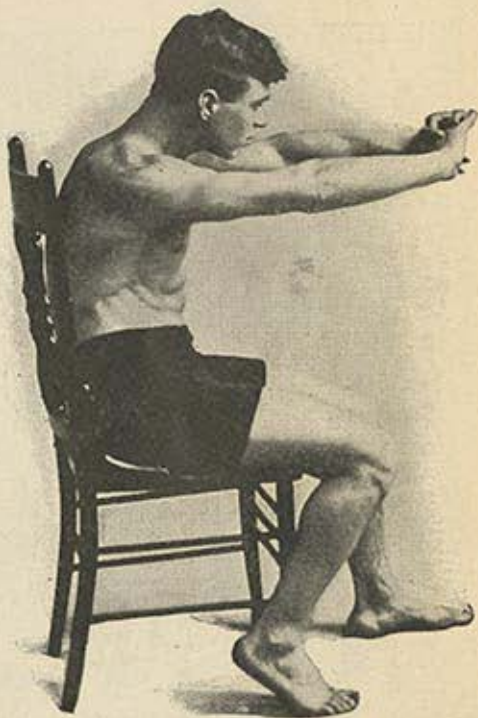


Photo No. 7.—Interlace fingers with elbows rigid, bringing shoulders and hands as far forward as possible. Bring shoulders back and relax them. Repeat, continuing the exercise as long as possible.

taking, but I will furnish him with an added amount on which he can draw when the occasion arises."

And she does so. The consequence is, that not only is the muscle strengthened and invigorated by the new material which it receives daily, but in addition, it begins to grow for the reason told. It is by a recognition of the

work of Nature in this respect, that professional "strong men" manage to evolve those gigantic masses of brawn which are a part of their professional properties, so to speak. It may be remarked that this magazine does not approve of these abnormal growths of muscular tissue, inasmuch as some other portion of the body pays the penalty for having its tissue-making function diverted to the parts in question. This is by the way, however, and is another story, upon which we have touched in the past and



Photo No. 8—Bring head and shoulders forward and tense the muscles of the abdomen as strongly as possible. Relax and return to natural position. Continue to repeat the exercise until the muscles of the abdominal region are thoroughly tired.

shall refer to at some length in the future.

The point of the foregoing is: that in order to maintain the muscular system in its normal integrity, it is necessary to take a certain amount of exercise with consistent regularity. Which means that such exercise must be indulged in, at least once within the twenty-four hours. Again, that such exercise must be of a type which is possible to the

average man or woman, youth or girl, and which in consequence, does not unduly strain the muscular system. Once more, it must be of such a nature that it may be undertaken without the aid of special apparatus. Also it should be of that kind, that every-day custom, every-day occupation and every-day environments, do not interfere with it, or detract from its value. And, in a word, the tensing exercises which we are now describing, fulfil all these exactments in each and every particular, and therein lies their value.

In the case of the particular exercises which we are describing, they are, above all things, practicable. The same remark stands good of all the other exercises which are described and illustrated in this magazine. And this feature of them is the outcome of the fact that their author is no mere theorist, but a trained athlete. And what is more, before suggesting or telling of a new exercise, he always gives a practical test to the same for the purpose of ascertaining, whether it is of such a sort that the average man and woman can safely and profitably undertake it; whether it brings about the results for which it is intended, and the nature of its secondary effects upon the system. So that the readers of this magazine can always depend upon the safety and sincerity of the movements and exercises, which are related in its pages.

That which has been said in regard to such exercises in general, applies particularly to the tensing movements. For reasons which have been already related, these same movements, if carried to excess, may in some instances be a source of discomfort, to say the least. But the warning which has been given in relation to them by the author, must not be disregarded, inasmuch as it is the fruit of the time and tests which he has given to them. Moderation in all things is the keynote of common sense and hence the keynote of physical culture. The exercises under consideration should not be indulged in to excess.

The Fijians and Physical Culture

By F. A. HORNIBROOK

ONE of the most interesting of native encampments at the New Zealand International Exhibition of 1907 has been that of the Fijians, and a considerable increase may be expected in the number of winter visitors to the Fiji Islands, now that they and their inhabitants have

abruptly from the shore to a height of four or five thousand feet. The hills are generally of grand and picturesque outline, being comprised for the most part of old volcanic lava. The lower lands are lightly timbered and fertile. Fiji is essentially a well-watered country, and is rich in natural harbors. The



Hinge, Photographer

Fijians at New Zealand International Exhibition Engaged in House-Building

been brought prominently before the notice of the New Zealanders.

Fiji comprises about two hundred islands, eighty or which are inhabited, and it is distant from Auckland (the most northern city of New Zealand) only a little over one thousand miles. The more important islands are hilly and mountainous, rising more or less

climate is probably the healthiest tropical climate in the world, the mosquito, which propagates malarial fever being absent. There is a great variety of temperature and climate to be found in the group, and even in the hottest months many delightful sanitariums may be found.

The Fijians are a well-made, stalwart

race, differing in color according to their environment. The mountaineers show the frizzy hair and dark color of the Melanesian, while their neighbors on the coast betray a strong admixture of Malay or Polynesian blood. The population of Fiji in 1905 was over 120,000, about 3000 of whom were Europeans, the remainder being principally Fijians and Indians. Sugar, copra, bananas, cotton, hemp, rice, coffee, tea, tobacco, rubber, spices, oranges, lemons, and so

In connection with an ironmongery stall, physical culture demonstrations were given during the course of the exhibition, under the supervision of the writer, and towards the beginning of December last, in his wanderings about the grounds, one of the Fijians named Levi, discovered this stall, and he promptly went his way and brought back several of his brethren to worship at the shrine of muscular development, and night after night they attended to



Hemus Sarony, Photographer

Fijians in Native Dress; Mr. F. A. Hornibrook is shown in Center of Group

forth, all grow luxuriantly on the islands. And when one associates the beautiful vegetation of a tropical land with a healthy climate and refreshing breezes, and remembers that the islands are surrounded with coral reefs, which, in themselves, are a revelation, and display brilliant contrasts of form and color of which the eye never wearies, it does indeed seem certain that Fiji is destined to become a popular health and pleasure resort of the South Pacific.

learn from the white man the secret of his hard arms.

Levi regarded his tuition as a most serious and solemn affair. The crowd of onlookers, who gathered round the stall might laugh and stare as they would, but Levi kept his eyes firmly riveted on his instructor, and followed every movement with a pair of spring-grip dumb-bells in his coal-black hands. Soon the chief of the Fijians became interested and arranged for regular les-

sons in physical culture, to be given in the encampment, and so the Fijians had their first lesson in physical culture, headed by the indefatigable Levi. Levi's enthusiasm knew no bounds, and his black face gleamed with intelligence and delight in the knowledge that in the art of dumb-bell swinging,

available, twelve pairs of dusky arms were pushing and shoving in all directions. Occasionally the continuity of the exercises was interrupted by the disarrangement of the somewhat slenderly attached costumes; but this caused no embarrassment or perturbation either on the part of the onlookers or partici-



The Fijian Ratu, and Mr. F. A. Hornibrook

he was two whole lessons ahead, even of the chief. For some time, the twelve or fourteen Fijians who had foregathered in a big tent at the call of the "hard white man" were mostly onlookers, but gradually the dumb-bell fever spread, and in spite of the fact that only one developer and two sets of bells were

pants. It was evidently a matter of ordinary occurrence, and a half-hitch sufficed to bring the costume within the bounds of a somewhat primitive conception of decency. The exercise which exhilarated and almost intoxicated every Adam's son in the camp was what is commonly known as the punching,

exercise. This is done by advancing the left leg bent and thrusting out the right arm with the fist clenched, and *vice versa*. At first, legs and arms got hopelessly mixed, but when the men had learned the movement, their vigor and enthusiasm knew no bounds, and they drove out their clenched fists—soemtimes within an ace of hitting one another's noses—with a wild war-whoop

lish, audibly remarked that the "hard white man" carried stones in his arms, and those who could not probably made even wilder suggestions; but when he contracted his back and abdominal muscles as well, the advocates of the stone theory lost faith, and substituted vigorous investigation for restful belief, to such an extent that it became doubtful at one time if the "hard white man"

would not be abso ute'y torn to pieces in the interests of the advancement of knowledge.

The first red-letter day for the Fijian physical culturists, occurred one day when the writer (Ratu Sandow, as the Fijians dubbed him), returned from a holiday trip and paid his first visit to the encampment. Ratu Sandow announced that it was his pleasure to try of strength with the Fijians, and they stood round wide-eyed and all agog with curiosity as the preparations were being made. Mr. Parry, a pupil of the writer's, was despatched for some india-rubber stretchers, and a large box was brought into the center of the tent, and at one end of this knelt Ratu Sandow at the other Ratu Ifere mei. Then the white and the brown elbows were placed on a line drawn down the center of the box, the hands clasped, and



Fijians in European Costume, which they occasionally sported. Needless to say, they wore no hats

that could be heard far and near. Then came a rest, during which the enterprising Levi began to eel the muscles of the "hard white man." His example was quickly followed by his fellows, and hand after hand was thrust out to touch the contracted biceps, and gurgles and grunt of astonishment were heard on all sides. Those who cou'd speak Eng-

the civilized man and the savage strove with all their might to push each other's hand over the line. With bated breath every Fijian watched the struggle, and yelled with all his might when the white man won. And so, one after another, they tried and failed, and the bystanders knew not whether to be more interested in the contest of physical force or in the

study in black and white which it furnished.

There was a great contrast in the actual manner of performing the exercises by representatives of the two races, the greater intellectual development and the larger measure of self-control possessed by the white men always being apparent. The Fijians are copyists rather than learners. In their later physical culture lessons, they knew obviously exactly what movements to make, yet they kept their eyes glued on their instructor and imitated his every action. Their absorption in their work, and their complete neglect of the interest they were arousing in the minds of the many scores of spectators gave an air of detachment and isolation to their performance, and emphasized in yet another way the vast difference between the savage and the civilized mind.

The second red-letter day for the Fijian physical culturists occurred, when thirty of them, accompanied by their instructor and two of his white pupils, marched into Mr. Hemus Sarony's photographic studio with the modest request that he would photograph them all immediately. It was to be a physical culture picture, and so the Fijians had to dress, or rather undress, for the occasion. Ten o'clock was the hour appointed, but time was made for slaves, not for Fijians, and it was long past eleven when they arrived. But they came in style. Since an early hour after breakfast they had been combing their hair and greasing their supple limbs with fragrant cocoanut oil, tying on their beads and mats in native style, or attiring themselves with coats and canes in the latest European mode, according to their untrammelled inclinations, free alike from the tyranny of custom or the despotism of fashion. And then, when they did arrive at the studio, such a dressing and undressing, such a gurgling and laughing and pushing was never seen or heard before! And the discoveries that were made in the course of the performance were among the most interesting of all the surprises of experience. One man was found in his haste and excitement to have put on his coat, and nothing underneath, but the difficulty of making a

physical culture photo of him, suitable for the exacting eyes of a somewhat fastidious public, was successfully overcome with the aid of a colored pocket handkerchief! Another, in a similar plight, tied a piece of calico round his waist, and stood proudly upright before the camera, quite convinced that he, at any rate, was clothed and in his right mind. But as the time for the posing of the group came round, there was only one place in the studio worth having, and that was straight in front of the mirror. There the dusky islanders clustered and combed their hair, and stroked their moustaches, and admired themselves with the most amazing frankness and simplicity; and when they were satiated with this pleasure, they graciously consented to be ranged about their instructors, each man taking up his position with an air of knowing that the success of the group largely depended on his individual efforts and appearance. And when some eighteen or twenty of their huge dark bodies had been massed together the three white men took their places in the midst, looking like so many patches of snow on a brown hillside; but for a while nothing could be done, for one Fijian after another must needs put his shoulder up against that of a white man, and gurgle out his surprise and amusement at the contrast.

At last the picture was caught by the patient camera and the photographer retired to his dark room. Then came playtime for the Fijians. They posed for one another, they gazed through the camera, they danced round it, they ran to the other end of the studio, and then came tearing back bringing down their huge fists within an ace of its one unblinking eye; and with the return of the photo-man they unhesitatingly clamored for "more." And he took them, more and more, in all sorts of positions, and in all sorts of attire and non-attire; and finally, a superb embodiment of youth and strength was selected, and posed as the "Fijian Mercury," and, as one gazed at him, so graceful, so supple, so strong and so beautiful, one could not help feeling a pang of regret that the ordinary civilized man is so near and yet so far from the savage.

The Kilt an Ideal Garment

By HECTOR FORBES MacDONALD

ONE of the periodical protests against the unæsthetic and unhygienic modern male attire is now in progress in England. Incidentally, the advantages of the kilt as opposed to trousers are being set forth at length, and the advocates of the ancient and picturesque garb of the Gael appear to have much the best of the argument. Indeed, the doctors, the artists and the laymen who have taken part in the discussion, advance so many reasons for the wearing of the kilt, that the few who pin their faith to the "trews" or their alternative, knee-

esting and instructive. Let us tell a little of it: Without doubt the first form of dress was a strip of the skin of some animal, wrapped about the loins. Later, other material was used, the original idea remained; that of protecting the abdominal region from the inclemency of the weather and the simultaneous satisfying of that singular something which we call "modesty." The kilt is the obvious and lineal outcome of this skin strip. It is, to all intents and purposes, the same strip, increased in size, beautified by arrangement and coloring and hallowed by gallant tradition.



The "Thin Red Line," the famous picture which depicts a regiment of Highlanders repulsing a charge in the Crimea

breeches, appear to have no legs to stand on, so to speak.

The reason of all of which is sufficiently simple. The kilt is a harking-back to first principles in the matter of dress. The world is beginning to learn that in many matters our remote ancestors were wiser than we of the present, and hence there is a growing tendency to revert to the simple life, not only in regard to garb, but in other affairs that have to do with the physical well being of the individual or of the community.

The history of the kilt is both inter-

Also, and unlike a good many other things with which civilization has tampered, it retains all of its primitive good qualities, including thorough ventilation of the limbs and body and an unhampered freedom of movement to its wearer that is impossible in the case of any other garb in vogue among most civilized nations.

Says a famous Scotchman, "The kilt is not only the most picturesque and original costume in Europe, partaking as it does of the graceful flow of Oriental drapery and yet retaining the needed masculine style of quality, but, in ad-

dition, it can be worn in the plainest fashion or is susceptible of being carried to the highest state of enrichment. It is an ideal military garb, while for the civilian, it is equally desirable."

The Highlanders of Scotland and some of the races that inhabit the mountainous countries of Eastern Europe, such as Montenegro, Servia, Bulgaria, and portions of Greece, are faithful to the kilt. But of these, the Scotchmen are more generally associated with the garment in the public mind than are the others.

With the old Highlander, the kilt was more than mere garb. It was a part—and a most important part—of his individual and national life. It was associated with the glory and history of his clan in particular, and his race in general. Admirably adapted as it was to his daily avocations amid the mountains of the rugged region in which he dwelt, it was closely identified with the things and affairs of this much-loved "Caledonia stern and wild." In war the tartan of his clan, and the kilt of his chief served the same purpose as do the colors of a regiment; in peace, at fair, athletic meeting or dance, the various hued kilts met and vied in friendly contest.

The keen regard, almost reverence, for the kilt, still remains among the comparative few who continue to wear it in the Scottish Highlands, while in the Highland regiments of the British army it is gloriously treasured by the soldiers on the score of the national and military traditions which attach to it.

Certain it is that the kilted warriors have always exhibited marvelous powers of endurance when on the march, and it is fair to assume that the kilt had much to do therewith. The stories of the astounding forced marches of the Highland regiments in India during the Mutiny will be fresh in the minds of students of history, as will the later feats of the "Kilties," such as the almost continuous seven days' marching of a Scotch regiment in the last Afghanistan campaign, at the end of which the soldiers rested for half an hour, and then took part in a battle from which they emerged victorious.

Lord Roberts, in one of his books on

his military experiences, speaks of the equal indifference of the kilted regiments to heat or cold, and attributes the fact to the combination of kilt and plaid being an ideal protection against extremes of temperature.



This is a Highlander, in full dress, including kilt, sporrán, coat, plaid, belt, bonnet, with eagle's feather, hose and "brogs" or low shoes. Notice the "claymore" or basket-hilted sword, and jewel-hilted dirk.

The hygienic advantages of the kilt consist chiefly in that it allows a plentiful supply of constantly renewed air to circulate around the legs and the lower part of the body, and that it is devoid of the disadvantages and evils that are inseparable from the "crotch"

of the ordinary trousers. This is saying nothing of the wretched ventilation afforded by the "trews." Also the kilt undoubtedly develops the legs in general. The writer once lived in a garrison town in the South of England, in which was usually quartered a kilted regiment.



This Highlander wears the "Glengarry" bonnet and full hose. Observe the big buckles on the shoes, these being one of the distinguishing tokens of a chief.

Once or twice a year, the First London Scottish Volunteers, a regiment of amateur soldiers who also wore the kilt, would visit the garrison town in order to participate in and benefit by the manoeuvres of the regulars. The con-

trast between the legs of the volunteers and those of their professional comrades-at-arms, was more pathetic than humorous, although it partook of both qualities. In the first case, the space of bare flesh visible between the top of the hose and the bottom of the kilt was of a sickly whitish yellow, while the limbs themselves were invariably "skinny" and lacking proper contour. As one could plainly see, they were limbs that had reached their indifferent maturity amid conditions that had robbed them of both beauty and muscle.

In the instance of the regulars it was very much otherwise. The flesh that was visible below the kilts was of a golden mahogany hue, and the legs themselves were knotted and gnarled like oak trees, so heavily muscled were they. And on the average, they appeared to be about twice the size of the legs belonging to the Londoners. Braw legs indeed had the regulars, like out-of-door legs, which indeed they were—sturdy, weather-hardened, healthy and untiring. They swung along with a measured springy cadence. They were gallant testimony to the power of the kilt to aid in making the masculine leg the thing of strength and artistic proportion which Nature intended it to be.

"Trousers" says an authority on the subject "deserve attack. No sort of garment devised by man is more open to criticism or is less defensible. They have flourished long trailing after them a train of physical evils and being allied with those other evils, the frock coat and the silk hat. The times are ripe for revolt. Raise the standard of the kilt. Cry 'Down with the hideous pants,' and free ourselves once and forever from the thrall and the sufferings and sin against beauty which are inseparable from trousers."

One of the most famous of British physicians has recently put the seal of his approval on the kilt by declaring that it is much warmer and infinitely healthier than trousers; that bare knees are beneficial, and that the long stocking of the Highlander is a much more sensible leg covering than the short sock generally worn. An opinion, too, has been recently expressed by a New York scientist that the essential cloth-

ing-needs of humanity are met when the abdominal region, back and front, is well protected; this fact explaining, so he declares, how it is that delicate women wear thin slippers and décolleté gowns with impunity.

The so-called "warmth" of clothing is not an inherent quality of the garments, but is dependent on their ability to imprison, so to speak, a smaller or larger quantity of heated air between themselves and the skin, in other words, their power to prevent or retard the escape of the air warmed by the body. This explains why two or three thin garments are warmer than a single and very thick one, inasmuch as, in the first instance, there are several layers of warm air, and in the second, but one.

Now, the trousers, at the best, furnish just one layer of heated air, but with every movement of the leg, some portion of the garment comes in contact with the flesh. The consequence is that the warm air is expelled and a sensation of local chill follows. With the kilt it is otherwise. The pleats of the garment act as individual reservoirs of warm air. Then, too, as it hangs loosely around the limbs, the total amount of air which it encloses is a dozen or more times that which is imprisoned by a pair of trousers. Heated air ascends and escapes at the waist line of the kilt-wearer, fresh, cool air entering from below. But by the time that the new air has reached the abdomen it, in turn, has been warmed to a degree which prevents even the semblance of a chill. This explains why the kilt, in spite of the accompanying bare knees, is such a comfortable garment in winter, and by reason of its continuous ventilation, is such a cool one in summer.

"Kilts cannot bag at the knees," remarks a partisan of the Scottish garb. They need not be "pressed" or "creased." They won't wear shiny from much sitting. They afford wide scope for artistic color schemes. They are comparatively inexpensive. They won't stick to your legs in heated weather when you sit down. Nevertheless, they are hardly likely to become popular as long as civilization tends to knock-knees, fleshless calves, and ridiculous "underpinnings" in general. Trousers

are an invention designed by a social system to hide the malformed limbs for which it is responsible.

The kilt is a simple sort of garment. In the British army it consists of a strip of woolen material, of the proper tartan, nine yards in length, pressed into broad pleats and of such a width, that when worn, there shall be a hand's-breadth of flesh showing between the



Mr. D. Scott Chisholm, Official Piper to the St. Andrew's Society, New York.

top of the stocking and the lower edge of the kilt. It is buttoned round the waist. No undergarment is called for by the regulations.

King Edward of England is a devotee of the kilt, as are his sons and grandsons. They always wear it when in Scotland, and not infrequently when at some one of their country estates in England.

The same remark stands good of many members of the British nobility.

Man is apt to express contemptuous pity for women because she permits herself to be a thrall to the hampering petticoat. But he overlooks the fact that he is a daily slave to the trousers, which are nothing more or less than a brace of tightly-fitting, if divided, petticoats.

Mr. D. Scott Chisholm, whose picture in the Highland dress is published in connection with this article, is official piper to the St. Andrew's Society of New York City, and a devotee of the kilt. He speaks of it thus: "I have worn the kilt in city and country, with the temperature below zero, and have not only never 'caught cold' but have never felt uncomfortably cold. Furthermore, I

always wear low ties at all seasons of the year—they are ideal foot-gear—never use underwear, rarely don an overcoat of any kind, am always comfortable, and rarely, if ever ill, even to a slight degree. Perhaps my love of the kilt is due to the fact that I was pretty nearly born in one. I may add that a kilt will last ten times as long as a pair of trousers."

Mr. Chisholm is a magnificent specimen of young manhood, and, it need hardly be added, a Scotchman by birth although an American by choice. He has furthermore an international fame as piper, and, it goes without saying, is an athlete. His legs are revelations as compared with the lower limbs of the average man accustomed to wearing trousers.



Photo of Mr. Geo. W. French.

A SPLENDIDLY-DEVELOPED COLLEGE MAN

TO THE EDITOR:

I have been an earnest reader of your magazine since a boy fifteen years of age. I have followed your various forms of exercise with a zealous spirit and have interested many others among my friends in doing the same.

The result of my efforts will be seen in the picture herewith. I am 23 years of age, 5 feet 7 inches tall, and weigh 172 pounds. I am now a Junior in Bates College, where I take an active part in every form of athletics, football, base ball, and hammer throwing being my favorite sports. Of a class of 125 students I took the third strongest strength test in 1904 and at present I hold the record.

My home is in the small village of Kezar Falls, Maine.

Sincerely yours,

GEO. W. FRENCH.

Bates College, Lewiston, Me.

Magnificent Home for Physical Culturists

WE have had a great deal to say in past issues in reference to the new Health Home for physical culturists recently located at Battle Creek, Michigan. For those who are unable to conveniently reach Battle Creek, arrangements have been made whereby they can be accommodated at one of the Physical Culture City Health Homes. Subscription workers and those who are desirous of increasing the power and prestige of this magazine, can, by simply soliciting subscriptions among their friends, pay their entire expenses for a vacation or for an extended treatment of their complaint, whatever it may be, in any one of these modern institutions devoted to the treatment of the sick and to the accommodation of those who simply desire to spend a short or an extended time where it is possible to obtain the highest degree of exhilarating health.

There is absolutely no excuse for being sick, and there is less excuse for one to remain in this condition. There is no sensible reason why anyone cannot enjoy the highest degree of physical

vigor. Health in all its exquisite intensity, is within the reach of everyone who will strive for these rich rewards. If you are not enjoying a satisfactory degree of health, here is a chance for you to obtain it. You can pay the cost of



Illustrating the Splendid Equipment of the Physical Culture Health Home at Battle Creek, Mich.

your treatment and accommodation and also of your railroad fare by merely soliciting subscriptions, if you so desire. Though please note that in case you cannot solicit subscriptions and desire to visit any one of these health-building institutions, you can pay the actual cost of your treatment in cash. At the Health Homes located at Physical Cul-

ture City, there is every opportunity for one to go about in the lightest possible clothing and to enjoy all those natural advantages that come from begin in the wild and unpopulated country. The accommodations at Physical Culture City are, of course, not so modern as those found at Battle Creek and the facilities of treatment are not so varied, but the ability to go out into an absolutely unconventional attire without causing comment or being annoyed, is worth considerable to one who is striving for health.

The Bernarr Macfadden Health Home at Battle Creek is fitted with every conceivable appliance for giving natural treatment. There is one bathing pool for ladies and one for men, Turkish and Russian baths and facilities for water treatment of every character. If you are interested in our proposition or care to learn details in reference to these Health Homes, whether or not you wish to take up the subscription proposition, we would like to have you write us for a large free booklet and detailed information.

A Forty-Three Days' Fast

ON pages 171 and 172 of this issue, we have given reports of some of the great benefits secured by those who took part in our annual fast during the month of June. Of course there are numerous cases of which we have not yet secured sufficient details of a character suitable for publication, and we shall attempt, whenever opportunity offers, to secure particulars of the results of the fast in various cases to present to our readers.

A very remarkable, as well as a very satisfactory experience, was that of Mrs. P. J. Schweikert, at Physical Culture City, not only as regards the length of time during which she abstained from food (43 days), but also in relation to the benefits derived from the experience.

At first, Mrs. Schweikert had no intention of fasting for so long a period. She suffered from general debility as a result of over-work, and when she found that her appetite had completely left her, she concluded to fast indefinitely until she regained a more normal bodily condition. She had discontinued work, and was in a position to take such care of herself as might be necessary for the best results. She slept out-of-doors and took long walks each day, drinking freely of fresh water, and lived a consistent physical culture life generally.

Her walks averaged from five to ten miles every day, and the twenty-ninth day of the fast she covered a distance of twenty-two miles.

The beneficial result of the fast was apparent in a very few days, for Mrs. Schweikert began to feel brighter and happier in every respect, and as one will note from the length of her daily walks, she did not lose strength to the extent that might have been expected. She desired to break her fast on oranges, but for some reason these were not available, so that she continued to fast until the morning of the forty-fourth day, when she partook of the juice of two oranges.

She weighed one hundred and twenty-five pounds at the beginning of the fast.—ninety-seven pounds at its conclusion. She lost weight very evenly over her entire body, though her cheeks remained fairly full and plump to the end, which gave occasion for many to doubt the statement that she had been fasting. Her limbs, however, would have given ample evidence of the fact.

Mrs. Schweikert continued with a diet of fruit juices for two or three days, after which she commenced the use of milk and other food in moderate quantities and gained in weight and strength very rapidly.

Some Jiu-Jitsu Jolts

By O. Y.

JOTTINGS FROM THE JOURNAL OF A JAPANESE TRAVELER

A Timely Invention

The patent office is proud to announce eighteen different substitutes for wood. Some of these preparations are a little too expensive to become immediately popular, but the inventors possibly console themselves with the advent of a time when they can dictate their own terms. At the present rate of forest destruction, natural wood may eventually disappear from the markets of the world.

Change of Venue

An American friend of mine wants me to understand that, socially, this country is now in a far more healthy condition than fifty years ago when five millions of its inhabitants were toiling in the bonds of involuntary servitude. The great four years' war allegedly established the freedom of the colored folk of the United States, but the gain in health is doubtful. Also a laborer's delegate, the other day, whispered in my ear that slavery has merely been shipped from the fields to the factories. Like the modest violet, it now blooms in seclusion.

A Hurry Order

An order for 12,000,000 cartridges, at short notice, has just been placed by the Military Department of the Philippines. What can be the matter? Perhaps the discovery of another island where the natives are conducting aquatic sports without regular bathing suits has been reported! We will make the naughty Filipino wear clothes even if it cost 12,000,000 cartridges to do so.

Twin Relics

Our Japanese artists in wax work used to boast their supremacy, but could not have surpassed the realism of an Indian medicine man, done in wax by the

specialists of an American museum. The grotesque equipments of hocus pocus of the figure held me spellbound for a quarter an hour, and only the shouts of a nostrum-vender, on the next street corner, awoke me from my reveries on the phenomena of aboriginal barbarism. Indians have now disappeared from the eastern states of this republic, but the medicine man of the white skin still exists—whole tribes of them.

A Class Privilege

The average of happiness is said to have been improved, in the centers of civilization, and I may have succeeded in tracing that rumor to its source. Deafness is getting more frequent than formerly, and a yearly increasing number of citizens are now enjoying exemption from the martyrdom of city noises.

Fever Phenomena

The health officials of Southern seaport towns of this country have failed to deliver the population from the sanitary superstitions that result in epidemics of yellow fever. But they probably deemed it their duty to banish something or other, and so closed their gates against the steamers that import fruit from the tropics. Schooners, attempting to smuggle in fruit, were heavily fined. As a consequence, lemons and oranges, the best natural fever-remedies, became so scarce that workingmen could not afford the price, but the victims of fever could console themselves with the reflection that the majesty of the law had been vindicated.

Irreverent Mongols

American Chinamen have renounced the custom of wearing their hair in long pigtales. They are adopting Caucasian fashions, much to the regret of their Buddhist priests, and the still greater regret of their American neighbors, who

vastly amused themselves by pulling those tails like bell-ropes.

North and South

Our Japanese wanderers are crowding the southern islands of the archipelago; American home-seekers are moving further and further North, and with the apparent approval of their paternal law givers, who possibly realize that in a cheerless climate the passion for outdoor sports can be more easily suppressed.

Otherwise Engaged

In the course of one year 216 murders and 18,000 other crimes were traced to the influence of the alcohol habit, and an American philanthropist urged the Government to publish these statistics from year to year. This appeal remained unheeded, but no government officials should be blamed. They are so busy collecting their share in the profits of the liquor traffic that they have really no time to notice such collaterals as the physiological effect.

Counter Gales

Statistics, however, are by no means wholly neglected, in this country. The Government publishes reports on the extent of the Alaska glaciers and the existence of black-tailed lizards on the tablelands of Arizona. Remarkable weather predictions are also published, free of cost. The Czar, I understand, has ordered similar publications for all the principal cities of his empire—probably to divert attention from the approach of social storms. It would be unjust to deny the thoughtfulness of paternal governments.

Protected Industries

The leading American physicians denounce tenements as disease factories, where the germs of contagious disorders, and other of deadly epidemics, are developed as systematically as fish in a carp pond. Slum tenements, nevertheless, become more crowded from year to year. The quarantine officers of the same cities exclude immigrants on a mere suspicion of physical disorders—

possibly for the protection of home industries.

Suspicious Conduct

A passenger of a metropolitan ferry-boat suddenly mounted the guard-rails and plunged into the flood of the surging river, but was dragged out and turned over to the agents of the police. They marched him off hand-cuffed, and I wondered how they would formulate a charge against their prisoner: Attempt to evade taxes? or trying to get a free bath in the city limits?

Arbor Joys

A special holiday has been set aside for the purpose of giving patriots a chance to plant barren hillsides with shade-trees. Wild fields in the neighborhood of human habitations may thus be reclaimed, and a promoter of the delightful plan stated that half a million trees had been successfully planted since the beginning of the reform, *i. e.*, in less than five years. He forgot to mention that during the same period half a billion trees were successfully felled; but then, it is true that an orator has to stick to the main points of his theme.

Post-Mortem Honors

The other night I attended the lecture of a moralist who called attention to the large number of great men who were persecuted by their contemporaries, but honored as public benefactors after they had been buried. It is a rule that seems to hold good in other respects: Pigs are rigidly excluded from many American cities, but admitted all the more eagerly when they are dead.

A Zig-Zag Problem

In the course of the last ten years the insanity rate of the United States has increased seven and a half per cent. During the same period the traffic in alcoholic beverages has likewise increased seven and a half per cent. Cause or effect? The problem is so intricate that heart-broken patriots had to merely content themselves with collecting the seven and a half per cent. increase of internal revenue.

The Value of Proper Methods of Breathing

By T. F. MANNING

FROM remote ages, people of eastern lands have worked wonders by regulating the respiration. But the effect which they sought was not the cure of disease, but an exalted mental state, differing very little from insanity. It remained for the German doctors to turn this important bodily function to account as a remedy for many maladies, while a London physician, Dr. Harry Campbell, placed it upon a scientific basis about the same time. Before describing the orthodox medical exercises, let me give a few of the more interesting heterodox methods, anyone can carry them out, and personally test their efficacy.

The "Voga" breathing practised by the Brahmins of India depends for its success upon intense concentration of the mind. One must lie in an easy position during the operation, and breathe as deeply and strongly as if the body were an accordion. After a dozen such breaths he must imagine that he is inhaling some sort of supernatural power. Then he must fancy that his feet and legs are hollow tubes, and take four or five breaths through them. After a moments rest he will do the same through his hollow hands and arms, through the abdomen, the chest, the head, and lastly, he must take a grand breath, imagining it to come through all the pores of the body. This may seem to be a somewhat absurd proceeding. But in those of sufficient faith it produces a marvellous consciousness of power.

To promote health and strength, the "packing breath" is prescribed. While standing erect, a deep breath is taken in a series of sniffs, the patient compelling himself to believe that he is breathing delicious and life-giving air. Expiration must be long, slow and easy. If this exercise be repeated several times a day it produces a feeling of freshness

and vigor. After a long day's work, no doubt the best thing is to go to bed. But if that wise proceeding be inconvenient, both body and mind might be refreshed by the following measures: Lie on a couch and take a deep inspiration. Then, while slowly expiring, imagine that the arms and hands are lifeless, and so on through all the parts of the body. Imagination has only to be strong enough to produce complete reinvigoration.

In the old days, artists invoked the gods before undertaking any great work. Possibly, they also carried out some form of breathing exercise, for it is asserted that whoever practises "inspirational breathing," with full faith and patient perseverance, may become a great poet, painter, musician, or any other thing one may desire. The procedure is simple enough. Standing in an upright and easy attitude, one inhales, slowly, during seven beats of the heart. While doing this, the arms are raised until they meet over the head, the latter being gradually thrown backwards. It is necessary to firmly believe that one is inhaling the spirit of music, poetry, or whatever art he covets. The breath must be held during four beats of the heart. And expiration must be slowly effected during seven more beats, the arms being lowered and the head gently lowered forward. No scientific explanation of the foregoing exercises is forthcoming.

But, turning to those adopted by some enterprising doctors, we find that they are based on sound physiological principles.

Breathing is commonly supposed to effect only one purpose—eration of the blood. That is its chief function, but it also promotes the circulation of both blood and lymph, and keeps the stomach and other abdominal organs in constant movements. To realize the health-

giving power of regulated breathing we must understand what happens during inspiration and expiration.

The chest cavity is surrounded by the ribs and closed below by a sheet of powerful muscle, the diaphragm. This diaphragm is shaped like a dome, or an open umbrella, the top being directed upwards. In the upper narrow portion of the chest are the apices, or smaller ends of the lungs and the great blood-vessels. In the lower portion are the large bases of the lungs and the heart, these resting on the diaphragm. Below the diaphragm are the various abdominal organs.

In order to inspire, we enlarge the chest cavity, and this is done in two ways. The ribs are lifted upwards and forwards by a large number of muscles and the diaphragm is depressed or flattened. But we do not all breathe alike. Some men, and nearly all women owing to the corset (for shame, ladies, to be killing yourselves by this senseless and most ugly practice!) breathe chiefly with the upper chest. And the consequence is that, as the tops of the lungs are filled with air, they press upon the vessels and hinder the return of blood and lymph from the head. Observe the red face of a woman in a tight corset who makes a great effort, or a bandsman, or of a singer when executing a prolonged note. On the other hand, most men, and all children, breathe chiefly with the diaphragm and lower chest. Consequently the blood flows freely to and from their head and they do not suffer from congestion of face or brain. But further, the rise and fall of the diaphragm causes a sort of massage of liver and stomach. And thus men suffer less than women from dyspepsia and kindred complaints. Now, it is possible to educate our respiratory apparatus. With a little practice anyone may, at will, breathe with the upper chest, the lower chest, or the diaphragm; or he may breathe with one lung only, keeping the other still. He may take deep or shallow, rapid or slow breaths. And as he can thus supply less or more oxygen to the blood, and hasten or retard the flow of blood and lymph in the head, the chest, the abdomen and even the limbs, it is obvious that he has a very powerful

health agent at his command. Breathing with one lung at a time is an easy matter. To do this, place the right hand in the armpit; raise the left until the wrist touches the head; bend the body to the right; and then breathe. Do the same exercise in the converse position. Abdominal breathing has been so well advocated by the editor of this magazine that there is no need to mention it. Having obtained perfect control of the breathing apparatus one may now proceed to treat himself. Here are some good exercises for developing the chest and strengthening the body. They increase the appetite, give fulness to the voice, good wind to boxers, fencers, oarsmen, etc., improve the digestion and cure stammering (which is often due to weakness of the diaphragm).

1. Stand upright and take the fullest possible chest inspiration, following it by an easy expiration. The abdomen must not move.

2. Stand with legs well apart and take a deep abdominal breath, keeping the chest immovable. Then breathe out quietly and without effort.

3. Sit on the floor, fold the hands on the lap and bend the body forward as much as possible. Take a very deep abdominal breath, keeping the mouth closed. Then slowly raise the body, lift the arms over the head and take a very deep chest breath. All this must be accomplished in six seconds. Lastly, breathe out with a sigh, taking one second to do it. In performing these exercises, tight collars, belts, corsets, and everything that interferes with free movement must be removed; and the mouth must be closed so that the air shall pass through the nose and be filtered, warmed and moistened. In asthma, Dr. Campbell says, the results of systematic breathing "are little short of miraculous." Heart disease is benefited, for, when the blood flows freely through the lungs, the chambers of the heart do not become over-full. The modern disease of neurasthenia or nerve-weakness which is the despair of doctors yields very often to appropriate breathing exercises.

But the most beneficial effect of these exercises is that they add to the length of one's days.

Utilizing the Sunshine in Colorado

By CARLOS Y. DIAS

IN a more or less recent issue of this publication, allusion was made to a solar engine which had been successfully tested in California. The principle of the engine was theoretically simple; with the aid of a series of mirrors, the sunbeams were focused on the boiler of a steam engine and, in a very short time, power was generated. By an ingenious clock-work arrangement, the mirrors were kept facing the sun throughout the entire day and the heat which they collected, could be regulated by adjusting different sections of the reflector or by moving the boiler.

From data to hand, it now appears that there has been a further series of experiments, or to put it more correctly, of tests of an improved form of this solar engine. The results of these tests seem to have been of such a nature as to really warrant the sanguine hopes of the promoters that engines of this type will, to a greater or less degree, replace ordinary engines in the countries or territories where the supply of sunlight is plentiful and, where in consequence, cloudy days are the exception rather than the rule.

One of such engines, which was exhibited in Los Angeles, generated 140 pounds of steam from cold water in four minutes, so it is claimed. In this connection, it is declared that in localities in which irrigation is needed, the solar engine is invaluable, inasmuch as after it has been once installed, the expense is practically nothing as long as the apparatus lasts. If this is true, no small portion of the problem of irrigation in those lands in which there is little or no natural fuel, has been solved.

Another way of obtaining power from sunlight is through the medium of what is known as a "compression engine," in which neither fire, fuel, steam or water is used—nothing but sunshine and air. It is claimed for this engine that it is impossible for it to blow up or

explode, that it works automatically, that no engineer is required, that any ten-year-old boy can start it and, that when once started, it requires no further attention but will go on pumping water, if it is used for that purpose, as long as the sun shines. If a small reservoir can be provided, the pump can run on days when the sun shines and remain idle on cloudy days. However, the "compression" engine is only practicable when five horse-power or less is required. When a higher power is wanted the solar steam engine must be used.

Another use to which it is proposed to put the sunlight in Colorado, is that of smelting ores and minerals. It is claimed that with a proper arrangement of mirrors, a single square yard of sunlight will readily melt silver, gold, glass or iron, while two yards square of sunlight, would develop a heat of over twenty-five thousand degrees, which is more than one hundred times as hot as boiling water. With a still larger surface of sunlight, it is averred that a far more intense degree of heat can be produced than that, so far, made possible by the most powerful electric furnace. Such "sun-furnaces" would be of the utmost value to miners and prospectors, if they could be built in small sections and carried on the backs of ponies or burros to otherwise inaccessible parts of mountainous regions and used there for treating ores as told. This would mean a saving of the cost of fuel, which is a most expensive item when it has to be shipped over hundreds of miles of desert or mountains for smelting purposes. With the assistance of a practicable solar furnace, low grade ores that are now practically worthless, might be made paying propositions. It is also pointed out that with the aid of the solar engine, a dynamo may be continuously operated when the sun is shining, the surplus electricity being stored up in storage batteries for use during nights and cloudy days. It will

be remembered that possibilities of this kind were hinted at in the article already published on this subject in this magazine. Certainly the idea is a pleasing one in these days of electric lights, electric cookers and electric heaters. To be able to use such apparatus without expense for fuel of any kind, and to do this by day and night irrespective of cloud or darkness is as alluring a proposition as it is apparently feasible.

While it is always in order to give some amount of leeway to the hopes of the inventor and the arguments of the promoter in all matters that have to do with human material progress, yet the fact remains that the dynamic possibilities of the sun in the way of producing force and motion have been overlooked or at least neglected by our scientists. In nearly all departments of mechanics we find that heat—which is an interchangeable term with force—is the prime essential. In view of this, is it not a matter of wonder that, up to the present, our inventors seem to have overlooked the supply of heat ready to hand, that is furnished by the sun? This too, in spite of the fact that in the northern latitudes at least, the spells of sunshine are more or less limited. However, if appropriate and reliable apparatus for making use of the sun-rays were perfected, there is no reason why in the future the sunshine belt of this and other countries should not also become the factory belt. In other words, and taking into consideration the enormous saving in the matter of fuel, it would be a matter of economy for manufacturers to locate in those regions where their heat and power and electricity would alike be obtained, practically without cost, from the constant and liberal sun. In the Southwestern part of the United States and the Northern half of Mexico, to say nothing about other regions of the globe, the sun shines, approximately, 250 to 320 days out of the 365 of the year. If factories and manufacturing plants in general were established in such places, the heat of the sun could be tempered for the employees by huge electric fans whose cooling influences would, paradoxically enough, be the outcome of the heat which they neutralized.

One of the most singular and at the same time fascinating propositions made in regard to using the sun's heat, is that which has, to do with Alaska, of all places in the world! Of course we all know about Alaskan winters at least by hearsay, but probably it is news to a good many to know that during the Alaskan summers, the sun shines clear and bright for fourteen, sixteen, and even twenty hours a day and that, too, with a degree of fervor that utterly upsets our notions in regard to the climate of this part of our country. Now, one of the great difficulties that Alaskan miners have had to contend with is the frozen gravel and soil, in which the frost penetrates for twenty feet or more, making a solid and almost rocky mass. The only way to work this soil is by thawing out the ground. In the early days of the gold hunting the miners scraped off the ice, put wood that cost anywhere from \$10.00 to \$70.00 per cord, on the top of the dirt and gravel, made a fire, removed the dirt, built another fire and so got to the deposits of "paying dirt" beneath. The plan that is now followed is to thaw the ground out by steam. This is done by means of a pipe fitted with a hard point immediately above which are a number of small holes. The pipe is driven into the frozen ground and attached to a steam boiler. Steam is turned on, the ground in the neighborhood of the pipe thaws and is removed, and the process repeated until the gold-bearing soil is reached. But here again, the scarcity of fuel in some localities, and the price of fuel in general, makes it impossible to work hundreds of otherwise rich claims. It is now suggested that by utilizing the solar engine as described, the question of fuel is eliminated and there can be a consequent working of claims that heretofore have been looked upon as permanently locked treasure houses. It may here be remarked, that the rays of the winter's sun can be utilized as readily by means of a properly constructed reflector as can those that warm the air in summer, but of course there are many mechanical and technical details to overcome before the machines for the utilization of solar rays are perfected for general use.

Why the "Obscenity" Laws Should Be Annulled

By THEODORE SCHROEDER

FOLLOWING is a statement of reasons, for the first time presented, which should annul the "obscenity" laws:

The postal laws against obscene literature are unconstitutional for each of the following reasons:

(1.) Congress having expressed power to establish post-offices and post roads, it also has the implied power to pass all laws "necessary and proper" for the execution of the power to establish post-offices and post roads. The right to create a postal system implies the right to determine the gross physical characteristics of that which shall be carried or excluded. It also implies the right to preclude the use of the mails as an essential element in the commission of a crime otherwise committable and over which Congress has jurisdiction (such as a fraud and gambling) within the geographical limits of its power. But it is claimed that the power of Congress is limited to the use of means which are a direct mode of executing the power to establish post-offices and post roads, and cannot, under the pretense of regulating the mails, accomplish objects which the Constitution does not commit to the care of Congress. Such an unconstitutional object is the effort of Congress, under the pretext of regulating the mails, to control the psycho-sexual condition of postal patrons. A differential test of mail matter based upon the opinions transmitted through the mails, or the psychological tendencies of such opinions upon the addressee of the mails, or a differential test based upon an idea which is not actually transmitted, but is suggested by one that is transmitted, bears no conceivable relation to the establishment of post-offices or post roads for the transmission of physical matter only. Such psychological tests cannot become material until Congress has

authority for and does establish a system for telepathic communication. At present Congress can have no implied power to make such regulations.

(2.) Our Constitution precludes the punishment of mere psychological crimes. The creation of offenses which are based only upon ideas, such as were once punished as constructive treason, witchcraft and heresy, either religious or ethical, and all kindred psychological or constructive crimes, are prohibited. "The doctrine is fundamental in English and American law, that there can be no constructive offenses." All punishable crimes must be based upon demonstrable and ascertained injury to someone. The present postal law against "obscene" literature does not predicate crime upon any actual injury, but solely upon speculation as to the problematical psychological tendency upon a hypothetical person, of that which is sent through the mails. Congress has no power to predicate crime upon such factors.

(3.) The postal law against obscene literature is void under the constitutional prohibition against abridgment of freedom of speech and press in this: that it is the artificial legislative destruction of equality or creation of inequalities of opportunity for the dissemination of ideas of conflicting tendency. Freedom of the press is abridged by the State whenever under its laws there is not equality of freedom in the production and distribution of printed ideas.

(4.) The statute furnishes no standard or test by which to differentiate what book is obscene from that which is not, because of which fact the definition of the crime is uncertain. Furthermore, it is a demonstrable fact of science that obscenity and indecency are not sense-perceived qualities of a book, but are solely and exclusively a condition or effect in the reading mind. This is

evidenced in the result that it has been and always will be impossible to state a definition or test of obscenity in terms of the qualities of a book, or such a one that, solely by applying the test to any given book, accuracy and uniformity of result must follow, no matter who applies the test, nor such that any man may know in advance of a trial and verdict, solely from reading the statute, what the verdict must be as to the obscenity, and consequent criminality, of every given book. Neither the statute nor the judicial tests of obscenity or indecency furnish any certain advance information as to what must be the verdict of a jury upon the speculative problem of the psychological effect of a given book, upon a hypothetical reader. Their verdict is therefore not according to the letter of any general law, but according to their whim, caprice and prejudices, or varying personal experiences and different degrees of sexual hyperæstheticism and varying kind and quality of intelligence upon the subject of sexual psychology. In consequence, every such verdict is according to a test of obscenity personal to the court or jury in each case, and binding upon no other court or jury and not according to any general law or uniform rule. One of the reasons underlying this uncertainty, is the fact that "obscenity" is not a quality inherent in a book or picture, but solely and exclusively a contribution of the reading mind, and hence cannot be defined, in terms of the qualities of a book or picture.

(5.) The first result of this uncertainty is that the statute of Congress herein involved creates no certain or general rule of conduct for the guidance of citizens, and does not enable them to know if their proposed act is in violation of law, and therefore every indictment under said statute is without due process of law.

(6.) The second result of this uncertainty of the statute is that every indictment under said statute is always according to an *ex post facto* law or standard of judgment, specially created by the court or jury for each particular case. The Congress of the United States has no power to determine guilt of crime to varying personal standards like the opinion of a jury on the psychologic-tendency of a book upon a hypothetical reader, and which in the nature of things cannot be known at the time the alleged act was committed, nor before the rendition of a verdict thereon, because that is *ex post facto* legislation. Every conviction secured under such a criterion, whether thus enacted by the Congress or through its delegated power by the court or jury, is unconstitutional because under an *ex post facto* law.

(7.) A third phase of the contention may be thus stated: The statute is void because of its uncertainty and the total absence therein of any complete definition of the crime to be punished, or standard by which the existence of obscenity or the dividing line between it and its opposite is fixed, is to be determined. This nullification results from an application of an ancient maxim: "Where the law is uncertain, there is no law."

(8.) The statute is void because by it Congress has, in effect, delegated to the court or jury or both, as the case may be, not merely whether or not the defendant has committed the acts prohibited by the letter of the statute and as charged in the indictment, but also its legislative power to declare by standards of judgment not made certain by statute or science, whether or not such undisputed acts shall or shall not constitute a crime under the laws of the land, and Congress has not the power to delegate to courts or juries its legislative discretion, to determine what shall be considered criminal.

"A relatively large brain not rooted in a good muscular foundation is not always a good gift of the gods; it is often difficult to turn on effectively to intellectual tasks; it acts uncontrollably and with too much facility; it may be liable to explosive outbursts."—Havelock Ellis.

Our June Fast

IF the hundreds of commendatory communications relative to the annual thirty days' fast inaugurated in June last by the editor of this magazine to be any criterion of the general feeling of the public in regard to the mental and physical benefits obtained from it, it has not only come to stay, but it will, in the course of time, become a sort of national institution in which thousands who are not even professed physical culturists will participate.

In recent issues of this publication, and in the editorial section, there were given at length, the reasons why abstinence from food from the period named, would bring to those who undertook the fast, a refreshing of mind and a renewal of the body, so to speak, which could hardly be accomplished by any other means. There were also related, the precautions necessary in the case of those who were not accustomed to fasting. Specific directions for breaking the fast were also given in detail. The tenor of nearly all the letters alluded to, would seem to show that the directions were faithfully observed and that in every instance, with only one exception, the expected benefits followed.

In several instances, these same benefits were of so marked a nature that those who experienced them, described them as "miraculous." Now while appreciating the kindly remarks contained in the missives from those who experienced these "miracles," and while understanding the gratitude, wonderment and enthusiasm which the miracles inspired, it is proper to say that there is nothing whatever "miraculous" about the matter. If you give Nature a chance, she accomplishes those things which no schools of medicine can ever hope to come within measurable distance of. The only thing that suggests a miracle in connection with such conditions is, that people will not recognize the simple fact that Nature has

provided for both the renewal as well as the maintenance of health. If she had not done so, the human race would be decimated in a generation, for there would be no recovery from sickness, no method of regaining the lost road to physical normality.

When people are in the hands of a physician they recover, *not* with his assistance, or his alleged assistance, rather, but *in spite* of the same. The recovery is worked by Nature and the doctor gets the credit. And in the vast majority of such cases, the chief means employed by Nature is the enforced fast to which the patient is subject. Sickness is invariably attended by a distaste for food. Once upon a time, doctors ignored this fact, and stuffed the sick one with all sorts of "nourishing" eatables, or drinkables. And the undertakers flourished and the cemeteries were crowded in consequence thereof. A good many physicians are wiser nowadays and realize that Nature knows far better than they do. So in order to earn their fees, they make the conventional visits, feel the pulse, wisely use a few technical terms for the benefit of the sufferer's friends and prescribe, as they must, something of an innocuous nature. In the meantime, the patient is on the road to recovery and when he has attained health again, he thanks the doctor, but is altogether neglectful or overlooks the need of gratitude as far as Nature is concerned.

Now the quickest, the safest and the most certain way of disposing of foul and effete matter that clogs the system and that interferes with the action of brain and muscle is a fast. With its assistance, the poisonous material in the blood and tissues is "burned up," so to speak, the digestive organs have a rest, and the excretory organs not being called upon to grapple with an ever-increasing load of unassimilated food can concentrate their efforts on the task of getting rid of that which is

the cause of all the mischief. Before long, the faster begins to experience the "miracle" to which so many of our readers have alluded in their letters.

Space will not permit of more than a mere allusion to some of the interesting cases or of the publication of more than a few of the letters received. The most notable of such, however, was that of Dr. Irving J. Eales, a well-known physician of Belleville, Illinois, who inaugurated his abstinence from food on May 30th and remained true to his resolve to so abstain for thirty-one days, when he partook of a glass of malted milk. Subsequently, and at an interval of twenty-four hours, he ate a little cereal and gradually accustomed the stomach to a regular meal. The experiences of Dr. Eales are valuable to the public, coming as they do, from a physician of reputed integrity and common sense. Also the fast was conducted in the manner of the scientists; that is to say, a series of accurate observations were taken during its continuance in regard to the condition of the experimenter and its effect upon him, mentally and physically. Reduced to a few words and devoid of technical terms, it may be said that Dr. Eales lost during his fast, twenty-eight pounds, his original weight being one hundred and ninety-two pounds. His chest measurement was reduced from forty-three to forty inches, and his waist from forty-four to thirty-four inches. It should be added that these latter figures are those of normality. On the other hand, his lung capacity increased from two hundred and ninety to three hundred and five cubic inches. There was little or no depreciation of physical strength, as was shown by the fact that at the termination of the fast, he lifted to elbow-height with one hand, weights of seventy-five and a hundred pounds with apparent ease. He also raised with an arm-pit hold, a man weighing two hundred and twenty-five pounds with apparent ease. During his fast his only nourishment, if it can be so called, was copious draughts of distilled water. He followed the duties of his profession and had the appearance of absolute health all the time that he was abstaining from food. His experience has attracted international

attention, as is shown by the letters that he has received from a number of scientific men. And to use his own words he thinks that Ponce De Leon's fountain of perpetual youth would have been discovered had the famous Spaniard fasted a few weeks every year.

It is our intention to give details, in the future, of the results of the fast which come to our notice. Reports from several fasters follow:

Fasting in Nevada

TO THE EDITOR:

Please give Nevada credit for a seven days' fast in June. Hunger disappeared the third day. I drank water with a little lemon juice in it during the forenoon and orange-ade in the afternoon. I walked five miles each day besides my daily work, and on sixth day walked fifteen miles. Feeling fine.
Tonopah.

L. W.

One Week of Fasting

TO THE EDITOR:

It has now been about three weeks since I broke my annual fast. I can say that I feel vastly benefited. I worked nearly every day during my fast at hard manual labor, and on that account I couldn't continue as long as I desired. The first day I didn't feel very hungry, but the second day I had a great craving for food and felt weaker than at any other time during the fast. I didn't have any coating on my tongue or bad taste in my mouth. The first day I didn't drink much water. I didn't care for it. During the seven days I lost twenty pounds and regained it the next week.
Centralia, N. Y.

C. E. VAN SLYKE.

Thirty-Four Days Fast of a Well Man

TO THE EDITOR:

Yours of the 27th ult. at hand asking for a little description of my experience when I was to break my fast. I broke the fast at the end of the 34th day; weight was 164 pounds. April 1st, weight 200 pounds, lost 10 pounds in training for the fast, weighing 190 pounds June 1st; therefore, during the actual fast I lost 26 pounds. I did not fast for health for I was perfectly well. I tried the fast to see how it would benefit me, and as a preventative to any disease hereafter. I am born again; the whole world looks differently to me. I believe it has worked a change for my future life. I wish I had known of this idea years ago. I intend to take a fast each year, starting a little earlier in the season. I advise all who are sick to get health by a long fast or a series of short fasts under proper instruction. I do not advise any person to take a thirty days' fast without the advice of some person who is thoroughly posted upon the subject and has taken the fast. I am sure I am stronger than ever before. I am perfectly at ease and glad that I went through the fast.

Lowell, Mass. FRANK MARSH MERRILL.

Comment, Counsel and Criticism by Our Readers

If, at any time, there are any statements in **PHYSICAL CULTURE** that you believe to be erroneous or misleading, or any subject discussed regarding which you take issue or upon which you can throw additional light, write to us, addressing letters to this department. We intend to make this a parliament for free discussion. Problems that you would like to see debated, interesting personal experiences, criticisms, reminiscences, odd happenings, etc., are invited. We shall not be able to publish all letters, but will use those of greater interest to the majority of readers. For every letter published we will present the writer, as a mark of our appreciation, with a subscription to **PHYSICAL CULTURE**, to be sent to the writer or to any friend the writer may designate. For the convenience of our office kindly write us after the publication of your communication, giving name and full address of the person to whom you wish subscription to be sent.—Bernarr Macfadden.

Medical Butchery

TO THE EDITOR:

When I give you the details of the case that follows, you will see that medical fanaticism has even more power here than in the United States.

A man named Dudley Gabriel came to me for advice and I told him that he had many of the symptoms of a rheumatic, but that I could not give an explanation of the swelling in the left shoulder, which was distinctly of a bony nature. I recommended him to go to a medical man. This he did and was told by Dr. Chisholm, a prominent M. D., C. M., that he was suffering from sarcoma, and that amputation at the shoulder was the only remedy.

Gabriel came to me nearly distracted and asked me if I thought it was necessary to go to this extent. "God help me," he said. "What will I do if I lose my arm?"

"I do not believe it is necessary, Dudley," I answered. "I will get word and photos to Bernarr Macfadden, where I believe you can get relief."

If you had only seen the frantic way he clung to this hope, it was really pathetic. My next task was to go to his mother and convince her that it was worth while waiting.

After a wordy struggle lasting an hour, I succeeded in obtaining *permission to write to you*. Nothing more!

I threw business aside for the day and went into the work of sending you detailed information as to Gabriel's case. This I sent to you as you know. That was Tuesday; on Thursday I saw him again.

When I went to his house his mother corralled me and had a long talk with me, the substance of which was as follows: "She had sent her son to a specialist sixty-two miles away, and he said that amputation was the only cure. I was told by her if I went into his room *not to offer any hope of saving the arm*. Think of it; his own mother not willing to wait one more day for a good word, but anxious to send her son to the knife, because *she knew of nothing else*, and the medical profession told her physical culture was all bosh!

I cited my own case, how a few years ago I had been sentenced to an invalid's life, but disregarding their directions I had taken up exercise with the glorious results I have experienced. When I went into his room he said he guessed he would have to be operated on. Imagine my feelings; tongue-tied by a mother's request. Think of the power of this horrible medical Gorgon!

I left the room after as cheerful a talk as I could command. While I was there a minister came in, and in his parting prayer asked Divine guidance of the medical men's skill.

I could scarcely refrain from crying out that there was no need for medical skill, only intelligent methods to allow God's great force, Nature, take its course.

Friday night or Saturday, I do not know which, they had Dudley "chopped." His arm at the shoulder, and the scapula were removed to *save his life!*

I would to God I had had your knowledge. at the time, I would have cheated the profession of their prey for once. I know this will seem commonplace to you, but it is the first case I have ever experienced of "MEDICAL FANATICISM."

Wishing you every success, I remain
Yours for healthy methods,
Halifax, N. S. PERCY E. COVEY.

A Performer's Experience

TO THE EDITOR:

The public when paying for amusements are like a soulless corporation. If a singer is or speaker is forced to stop and clear his throat it is annoying to the auditor, who criticizes his lack of "care" or want of knowledge of public performance, either of which are really justifiable. But suppose there are two sides to the case, as there usually are. Take for example, the public "servant," who happens to possess with his ambition to sing or speak in public, a well developed case of catarrh, affecting the throat and head, should the public be charitable and overlook it? I answer No! they should be kept in ignorance of the condition, and the proper methods

employed by the "artiste" to enable him to perform his part in such a manner that his work would not display the least evidence of existing difficulty.

How?

Well, I might give as a reply my experience. Briefly stated—Nature's own remedy is my "panacea" for all ills.

But to be explicit, there are three very simple requirements. For instance, I am booked to "go on" at 8.30 P. M. I eat a light dinner not later than six o'clock, avoiding meats, eating slowly, rest absolutely for an hour if possible—by "absolutely," I mean sit down and be still, without reading, writing, rocking or conversing with anyone—except a very quiet talk with someone who is also satisfied to be quiet. Then begin to dress deliberately, during which employment there are many opportunities for bending the body, exercising slowly the limbs, and to be plain "limbering up," without fatigue—such as (1) Standing erect, head well back, taking full breaths; (2) Body against wall, bending forward touching floor with the hands; (3) Hands clasped above the head, twisting backward and forward to left, to right, and in every direction to enable every muscle to get into action—then more rest, only for a few moments; if perspiring I have a dry towel at hand, and see that the portion of my body exposed is thoroughly dry. And just before I am called, I walk leisurely, body erect, taking full breaths, the while and a "sup" of water (never ice water) and swallow very frequently, breathing through the nose, *always*. I very rarely have to clear my throat before the audience.

New Orleans.

J. A. BOLLMAN.

Physical Culture and Stock Raising

TO THE EDITOR:

There are a great many things in connection with a farmer's business that are especially conducive to "non-physical culturism." One great problem is the live stock.

In order to do the kind of farming that is done in this part of the country, it is necessary to keep up the fertility of the soil by a liberal supply of manure supplied by live stock. This live stock quite necessarily has to be of the meat-producing kind, unless you or someone else can determine the problem some other way.

Of course, dairying and the production of wool can be carried on, if it pays, and yet all could hardly find profit in this. And then they (the animals) get old and the farmers find it impossible to fatten the older ones and sell them for beef or mutton. Also the offspring of these, especially of the dairy herd, has to be handled profitably, either to propagate the herd, which would not take all if everybody went into it, or for meat.

Perhaps you think that if the country was more converted to physical culture that farmers could find profit enough in fruit and some grain to provide for themselves and their families.

Still these would require more fertility than commercial fertilizers and the beasts of burden would provide.

CARL H. HARRINGTON.

Chippelake, Ohio.

Some Effects of Viavi

TO THE EDITOR:

I regret that you were ever obliged to print a retraction of your statements concerning the Viavi Company, as the necessity for such action may be some be construed to mean that you have been writing these articles for financial gain rather than public welfare. Not being a chemist I can make no statement as to the ingredients of the Viavi remedies, but I can throw some light on their effect upon the user. Some time since I happened on a bunch of one hundred or more of the blanks which had been used by their patients in reporting their progress, or rather lack of it. Of the entire number *not one* reported having received any material benefit, and many complained of a gradual decline. Some mentioned having taken the treatment for upwards of a year, only to find themselves in worse condition than before and all complained that the medicines were not working the transformation that the prospectus assured them it would. The pleas in the "Remarks" column would have reached the heart of any one other than a patent medicine vendor. Tales of decline and discouragement; of inability to attend the duties of the day or fulfill the functions of motherhood; prayers for relief, that something, anything, be done to restore that gift which Viavi could not give—health. From what I have heard I do not believe this company can be classed with those vampires who squeeze the last cent from their victims by fair means or foul, but these reports convinced me that whatever improvement may take place in their patients must be accomplished through other means than their medicines.

GEORGE LOCKWOOD.

1818 Webster St., Omaha, Neb.

New Use for a Pillow

TO THE EDITOR:

About two months ago I began sleeping without a pillow.

I also made a discovery which I think will interest you.

Instead of using the pillow beneath my head I place it under the middle of my back. This slightly raises my abdomen and allows greater freedom in breathing.

As most mattresses sink in the middle and thus allow the body to be in a sunken position, I think that this hint of mine will prove of benefit to some of the readers of PHYSICAL CULTURE.

Of course, a thin pillow should be used, and at first, the position will be uncomfortable, but in a few days, it will become natural and easy.

H. T. DIMICK.

Shreveport, La.



THE VIRTUES OF OUR METHODS PROVEN

A Consumptive and His Recovery

TO THE EDITOR:

I have had some experience during the last five years which I think will be of interest to a great many of your readers.

In the fall of 1902 I began to work at the Armour packing house. I worked in the canning department, and perspired freely all day. When I would start home at night through the cold air I would begin to cough, and would do so continually till I got home, then I would lie in bed and cough violently and expectorate for an hour or more. This continued for a month or two and the family and I became greatly alarmed. I began to take cough medicine, which did no good at all. I continued to cough all winter and till late in the spring. I appeared to take a fresh cold every day, and the amount of expectoration was very great, but the coughing ceased the next summer only to reappear that fall worse than ever. I began to despair, for I felt sure I had consumption. What was the best thing to do was for me a difficult problem (I had never studied physical culture then). I resolved to go to Colorado. I reached Denver in the early part of the winter, but continued to cough almost as bad as I did in Kansas City. I went from there up into the mountains, where it is about 9000 feet high, my cough ceased suddenly when I got into the mountains.

The coldness there was very extreme, thirty or forty degrees below zero, almost every night till March, during my whole stay in the mountains. I do not believe I coughed a dozen times. I went back to Denver in April and spent the next two winters there, but I coughed almost as much there as in Kansas City.

About eight months ago I came to San Francisco and began to study physical culture; I began living in an open, airy shack and adopted this regime: I rise at five o'clock, dip up cold water in my hands, and wet my body all over; then I rub my body vigorously with a towel, dress myself, go out and run a block or two, come back and sit down and eat my breakfast at 5.30. This consists of about 14 ounces of fruit, 13 ounces of Graham bread, and one and one-half ounces of olive oil. I begin laboring at seven o'clock and shovel sand till noon. My noon lunch is the same as the breakfast. I begin at one o'clock and work till five. I do not eat any supper at all. I prefer eating breakfast about eight and dinner about three, but my employment prevents it.

I do not use salt, pepper, mustard or condiments of any kind, they are irritating and I have no doubt do great harm to the body. I can get along very nicely without them. I sleep with one window wide open and the wind gets in freely through the cracks. I do not think I have coughed as much as twenty times all winter, and I am happy to say I feel sure my malady is cured and shall be so as long as I observe health rules.

Dear reader, do you suffer with consumption? Do not despair, but begin immediately to adopt health rules such as meet the requirements of your case.

Consumption is a curable disease. The great trouble with lots of people is that they do not follow health rules after they have adopted them. A few months ago I talked with a fellow who was almost dead with consumption. He told me that three years ago a doctor prescribed cold baths for him; these he took and received great benefit from them, but they were so unpleasant and so much trouble that he quit taking them. Life is so valuable that we cannot afford to lose it if it can be saved by effort.

San Francisco, Cal. ARTHUR HINES.

Another Enthusiast

TO THE EDITOR:

You can bet your life I am going to spread the physical culture business all I can. Here, after only about six weeks, I am getting rid of constipation that has cost me retirement from practice of my profession and one dollar and a half since getting hold of your stuff. In the last thirty years (age 64) I have not had movement of bowels regularly in a single month. Finally got to "balling" so had no movements except by use of medicine or enemas. Recently I sent for your book, and now I am getting "regular," proper consistency, and improving generally. I am greatly elated, as you may well imagine.

Yours truly,

Scottsbluff, Nebraska. L. H. MERRIMAN.

An "Incurable's" Experience

TO THE EDITOR:

I am a sample of a supposed incurable. After I spent all my means and the doctors gave me up to die, and after having toured this continent for health, I took myself in my own hands and followed to the letter your instructions, and am to-day a sound man, having lost only three days in three years, and that was from measles and I did not want

to expose others. Otherwise I would have worked through.

I have many friends, but have been handicapped many times because I had no way to get your books on short notice.

California is awakening to the need of the physical culture regime.

San Bernardino, Cal. C. L. BAKER.

How I Became Interested in Physical Culture TO THE EDITOR:

Last October I made the acquaintance of one of the subscribers to your magazine, a young lady, who is a strong believer in physical culture and practices it daily. One day she asked me how I liked physical culture, and I answered I had never studied it. And she said why don't you? I told her I had never had the opportunity, so in a few days she came over and she brought me two or three back numbers. I had stopped going to school just as I got to the physiological class and no physical culture literature ever happened to fall into my hands. So I read those back numbers, including the November, 1906, issue, and I studied a great deal about the subjects that were being discussed by your subscribers and your teachings.

Well, on the first of December, 1906, I began practicing physical culture; it made me pretty sore at first, but I kept it up. With only six months of practice I can claim a very great improvement for my body. I have received more benefit to my poor, weak body from those six months of exercise, etc., than from all the medicine I have ever taken, which is a great lot of all kinds. Since taking up physical culture I have not taken a single dose of drugs.

I always read your magazines closely, and I am always ready and eager for the next issue. I have already read some of your books that my friend brought me, and I will order some more before long. I intend to keep up the exercises the rest of my life, and I expect to bring this old body back to a healthy condition, for my health has always been poor. Your statements on diet have been a world of help to me already.

Gaines, Mich. J. F. W.

Diet on a Bicycle Tour

TO THE EDITOR:

I have been a physical culturist now for over three years, and tried strictly raw food diet for over three months during the past summer, and also worked hard every day during the time, and found it to be the most satisfactory diet of all.

At the end of that time I rode a bicycle from the Black Hills of this State, about due east to the James River, crossing the Cheyenne River at Dakota City, and the Missouri at Pierre. A description of that ride and the food used, may be of interest to you and other readers.

I was not in training at the time of starting, as I had only had time to ride twenty miles during the previous two weeks. I decided to

eat raw food alone and that only when I was hungry, during the trip.

I took two pounds of raisins, one pound of rolled oats and cream crisp mixed, half-pound of mixed nut-meats, one large onion and some salt. This with my camp bed or sleeping bag strapped to the 93-gear bicycle, brought the total weight of machine and baggage up to fifty-five pounds at the time of starting.

Ate my supper of raw food the night before, and started at 8 A. M., without eating any breakfast, after having slept out of doors, as I did every night during the trip. Rode 24.5 miles before noon, and drank a great deal of water. Stopped for an hour then, and ate a pint cupful of the rolled oats, nut-meats and raisins mixed.

Then I waded the Cheyenne River and walked for about three miles up the steep bluffs, then rode over a rolling country all the afternoon, while the temperature stood at 90° in the shade. At dark I found that my total for the day was forty-six miles. Being a little tired, but not at all hungry, I went to bed without eating anything.

Started at sunrise the next morning after eating a pint cupful of the mixed ration, and about half of the onion. Rode 46.7 miles that day, and spent a great deal of time in getting water, and some in asking about the trails so as to be sure and keep on the right one. During the middle of the day the wind was hot and the mercury registered 100° in the shade at most of the places where I stopped for water. Camped with friends that night and had to eat of their food, so made my supper as near right as I could by eating raw tomatoes, stewed beans, and stewed rice, about a pint of each.

Measured my drinking cup next day and made a record of each cupful that I drank, and found at night that the total quantity was one-and-a-half gallons. The distance covered that day was 71.1 miles, and after a rest of three hours, I ate a pint and a half of my rations at 9 P. M.

Was on the road at daylight the next morning, and was then 1500 feet nearer sea level than when leaving the Hills. After riding thirty miles stopped at 10 A. M. and ate a pint of the mixed rations and the rest of the onion. Eighty-six miles was the record for that day.

The following morning was very foggy, and being some 2100 feet lower than at the start of the ride I began to notice the change in the air, though it gave me no trouble. Rode until 11 A. M., then ate my usual pint of the mixed foods, rested a few minutes and then rode the last fourteen of the two hundred and ninety-two miles of the trip in one hour and twenty minutes.

The ride was the easiest, most enjoyable and all-around satisfactory one that I ever made, and have ridden over 15,000 miles by the cyclometer in the last thirteen years, most of it across country, and always before I have eaten three meals a day of the hotel and restaurant fare, but no more of it for me.

Yours for raw food—which means health,

A PHYSICAL CULTURE CRANK.

General Question Department

By BERNARR MACFADDEN

The subscription department has organized, in connection with it, a competent staff, including the editor, for the special treatment of ailments in accordance with the theories we advocate, and each applicant will secure the same individual attention as he would if he applied to a competent physician for treatment. Write for full particulars and refer to offer "Q." If you are willing to solicit subscriptions you can secure our treatment free in return for your services.

Gray Hair

Q. Can you give me some advice on the subject of prematurely gray hair? My hair is beginning to turn color at the age of twenty-seven years, though I have never had any serious illness and am perfectly strong and healthy, but very nervous.

A. The fact that you are very nervous, indicates a constitutional condition that is responsible for the change in the color of your hair. In other words, you cannot possibly be perfectly strong and healthy inasmuch as you are nervous. There is no special medical treatment that will affect your hair under the circumstances and the only thing that you can do, is to adopt general methods for improving your health. General constitutional treatment is what you require.

Asthma

Q. Will you please state the cause of asthma and its cure?

A. Asthma is invariably the result of a complication of nervousness and indigestion, and these are of course the results of perverted habits and unhealthful conditions of life of the individual concerned. It would be impossible for me even to suggest the various unhealthful and unnatural influences that tend to exhaust the nervous system and demoralize the digestive functions. It is sufficient to say that excess in eating, the state of nervous tension in which so many people at present live, lack of sleep, dissipation, want of exercise, sedentary occupations and other evils of civilization are among the several causes of this complaint, just as they are also prominent factors in inducing various other ailments. In fact, anything that has a tendency to reduce the vitality and upset the harmonious activities of the functional and vital organs, is likely to induce either this or one of any number of other diseases. The manner in which different persons are affected, depends chiefly upon the temperament of each individual. Just as the cause of the ailment lies in wrong living, the cure is to be found in right living. If your habits and con-

ditions of life have been perverted and unhealthful, you cannot expect a cure either through the aid of medicine or any other mistaken method of offsetting the inevitable results of your improper scheme of living. The entire matter can be reduced to the simple philosophy of "Cause and effect." The consequence of disobedience of the laws of Nature are inexorable, while at the same time, the results of living a life in perfect harmony with Nature, are equally certain. It is impossible for me in this limited space to outline a regime of life for you. You can ascertain what is best for you in this respect by careful study of this magazine from month to month, and such books as I might recommend. As soon as you acquire the point of view suggested above, the straight road to a healthy life should be clear to you. "A word to the wise is sufficient."

Diet in Athletics

Q. I am a college man training for distance running. Would it be too much trouble for you to give me some suggestions as to what diet would be best for me? I have read considerable about the use of the nut and fruit diet. Would this be appropriate in my case?

A. I have recently had inquiries from enthusiasts in regard to this subject, many of them asking what special food would improve their ability to do one thing and what other food would enable them to succeed in another direction. Now, there are no foods that have any special influence on an athlete in increasing his powers in one way or another. The only manner in which diet can influence one's athletic ability, is by its effect upon his general health. It will thus be seen that those foods which are most satisfactory for ordinary purposes, are also the most satisfactory for athletics. The foods which will build the greatest amount of energy and enable one to acquire the highest possible degree of vitality to be used in mental work, would be equally useful for purposes of physical activity of any kind. In reference to nuts and fruits I would say that those who have become accustomed to this diet have obtained

the very best results from it, and various competitions calling for either prolonged endurance or temporary abnormal activity have been won by athletes whose diet consisted largely of nuts and fruit. However, if you have been accustomed all your life to a totally different diet, I would advise you not to make any sudden and radical change. I would suggest that you gradually combine a certain amount of nuts and fruit with the diet that you have followed in the past. You will find that in time, you will be able to thrive on a diet comprised chiefly of natural foods and after a few years perhaps, live entirely on nuts and fruits. Ordinarily, however, before becoming quite accustomed to this diet, you might lose weight. Habit is a powerful force and the habits of the digestive organs must be given due consideration. Any marked changes should be made gradually.

Herbs and Teas

Q. What is your opinion of the remedial qualities of herbs and teas?

A. To the extent to which the herbs that you have reference to have any food qualities and are nourishing, they may be of some slight value for ordinary use, but it is doubtful if they have any special remedial qualities in cases of disease. If they have stimulating properties, such as ordinary tea, I would not recommend them in any way. The value of such concoctions has been greatly overestimated, if not entirely mistaken.

Weights and Measurements

Q. What should be the normal weight of a young man 5 feet 10 inches in height? My present weight is 125 pounds, but I wish to know how much would be necessary for me to increase this weight in order to reach the normal.

A. It would be impossible to make any hard and fast reply to your question. It is undeniable that you are at present, considerably below normal weight, though as to exactly how much it would be necessary for you to increase your weight in order to reach a condition that would be normal for a man of your stature and general build, would be impossible for me to state accurately, at least without a physical examination. You must realize that different men are built according to different types and accordingly, when in normal condition, they would naturally vary considerably in weight. A man with a broad and heavy bony frame-work would, when in his most perfect physical condition, naturally weigh considerably more than a man of an Apollo-like physique, or one whose general makeup is better calculated to develop great

activity and quickness of movement, than herculean strength. There is a vast difference between the Flying Mercury and the Farnese Hercules. Without knowing your build, I would say that your normal weight might be anything from 155 pounds to up 180 pounds. Simply do everything in your power to develop the highest degree of health and general constitutional vigor, taking special exercises that will tend to bring about a natural and symmetrical development of your body and you will then find what weight is normal in your own case. It all depends upon the temperament and organization of the individual.

Friction and Sponge Baths

Q. Will you kindly describe the proper manner of taking friction baths and sponge baths as recommended in your statement of your principles in a recent issue of your magazine?

A. The methods for taking both friction and sponge baths have been fully and repeatedly described in previous issues of this magazine, though I will briefly repeat instructions again for taking the same. The dry friction bath consists simply in brisk rubbing of the skin, thereby accelerating the circulation by means of the friction involved. This, of course, can be done by the bare hands alone, though generally, it is best to use a dry, rough towel, or a pair of soft bristle brushes. The brushes referred to, can be secured at any drug store. Simply rub every portion of the surface of the body briskly, until the skin acquires a pink glow. This friction, besides exercising a wonderful influence upon the nervous system and the circulation, is exceedingly valuable as a means of smoothing and softening the texture of the skin.

A sponge bath is just what its name implies. Cold water is used, being rubbed quickly over the body by means of a sponge. After exercise or a friction bath, or at any time when the body is exceedingly warm, it is an exceptionally gratifying measure and is just as beneficial as it is pleasing. It is not as severe as a cold plunge or a cold shower, and can be taken readily by people too delicate to employ these last.

Sluggish Liver

Q. I have an inactive liver. Do you advise a fast or a beverage of some kind?

A. I would certainly not advise a beverage, though I must admit that acid fruits are beneficial under such circumstances. I would, in all cases, advise a fast and a care to eat moderately thereafter, together with the free use of water.

"The stronger the body, the more it obeys; the weaker the body, the more it commands."—Rousseau.

The Organs and Their Purposes

No. 8.—THE NERVOUS SYSTEM—(Continued)—THE SPINAL CORD

This is one of a series of articles having to do with the various organs of the body, the part that they play in the total scheme of the system, and the manner in which they perform their work. In these articles will be told tersely but intelligently, the story of the organs.—Bernarr Macfadden.

THE spinal cord is the cylindrical, elongated part of the cerebro-spinal system, which is contained in the spinal column or back-bone. It extends from the base of the skull, where it connects with the brain, through the medulla, to the upper border of the small of the back, where it terminates in a number of nerve fibers which pass down the balance of the spinal canal, below the termination of the spinal cord. These nerves are so disposed as to resemble in appearance the tail of a horse and are called in the Latin language, "the horse's tail." The length of the spinal cord proper is usually about sixteen or seventeen inches, its weight being about one ounce and one-half. It does not nearly fill the canal in the back-bone in which it is located, but is surrounded and separated from the bony walls of this canal by a supporting and protecting membrane (similar to that surrounding the brain), loose connective tissue and a net-work of veins.

The shape of the spinal cord varies considerably, according to the part of the back-bone which it occupies. In the region of the neck, the diameter of the cord is greater from side to side than from front to back, and all its diameters are greater in this region than elsewhere. At the middle of the back of the chest all the diameters of the cord are smaller than anywhere else in its length, and are about equal to



Spinal Cord.
Side View

each other. Below the chest, the cord again widens from side to side, but although larger in every way than in the chest region it is much smaller than in the neck.

The material of which the spinal cord is constructed is exactly the same as that which constitutes the brain. However, in this region of the spinal cord, the component parts are arranged in exactly the opposite way to that in which they are put together in the brain. In the cord, the white material or nerve fibers, instead of being in the inside as in the brain, composes the outer portion of the cord, while the gray matter is located in the center, never appearing on the surface, and only to be seen on cross sections of the cord. When a transverse cut is made of this organ, the gray matter appears in the center, disposed roughly in the shape of a butterfly, the tips of the wings barely touching the circumference of the cord. The amount of gray matter in proportion to the white varies greatly in different parts of the cord.

On examining the surface of the spinal cord, one finds on its anterior portion, a fissure running the whole length of the cord, up and down. This fissure is just deep enough to barely reach the gray matter of the cord. In the middle of the posterior surface, one may see another longitudinal fissure, also extending the whole length, but deeper than the an-

terior one. These two fissures divide the cord into two lateral halves which are connected to each other by the gray matter. The gray matter of the cord, like the gray matter of the brain, is a mass of nerve centers for the origin or reception of nervous impulses. Reverting to the simile made use of in previous installments on this subject, these nerve centers in the cord may be compared to local telephone exchanges.

The white matter of the cord consists of bundles of nerve fibers running up and down this organ. These bundles may be divided into three classes, regarding the work they do, namely, those which are continuous fibers from the brain through the cord and out again to some organ of the body; those which start from some nerve center of the gray matter of the cord and run upward or downward to some other nerve center of the cord or brain; and those which, originating in some nerve center of the cord, pass downward and outward to some tissue of the body. Again, these nerve fibers of the cord may be divided into two classes in regard to the character of the nerve impulse which they carry, namely, first, motor nerves, which carry impulses for motion from the cord to the tissues of the body; second, sensory nerves, which carry impulses of sensation from the tissues of the body to the cord.

This nerve fiber material of the cord can therefore, be compared to the largest or most central telephone cable in a country, which not only connects the central telephone exchange with all the smaller local exchanges, but connects those local exchanges with each other and sends out smaller cables into different parts of the country to connect the local phones with the local exchanges and through them, with each other.

As the spinal cord passes down the length of the canal in the back-bone, it gives off bundles of nerve fibers which pass out from this canal through openings in the side walls of the bony cavity. These are the local telephone cables, leaving the local exchanges to spread their wires through the country. They are technically called Spinal Nerves,

and each one arises by two roots or bundles from the side of the spinal cord. These roots are on the same level but placed one behind the other. The one in front is called the anterior root and carries nerve fibers for the transmission of motor impulses only. The one towards the rear is called the posterior root and carries fibers for the transmission of sensory impulses only. These two bundles of nerve fibers or roots, shortly after emerging from the cord, mingle their fibers with one bundle called a spinal nerve. All along the course of the cord, these spinal nerves arise and issue in pairs, one (by two roots), on each side of the cord. The spinal nerves, therefore, are symmetrically placed on each side of the back-bone, and, in number, correspond to the number of the vertabæ or bony sections of the back-bone from the skull to the small of the back.

After their emergence from the back-bone, numbers of these spinal nerves on each side, mingle their fibers together on the same side, and again split up into bundles of nerve fibers which are distributed to every part and tissue of the body. This commingling of the nerve fibers just described, is called a nerve plexus, and these plexi are given specific names according to the region of the spinal column near which they are located.

After a nerve reaches a tissue for which it is destined, it splits up into its separate fibers and each one of these proceeds to the special piece of tissue which it is intended to serve. Here, at its final end, there is a specialization of the nerve fiber, called an "end-organ," which may be compared to the terminus of a telephone line. This end-organ is so specially constituted in each and every portion of the human anatomy as to be capable of doing one and only one of the following special pieces of work: First, it may be intended to communicate energy of motion to a muscular fiber; second, to receive sensations of feeling or pain; third, to recognize sensations of special sense such as light, heat, sound, smell and taste.

(To be continued.)

The Camera as an Aid to Mental and Physical Health

By DOMINICK LOWDER

FADS and hobbies are of two kinds. There are those which are silly, useless and transitory, and there are others which are interesting, useful and permanent. The craze for using living chameleons as ornaments, which was prevalent a few years ago was an illustration of the first class. The vogue of the camera is an instance of the second. Which goes to show that while the public can fool itself sometimes,

pressure of a bulb, to crystallize into permanency, as it were, a beautiful landscape, an impressive incident, or the forms and features of loved ones, is indeed fascinating. And there are so many pleasant things and instructive actions connected with the process, that the joy of the main result is greatly enhanced thereby. Then too, the photographic amateur enthusiast, if he be worthy of the name, finds that,



At Brighton Beach

it does not propose to fool itself all the time, and that which is worthy of its regard, inevitably outlasts that which is otherwise.

It is not too much to declare that there has seldom or ever been a hobby of so much worth as that represented by "the little black box and the tripod." The reasons for this are not hard to understand. The idea of one being able, by the touch of a spring or the

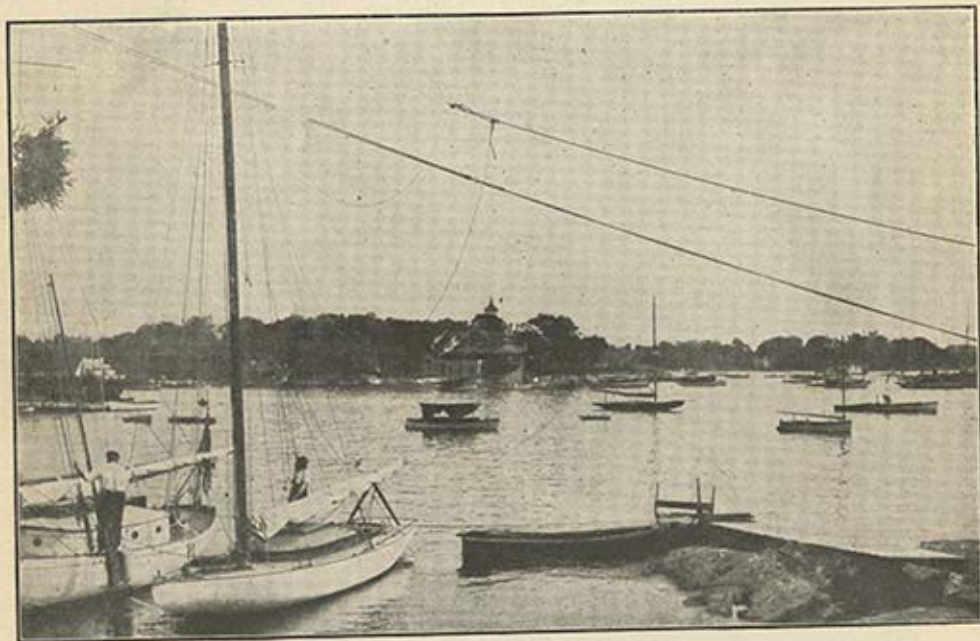
sooner or later, he is wandering into fields of inquiry which are as attractive as they are educational. Of course, he need not do so unless he wishes, for the process of photography has been reduced to the simplest form of mechanical effort, which in a sense, accounts for its current popularity. But on the other hand, the delight of the art usually begets a desire to know much or all that relates to it. And so it comes about,

that the operator who is initiated into the mysteries of the lens, film or plate with the aid of a low-priced camera, soon finds that he craves for a higher type of instrument, for a theoretical as well as a mechanical knowledge of what he is doing, and for an intelligent understanding of the various sciences which enter into the operation of "sun-printing," to use the old term for photographic work.

And thus it is that, before long, he becomes very well acquainted with those branches of physics which relate to light and its phenomena; the chem-

istry of the dark room; the theory of lenses, and much more of the same. So that the camera has brought him enlightenment in this regard, which could hardly have come to him through the medium of any other form of recreation.

Not for the fact that experimentors and inventors have so smoothed the way of the amateur that the technical and pretty nearly all of the mechanical difficulties have vanished. It doesn't seem so many years ago when, in order to make photographs afield, it was necessary to take along an outfit which was big, bulky, cumbersome and altogether unsatisfactory. Usually a couple of individuals had to be burdened with the needed effects—so heavy were they, and so totally unlike the photographer's equipment of to-day.



New Rochelle Yacht Club and Anchorage

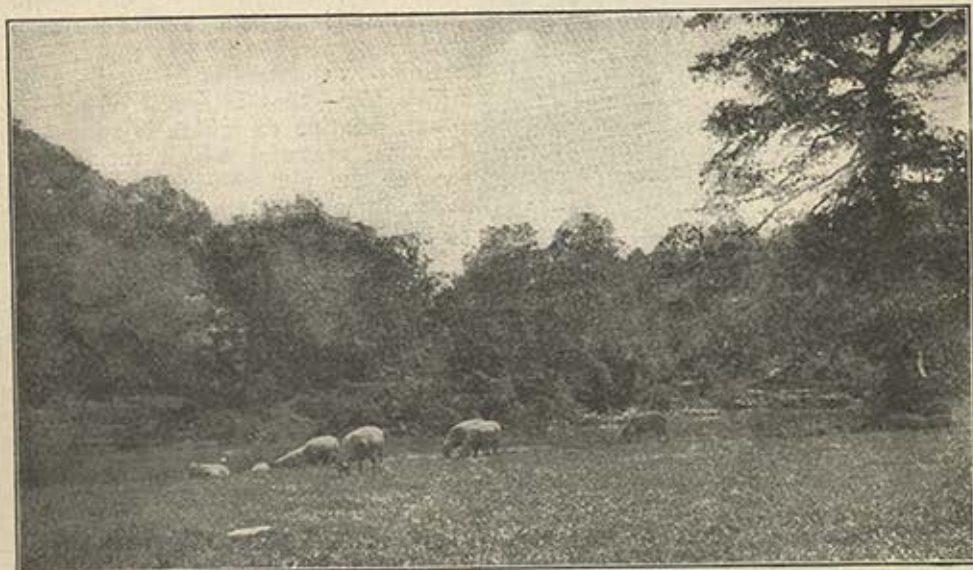
There is furthermore, a sort of moral education connected with the camera and its uses. The mind is trained to act in conjunction with the eye in the matter of seizing on the subject at the appropriate moment. Then, too, the amateur is taught the value of accuracy

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There had to be a sort of portable dark room, a whole lot of chemical solutions for *making* (think of it) and developing "wet" plates; as many sheets of glass as there were pictures to be taken; bulky plate holders and a great many more things, the total weight of which was usually over a hundred pounds. It was furthermore necessary for the operator to form a more or less permanent camp in the neighborhood of the locality in which he desired to take his pictures. In this camp was set up the "dark room" in which he had to make his own plates, which had to be used, developed and fixed while still wet!

old method that there is absolutely no comparison between the two.

Perhaps the quality that most emphasizes the difference between the old regime and the new, is that of weight. The camera and its films to-day is a matter of ounces. As told, the old camera and its appurtenances totalled up to a hundred pounds and more. Furthermore—and this too is another distinction between the old and the new as it is another explanation of the marvelous popularity of the camera of to-day—the "dark room" and the red lamp have been practically abolished. Up to somewhat recently, the pleasure



A Prospect Park (Brooklyn) Pastoral

Is it any wonder that photographs of landscapes, and indeed any out-of-door subject, were rare in those times? The making of the wet plates alone, was sufficient to damp the ardor of anyone except he who had much time, money and enthusiasm to expend upon the slow and usually unsatisfactory task of photography.

How totally different nowadays! A camera—supposing it is one of the film kind—can be stored away in the hip pocket, produced, focused and snapped within a few seconds, while the results are so infinitely superior to those of the

of taking pictures was rather marred by the reflection that there was to follow a good deal of work in a hot, stuffy, dark room in company with the odor of chemicals and a light that taxed both eyes and patience. But now, the methods and mechanical operations of the art are such that the dark room has been entirely superseded by daylight loading, unloading, developing and finishing, each of which operations has been so simplified that no experience or practice is necessary in order to produce perfect results.

To those who do not understand the

ingenuity that is made manifest in connection with the apparatus used by amateurs, this last statement may seem almost untrustworthy. But the fact remains. In times that are past, the amateur had to use a whole lot of wearying discretion, patience, and judgment in producing even fair pictures. This was due to the want of mechanical excellence in the apparatus employed



"There's Life in the Old Dog Yet!"

by him. As such excellence was approached, his task became more and more easy until, and as stated, it is now one of merely following the directions given by the makers and venders of photographic appliances. It must be remembered that after all is said and done photography is a mechanical art; that is to say, it employs the mechanism of the laboratory, if such a term may be

used, the mechanism of the lens, of the shutter, of the hood and the sensitized plate. And if due regard be given to the mechanical possibilities of each, mechanical perfection in the form of a fine and finished photograph is certain to result. This remark applies to each and every one of the stages of the photographic processes from the initial "snapping" of the picture to the mounting of the same.

The camera is such a common object to-day that it is almost superfluous to go into a description of it and its construction. Perhaps, however, a few words to the prospective amateur who is on the verge of carrying out his long cherished intentions of becoming a camera owner, may be in order.

Cameras then are of two sorts, one in which film—that is a roll of plate of tough gelatine on which is spread the chemical material which receives the records the picture—is used; and the other, in which plates of glass are employed for the same purpose. A good many cameras are in the market in which either films or glass plates can be employed by means of an ingenious "adapter," as it is called. The advantages of films are, that they are much lighter than plates, that the camera can be loaded or unloaded in daylight, and so forth. The devotees of plates on the other hand, claim that for the finest type of work, glass is necessary and that it is cheaper than film. It seems to be that both have their advantages, and that the use of either, is a matter of taste and surrounding conditions.

While the high-priced cameras can do work which the low-priced ones are almost incapable of undertaking, yet in the great majority of instances, the latter are found to be entirely satisfactory for amateur purposes. The truth is, that facility in handling the camera—that is to say the intelligent use of it—seems to have much more to do with its product than its price or technical possibilities. So that a camera costing a few dollars, will be found to answer all purposes in the early stages of the art. As the amateur progresses in photographic knowledge, he will begin to perceive the things in which his cheap instrument may be lacking and may crave for a

more expensive outfit. But in the vast majority of cases, the handy, economical and all-round serviceable camera is and will remain the favorite in the world of amateurdom—a fact which is fully recognized by camera manufacturers, with the result that instruments of this class are becoming better yearly, both in the matter of lenses and general conveniences.

Don't buy too big a camera in the first instance, even if you contemplate making a little money out of your pictures by selling them to publishers or friends. Nowadays, you can always get an enlargement of a good negative if you really need it. Besides that, the element of economy enters into the question, for one by unwise use of large films or plates, can run up quite a bill of expenses. For general purposes the writer has found a 4x5 camera handy, economical and generally satisfactory.

This article simply indicates what the camera is and its possibilities. Space will not permit us to go further into the subject on these lines. But quite apart from the actual making of pictures are the inducements which it offers for health-getting and health-retaining. The man or woman with a camera, soon gets tired of pottering about the house or back yard snapping relatives or chance cats. He longs for the open and the scenes, sights and objects thereof. And he invariably gratifies this longing. So it comes about that he seeks the fields, the woods or it may be the parks. The seaside calls to him and he also learns what delicious "bits" are to be found on the borders of a river or even the rural sections of a canal. This naturally leads to long tramps, these being all the more healthful because they have a pleasant objective. His muscles are exercised and his mental faculties roused to activity; his artistic instincts are cultivated and he indulges in the luxury of pleasant anticipation. Thus, health is conserved, and wholesome recreation obtained.

If it were possible to ascertain the part that the camera has played in developing a love of Nature, good lungs, hardened muscles, cheerful temperaments, sobriety, and much more of the same, the writer believes that the gen-

eral appreciation now awarded to the little instrument, would be increased in great measure.

The pictures which illustrate this article were made by a 4x5 camera of a popular make. The cost of the instrument was but a few dollars, and it is of the film variety. As will be seen, it does very satisfactory work and the amount of enjoyment, results and wholesome exercise which have been obtained with its assistance, have returned to



Shy!

the writer a thousand fold the initial expenditure.

Most of these pictures were taken and developed in the morning and printed at night by gaslight on some variety of "papers" which are manufactured for that purpose. Most amateur photographers like to see the result of their labors as soon as possible and here it is that the gaslight "papers" for printing purposes are so admirable.

Strenuous Stunts

By HARRY WELLINGTON

I AM introducing here some exceedingly interesting feats of strength, which partake of the nature of a contest. I call them strenuous stunts, but would say that they really

are strenuous only for one person, and that is, the person trying to overcome the resistance of the other.

Now in the case of the first illustration, the little boy places his hands



Photo No. 1.—Stand with your back against a wall, hands on hips, and bring the elbows well forward. Then, let someone take hold of the elbows and endeavor to push them back so they touch the wall.



Photo No. 2.—Stand with your back to wall, clasping the hands behind the head with elbows well forward. Then, let one of your friends attempt to push them back to the wall. He will have even more difficulty in this case than in the former instance.

against his hips and brings his elbows forward away from the wall against which he leans his back. The little girl takes hold of his elbows, and makes an effort to push his elbows back against the wall, while he resists her endeavor. The curious and interesting feature of this little game is, that it is almost impossible for the little girl to succeed in pushing the boy's elbows back against the wall if he wishes to resist her effort to do so. On the other hand, let them exchange places, and the boy would find it just as difficult to push the elbows of his little fair friend back, even though he were a great deal stronger.

The explanation is this: the muscles crossing the front of the upper chest, the "pectoralis" muscles, as they are called, which serve the purpose of bringing the elbows or arms forward, are among the most powerful in the body, and are capable of great powers of resistance.

In the case of the second illustration, the exercise is of a very similar character, except that the fingers are clasped behind the head, and the elbows held forward. In this instance, it is even more difficult for one to force back to the wall the elbows of the other, because one cannot push nearly as well at this high point as when the elbows are held lower down.

The third illustration shows a totally different exercise in which the person resisting has entirely the advantage of the other. The little girl places the tips of her fingers together and the boy tries to pull them apart. He must not take hold of her hands, but of her wrists. The difficulty he meets with is due to the fact that the muscles she uses in resisting him, are far more powerfully developed than those which he employs.



Photo No. 3.—Bring the tips of the fingers together in front of the chest, as illustrated, then let your opponent grasp your hands and try to pull them apart.

A Good Game for a Fall Night

By GEORGE STANDISH

NOW that the evenings are rather long, but yet of such a temperature as to invite one to be in the open air as much as possible, I want to tell my boy and girl readers something about a capital game which, unlike a great many other games, can be played in the dark. It is very popular among youngsters in some parts of England and in France, in which latter country it is known as "Feu-Feu" or Fire-Fire. The way to play it is this:

Any number may join in the game, the more the merrier, and the darker the night, the better. A piece of ground, or rather a tract of territory is selected, outside of which the players are not supposed to go. Such a tract may consist of one or more fields, a long stretch of roadway or what not. The ideal ground for the game, however, is a level stretch of wood, in which the trees are pretty well apart and the underbrush is not too thick, so as to allow of your running without danger of being caught by briars or tripped by roots.

One of the players is selected to act as "Nick," as he is called by the English boys. Exactly why he should be so christened, I don't know, but at all events he is. "Nick" has with him, a good-sized dark lantern, one of that sort, you know, that you can turn on or turn off the light whenever you want to. Lighting this lantern, "Nick" disappears in the darkness and in the section of country that is to be played over. If it is a cloudy night, with no moon—an ideal night for the game—he will be out of sight in a few seconds. After an interval of five minutes or so, the other players go in pursuit of him, usually spreading themselves out in a sort of fan-like formation so as to try and enclose him. If they fail to find him, one or more of the pursuers may cry out "Nick-Nick," whereupon he is obliged by the rules of the game, to



Yes, these are civilized white men and boys, but they are also physical culturists, returning to primitive conditions for the sake of renewed vitality.

flash his lantern. Everybody who sees the flash, goes in pursuit of "Nick," who

in the meantime, has done his best to get away from the spot where he was when "called."

You can imagine the fun that the game brings about, a good deal of which is due to the players mistaking each other for "Nick," and they even sometimes think that bushes or rocks or stumps of trees are the boy whom they are chasing. Of course, there are sure to be tumbles and trippings and all that kind of thing, but no healthy boy or girl will mind incidents such as these.

If "Nick" is swift of foot and clever in dodging, and takes advantage of the lay of the land, of sheltering bushes, or of friendly tree trunks, he may lead his pursuers a long and merry hunt before he and his lantern are captured. When he is finally caught, the boy or girl who has effected the capture, becomes "Nick" in turn.

When the writer was a boy, the game often proved so fascinating that it was quite late before the hunters and the hunted returned home, sometimes to be scolded but always to sleep the sleep that comes from fun and exertion. Occasionally we used matches, which is a rather dangerous way of playing the game, as, in the Fall, they are apt to set fire to the dry brushwood. One boy had a great flint-lock pistol which belonged to his grandfather, which, when one cocked it, and pulled the trigger sent out a whole shower of sparks and made a capital light for "Nick." I believe that one of those little electric "flash torches" which you can buy very cheaply nowadays, would be a first rate thing for the game.



Mr. Walter J. Brecknell, of Montreal, age 18, showing development, after a few months of physical culture, remarkable for his years.

BOYS IN CAMP

TO THE EDITOR:

I want to write and tell you about the time I had camping out in two tents during my vacation last year.

I am twelve years of age. I went camping at Okauchee Lake, Wis., last summer and had a fine time. We were in the open air all the time; we ate in the open air and slept in the tent; one was the sleeping tent and the other was the kitchen tent.

The name of our camp is Happy Camp; the fresh air gives me a good appetite, and after going out rowing or fishing I eat a good meal, but do not eat before going in swimming, because I know it is bad in digesting

the food, very often causing indigestion. We have very good food to eat, my mother brings out home-made bread, and whole-wheat. I take a lot of exercise, I can swim dandy now, and row. I have races with the boys living out here. I go in swimming twice a day, morning and afternoon. I caught a number of fish in the lake. This is not a country out here where lions live so I do not have many dangerous adventures. I expect to have a better time next summer, for we will have an extra tent which we will use for cooking. I go barefooted all the time. I have read your magazine and follow the exercises in it.

Milwaukee, Wis.

CHARLIE BARR.

Sanitary Conditions in China

By H. H. BYRNE

LITTLE do we realize the degree of excellency attained by us in our endeavor to eradicate the causes of sickness and disease attendant upon closeness of living in limited and crowded cities. We are so far removed from that indescribable state of filth which exists elsewhere that even the slightest degree of uncleanliness in any of our communities brings forth such a storm of protest and exposure that it

nation will show this, and since these have, to a large degree, been under the surveillance of foreign settlers, it is inconceivable what the conditions are in the interior of the country, about which so little is known.

Hong Kong and Shanghai are China's two best regulated cities, resulting, of course, from the fact that Europeans, too, have settled there and have instituted conditions such as they were



The Widest Street in Old Shanghai—Market Place to the Left

becomes readily evident why the homes of the English-speaking people, and consequently our cities, have that enviable reputation of being without equal in the world.

This elevation of our domestic life becomes only too clear when one looks into the sanitation of China, and how the Chinese look upon the value of common decency with respect to their homes. The sea-coast cities of that

used to at home. Yet with the association of these neighbors, the natives of the adjoining settlements have profited so little that it becomes very evident why the Chinese are such a backward race, and consequently the most undesirable of all immigrants.

As an indemnity of the war of 1839, Hong Kong was ceded to the English in 1841. The territory comprises the island of Hong Kong and the land just



The Yang Ping Pang Creek. Note the Desolate Appearance of the Land and the Congested Arrangement of the Houses

nearby, called Kowloon. On the island is built the city of Victoria, generally known as Hong Kong. When this land was taken by the British the Chinese living there were huddled together as many as sixteen hundred to an acre. Immediately upon its occupancy by the English military they were scattered, but only by force of arms. Since its occupation the place has been converted into one of England's greatest and strongest Oriental possessions. Withal this the immediate vicinity is in a most deplorable state of sanitation, and still further handicapped by being a veritable hot-bed of crime; even now pirates navigate the river which runs from there to Canton.

In Old Shanghai, adjoining modern Shanghai, the Paris of China, conditions are even worse, if this can be imagined. So filthy and infectious is this abode of cholera and smallpox that one is obliged to wear clothes which can be discarded afterwards, or have them put through the process of fumigation after staying only a few moments within its walls.

The streets are so narrow that the visitors have to dispense with the services of the ricksha at the gate and walk, and then only in single file, for two cannot walk abreast. A shallow, slime-coated stream with slow current serves for the conveyance of all refuse; even the most primitive method of artificial sanitation is lacking.



The Wall Around Old Shanghai



A Chinese Temple or Joss House

There seem to be no hours for rest, constant turmoil prevails, night and day. At dark the streets are all aglow with lanterns and torches lighting the way for an endless procession of half-naked coolies carrying merchandise to and from the junks at the quay. Others are busily engaged with fire-crackers to keep the devil away.

I first visited the Walled City on a drizzling rainy day in February, just about mid-winter in Shanghai. What first attracted my attention was a poor

hardly any head at all, only small holes marking where his eyes, ears, nose and mouth once were.

A series of dilapidated buildings, moss-covered and damp, was the prison shown me, and there within low and dark dungeons the criminals were crowded—some dragging heavy shackles with their bony arms and legs, or even worse, a stock around the neck, placarded with signs telling of his crime and punishment. Just at the building's entrance was an enclosure where



A Scene in Old Shanghai. Note the Tree Growing Through the Roof of the House in Foreground. This is One of the "Choice" Sections of the City

leper who lay paralyzed in a muddy street piteously crying for alms. At first I supposed some accident had befallen him, but on inquiring soon found that there, in that very spot, was where he lived. Some of his limbs were nearly gone, the decayed bone plainly to be seen. All through the city I encountered such horrible sights, some in far worse condition. One, I recall, an old man more than seventy, had

the executions are held in the presence of all passers-by as a warning.

Old Shanghai is many centuries old, but even yet there are no indications for its betterment. And when one thoroughly realizes the utterly impossible conditions of life which prevail throughout the Chinese Empire, it is no longer difficult to understand the stagnation which characterizes the civilization of these people.

Endurance Running

By ALFRED SHRUBB

IT has always been a puzzling question to British followers of track sports why America has been unable to produce as prominent a crop of long-distance runners as they have of sprinters, hurdlers, jumpers and champions of the other events that make up the ordinary track and field programme. True it is that Deerfoot, the celebrated Indian runner, in his day was able to hold his own with all competitors, and that Willie Day, E. C. Carter and T. F. Conneff were produced from America, but since their time, we can in all truth say that there have been no capable runners to fully take their places.

Since my visit to America I have often been asked why the British Isles invariably produce more long-distance runners than any other country, and why, as a general rule the British athlete lasts for a longer time than his American cousin. Of course, to adequately answer these questions one must have carefully studied the different conditions that present themselves to the athlete and likewise must be perfectly familiar with the many athletes themselves.

There is no getting away from the fact that athletics abroad, particularly in England, seem to play a more interesting part than they do in America. Somehow or other the young English lad seems to have born in him that fever to perform something of especial worth either on the foot ball field, the cricket patch or the track. In my own case it happened that all branches of sport seemed to attract my attention, and of course I wanted to do all as well, if not better than any of my mates. I followed all the games, especially cricket, and proved myself quite a capable batsman. Running, like other sports attracted only casual notice from me. Numbers of our most celebrated athletes will tell you that they came to learn that there was running ability within them by mere accident, as one might say. My own case was not different

from many others. All the little English towns go in more or less for athletics, especially cross-country running, which to me seems to be the most beneficial exercise from a physical culture standpoint that we have. On many occasions I was invited by companions to take part in their runs over



Alfred Shrubb, Champion Long-Distance Runner of the World.

the fields jumping ditches, and the like, but as I was very busy at my trade of carpentering during the day I did not feel very much like cantering so many miles and then have to do a hard day's work the next day. As chance would have it a fire broke out in the neighboring town of Horsham one day, and as the excitement was some nine or ten miles

from the village, all the young lads decided, instead of taking the regular cross-country spin, to go to the fire on foot. This in particular seemed to appeal to me and after listening to my comrades' solicitations, I ran along with them. After we had traveled some four or five miles I noticed that many of the lads seemed fatigued and that even the best runner of the lot seemed to be about all in. Personally I felt a little tired but felt that I yet could go the entire distance. Gradually, however, the lads played themselves out and left only the then reputed local champion and myself to continue the journey. We jogged along together and reached the fire in ample time, but the friend who was with me was so tired he hardly could watch the fire. Then it was that I believed I had some running ability within me. From this first race my progress up the athletic ladder was slow but sure, and it would be useless for me to pen the numerous races that I took part in.

Many followers of physical culture and young lads who are desirous of becoming athletes, and especially long-distance runners have oftentimes asked me what are the requisites of a long-distance runner and what is the best means of developing one's self into a runner. Of course, in such a brief article as this it would be useless for me to attempt to describe the many little incidents and points that are necessary in the producing of a long-distance runner. The following pointers, though, seem to me the most essential of those which the young athlete could follow to advantage. In saying these few words I feel that I may contradict the old traditions of the American training methods, still, when the reader considers that up-to-date England has established itself as the producer of the best long-distance runners it might be well to study their ideas and system in distance work.

In the first place it seems to me that America has never produced any long-distance champions because the American runners frequently pay too much attention to graceful style and striding in running a long-distance race. In other words, they seem to be intent

on developing a long stride more than in running as naturally as possible. I feel safe in saying that nearly every distance man in America runs with a stride of at least seven feet, where we English runners as a rule run with a rather short stride, resembling a great deal the example of a sprint runner.

Consequently the first pointer I would give to all followers of physical culture, is to run naturally at all times. No matter how awkward a gait you may strike, this is the only way to ease the body so that it may be enabled to stand the long journey of five miles. Of late in this country great interest has been aroused in long Marathon races over a distance of some twenty-five miles. In England we have always complimented ourselves on being able to run as long a distance as any other nation, but to the athlete at home it seems that this distance is absolutely too long for any athlete to run, for there can be no doubt that the long siege of running, especially racing, such a distance is sure to bring some injury to the body. So I would not advise any athlete to go in for such a run.

With all truth I can say to any athlete who desires to take up the sport of long-distance running, that they can with advantage run from two to three miles a day. This in no way will hurt them, providing that they live a decent sort of life. I have noticed that in distance running the American runners have a habit of hanging their arms in a rather limp fashion at the sides of the body. In other words, they seem to be held more to the rear than to the front. This is not a bad idea in some respects, for it keeps the chest well freed and consequently plenty of oxygen can go into the lungs, but my advice would be to hold the arms in the front of the body like a sprinter.

It is true that the Yankee runners train hard and faithfully, but to me it does not seem that they train as hard as English runners. In England we think nothing of running from three to five miles a day when we are training for a long race and when I say we run three or five miles we *run* it—and at no snail's pace. For instance, to give the reader an idea of what I should term a day's

training in preparation for a two or five mile race, I will outline the ordinary routine which I follow in preparation for a race: Upon arising in the morning about six o'clock I take a hasty rub-down all over with a coarse towel, then prepare myself in some loose clothing by which no part of the body will be hampered. Next I take a cross-country walk over the hills for about three miles or so, then return to breakfast. After breakfast I lounge about for a couple of hours in order to allow my breakfast to become digested, then after this rest I take another walk of about seven miles on the road and return for lunch. After having a good substantial lunch I again rest till about three in the afternoon, then go to the track and run three miles. In my case I have always kept at this figure, for I have found that I can get better results from this distance than any other. After running my three miles on the track, I bathe and rub lightly with the mittens just so that the circulation of the blood is increased. The rub-down being through, I return to the house and rest for supper. After supper rest again for an hour and take another walk of some six or seven miles, returning to the house about nine in the evening and retiring at ten o'clock sharp.

I have noticed that many American athletes have what to me seems a rather peculiar way of running a race, in that they generally start out to run a long race with a good stiff gait, and try to hold that pace till they reach the last 300 yards or so, then they try to make a winning spurt for the tape. This in particular was Alex. Grant, the ex-American champion's, style of running a long-distance race. I recall when this runner and also his brother, Dick Grant, then of Harvard, first came to Britain to take part in the British championships. All the British runners had heard of their lightning-like sprints at the finish, so, consequently they contrived a way of defeating these finishes of the Americans. It was in a two-mile race that the solution was found, and to-day every runner in England sticks to the old system. Of course one must admit that the only correct way to

finish a long race is with a swift finish, but when Grant and his brother started in the race against the Englishmen they found that they had to practically sprint the whole distance. The Englishmen did not allow them to follow their easy pace at first, but forced them to run in bursts of about 100 yards at a time. This surely proved a heart-breaker to the Yankees, for no sooner would they hold the pace which the Englishmen were setting when to their surprise a short sprint would be made, to relieve the monotony, so to speak, and thus the Americans were unable to withstand the gait. I might say that in all my races this system of running long distances has been the means of my success. Of course the beginner cannot hope to accomplish what it takes a champion years to learn, still, there is nothing like starting on the right road.

Many times the British athlete has been accused of resorting to a most peculiar regime as to the question of diet. Probably in no other contest does the question of what an athlete eats play as important a part as it does in long-distance running. In England we are accused of being extraordinary flesh eaters, but, as a matter of fact, we do not warrant that accusation. True it is we eat meat, but I might say that to-day the average athlete does not wholly subsist on the flesh diet, as he did in former years.

Some twenty or thirty years ago it was the general belief of all trainers that their charges must train almost entirely on flesh food. I might say that when I first started in my athletic work I followed this particular method and accomplished wonderful running. It was, however, when I went to Australia that I began to sit up and take notice and found that I was running just as well with a smaller quantity of meat. On this subject of diet, as regards the preparation for a long race I would say that, the climate of the country in which one happens to live plays a more important part than some would care to give it. For instance, the raw, damp climate of England, I do believe, demands that the athlete performing hard work should partake of more flesh-food than one in

the warmer climes of Australia and America.

I would advise that all prospective athletes, as a rule, should not adhere too closely to the meat diet. In fact, in view of some of the great performances which some of our athletes abroad are doing on the non-flesh diet, it seems to me that in time this diet will become one of the most important factors in the training for all contests which require endurance.

One of the greatest of distance runners, who at present is running in England with great success, is F. A. Knot, of the South London Harriers. When this coming champion commenced his athletic training, in a way he was more or less the laughing-stock of his mates, simply because he trained on a diet of nuts and vegetables. To me at first it seemed that he never would develop into a champion, but at present, considering the progress that he has made under such a system, I believe that in time he will become one of England's foremost long-distance runners.

While the work of running from three to four miles a day and the diet while training play the most important parts in the long-distance running, still my experience on the cinder path has shown me that too much massaging is not as beneficial as many of the American runners and trainers are wont to credit. Formerly in distance races in England there was practically no massaging. That is, there was no kneading of the muscles as thoroughly as the American trainers advise. The usual method of a rub-down was only by

means of a pair of mittens, that were rather coarse and resembled in many ways a curry comb. By this method, which I might say to this day is in vogue in the old country, the athletes believed that they obtained all the necessary result for the stimulating of the muscles. While it is true that the system of massaging the muscles by the kneading process is beneficial, in a way, still it seems to me that in the long run it wears out the action of the muscles which should be used in the contest itself. I might say that I have tried both methods. When the Yankees first came to England for the Olympic games of 1900 they created quite a furore with their massaging. At the time all the English athletes forsook their old cherished methods of rubbing down, but after it was thoroughly tried out, they gradually returned to the old system, and resumed the use of the mittens.

A surprising fact to the average follower of British track sports is the stature of the English distance runner as compared with that of the American runner. In viewing some of the long-distance champions of America, up to date I have noticed that almost in every instance the American runner has been a man of some 5 feet 10 inches or more, while in England it seems to be the little man who performs the best. For instance, J. McGough, of the Scottish Harriers, the champion of Scotland, is but 5 feet 7 inches in height; J. Roberts, of the Sefton Harriers, Liverpool, is 5 feet 7 inches or thereabouts, and in my own case, I am 5 feet 6½ inches in height.

UNEXPECTED BENEFITS FROM FASTING

TO THE EDITOR:

I have decided to adopt your method of cleaning the house we live in, if nothing happens to prevent it. I do not intend to fast longer than a week, if I can hold out that long. Two years ago I started a seven days fast, but on the fifth day a bag of peanuts proved too great a temptation for me and I broke the fast.

A few years ago, before I knew the first thing about physical culture, I had another fasting experience which benefited me much, but to me then, it was a blessing in disguise. I took sick while in an English ship, in the port of Pissagua, Chile. I was sick and tired of

the vessel also and wished to get paid; so I left the steward's dainties untouched, and my medicines went for fishes, because I thought, I will be so weak after a while, that they will have to take me ashore and leave there. But no matter how I abstained from everything that was supposed to make me well, I grew better and stronger every day, so finally, after seven days' fasting, I could not keep myself in bed any longer, but dressed and went on deck to help the sailors to heave up the anchor, joining the chorus of their chant, lively as a kitten but hungry as a bear.

V. M. HALLFORS.

Healdsburg, Cal.

Vaccination—How to Prevent it From Working

By SYDNEY DREWE

THE fight against the vaccination crime in recent years has been carried on valiantly. It is apparent that a more enlightened public will soon discard the hideous practice. Even now, conditions are such that in a few localities one can escape being vaccinated if he so desires, and may also prevent his children from being poisoned in this way. But in most communities there is still danger of being forcibly compelled to submit to this outrage, irrespective of one's personal convictions upon the subject in question.

This is only another reminder of the boasted freedom of this glorious land. One might suppose, in a country in which individual liberty was the rule, that one would have an opportunity to decide for himself whether he should be vaccinated or not, and even enjoy the privilege of having small-pox, if he preferred it to the vaccine poisoning. Surely there should be no rational objection to this when one considers that his neighbors can protect themselves, if they choose, by the much lauded prophylactic and alleged preventive, vaccination. But not so when our fate is placed entirely in the hands of the "medical trust." Theoretically we are supposed to have realized that ideal of individual liberty which is alleged to be fundamental in all truly *American* institutions. But practically we are still believers in the "Divine right to rule,"—not of kings, perhaps, but nevertheless of masters who can and do employ the same methods of force and violence, to attain their ends. For this is what is meant when one group of men declare that they have the right to dictate the affairs of others, because they, the favored ones, pretend to know what is best for the welfare and health of the alleged ignorant and benighted ones. And the

United States Supreme Court upholds this despotism.

It is really the right of each one to decide a matter which is of vital concern to himself that we are fighting for more than anything else. Irrespective of the merits or demerits of vaccination as a preventative of disease, the attitude of the medical profession in trying to force it upon an unwilling people is a tyrannical one at the very best, and one wholly at variance with the principles of equality and human liberty upon which this government was founded, the recent Supreme Court decision to the contrary notwithstanding.

It seems curious that the medical profession should have obtained so much power in so-called "free" America that it is able to force such an abominable, nauseating and dangerous practice as vaccination upon unwilling citizens. It is a fact that hundreds and even thousands of physicians in the United States are outspokenly opposed to this evil, and that there are thousands of others who have absolutely no faith in it but who continue its practice because it is profitable and supposed to be popular. There are hundreds of thousands of our "free" citizens who are uncompromisingly opposed to the loathsome thing who nevertheless tamely submit to it because the doctors, "who ought to know," say they ought to, or because they find submission easier than resistance. Left to decide the matter for themselves, what percentage of the people would avail themselves of the "privilege" of vaccination as a precautionary measure in preventing disease? Let anyone answer. It seems safe to assert that the great majority of people would not be vaccinated if left to their own devices. Else why is it necessary to resort to compulsory measures?

There is only a comparative few who do still believe in this superstition, and

for the purposes of this particular argument there is no need to call attention to the fact that they belong to the most ignorant classes. As intimated, a great many medical men are prejudiced in favor of it for financial reasons. But with the general public sentiment against it, it is nothing short of tyranny for a band of men representing only a portion of the medical profession to impose their pernicious doctrine upon us, and go so far as to perform criminal, dangerous, health-wrecking and sometimes fatal operations upon us. But even if those opposed to it were ever so small a minority, it would be tyranny none the less, as the writer will try to point out.

If anyone wishes to believe in vaccination, and practice it, that is his privilege. We do not wish to force our views upon him. But we object when he tries to force his doctrines upon us, and especially when he carries it so far as to force poisonous vaccine virus into our very blood. His so doing is, we protest, a most flagrant outrage upon our personal liberty and those inalienable human rights which were recognized in the Declaration of Independence and in the Constitution of the United States.

If anyone believes that he can protect himself against small-pox by means of vaccination, then it is his privilege to avail himself of that means of protection, and having done so, it cannot possibly matter to him whether his neighbors are vaccinated or not, or even whether they are attacked by small-pox or not. For he is "immune," as he truly believes. We are fighting against the scientific absurdity of creating disease to prevent disease, and we personally object to the principle of poisoning healthy human blood by the introduction of filthy animal pus (all animal pus is filth and there is no such thing possible as pure vaccine virus), but as a matter of even greater importance than that, we are fighting for our personal liberties, and for the right of each individual to decide for himself in this and similar questions. What we most object to is the compulsory aspect of the vaccination laws. And regarding the question of personal right and liberty, we believe that many who even think that

vaccination is all that it pretends to be, will agree with us in that it should not be made compulsory. In other words, shall this be a free country in fact as well as name, or shall it finally revert to the tyranny of the Middle Ages? Truly, "eternal vigilance is the price of Freedom" in matters of medicine as well as of politics.

It is true that for years one may be unmolested by this form of medical tyranny. But on the slightest provocation, such as a threatened small-pox epidemic, or the appearance of a little rash upon some individual in a neighboring town, the police and so-called boards of health may imprison whole sections of a city and forcibly vaccinate every human being within it, as has been repeatedly done. Hotels and other public buildings have been tightly closed up and guarded, while physicians, with policemen at their elbows, have inoculated every one of those surrounded with the filthy virus secured from the pus of diseased calves. And it is impossible, therefore, for anyone to know at what moment he may be seized and forced to submit to this outrage upon his person and his dignity.

Of course, the best way to prevent vaccination from "working" or "taking," is to avoid being vaccinated. But since this is not always possible, it is the purpose of the writer here to call attention to a few natural methods of counteracting its effects and preventing the poison from securing a foothold in the body.

Those who are at all familiar with physical culture methods of curing diseases realize that those methods depend for their potency chiefly upon their influence in cleansing and purifying the blood as well as in building increased vital energy. Those morbid states of the body which we call diseases depend almost invariably upon the presence in the system of foreign matter of a more or less poisonous and injurious sort, and it is the first object of intelligent treatment to assist Nature as much as possible in the elimination of these impurities. It is for this reason that the physical culturist is able to reduce a fever or cure a cold so quickly. The same methods of treatment hold

good whether the cause of the ailment consist in waste matter that has been generated within the body itself, or in poisons introduced into the blood from outside sources.

If one is in a state of perfect health it is impossible to be vaccinated successfully. Under such circumstances the vital forces and the resistant powers of the body would immediately overcome and throw off the poison. As a matter of fact, there are cases within the experience of every physician where repeated vaccination refuses to take. Naturally the reader will at once grasp the idea that one good way to prevent a vaccination from being "successful" is to attain such an ideal state of health that nothing can disturb it. But living under the artificial conditions of life which prevail at the present day, and being subject to industrial conditions which are often a hindrance to one's personal welfare, it is sometimes impossible, even for one with careful habits to maintain more than a fair degree of bodily health. And so it happens that few can feel absolutely assured that they are not susceptible to the insidious vaccine virus. The following methods can be guaranteed to prevent the poison from "taking" in practically every instance. The student of physical culture will recognize them as being substantially the same as the methods for treating many other diseases in which it is the prime object to free the system of impurities.

Immediately after the vaccination operation, or at least at the first convenient opportunity on leaving the presence of the physician, suck the wound vigorously, attempting to draw all the poison from it as you would in the case of a snake-bite, and expectorate carefully everything secured from it. You need not hesitate to do this, for the poison taken into the mouth for a moment will not affect you the same as if introduced directly into the circulation. If you have any abrasions, cuts or sores about the mouth or lips, this should not be done.

Following this, and as soon as possible, apply hot wet cloths to the wound, for perhaps fifteen or twenty minutes, or make alternate applications of hot and

cold wet cloths. After this, keep the part clean, and keep a cold wet cloth around it all night, or night and day, if convenient. You might wash the part with some antiseptic as soon as possible, if convenient, such, for instance as listerine or a weak, diluted solution of carbolic acid, though this is not of great importance. Or you might employ salted water for the same purpose.

So much by way of local treatment, which will prove more or less effective if begun at an early moment. However, constitutional treatment is necessarily of the greatest importance, and no time should be lost in its inception. If there is any tendency toward constipation, this should be remedied immediately. In fact, whether there is any such difficulty or not, you should use the colon flushing treatment every other day for a week.

An absolute fast should be begun, to last several days, the length depending largely upon the state of health of the individual. If the body is in a pure and wholesome condition it will not be necessary to fast as long as when it is more or less clogged with impurities. Even if this does not prevent the formation of the vaccine sore, another brief fast, after it appears, would greatly mitigate its seriousness and hasten its healing.

The very free drinking of water can be recommended, for the use of an unusual quantity during this fast would assist materially in cleansing the body of impurities. Every effort should be made to awaken activity in the depurating organs, and this free use of water will accelerate the action of the kidneys, as well as promote activity of the pores of the skin, producing more copious perspiration, which will be an added advantage in this instance. And in this connection I would say that dry friction of the skin, air baths and sun baths, in addition to the usual use of water over the entire body, would have a remarkable influence on the skin and help greatly in the elimination of foreign matter. It need hardly be added that the lungs should do their share in this purifying process. Deep breathing should be given special attention. And it goes without saying that the air one

breathes should be the very purest obtainable.

Active exercise under these circumstances is particularly important—the more in which you indulge, within the limits of your strength, and the more active its character, the better. It is an exercise that one must depend mainly to promote that vigorous circulation of the blood which is so effective in removing waste matter. Indeed, the aroused circulation, flooding and surging through all the arteries, veins and capillaries of the body, is nothing less than a complete internal bath for all of the tissues contained in the human anatomy. The value of this must not be underestimated, especially in connection with the purpose which we are considering here. For this reason any exercise of a somewhat prolonged nature would be especially advantageous—long distance walking, for instance, thus maintaining a vigorous circulation for a considerable period of time. If this results in free perspiration, very good; and the more copious, the better. Hand-ball, tennis and other active games can be recommended for the same reason. If one is exceptionally strong, and his endurance good, a five or ten mile run, or a prolonged wrestling bout, would be beneficial.

The above methods, if adhered to strictly, will in nearly every case prevent the formation of the usual vaccination "sore." If some of these instructions are neglected, or if in spite of these precautions, the customary eruption does manifest itself, it will be of an exceedingly mild character, and further attention to these methods will remove it quickly. If you desire to make the treatment even more effective and severe, you will hasten matters, by the use of the cold wet sheet pack for the entire body, though this will probably not be needed. The steam or dry

hot-air cabinet bath would also be of undoubted value in hastening the purifying process, inducing copious perspiration and thus cleansing the blood. This, however, is usually an uncomfortable experience and sometimes slightly weakening, and need not be employed in most instances, though it is most effective.

An old-fashioned remedy in the form of a solution of cream of tartar, taken in medicinal doses, has been used in the past by a few, who were perhaps wiser than the medical profession, as an antidote to vaccination. The most positive claims have been made in favor of it as a certain preventive of small-pox or as an unfailing remedy for that disease after it had been contracted. The writer is not in a position to make any statement or pass any opinion in reference to the merits of this alleged remedy, but there is no doubt that a little lemon juice, without sugar, mixed occasionally with your drinking water, will help to purify the alimentary canal and also to clear the blood.

With a knowledge of the above, the reader will henceforth be able to go about with a free feeling in regard to the dangers of vaccination. He will, of course, resist such an indignity as compulsory vaccination for obvious reasons, it being an insult to his intelligence and an invasion of his own sacred personal rights. But if compelled by force to submit to the disgusting operation, as many have been, he will at least be free from any fear as to the physical harm resulting from it. For the methods described, if strictly adhered to, will positively accomplish the result intended.

The same methods for the most part, can be recommended in the treatment of small-pox, though in the cure of a case of this disease, the cold wet sheet packs of the entire body are indispensable.

"All through the life of a pure-minded but feeble-bodied man, his path is lined with memory's gravestones, which mark the spots where noble enterprises perished, for lack of physical vigor to embody them in deeds."—Horace Mann.

"The established systems of Education, whatever their matter may be, are fundamentally vicious in their manner. They encourage submissive receptivity instead of independent activity."—Herbert Spencer."

The Care of the Feet

By C. S.

THE feet are probably neglected more by the majority of people than any other part of the body. For this reason we are a people who walk on uncomfortable and even sore feet.

Poor feet are due to many reasons, of which fashion is responsible for several. Fashion announces that certain shapes of shoes must be worn by people and the unfortunate foot is deformed by badly fitting shoes. It bears a great weight, is pressed and massaged by walking, and receives an enormous amount of exercise. This causes it to sweat profusely and throw off poisonous fluids, and yet, unthinking people wash their feet less than other and less important parts of the body.

Much of the difficulty that owners of troublesome feet experience could be avoided if they would only observe a few simple and easy rules concerning the care of these extremities.

The feet should be washed every night. This should be considered as important, if not more so, than washing the face. The best way is to wash them first in water as hot as they can comfortably stand and then hold them in cold water. After being washed they should be rubbed vigorously with a towel and then massaged with the hands. If the soles of the feet are not warm, stand on the carpet with the heels together; then bring the toes together, letting the soles of the feet rub on the floor. Spread the toes and repeat till the feet are thoroughly warm.

The toe-nails should be cut both regularly and carefully. Care should be taken in cutting the nails, for an improperly cut nail is one of the chief causes of an ingrowing toe-nail.

There is much to be said about shoes. They should be neither too large nor too small. They should fit the foot snugly but comfortably. Patent, enameled, and other non-porous leathers should be avoided. They prevent the

evaporation of the perspiration and moisture of the foot. This makes the foot tender and causes corns and, in winter, chilblains. The soles should be thick, especially so in winter and in damp weather. Low shoes and slippers should be worn only in warm, dry weather. In cold or damp weather the ankles are exposed. This chills the blood, causing colds and laying a good foundation for rheumatism.

Ingrowing toe-nails are caused by tight shoes, or in a few cases by a tight sock. Inflammation, and later on ulceration, are caused by the skin being pressed over the edge of the nail. In ordinary cases the skin may be pressed back from the edge of the nail; then the nail, especially the corner of it, may be clipped.

Corns result from the friction or pressure of ill-fitting shoes that may be either too loose or too tight. Women often have corns from wearing high-heeled shoes that throw the foot forward and cramp the toes and press them against the leather.

To cure corns, well-fitting shoes must be worn in place of the ill-fitting ones. No cure can be affected by any means unless this is first attended to. The foot should be soaked in hot water, before retiring, until the corn is softened. After this the calloused skin may be scraped from the edge. A repetition of this treatment for several nights will do away with the corn.

The cause of chilblains is made clear by the name frost-bite. After the foot is brought in contact with warmth, it itches and tingles unpleasantly.

The feet should be soaked every night, first in hot water, then in cold water. Then they should be rubbed briskly with a rough towel and massaged with the fingers. The best way, however, is to prevent chilblains. This may be done by placing them in really cold water for a moment every night and then rubbing them briskly.

One-Legged Athletes are Many and Clever

By JAMES JOHNSON

ALTHOUGH many Englishmen have seen, in their own country, or at least have heard of, the one-legged cricketers—eleven of whom were often wont, in the days when the game was not so strictly disciplined as it is at present, to oppose an eleven of one-armed players—one-legged athletes are by no means common, and a one-legged golfer is probably unique. Yet such a phenomenon does exist, in the person of a member of the Bulwell Artisan's Club, who, it is said, plays a very sound game. He, in all probability, however, acquired the rudiments of the science when acting as a caddie in days previous to the accident that necessitated the amputation of his limb.

That such a handicap as the loss of a leg does not incapacitate a man from excelling as a swimmer, says the *London Tid Bits*, has been conclusively proved on more than one occasion. One of the foremost exponents of the natatory art at the present day, labors under this disadvantage, and many old frequenters of Brill's Baths at Brighton, will remember the head swimming master, Camp, who, despite the fact that he had but one leg, was not only an adept at trick swimming, but in the matter of pace, could give a start and a beating to many who had the normal number of limbs.

More than once has a one-legged cyclist won a race, and not so long since such a one, named West, used, with a liberal start, to hold his own with the speediest professionals. Kilpatrick, too, must be endowed with as much power in his one leg as most men have in their two, if we consider the many daring feats he has accomplished on his cycle, foremost among which are his standing with his machine on the summit of the one hundred foot high Laxey Wheel, in the Isle of Man, and his descending at breakneck speed the east steps of the Capitol at Washington, U. S. A.

The annals of foot racing contain more than one record in point. We read how once Newmarket Heath was the scene of a race between two cripples, each having a wooden leg. In the presence of a goodly throng, among whom was the Merry Monarch, Henry VIII, "they started fair, and hobbled a good pace, which caused great admiration and laughter among the beholders; but the tallest of the two won by two or three yards." Again, over a hundred years later, in 1799, a certain one-legged man, named Carter, backed himself to cover six miles within the hour, and performed the feat with six minutes to spare.

Some years since a wrestler named Binet gained much fame among the habitués of Continental fairs, despite being handicapped by the loss of a leg. This notwithstanding he always made a gallant and not infrequently a successful show, his great height, strength and weight standing him in good stead. He excelled, too, in feats of strength, and was specially notable for his skill in casting a heavy blacksmith's hammer.

Nothing, one would say, is more calculated to place a boxer at a disadvantage than the loss of a leg. Yet Thomas Kench, a burly 15-stone man, topping six feet by some three inches, well held his own with the gloves with such as had the temerity to face him in the arena of the booth with which he and other boxers, traveled the fairs and race courses in the days when pugilism flourished.

Not only did he take on all comers at mimic warfare, but on one occasion at least, he stripped in the ring for serious fray, his opponent being a Leicester butcher, who thought to compensate for his inferiority in pounds and inches by his superior activity. In this, however, he was mistaken, for the long left of the cripple, which he was unable to avoid, put him out of time after seventeen well fought rounds.

The Two-Meal Plan, Morning and Evening

By HARRY B. BRADFORD

IS the "No-Breakfast" plan *unnatural*? What would we think of domestic animals which refused food till noon? (The orang-outang eats through the middle of the day, but he waits for the sun to dry off the grass, and rises very late. Almost all other animals eat morning and evening.) Is it wise to postpone eating until one is too hungry to eat a small meal, or until one is where they can't get a *good* one, or where they have to rush so that it does them little good?

Isn't it best to eat a breakfast of fruit and cereals, say two hours or so after rising (8 A. M.), then have the bowels move well, and afterwards go to work without further interruption or inconvenience until 5 or 6 P. M.?

That meal would be thoroughly digested, and the stomach allowed three or four hours in which to recuperate before the main meal, after work, at home.

It is impossible to do one's best mental work after a hearty midday meal, and if breakfast is omitted it is very hard to eat a light noon meal.

I am not writing without experience. I omitted breakfast for over three years, and while my strength was first-class, I found I often got hungry when I didn't want to; where I couldn't get a decent meal, or have time to enjoy it, or where I could not relieve myself after it! One meal at home is worth ten cold lunches, eaten wherever one happens to be.

The French people have no appetite for breakfast, because they take a heavy dinner about 7 P. M. or later, which unfits the stomach for breakfast. A stomach which can't rest well at night has to rest during the morning.

The Japanese are probably the strongest nation in the world to-day, and they never omit breakfast. Lunch is a very light meal with them. I know one has

a stronger appetite for lunch if breakfast is omitted, but for an active business man that noon appetite cuts work up for some time.

The noon meal is by far the most inconvenient one to get or eat, and the greatest drawback to any business. Also a heavy noon meal leaves the stomach in much weaker condition to digest thoroughly a hearty evening dinner.

Foreigners rest for some time after their heavy noon meal while Americans do not. A heavy noon meal throws the evening dinner too late for good digestion before retiring.

It seems to me that this plan is against all lower animal experience, except in the case of very late rising, man-like ape I have mentioned.

I have read Dr. Dewey's books, and admire him and much in them, very much, but I don't think a man can work longer without, than with some nourishing breakfast. The no-breakfaster's lunch is so important to him that after severe exertion, if he misses it, he will find himself put out of business from sheer exhaustion, while with an earlier meal he could work hard till dark.

Let someone swim four miles without breakfast, and then postpone lunch two hours, and see what he feels like! I think the greatest possible amount of strain and endurance can be acquired and kept on three *very* moderate meals, or two, at, say, 8.30 and 4.30 or 5, but that continued exertion is difficult when one meal (breakfast) is postponed till so late that a very heavy meal is taken, which *must* block all business or exertion for a while.

Dr. Dewey and Dr. Haig admit that the noon meals taken after no breakfast, were so hearty that work was not good after them, from the taxing of digestion. A light breakfast and light

lunch would not impede work in the slightest. I have lived on one daily meal (at noon) and found I had to rest or sleep for an hour or more after it, or I was not in first-class condition to work.

If a man will eat three very light, but wholesome meals, five hours apart, he will find exhaustion will be well nigh impossible. I am a long-distance walker and wheel rider, and find little appetite for food in the very midst of severe exertion. Dr. Dewey advises an hour's rest to restore the power of

digestion for the noon meal! What workman could do that, even if breakfast were omitted? After two raw eggs in a bowl of milk, a small dish of raw wheat, or steamed barley, I, in one hour or less, am good for the most severe exercise till *dark*, and I certainly know what severe exercise is.

Dr. Oswald believed in a light breakfast, a still lighter lunch, or none, and a hearty dinner in the evening. That is the Japanese coal-heavers' plan, and where can you match them for muscles of steel?

Live Forever—Written in a City Drug Store

By F. H. SPINNEY, North Sydney, N. S.

(With Apologies to Gray)

Those bottles toll the hope of "never die,"
The human herd comes trooping in the door,
And to its hard-earned wages says good-bye,
And leaves the Fakir richer than before.

Now fades away each symptom of disease,
And all our ills have vanished in an hour;
We take a dose of any size we please,
It soon restores the body's vital power.

For us no more that aching head shall throb,
Or dire forebodings cloud the weary brain;
Our peaceful sleep no burning fevers rob—
We bid farewell to every form of pain.

Let not Dyspepsia mock us at the feast,
But eat and drink till we can hold no more;
An After-Dinner Pill, to one distressed,
Internal comfort will again restore.

Those Pills you see upon the upper row
Back to its mansion call the fleeting breath,
The blooming charms of youthfulness bestow,
And hold afar the sickle of grim Death.

A sailor wrecked upon the billowy wave
Sank many fathoms 'neath the raging main;
One dose sufficient proved his life to save,
And sent him sailing o'er the seas again.

And here within this show-case do we find,
An Extract, made of "purest herbs" alone;
It cures the deaf, gives vision to the blind,
And, "while you wait," unites a broken bone.

A Russian in the battle's bloody fray,
Was blown into a thousand atoms fine;
One dose rejoined the fragments in a day,
And sent him back a fighter to the line.

And underneath this counter we behold,
Salvation for the weakest of mankind;
Electric Belts, as "Free" as Klondyke Gold,
Restoring Health to Body and to Mind.

"Congressman" Jones and "Parson" Smith
relate,
That Poverty was causing ceaseless pain;
They wore the Belt, and lo! a rich estate—
An ample Bank Account thus did they gain.

How oft upon the Cure-alls in this Store,
Some Undertaker gazes in despair!
We see him drive his sombre team no more;
He needs must seek his daily bread elsewhere.

Full many a spade that dug the narrow cell
Lies rusting neath the lonely yew tree's shade;
The digger, too, who did his duty well,
Now digs potatoes with another spade.

Advice to Young Doctors

By M. SMITH, M. D.

"Medical Brief," a Prominent Medical Journal, Publishes
a Startling Confession from the Pen of a Doctor.

A YOUNG physician just entering upon the practice of medicine, so full of confidence and assurance, meeting with at first a few successes and becoming reassured and over-confidential is sometimes attacked with a "big-head."

I was no exception to the general rule when I entered upon my chosen profession and never shall I forget to this day the lesson I was taught.

A few months after beginning to practice and after extracting a few loose molars for different patrons with what I then thought flattering success because they came out, I decided in my youthful over-confident mind that I was an expert at the business. At that time, I put on the usual show—drove fast horses, dressed flashily, kept an office full of awe-inspiring bottles, saw-bones, and pickled fingers, hearts, tumors, and even a syphilitic remnant which came in my way that I had "cut off" more for the specimen than anything else.

I performed my work with despatch and alacrity as if I had been always used to such things, but the tooth pulling scrape I am about to relate, brought me down from my pedestal several notches and impressed me with the fact that I was fast becoming a dangerous, bigoted fool and that, had I not been taught the lesson related in the following lines, I might have done some innocent person irreparable injury.

Here is the story:

A good looking yellow negro woman about twenty-five years of age, with a mouth shining with large, beautiful, pearly teeth, came to my office and asked me if I could "pull teeth." I told her that I considered myself an expert. Upon hearing this news her face beamed with satisfaction. She quickly told me her troubles, that she had a jaw-tooth that had been bothering her for some

time, that she desired it "out," and that she was told that I was the best "Tooth Doctor" in the country.

I told her that she had hit the nail on the head in coming to me. I asked her to be seated and let me see the tooth. Thereupon she sat down, opened her mouth and I beheld an unusually good set of perfectly white teeth, without a blemish save one molar, which seemed exceptionally large and with only a slight defect. I asked her if she wished it out being more than anxious to get hold of it and to show her my adeptness in tooth extraction. She answered, Yes, if I could pull it. I told her I had never failed on any living tooth in my life and that the tooth was not made that I could not pull.

She replied that she had already tried three different doctors, at different times, long before coming to me, and that they had all failed to get the tooth. Upon learning this I was a little surprised; however, this news only put me the more on my mettle, and made me the more anxious to get hold of the tooth.

Placing the woman in the proper position, I secured my heaviest and largest pair of new, hawk-billed molar forceps, and prepared for war. The negress sat perfectly calm, and allowed me to adjust my forceps upon the tooth, I not taking time to cut around the same, so anxious and nervous was I to get the tooth out and to excel all in skill. All being ready, I gave the word. Then began the "tug of war" ("me and that tooth"); I pulled and pulled, and screwed up and down, right and left. I reared forward and backward, but no tooth came, my mulatto patient all the while sitting calm and collected, complaining not, though I must have given her great pain.

I renewed my efforts again after catching my breath, which now was

coming quick and fast, but the tooth persisted in remaining firmly in *status quo*. I must have become red in the face and excited, for the woman looked at me curiously, but I would not give up, and, in my excitement and chagrin at failure and disgrace staring me in the face, I decided in my mind that that tooth must come out at any cost, and I would break it off if I could not pull it. So I began, with vigorous twisting and jerking, rearing up and down, wrenching and "see-sawing."

I lunged forward, dragging her from the chair and pulling her over the room. I must have forgotten myself and all common sense of propriety, so worked up was I now. But with all this the tooth remained, and the woman gave no complaint, save a series of low, subdued moans. It did not dawn upon me that I was murdering her, so intent was I that the tooth must come out.

Hardly realizing what I did, I shut the office door, dreading exposure, telling the woman to remain still, that the tooth must yet come. I secured a deeper and better hold, then lunged forward with force and strength enough to pull out anything or to break the creature's neck. Still no tooth, but more wails and moans, together with blood and pieces of flesh.

I began to see now that I could not pull the tooth, and that I had made a flat failure. I saw, further, that my patient's jaw was in a fearfully lacerated and swollen condition, and that instead of doing her good, I had done her great harm. I bandaged up her jaw and head as best I could, tried to mumble out some sort of apology to her, led her out through the back door, where no one could see, and directed her to go home at once and to tell nobody. I promised to attend her free of charge, which I afterwards did through a long period of ulceration and necrosis of bone, caused from a "cracked" jaw-bone, and it was well that I did make myself most attentive; had I not done so the case would have called for a suit against me for malpractice, which I justly deserved, and with which I was threatened.

Young doctors should learn to "go slow." Learn something yourself, first, before practising upon innocent people. Get a good dog, and practise upon him for a while, but do not get somebody's bird dog—that sort of dog is too valuable. Get an old "hound," one that is of age. Try your forceps on him first, then, later, your pills. If he lives, then you can go ahead; if he dies, try another dog.

EXACTS A PROMISE AGAINST DIVORCES

Police Judge Charles Weller, of San Francisco, is said to have originated a unique method of his own to make divorces more difficult. Whenever a couple desires him to perform the marriage ceremony, before he is willing to declare them man and wife, he makes them swear individually that he or she will never try to get a divorce.

If Mary and John will not comply with his request, there surely wouldn't be any wedding, for this judge has strong anti-divorce ideas, and also the courage to live up to them.

The last couple he married was Selma

Silme and David Rippen, both of Chicago. When the "no divorce" proposition was put up to them, they were almost staggered for the time, but finally recovered and answered, "I do."

The average couple apparently doesn't figure on divorce, as Judge Weller ties as many knots as any other magistrate in the city. His firm belief is that there should be no divorces, and he has made this move in the hope that it will help prevent them. His idea, now known as the "Weller marriage," is being copied by marrying magistrates all over the country.

Editorial Comment and Items from Everywhere

By BERNARR MACFADDEN

A Valuable Food Hint from Korea

Korea is just now much in the public eye and with the events that have so placed it, comes a good deal of enlightenment in regard to the natives of this more or less unhappy land. Without going into the morals or ethics of the manner in which the Japanese have treated the Koreans, it is certain, however, that any country which is opened up to the world, generally benefits thereby in the long run, although the initial processes are often painful to the people most concerned. What is more, the world not infrequently becomes the richer by reason of being acquainted with many things relative to the country about which it was before, ignorant. A small and single instance very often illustrate the largeness of a principle, and so it is in this case. Thus, a recent traveler in Korea, a German by birth, writes to this effect: "I have been in the districts where no white man trod before. While there, I repeatedly saw the natives drink what looked to me like buttermilk, and one day I asked one of them to bring me some of it. I was greatly pleased with its delicious flavor, which was like slightly fermented milk; but since the Koreans do not keep cows or goats, I could not guess from whence they got this milk. My inquiries regarding it, only elicited a smile or evasion. But one day, however, a native informed me that this beverage which I was drinking, was not milk at all, but a preparation derived from *grain*. It is made in this way: Rice, oats or barley, the first being the best, are taken and boiled until perfectly soft. Next, it is crushed to a pulp by a wooden spoon in a wooden bowl, pure water is added and it is strained through a muslin cloth. At this period of its preparation, it is quite thick. More water is added until it is about the consistency of good milk, when it is poured into an earthen

vessel and placed in a cool spot over night. On the morrow, it is ready for use, having slightly fermented in the interval. It is, as I have said, delicious to the taste and is furthermore easy of digestion and very sustaining. Unfortunately, it has to be frequently made, as in Korea it will not keep good longer than a day, when it turns too sour to be palatable. But in more Northern latitudes, it is probable that it would keep for at least twenty-four hours."

It is our intention to test the truth of the traveler's statements sooner or later. Meantime we commend it to our readers and shall be glad to hear from any who have experimented. All of which goes to show, that civilization may learn from semi-savagery, so-called, and in some things—manners, morals, food and exercise—the latter is very often the superior of the former.

The Latest Medical Fad—"Don't Masticate!"

One of the benefits of doctors' controversies is, that the public, using the words of Shakespeare, not infrequently cries: "A plague on both your houses," and turns to physical culture and its common-sense methods for advice and relief. This remark is prompted by an article which appeared in a recent issue of a well known medical magazine. We are told by the sapient editor of this publication, that "masticating food produces dyspepsia," for proof of which we are referred by him to carnivorous animals, "all of which bolt their food or swallow it whole, in consequence of which they are never distressed by digestive ailments." On reading this one is naturally led to ask what is the use of teeth, and what about the experience of all mankind up to date, not forgetting those of Mr. Horace Fletcher? Whereupon the erudite editor answers,

that much mastication of meat renders it alkaline through an excess of saliva. This alkaline mass coming in contact with the gastric secretion neutralizes the acid of the latter which is necessary to a proper performance of the gastric function. The food therefore, "must lay in the stomach until the hydrochloric acid is resupplied by the digestive organs or it is passed to the intestine in the same condition as when swallowed." In other words, Nature blundered, either by making the saliva alkaline, or by making the gastric juice acid! Isn't it a pity that when she made man, she didn't have the privilege of consulting with the wiseacre just quoted? To quote from a one-time popular operatic air, it would seem that according to the individual in question, the correct way to take your food is to "Gobble, Gobble, Gobble!"

A Victory for Vegetarianism

Vegetarians will rejoice over the outcome of the German Marathon race of forty kilometers, in which two young men trained and raced on milk and "Zwieback," exclusively. They came out second and third, beating the favorite, a man from Stockholm, and being only fifty seconds behind the winner, a man named Boger. What seems even more remarkable is, that both Kuchta and Wils, the young men in question, finished fresh, while the winner was utterly exhausted. There seems to be no doubt but that the youngsters, one of whom is twenty and the other twenty-one years of age, would have led the race if it had been a little longer. The occurrence proves what we have so often asserted, that a diet from which meat has been totally or nearly excluded, is one that makes for endurance, to say nothing of health and strength. We need not remind our readers that we have before now published articles relative to experiments conducted by scientists at Yale and elsewhere in regard to the relation of diet to endurance. In each and every instance, the most exhaustive and careful experiments of these gentlemen, proved that a dietary of cereals, vegetables, fruits and nuts, was of an ideal sort from an athletic viewpoint.

Pure Food Bill an Approximate Failure

Some time since, PHYSICAL CULTURE contained an article entitled "The Farce of the Pure Food Bill." It asserted, among other things, that owing to the lack of certain provisions in the measure, those sections of it which related to its active enforcement, would be futile, or nearly so, in New York State, to say nothing of those other States which were lacking in local bills of the same nature. This prophecy has been more or less vindicated, as is admitted by a great many of the officials concerned and as can be noted by anyone who will take the trouble to do so. One of the clear specifications of the bill is that the contents of any can, bottle or package containing food products, shall be plainly labeled with a description of the latter, so that the purchaser may know exactly what he or she is paying good money for. It is proper to remark that the great majority of the larger concerns, whose business it is to put up food products, have obeyed the spirit and the letter of the law, but the same remark does not stand good for a number of minor and outside manufacturers. We would remind the reader that the bill is a federal measure and that its powers are limited in this: that unless food products or foods themselves, are labeled in the manner told, they cannot be sent from one State to the other. This is all very well, but presuming that both the manufacturer and the purchaser are dishonest, and that the latter reside in a State which *has not* an adequate Pure Food Bill of its own, there is no reason whatever why any food product, no matter how adulterated, cannot be sent by the manufacturer to the purchaser and when the latter receives the same he may tear off the original labels and substitute therefor any other label that he pleases. Now if the local food law is of an inadequate sort, this second label may give no hint of the actual contents of the package, or it may be so misleading, as to be in the nature of a false statement of the same. But in the case of the State of New York, the State Food Bill is supposed to be of such an all-covering nature as to prevent the possibility of any such fraud as that

just named. Nevertheless—and we ask the reader to mark this—within the past week or so packages of beans, bottles of salad oil, jars of jam, and so forth and so on, have been bought in both Brooklyn and New York on which there was no label which indicated the contents of the package except in a most general fashion. In the meantime the poisoning and the plundering of poor people will continue for a period, the length of which no man can measure, or until the people of the Empire State arise in their might and insist upon justice being meted out to those who are either derelict in their duty, or hand-in-hand with the most contemptible of all criminals—the food adulterator.

And Now It's The "Strawberry Disease!"

Oh, dear! When will this thing end? The medical men in search of notoriety, the experts who live in the atmosphere of the laboratory and the gentlemen in general who insist upon shelving common sense in behalf of silly "discoveries," are now raising their voices against strawberries. Among the other charges brought against the lucious berry is, that it causes indigestion, a form of eczema, sulkiness, irritability and so forth. It is even asserted that there is such a thing as "the strawberry disease," the symptoms of which are a slight dizziness, a desire to be alone and an intolerance of being questioned. And what is worst of all, "the large, plump berries" are declared to be the chief features in this respect. We say "the worst of all," because the berries in question are our favorites and rejoice our souls and palates much more than the little skinny, seedy, harsh chaps that according to the Solons in question are comparatively harmless. Descending into particulars, these enemies to their kind—strawberry critics—declare that it is the acid of the fruit which does the harm and that no one should eat more than a dozen at a time! To ask a man to stop at twelve strawberries when he has before him a saucerful of ruddy, juicy and altogether seductive globes of deliciousness, is mere mockery, and we respectfully protest that the strawberry, especially when accompanied by thick cream and powdered

sugar is not a matter to be mocked at. Seriously though, these people who are always warning us against those things that the natural instinct of humanity delights in, and that Nature has intended to take a specific place in the economy of diet, work mischief in more senses than one—medical faddists who undertake to over-rule an elementary instinct of dietetics and grossly libel a healthful fruit.

Good for Kansas

The State of Kansas has produced many things which have called public attention to it and its citizens. From a time that it was known as "The Dark and Bloody Ground," down to the days of Mrs. Mary Lease and Populism, it has always managed to keep itself in the limelight. And, that too, in some cases, by means that to outsiders seem to be eccentric, rather than admirable. Nevertheless, the Kansas character—and the term is used in a broad sense—is of a most desirable sort and its little peculiarities as made manifest in its people and politics have been the outcome of an exuberance of vitality, mental and physical, rather than a weariness of brain or a debility of the body. So it is that she is a Prohibition State; she has successfully fought the Standard Oil Trust, and the broad stretches of her prairies, with their pure air and manhood-making farms, more than offset her minor weaknesses, her jack-rabbits, sage brush and other trivialities. All this is pertinent to a recent bulletin of the Kansas State Board of Health, on the first page of which appears a statement, which we believe is typical of the State in general, and which is as follows: "The best natural disinfectant, is sunshine; the best physical disinfectant, is soap; the best moral disinfectant, is publicity. The first is dispensed in the daytime; the second, hard or soft, in cakes or cans, and the last in either articulate speech or in print. The latter is the most effective because of its inexpensiveness and far-reaching results."

We respectfully commend these words to our readers. There are sermons in them of the sort that are not usually preached by boards of health.

Internal Uncleanliness a Possible Cause of Homicide and Insanity

By W. H. BIRCHMORE, M. D. (In *American Jour. of Clin. Med.*)

BILIOUSNESS, melancholia, homicide—such is the observed sequence now—long seen but once utterly misunderstood by those beholding it. In truth the first of these is, in a sense, the cause of the other two, since biliousness is the name by which we designate the manifestation of deranged functions of certain organs, while melancholia is the manifestation of deranged function in that organ "which secretes thoughts as the liver secretes bile," and homicide is but the expression in outward act. Only recently have we begun to understand their relations.

What then is the primary stage of melancholia? Colaliam (*Archives de Neurologie*, No. 116) gives a very clear idea of his opinion: "In the majority of cases, and at this point all the writers agree, the physical symptoms put in an appearance before the mental upset. The melancholy springs from physical distresses, terrible depression throughout the body, weakness and weariness without the least effort, headache, muttering in the ears, vasomotor and digestive disorders, constipation, sleeplessness or deep slumber. The painful depression which invades the personality comes afterwards."

There is no difficulty in recognizing this condition; it is the secondary poisoning of the system; the unfortunate victim is intoxicated, drunk on the products of his own decomposition.

It has been shown by experts, that men have committed homicides in the first stage of this same poisoning, or drunkenness who, while legally responsible in the courts, were morally as irrational as any men could be to whom there had been given hashish without their knowledge. It was affirmed as a matter within the experience of all, that from time to time, cases appeared in which a man who was known to his neighbors, as one very careful of

his health, would suddenly commit homicide, or suicide. Especially often was this the case of a mother, whose suicide was accompanied or preceded by the murder of her child. The most of these cases were demonstrated by the clinical history to be cases of auto-intoxication (poisoning or drunkenness caused by the retained poisons of food), and there have been a number of "double suicides" from the same cause.

The evidence offered was simply overwhelming that madness, suicide and murder were absolutely the mental symptoms of the blood-poisoning by the substances circulating in the blood, and absorbed by the intestines.

The third stage of bile poisoning, is a condition when the poor sufferer is in fact an irresponsible victim, "intoxicated" in the true sense of the word, liable to commit a murder in a moment of bilious depression, under the delusion of persecution or suicide.

The real point of interest is, will the general practitioners come up to the line and do their whole duty? It should be a matter of obligation to every physician worthy of the name, to make his patients understand how serious is the matter. It is no easy task to educate a nation, yet the nation must be educated, not exploited. It is not a matter which the physician can treat with a light heart. I have known that when once the habit of this intoxication is established, often before puberty, it is never eradicated, but is only held in check. I have seen a child not ten years old who was already in the third stage of the disease, and in New York, the numerous child suicides show that the "mental manifestations" of this self-poisoning take the same form as in adults.

That the great increase in the number of suicides is directly due to the increasing number of these cases is not open to question in the opinion of experts.

The Editor's Viewpoint

How to Live a Hundred Years

Over-Eating and Longevity

Living on Two Cents a Day

What Physical Culture is Doing

Can We Eliminate the Lower Bowel?

EVERY intelligent man, by the time that he reaches middle age or a little later, begins to feel a certain amount of interest in the subject of longevity. The art of prolonging life has yet to be formulated into an accurate science. There is no definite data obtainable that can be used in connection with a search for a long life, though you will find all sorts of beliefs and notions expressed by those who have reached an unusual age.

HOW TO LIVE A HUNDRED YEARS

Some time ago, there was a club formed in New York City, every member of which believed it was possible to live a hundred years. They called their association "The Hundred Year Club." Not a great deal has been heard of the results of their researches, and the ordinary individual is still compelled to grope around in the dark when searching for information in regard to longevity.

Under right conditions, one should live to be a hundred years old. In fact, it should be only the beginning of a good, ripe old age. Throughout the entire animal world, you will find that the average life is five to six times the period that it takes to reach maturity. The average man could hardly be called fully grown until he is twenty-five; in some cases growth continues until he is thirty. Under proper conditions, therefore, man should live from 125 to 150 years.

The influences of civilization may be properly termed baneful, from birth to death. We are taken away from Nature; away from all or nearly all that is normal, and instead are surrounded by conditions and environments that are artificial and in consequence debilitating, and even debasing in a physiological sense.

Of course, the actual years of one's life depend somewhat upon inheritance. The more vitality one inherits, the longer will be his years, provided that ordinary care is taken of his body. For the body may be compared to a powerful yet delicately adjusted machine. Under conditions of perfect care, a mechanical device made by man will reach many years beyond that period which it would last if in unskilful hands. If it is ill-used, its parts allowed to rust, its age of usefulness will decrease materially. And so with the body. The body must be kept clean, internally as well as externally. External cleanliness is not sufficient. By internal cleanliness, I mean that care and diet and exercise which are necessary to maintain a proper activity of the various organs.

The body cannot be kept clean internally without proper muscular exercise. The circulation of the blood is accelerated by such exercise, and the body is strengthened materially through the same influence.

To keep young, to maintain life for a long period, the use of the muscles of the body is most essential. There is no need of being a strong man in the ordinary sense of the term. It means simply that you must keep the muscular system from weakening by giving it regular and intelligent use.

THE statement has been made that the average person "digs his grave with his teeth," and there is much truth in these words.

You might aptly compare the body to a steam engine, and food to fuel. Now, anyone is fully aware that if an engineer uses too much fuel, more than is necessary to secure a satisfactory degree of heat, the fire under the boiler is either smothered or else the heat becomes so intense as to injure the machine.

**OVER-EATING
AND LONGEVITY**

To a certain extent, the same results are brought about in the human body by over-eating. The stomach of each individual is capable of digesting a certain amount of food. From this amount, the greatest quantity of energy can be developed. But if food is taken in excess of it, the nervous energies of the body are called upon to eliminate the surplus. In other words, one actually wastes energy in ridding the body of the food that has been eaten beyond that which is actually required.

Over-eating is a sin, greater in its evil effects than the alcohol and tobacco curses combined. The harmful habit is to be found in every home, and has a damaging effect on nearly every human life. It wears out a man's body years and years before its time; it dulls the nervous and mental energies, weakens the vital organism, and brings about premature decline and decay in the life of nearly every civilized human being.

What does the average individual know of the requirements of the human body, as to character and quantity of food? He judges his requirements only by the capacity of his stomach. He has given little or no attention to the actual dietetic needs of the body, and in nearly every instance he eats, not all he needs, but all he can. And this habit exists practically all through life. It is a case of stuff, stuff, three times a day, almost from the beginning to the end! No wonder that the human organism wears out! No wonder that the average individual grows old before his time!

The intelligent man, owning a horse, carefully measures out a certain amount of food at each meal. He knows that if the horse were to be given all that he might desire, he would be incapable of doing his due share of work, and that he would be made sick. So much for our intelligence as manifested in feeding a horse.

Now if the same attention were given to the necessity of limiting the food of human beings, the years of life of the average individual would, I am satisfied, increase from twenty-five to fifty years, and perhaps in some rare cases to one hundred years.

If one desires to live well, and at the same time live long, the science of diet should be carefully studied. For it is well to remember that nearly all human ailments come from the inability of the stomach to properly digest the food that is "dumped" into it. I say "dumped," because it is a very appropriate word. Very few persons properly masticate what they eat. Two or three motions of the jaw, and the mouthful of food

is swallowed. And when this and various other evil habits with which human beings are afflicted are considered, it is really remarkable that so many manage to live beyond what might be termed middle life.

Though there is much harm done to the body through improper foods, there is no question that an excessive quantity of food is the greatest of all dietetic evils. When one feels the necessity of changing his diet, he will usually select some health food, or edible article he understands to be especially wholesome, and then imagine that he can use it in unlimited quantities.

Now, no matter how wholesome an article of food may be, if it is taken beyond your requirements, it turns into rank poison in the stomach or intestines. It is really far better for one to follow the ordinary civilized diet, with its meat and coffee and pie, than it is to select the most healthful foods furnished by Nature, and eat these foods to excess.

If you want to live to a good, ripe old age, begin right now to study the actual needs of your body. Begin to feed yourself scientifically. Give your stomach the same consideration as you would the stomach of your horse. Eat what you need, not all you can. Do this and you will be rewarded a hundred fold in increased mental and physical vigor, and additional years of life.

IN this age of extravagance, with such a vast multiplication of the wants of the average human being, it is probably a waste of time to discuss a cheap diet. In former issues of this magazine, I have endeavored to illustrate how one might live very cheaply and still satisfactorily nourish the body. But anyone who will give an

LIVING ON TWO CENTS A DAY

ordinary amount of attention to the matter of diet will really be amazed to know how cheaply he could live if he were compelled to economize.

Several years ago, I carried on an experiment for two weeks, during which period my food cost me only five cents a day, but I must say that this is luxurious compared to a diet which one might select if extremes of this character were required.

Now the cheapest and about the best food we have is wheat. The average man can be thoroughly nourished on a half a pound of wheat daily. In fact, some might not be able to eat and satisfactorily digest this amount. You can usually buy wheat for about one dollar a bushel. Thus you can see that the amount of wheat that you would eat during the day would cost you less than one cent. If necessary, I firmly believe that one could exist for an indefinite period without any other nourishment.

Wheat is a satisfactory food if eaten raw. Of course, I must admit that you must be very hungry for the saliva to permeate and make soluble the gummy substance of the wheat. The ordinary individual would have to fast some days before he would develop an appetite to enjoy raw wheat. But even when you cannot eat it raw, it can be soaked and is then much more tasty and easy to masticate. You can soak it over night and then pour off the water, though it would be better to merely add sufficient water to just moisten it, for when an article of food is soaked in water for any time a certain amount of the flavor is lost. After the wheat has been soaked in this manner, by adding olive oil or dates or raisins or some sweet fruit, you will find that

it will make a very palatable dish, the cost will be very small, and you will still have a very wholesome diet.

But if you do not like uncooked foods, then you can simply simmer the wheat—do not boil it—for from six to ten hours. Then you will have a splendid cooked food that will supply all your needs. It is really a pity that the information supplied in this editorial cannot be in the hands of every needy person. There is absolutely no excuse for anyone starving or even being poorly nourished when wholesome foods are so ridiculously cheap.

WE are publishing in this issue, a sample of the results that are brought about through the influence of this publication. We are engaged in the work of building human bodies. Men and women are made stronger physically and more superior mentally and morally because of the teachings of this magazine. There

WHAT PHYSICAL CULTURE IS DOING

is no force in this country at the present time, that is doing as much for the human race as the physical culture propaganda. Manhood and womanhood of the higher type are just now lamentably in the minority. Degeneracy runs rampant, especially in the large cities. Weakness and sickness are the rule. They are not the exception as they should be. We contend that there is no excuse for weakness, that sickness is simply a penalty exacted for sins against natural laws. We have published thousands of letters and we have many thousands more unpublished to prove beyond all possible doubt, that the influence of this magazine is beneficent in every instance.

We stand for the principles that lead toward the Higher Life. We stand for the code of morals which tends to develop, not only the highest degree of health and vigor, but which also yields the highest attainable degree of human happiness. The abuse of the body through the use of liquor, tobacco or by dietetic or other excesses yields only momentary pleasure. You pay back a thousand fold for any alleged pleasure you may gain through what may be termed unnatural habits of life. Mr. Walter C. Cory, whose photograph appears on another page, is a sample of manhood that can be secured through following the principles so emphatically advocated by this magazine. I do not mean to maintain that every man can obtain a physique of his proportions, but every man and woman may enjoy what may be termed exhilarating health. And it is only under such conditions that one can really secure all the attainable pleasure in life. Let the prudens prate to their heart's content. Let the tobacco dopes and the whiskey soaks criticize as much as they may choose, but physical culture and the principles for which it stands will be moving onward with gigantic strides after the cemeteries have gathered in the apologists for and the exponents of, these various evils.

I am quoting herewith from Mr. Cory's letter. It is interesting reading and it proves, in combination with his photograph, more than words can tell.

Dear Sir:—Enclosed you will find a photo of myself taken two months ago, which you may publish if you wish. I have been a constant and enthusiastic supporter and reader of your magazine for about six years and you can see what it has done for me. I still keep up my physical culture practices every day. I do not use liquor or tobacco of any kind. Weigh 160 pounds, am five (5) feet and seven (7) inches in height and thirty years old. Have been married two years and have a physical culture baby four months old and she is a fine young lady. My wife takes phys-

ical culture also. We are all three, very healthy and happy. I am sure that anyone that takes up physical culture as we have, will get the same results. I am very thankful for what it has done for me.

Yours truly,

(Signed) Walter C. Cory,

18th and Folsom Sts., San Francisco, Cal.

HORACE FLETCHER, who is looked upon as a mastication expert, has produced some very remarkable results from his various experiments. Although nearly sixty years of age, and at one time a sufferer from serious ailments, he is a young man in spirit and agility, and he claims that it is all due to his habits of thoroughly masticating every morsel of food.

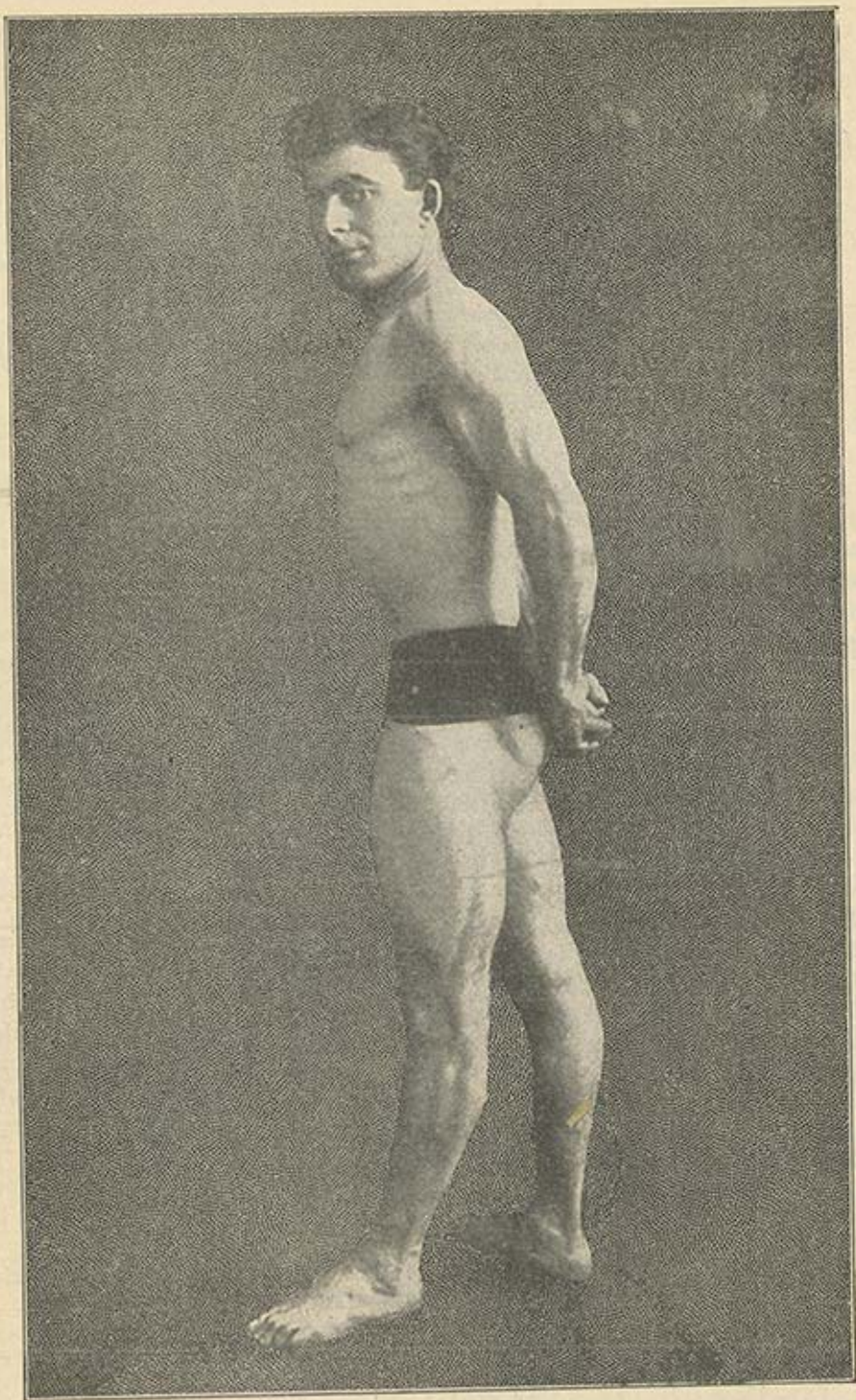
CAN WE ELIMINATE THE LOWER BOWEL?

Of course, we realize that there are many readers of this magazine who will claim that they do thoroughly masticate their food. But if they will compare their idea of mastication with that which is advocated by Horace Fletcher, they will probably discover that they hardly begin to masticate. Mr. Fletcher believes in masticating to what might be termed an extreme extent. A mouthful of bread, according to his theory, will take from one hundred to one hundred and fifty motions of the jaw to prepare it for swallowing; in fact, he does not believe in making any effort to swallow. He states that you must chew and chew your food until it becomes so liquefied that it actually goes down your throat without swallowing. He claims also that the average man will be thoroughly satisfied and properly nourished on one-fourth to one-half the usual amount of food that he consumes, if he follows this method of mastication. Thus you can see that his theories have an economical value, not only in a financial way, but also from a physical standpoint. You secure from two to three times the amount of nourishment from a similar amount of food. By nourishment, I mean the actual food that is assimilated; that enters into the circulation of the blood, and is used by the body.

But the most startling possibility that is brought to light by the experiments of Mr. Fletcher is the marvelous reduction in the amount of fecal matter that is eliminated from the bowels; in fact, it is so reduced when this habit of mastication has been continued for a time, that there is reasonable excuse for believing that if one would select only that quantity and quality of food necessary to nourish the body, and would masticate it even to a greater degree than advocated by Mr. Fletcher, the lower bowel might in time, become obsolete. Mr. Fletcher states that as a result of his experiments, when following his plan of mastication, there is but one movement of the bowels in about four days, and that the movement is no larger than an ordinary sized walnut. In other words, practically all of the food that he eats is assimilated and used by the body.

Is it not reasonable to conclude that scientific feeding would enable us to bring about the result referred to in the title of this editorial?

Bernarr Macfadden



Photograph of Mr. Walter C. Cory, of San Francisco, California.
(See Editorial on page 214.)