"Health Talks"

MUSCULAR WORK, APPETITE AND ENERGY.

(By G. Elliot Flint, in December Outing.)

There is an odd notion current that man is a kind of vessel, in some compartments of which he has a definite supply of energy; and it is thought to be of vital importance that he conserve this energy as much as possible. We hear constantly such phrases as "Saving the strength," and "Wasting the energy." Now, as a matter of fact, the free expenditure of energy and a considerable employment of strength are absolutely necessary for the existence, in any degree, of both. Naturally, there are gradations. One who expends little will possess little, and as he expends more will have more, provided he goes not beyond what his system can bear. The more energetic about us are, therefore, those who give out much energy; while those are least energetic, even when occasion requires action, who save themselves most. Though some persons are naturally more energetic than others, yet energy can be acquired by any sound man or woman, however indolent he or she may be naturally, just as easily as strength can be acquired: and, curiously enough, the only way to acquire it is to expend at certain regular intervals the little that one has.

If the above proposition seems strange, a little reflection will show any one that, as in physiology, the same principle holds good in finance. If one wishes to make money he must spend it, and, if his business methods are sound, the more the outlay the greater will be the return.

This is an age of overmuch conservation, so far as physical energy is concerned. A certain class work prodigiously with their brains, and utterly neglect all bodily exercises, and they expect to escape the consequences of this neglect by lessening their amount of food. But they deceive themselves. As the water in a pool which has no outlet becomes stale and at last foul, so the blood in man becomes foul when it does not freely circulate. Again, however trite the observation may seem, the fact in its practical significance is often lost sight of, that you cannot force new matter into a body from which the old matter has not escaped. There must be need and capacity to receive the new matter. It is by reason of this principle that men who do no physical work have poor appetites, and can hardly digest the little food they force into themselves. In contrast to these are those who take much physical exercise; they eat largely, and are benefited by their food, because there is previous need, manifested by a sharp appetite. Energy comes from food only if the food is appropriated after it has been digested; when there is no need for it, it is merely eliminated. So I repeat that to get energy we must give out energy.

We are told that we eat too much, that we can live on less food, and that therefore we should. But it is a serious thing to weaken the nutritive functions; and we assuredly weaken them by cultivating the habit of eating little. Rather should we sharpen the appetite by more work, and thus strengthen them. The writer has always found that, after any kind of hard physical work, he could eat hugely and digest perfectly. Laborers are usually large eaters, are not nice about quality, and, yet, rarely realize they have stomachs. The dyspeptic American needs not to eat less, but to work more and to eat more.

It is easy to cultivate a strong stomach, on the vigor of which our amount of energy depends, as it is to cultivate strong biceps. But our method should be the reverse of "babying" it. Not that I suggest indiscriminately overloading it with rich foods. There are plain foods, such as beefsteak, boiled rice and a variety of fresh vegetables, which, to the healthy appetite that has resulted from a proper amount of work, taste infinitely better than the so-called made dishes; and these should be eaten in quantities that completely satisfy. I do not believe in leaving the table hungry. I never do, and I am never troubled with dyspepsia; indeed, did I know nothing of physiology, I would not know there was such a process as digestion. Though these remarks are quite personal, my excuse for interpolating them is that I thought it might interest some to know the effect the practice of my dietetic beliefs have had on myself. Perhaps some will think that my digestion is naturally strong. But I assure them that the contrary is the fact. As a boy my stomach was so wretchedly weak that the simplest breakfast usually made me sick; and even as a young man my digestion was not specially good. Now, at the age of thirty-seven, I can eat anything, in any reasonable quantity, and digest it perfectly.

Statistics have shown the great value of abundant food. Dr. J. Robertson, an eminent surgeon of Manchester, Eng., has remarked that the families of working people, when well fed, maintained their health, surprisingly, even while living in cellars. And he observed that during four years of prosperity the number of fever cases admitted into the Manchester House of Recovery were 421 per annum, while in two pinching years 1,207 cases per annum were admitted.

The ultimate effect of curtailing the food supply is to weaken the stomach so that it cannot digest what it once could easily. Thus the source from which our energy is derived is weakened to our great detriment. Now as man is really no stronger than his stomach, and as "good digestion waits on appetite, and health on both," should we not rather seek to strengthen the stomach by giving it exercise, than to enfeeble it by dieting? I think we should, and I think that persons with common sense will agree with me; Chittenden, Horace Fletcher and other dietarians notwithstanding. Loss of weight is the first symptom of failing health; and cutting the food supply invariably causes loss of weight.

To develop strong muscles we train them gradually to do strong work. In the same way we can, by judicious care, accustom even a weak stomach to digest hearty meals. But we cannot do this by forcing into the stomach more food than it calls for; we must create the need of a greater quantity by a proper amount of bodily exercise. Of all cures for dyspepsia with its accompanying langour, exercise is the best cure I know of.

Many middle-aged women, who are rather stout, but young looking, diet with the idea of improving their appearance. But is their appearance improved by this method? They lose a few pounds, but their faces become haggard and wrinkled; and did they realize that their "Banting" had aged their looks about ten years, I think they would have remained as they were. In pronounced obesity the most effective remedy is exercise, gradually made vigorous supplemented by a change of diet, but never by semi-starvation.

We shall consider now what kind of exercise develops the most energy. The slight, muscular contractions of light exercises can be repeated successively many times; which shows that each contraction requires but little energy. On the other hand, heavy exercises, requiring as they do much energy for their contractions, cannot be often repeated successively. Whence it follows that only those who have much energy can perform the heavy exercises; whereas those with but little energy can perform light exercises. The exclusive pursuit of light exercises will, then, not form much energy, for the simple reason that it is not required. But any sound man can, by proper training, learn to perform heavy exercises, and these will inevitably form a large amount of energy, for did they not exercises could not be performed.

How this energy is produced in the latter case is interesting. When a considerable weight is lifted, or when the body's weight is raised high and thrown forward or backward by means of arms or legs, the muscles must be contracted powerfully through energetic explosions of the nervous force. Moreover, the circulation is greatly accelerated, particularly in the muscles used; and this devolves hard work on the lungs and heart. Thus do heavy exercises quickly deplete the body of energy. Then follows rest, which, if sufficiently prolonged, results in sharp appetite, eager digestion and quick repair. Ultimately the body becomes accustomed to, and easily capable of the heavy exercises; thus proving that it has acquired the capacity to form sufficient energy to meet the successive expenditures.

It is true that light exercises also, when prolonged, use up much energy, but the stimulation of the entire system being not nearly so intense as it is in heavy exercises, the bodily capacity of forming energy is increased by light exercises in a by no means equal degree. Long-continued light exercise, if repeated daily, uses up more energy than the body can form.

We see the above theory often exemplified. Postmen, who walk all day, are usually haggard and tired looking. Silkwinders in factories, whose days are spent in unremitting light toil, obviously lack energy. In fact all whose callings tax their endurance, and athletes who establish records in endurance tests, alike seem deficient in vitality and are rarely long-lived.

The exhilaration that is felt after vigorous exercise is altogether wanting after prolonged lighter work. What woman has not experienced the depression that follows a shopping tour, or the languor and ennui consequent on her eternal round of small duties? For such, vigorous exercise of any kind, performed, say, three times a week, would stimulate the formation of energy, and make their tiresome, but necessary duties, less exhausting.

It is a principle in physiology that the greater the muscular activity, the greater is the general organic activity that follows it; or, in other words, when exercise is vigorous, the formation of energy through the nutritive functions is very great; whence results an augmentation rather than a diminution of energy. But light exercise stimulates the organic functions not much more than no exercise; so, in this case, when much energy is used up, if exercise be prolonged, there ensues a depression, sometimes amounting to an almost complete exhaustion.

How long-continued light strain is more prostrating in its after-effects than a heavier strain can possibly be, may be seen by an illustration. Suppose a man "puts up" a five-pound dumb-bell until he can put it up no more. The effect in the muscles involved is to leave them not sufficient energy to raise the light weight of five pounds. But this effect cannot be attained by putting up a fifty-pound weight as many times as possible, for the muscles will still retain enough energy to put up immediately forty pounds. If this statement be doubted the "Thomas" can easily convince himself by trying the experiment.

To sum up: Light exercise, when prolonged, consumes much energy and forms less—in fact, can be carried almost to the point of exhaustion; whereas, heavy exercises, while they also consume much energy, form more, and absolutely cannot be continued until there is exhaustion, because such work, obviously, can be performed only by comparatively fresh muscles.

I have mentioned the above facts relative to the respective effects of light and of heavy exercises the more particularly because the latter do not hold the high place in modern physical culture that they deserve. Calisthenics and light exercises generally have a value; but the claims made for them as regenerators of mankind have lately become so absurd that it is well to know their limitations.

Still another effect of prolonged light exercises or exercises of endurance deserves mention for its important bearing on the general health. Using the muscles of course draws the blood to them away from the internal organs. Now this does not affect deleteriously the internal organs unless the muscles are employed too constantly. But if muscular work be continued for several hours each day—and only comparatively light muscular work can be so long continued—then these organs do suffer, and this is detrimental to health; for health depends far more on the organic than on the muscular strength. This (organic deterioration due to too-prolonged muscular work) is probably one reason why many athletes who place a high value on feats of endurance, die young.

That I may not be misunderstood I shall now say plainly what I mean by "heavy work." Certainly I do not mean work requiring excessive strain. In dumb-bell exercise there is no weight which I would advise all, or even the majority of persons to use; for what would be a proper weight for one would be not proper for another. Here, however, is a rule which every reader may apply to his particular case. Whether you raise two weights to the shoulders and put both up simultaneously to straight arm above the head; whether you "see-saw" them—that is, put up each alternately, lowering one as you raise the other; or whether you put up a single weight with one arm; use weights with which you can repeat the movement successively about five times. Such a weight will be neither too heavy nor too light, and there will be little danger of overstrain. Increase the weights as your strength increases, and you will soon grow strong enough to perform with ease exercises requiring considerable strength. If a chest-weight is used—and this apparatus is especially suited to women and children—repeat each of the various movements, which can be learned from pamphlets describing them, from fifteen to twenty times. When you can repeat more than that number of times make the weights heavier. The many exercises on parallel, and horizontal, bars are also excellent for developing strength and energy, as the raising and propelling of the body's weight necessitates strong contractions.

We come now to the usually neglected, but really the most important, part of physical culture as it relates to the formation of energy—namely, rest. Very vigorous exercises should not be repeated daily. One hour and a half a week distributed in half hours on Mondays, Wednesdays and Fridays, or on Tuesdays, Thursdays and Saturdays, is not only amply sufficient, but will produce the best results. But when you work, work. Don't play at calisthenics, or at heel-and-toe drills. But always after the heavy work go through some active, quick movements for a few minutes, such as running, boxing, or punching the bag.

Strenuous exercises, as I have said, necessitate a large expenditure of energy; but they also favor the after formation of as much, or more energy than that used. Thus, during the alternate days of rest, particularly during the two full days of comparative rest, the natural vigor of the system, much augmented by the hard, regular exercise, easily forms more than enough energy to meet the next expenditure. Furthermore, in the days of comparative rest, the blood, enriched by the digestive processes which have been made more vigorous by the half-hours of sharp work, is not drawn from the internal organs, which consequently derive the full benefit of the blood's increased nutritive power.

Surely such a result is worth while! The plan saves time (any man can snatch an hour and a half a week from his duties), keeps exercise from becoming monotonous, and benefits health as much as it increases strength. By thus exercising and resting there is at no time a depletion of energy—"staleness," but always a feeling of well-being! We entirely miss the languor due to the lowered vitality resulting from constant, grinding, muscular work; and these benefits with no interference with other important duties! For illustration, what bounding energy is manifest in the horse that has remained in the stable a day, as contrasted with the spiritless nag that plods the same weary round daily.

The above simple system of training has enabled the writer to retain his full muscular power for the past twenty years—a long time to keep in condition; and what he has done almost anyone can do.

Then, when we consider that by accustoming the body to withstand hard work, we thereby render its ordinary duties far easier of accomplishment, besides making it fit to undergo the strain of prolonged mental labor, we are perforce impressed with the great value of a system which has the added distinct advantage of exacting a very little time.

As to the amount of work necessary on exercising days; that will depend entirely upon the strength and endurance of the subject. A safe general rule is to discontinue any exercise as soon as the muscles have become too tired to perform it vigorously. After a rest of a few minutes, the exercise may be resumed, and continued until the muscles again begin to tire. Exercises, interrupted by rests, may be renewed until a point is reached when the muscles feel tired at the very commencement of the exercise; at that point stop for that day. If you do not, you will lose at least what you have gained, and perhaps more.

The Hoisting of Charlotte.

(For the True Witness.)

I stood and watched the old bell rise
To her appointed place;
All blest' by consecrated hands
The gothic tower to grace.

Dear thoughts of other days returned,
And present work beguiled,
I paused, and, in a vision saw,
Myself again a child.

What memories of golden days
The old bell brought to me!
What memories of dead and gone—
A priceless legacy!

How oft' I heard the sound and knew
The meaning of the voice:
How oft' I felt within myself
The call—Rejoice, Rejoice!

And yet, again, I heard the call,
The mournful tone of woe,
The dead in Christ borne forth to rest,
And knelled: "It must be so."

Through centuries of strife, Charlotte,
And centuries of Peace,
Your message never failed in this—
A Heavenly increase.

So may you be enthroned aloft
Through centuries yet unread,
When souls who love thee with rich love,
Are with the blessed dead.

B. F. D. DUNN.

Dec. 21st, 1908.

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Franciscans to Issue Dictionary of Navajo Language.

The Franciscan Fathers at St. Michaels, Arizona, near Gallup, propose issuing in the near future a dictionary of the Navajo language, upon which they have been engaged for the past ten years. The book, besides containing a vocabulary as complete as it is possible to be obtained, will also have a series of articles on Navajo religion, ceremonies, arts and industries, each to be followed by a list of Navajo terms employed, with more or less detailed explanation. The descriptive text will comprise articles on industries, weaving, dyeing, silver working and basket making, also lists of Navajo names of persons and places and names of plants and animals. This book, when issued from the press, will likely be very much in demand by students of Indian lore, as it will be a great step toward unraveling the early history of the Navajos. It is hard to realize the immense amount of work expended on a work of this kind. The language of the Navajos is a very difficult one to acquire, owing to there being no distinct pronunciation of the words, a gutteral sound predominating.

Time Has Tested It.—Dr. Thomas' Eclectric Oil has been on the market upwards of thirty years and in that time it has proved a blessing to thousands. It is in high favor throughout Canada and its excellence has carried its fame beyond the seas. It has no equal in the whole list of liniments. If it were double the price it would be cheap as a liniment.

Joan of Arc Beatified.

There was an impressive ceremony at the Vatican upon the occasion of the reading of the Beatification Decrees conferred upon Joan of Arc and thirty-six French missionaries who met the death of martyrs in China. The reading of the decrees took place in the presence of the Holy Father and many high prelates. The decree in the case of Joan of Arc recited the details of three miraculous cures in the years 1891, 1893 and 1900. Following the invocation to Joan of Arc, Pope Pius delivered an address extolling the faith of Joan. "She was called by God to defend her country," said His Holiness, "and accomplished a feat that the whole world believed to be impossible. That which is impossible to man alone and unaided, can be accomplished with the help of God. The power of the evil one is in the feebleness of Christians."

Turning to the French prelates, the Pope continued: "When you return to France, tell your fellow-citizens if they love France they should love God, the faith, and the mother Church. Let them remember Joan's cry, 'Long live Christ and the King of France!'"

The Holy Father expressed the deep conviction that France, through divine intercession, would return to the bosom of the Church, saying that the intercession of the new saints strengthened him in this belief.

Negresses as Nuns.

It may come as a sort of revelation to many readers to learn that at the present day there are almost two hundred colored nuns laboring on behalf of their own people in the United States. And it may surprise them still more to be told that one of these two orders, the Oblate Sisters of Providence, has been in existence as a community since the year 1829. This is remarkable when we remember that this was in slavery days, in a slave state.

To-day the Oblate Sisters have about ninety members. They conduct orphanages and day schools in Baltimore, Normandy, Missouri, St. Louis, Leavenworth, Kansas; a parochial school in Washington, D.C., and a day school in Havana, Cuba. They have over two hundred orphans under their care and five hundred pupils in their schools.

The present Superior, Mother Mary Magdalen Cratin, is a woman of remarkable intelligence and administrative ability, and under her enlightened rule the work of the order has wonderfully advanced.

The Congregation of the Sisters of the Holy Family was the second order founded (in 1842) for colored women. The motherhouse of the order is in what was formerly a notorious dance hall in New Orleans, where now constant prayer to God and the practice of good works make it a hallowed place. The Sisters number about eighty souls. They have an academy for girls in New Orleans and teach in the schools of the cathedral parish, St. Maurice's and St. Bernard's, in the same city. They are also in charge of St. John Berchmans' asylum, and Lafon's Orphan Asylum, New Orleans, besides teaching in parochial schools in other portions of Louisiana. Mother Mary Austin is their General Superior.

Synopsis of Canadian North-West HOMESTEAD REGULATIONS

ANY even numbered section of Dominion Land in Manitoba, Saskatchewan and Alberta, excepting 8 and 26, not reserved, may be homesteaded by any person who is the sole head of a family, or any male over 18 years of age, to the extent of one-quarter section of 160 acres, more or less.

Entry must be made personally at the local land office for the district in which the land is situated.

Entry by proxy may, however, be made on certain conditions by the father, mother, son, daughter, brother or sister of an intending homesteader.

The homesteader is required to perform the conditions connected therewith under one of the following plans:

(1) At least six months' residence upon and cultivation of the land in each year for three years.

(2) If the father (or mother, if the father is deceased) of the homesteader resides upon a farm in the vicinity of the land entered for, the requirements as to residence may be satisfied by such person residing with the father or mother.

(3) If the settler has his permanent residence upon farming lands owned by him in the vicinity of his homestead the requirements as to residence may be satisfied by residence upon said land.

Six months' notice in writing should be given the Commissioner of Dominion Lands at Ottawa of intention to apply for patent.

W. W. CORY,
Deputy Minister of the Interior.

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