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Lectures, Speeches, Notes, and Articles, ca. 1890-ca. 1943
(undated by topic)

Longevity
Longevity

"In the London Times, 1925, there were reported the deaths of 352 persons of over ninety years of age. Of these 104 were men and 278 women; of the latter 153 were married. The number of those who reached a century was twelve; of these only one was a man, the eldest being a married woman of 104. Ten others, one man, were ninety-nine. Besides the above named, 109 attained their ninetieth year. The number of centenarians whose deaths have been reported in the Times during the past eleven years is 3,535, the great preponderance being females, of whom a very large majority were married. The centenarians for the same period number sixty-seven.

"The oldest freeman in the United States in 1925 was 107, as also was a lady who died during March in Nova Scotia. The senior man in Canada lived to be 108 and died in June. But the 'pride of place' in 1925 must be allotted to Charlotte Nava, who died near Pau, aged 110, of whom it was stated that she had been a servant in the Bovis family for ninety-eight years. She had never had a serious illness.

"The first census of Persia, which has just been completed, reveals an unusual longevity among the peasantry of the country. In one village at the foot of the Alwand Mountains lives a woman by the name of Mina, who is 146 years old and has a son 117. It is stated that these hardy mountaineers, living in extreme poverty in ramshackle huts, live principally on bread and milk, with meat a rare article of food."

Longevity

MADEWELL BOND
The human race is dying.

The record of the earth's crust shows that hundreds of races and species of animals and plants which have once lived have disappeared, leaving behind them only the fossil remains of what were once towering forests, great herds of gigantic beasts, or incoming millions of smaller forms, because the conditions of life upon the planet so changed as to be incompatible with their physical well-being. In other words, their environment became unnatural, and hence unfavorable, unfriendly, destructive, fatal.

Peary and other explorers have found abundant remains in the North Polar regions of rich tropical climate to perpetual snow and ice has killed off the splendid creatures which formerly peopled this region, and has reduced to penguins the great penguins who, according to the recent discoveries of Nordenskjold once marched tall as men in solemn procession along the sun-kissed shores of this now frozen and deserted land. Pigmy musk oxen and the penguins seem to be the sole survivors of the old days when palms and ferns and orchids flourished at the poles, while monkeys and parrots chattered in the coconuts trees, and elephants and mammoths grazed on the hillsides.

The human race appears to be undergoing the same process of degenerative change which has exterminated these thousands of living species. By his intelligence man has been able to escape destruction through those great cataclysms of nature to which other species have succumbed. By the invention of clothing and houses, and the discovery of fire, he has kept himself alive in spite of the snow and ice and blizzards of the glacial period, although naturally a creature of the tropics, and an open-air dweller.

But the life of the mole and the cave bear, shut away from an abundance of oxygen and sunshine, does not agree with him. Life in the
shadow has bleached his skin, and through this has damaged his kidneys and his liver. He has nearly lost his sense of smell,—once an invaluable guide in the selection of his food. Most of his divinely implanted instincts whereby he was able to avoid and defeat the enemies of life and health have been lost or so perverted as to be no longer of service, or even a menace to his welfare.

In other words, man has lost his horse sense. He finds himself thus in a wilderness of unnatural condition, an inharmonious environment, like a mariner lost in mid-ocean without chart or compass.

With instinct dead, man has used his intelligence in some part wisely in his effort to adjust himself to the new conditions of existence which confront him; but, unfortunately he has also unwisely created for himself artificial conditions and relations of a most dangerous and destructive character. Naturally an eater of nuts, and fruits, and seeds—"And God said, Behold, I have given you every herb bearing seed, which is upon the face of all the earth, and every tree, in the which is the fruit of a tree yielding seed; to you it shall be for meat" (Gen. 1:29),—he has added to his dietary the bills of fare of the whole animate creation. He eats all eatables, and eaters of eatables as well.

More than this he drinks tea, coffee, cocoa, mate, and alcohol, when the only proper drinks are water and fruit juices. He smokes, chews, snuffs, and "Dip" tobacco. He has added to all these banes the patent medicine habit, and dissipates in a thousand ways which he fully knows are not good for him. He lives a most unwholesome life. Man cultivates disease and then pays doctors for curing him by means which often create new maladies.

As the result, we see a race of pigmy men, hastening like the sad-faced pigmy penguins, toward race extinction. Here is something of the record:—
Insanity has increased 300 per cent in fifty years
Idiocy has increased 300
Epilepsy has increased 300
Chronic inebriety has increased between 200 and 300 per cent in fifty years.

Bright's disease increasing 527 per cent in fifty years
Diabetes increasing 1459
Cancer increasing 305

Crimes of all sorts increasing
10,000 murders a year in the United States
Divorce increasing
Prostitution increasing

All drug habits increasing.

The race is sinking. There can be no doubt of it. The city population is sinking faster than the country, but the country is being deserted for the town.

The race is sick. Race degeneracy is the disease. Unnatural habits and appetites and unwholesome indulgences are the cause. Man has lost his way on the great highway of existence, and is wandering in by and forbidden ways. He has forsaken the "old paths" and is traveling down the Jericho road. Thieves beset him on every side. He is robbed and beaten at every turn. Good Samaritans are needed to bind up the wounds and to restore the "paths to dwell in."

The only salvation for the race is to be found in a return to nature, to simplicity and wholesomeness. It is necessary to return to savagery. Savagery is not man's natural state, but the savage is nearer to nature by far than is the degenerate aristocrat who smokes cigarettes and mines on dead bodies. "The simple life" in its true and broadest meaning in the only way and the sure way of escape from the appalling catastrophe which to-day threatens the race in every civilized country of the globe.
The natural laws in relation to our being are not easy to find when we study man in his civilized and artificial conditions, because, as the Bible says, man has "sought out many inventions." And these inventions are not by any means all good ones. When we find men living in natural, normal conditions, we find their habits are extremely simple—simple foods, and simple ways,—everything is simple. Life is not complicated as it is in our civilized communities. The life of a squirrel, for example, how simple it is so far as its physical wants are concerned, how easily they are satisfied. The life of any other wild creature—how simple it is. They live in the open, fresh air. They find their food presented to them at the hand of nature; they take it as presented, they are satisfied, and they are well. Wild animals are, for the most part, healthy, and free from disease.

And Wild Men Are Healthy

Domestic animals and domesticated men are full of disease, and the more thoroughly domesticated they are, the more thoroughly civilized, the more diseased they become. Diseases have multiplied right along with civilization. There is something unnatural about our modes of life, and we must make a change if we hope for better things. If we find ourselves ill, because of our perversions, then we must change our habits and reorganize our mode of life, if we desire to get any better and to remain any better.

This is quite important, because so many people think a visit to the Battle Creek Sanitarium will make them all right again, and then they can go back to their old ways. A man said to me some time ago, "I am prepared to do anything you will tell me to do; I will eat anything you want me to eat; I will even eat sawdust; but at the end of six weeks I am going home; and when my time is up I want to be able to go home and eat anything that I want to eat, and do anything I want to do." I replied, "I am not interested in your case at all.
-2.

You want me to coach you up to your old sins; you want to go back to your old habits again, and you want me to help you to violate the laws of health, which I consider to be God's laws. You might just as well ask me to coach you up to burglary or something else. I do not propose to do it. If I undertake your case, you must promise to turn over a new leaf, to reform. No more tobacco, no more liquor, you must make a thoroughgoing reform; then we will do all we can to build you up and help you to get well."

When God put man into the world he told him what to eat. He soon began to eat other things. It was in the matter of eating that he first set his will in opposition to the will of his Maker. Some say it was eating an apple; but we have no statement to that effect. It was the act of disobedience rather than the fruit that produced dire results. Man followed in the path he had chosen and began to eat flesh.

After the flood, permission was given to eat meat, and you know what a dropping off there was in length of life. Noah lived nearly a thousand years. His sons lived only six hundred years; and eight generations afterward Abraham lived but one hundred and seventy-five years. In a short time the ordinary space of life was only three score years and ten, and now it is only forty-five years instead of seventy.

The Abbreviation Of Life came on with meat-eating. People used to smile when I talked about that, but there are not so many people who smile now as used to, because it has been proven to be true. Metchnikoff has written a book on the nature of man, in which he shows that because food putrefies in the colon, and so much poison is thus produced, the individual's life is shortened by chronic toxemia. It is those poisons absorbed from the colon and the intestine that produce old age; and many others
Metchnikoff is the philosopher-bacteriologist of the Pasteur Institute who has largely succeeded to the place formerly filled by the founder, Pasteur, in this great institution from which such a vast flood of light of the greatest value to human welfare has shone forth upon the world.

Although the name of this great savant has not yet become so universally a household word as the name of Pasteur, yet he has already contributed so many facts of the highest value to medical science and to hygiene that history will certainly record him as one of those whose lives have been epoch-making events.

For many years Metchnikoff has been making a study of the question of longevity. He has asked many questions in relation to the length of human life, and has brought his wide learning and profound knowledge to bear in seeking the answers. In a book recently published by him, "Essais Optimistes" (Optimistic Essays), he has recorded a multitude of exceedingly interesting facts which he has gathered, together with the results of his own personal researches and experience. We summarize in this article some of the more striking and practical of these facts and the conclusions to which they lead:

IS MAN NATURALLY LONG LIVED?

The first inquiry made by Metchnikoff is this: Is man naturally a long-lived being? If so, about what is the limit of his life?

In studying the various races of man, it is found that the proportion of aged people differs greatly. For example, no very old people are to be found among the natives of Malaysia; but a very good reason for this exists in the fact that it is a custom among these barbarous tribes to bury alive their old men and women when they
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become incapable of useful work.

The natives of Terra del Fuego go a step further. When threatened with famine, they kill and eat their old women rather than sacrifice their dogs, because "the dogs catch seals, while the old women do not," as they naively expressed it to a traveler.

While these practices do not prevail in civilized lands, other causes are in operation. It is noted that suicide occurs nearly twice as frequently among persons over fifty years of age as in persons under fifty. At least this is true in France. Other causes also contribute artificially to diminish the number of old persons, for instance the greater frequency of violent deaths among the aged.

Nevertheless, so many examples of great age are to be found, especially in certain nations, that it can not be believed that seventy to eighty years is the natural extreme limit of human life.

In Greece there is found to be one centenarian in every 25,641 inhabitants, while in France the number of centenarians is only one in 219,940 inhabitants, a very striking difference. Metchnikoff cites a number of interesting examples of great age, among others Kentigern, or Saint Mungo, of Glasgow, who died at the age of 185 years in A. D. 600; Pierre Zortay, of Hungary, who was born in 1539 and died in 1724, thus reaching nearly two centuries; Drakenberg, of Norway, known as "the old man of the north," who died in 1772 at the age of 146 years. The author also mentions Thomas Parr, the Englishman who is reputed to have lived 152 years and 9 months. A number of examples are cited of persons who have lived to the age of 120 to 140 years.

It is noted that the greatest number of old people are to be found among the inhabitants of the Balkans, who in a comparatively small population number over five thousand centenarians.

Metchnikoff has studied the question of old age in lower animals
as well as in man, and even in vegetables. He gives a picture of a mule aged 37 years, showing all the evidences of old age; of a goose 25 years of age; and of a turtle aged 150 years. Horses have been known to attain the age of 60 years. "In General," says Metchnikoff, "Herbivorous Animals live longer than carnivorous animals."

Some animals of the lower orders, as well as higher animals, are found to live to a great age. A sea anemone has been known to live in an aquarium 66 years, while a polyp lived in an aquarium at Hamburg a still longer time. Some mollusks (Tridacna gigas) lived 60 to 100 years. Even insects are sometimes long lived, as the seventeen-year locust. Some fish have been known to live a century, and Gessner tells of a pike which lived 267 years. Buffon believed that carps lived to the age of 150 years. Frogs live 12 to 16 years, and toads have been known to live 36 years. A turtle from the islands of Galapagos lived 175 years.

Parrots often reach the age of nearly a century. Swans have been known to live to nearly the same age. The eagle and the falcon have also been known to reach a century or more. Elephants live from 80 to 150 years. The rhinoceros is almost equally long-lived. The ox lives 25 to 30 years, and camels a few years longer. A dog is old at 10 or 12 years, and dies at 16 to 18 years. Cats attain about the same age. A cat owned by Metchnikoff died at 23 from cancer of the liver. Rabbits die at 10 years, and guinea-pigs at 7. Mice rarely live longer than five or six years.

Many examples of still greater length of life are cited from the vegetable kingdom. The Sequoia gigantea, according to the American botanist Sargent, has a life of 3,000 to 5,000 years. Adanson observed a baobab tree which he estimated to be over 5,000 years. The celebrated cypress of Montezuma was believed to be nearly 2,000 years old, and another cypress tree in Oaxaca, Mexico, still older.
"MAN DOES NOT DIE; HE KILLS HIMSELF."

The fact that certain individuals of different species of animals and widely varying orders of plants may attain to such great ages, is regarded as evidence that natural death is a rare circumstance, especially among human beings, and that death usually comes as the result of some departure from the normal conditions of life. As another eminent physician says, "Man does not die; he kills himself."

Metchnikoff has perhaps studied this question more profoundly than any other philosopher who has ever lived. He has arrived at the conclusion that the cause of death, in human beings at least, is the failure of the body to eliminate the poisons which are the natural result of the various bodily activities. A locomotive, when actively at work, produces poisonous residues in the form of ashes and smoke. The same is true of the human body. So long as these poisons are eliminated as rapidly as produced, the body may continue its work, provided, of course, its activity is not interrupted by external violence of some sort.

These poisons are chiefly carried out through the lungs and the kidneys. Some portions escape also through the skin and the intestines. So long as these important emunctories continue to perform their duty perfectly, the machinery of life runs on smoothly, without friction, and apparently without wear; but as soon as these doors for the exit of body poisons begin to close, so that the accumulation of the body wastes begins, a deterioration of the living cells of the body is set up which develops gradually, and slowly or rapidly according to the rate at which poisonous wastes accumulate. Most important of all the means of exit for the body poisons are the liver and the kidneys. Failure on the part of these organs is quickly followed by general degeneracy and death.
But accumulation of poisonous wastes, according to Metchnikoff, is not the immediate cause of old age, but only a predisposing condition. The actual degeneracy of the tissues is due to a destruction of the tissue cells by wandering cells found in the body and which he describes as macrophages.

These cells move about from place to place, and while the body remains in its normal condition, devote their energies to the destruction of waste particles, organic debris. They, in fact, play the role of scavengers, like the turkey-buzzards which regularly visit the backyards and alleys of tropical cities to consume the daily accumulating refuse.

So long as the macrophages confine themselves to this work, all is well; but when the vigor of the body cells has been reduced by the accumulation of tissue poisons, these scavenger cells attack the living tissues and actually destroy them. This is one of the remarkable discoveries which Metchnikoff has made in relation to the causes of premature old age.

The practical question which the philosopher asks himself is, How may this attack of the macrophages upon the living cells be prevented? We can not attack the macrophages, even if this were desirable, without at the same time doing damage to the body itself, for these cells are more hardy and vigorous than the higher cells by which the bodily functions are performed, so that whatever means might be brought to bear to weaken the attack of these cells would to a still greater degree damage the body itself. The only direction in which we can hope for success in the attempt to prolong life is in giving attention to those predisposing causes which weaken the vitality of the higher body cells and thus expose them to the attack of the macrophages.
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LONG LIFE MUST BE A SIMPLE LIFE.

Here Metchnikoff opens up before us a great field for thought and study. If we would prolong human life, we must make the conditions of life such that the premature accumulation of body wastes or poisons shall be prevented. Life must be simple and natural. It is evident, then, that we must first of all avoid the introduction of poisons into the body. Metchnikoff points out the evils which may result from the long-continued use of even such mild alcoholic beverages as kumyss and kefir, which contain only one per cent of alcohol.

Illustrating the importance of temperance, he mentions the case of Mademoiselle Nausenne, who died at the Hôpital Dinay of Paris in 1756, at the age of 125 years, and who gave her sobriety as one of the secrets of her long life.

Metchnikoff also cites the case of Dr. Weber, of London, a physician who at the age of 83 years was still vigorous and actively at work, and quotes the following rules for long life laid down by this eminent physician as the result of his own practical experience:

"It is necessary to preserve all the organs in a state of vigor. Morbid tendencies, whether hereditary or acquired, must be recognized and combated.

Moderation must be exercised in eating and drinking as well as in the gratification of other bodily appetites.

One must breathe constantly pure air.

Physical exercise of some sort must be taken daily. In many cases breathing gymnastics, walking, and hill climbing are essential.

It is important to retire early and rise early. Sleep should not exceed six or seven hours (?).

The body should be well rubbed or bathed daily. The water employed may be cold or hot, according as it seems most comfortable.
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Sometimes alternations of heat and cold may be employed.

"Regular work and intellectual occupation are essential.

"It is necessary to train one's self to enjoy life, to maintain tranquility of mind, and to cultivate hope. On the other hand, the passions and violent nervous excitations must be combated.

"The will must be strongly exercised in the direction of the conservation of the health, and the avoidance of alcoholic liquors and other stimulants as well as narcotics and pain-relieving drugs."

A temperate life is, then, according to Metchnikoff, the means most essential to longevity.

DIET AND LONGEVITY.

Coming to greater detail, attention is especially directed to the diet as having a direct bearing upon the length of human life. While it is noted that certain flesh-eating birds, as the eagle and the falcon, are very long-lived, attention is called to the fact that carnivorous animals in general are short-lived; and the reason for the greater longevity of carnivorous birds is found in the fact that flesh-eating birds have a very short colon,---special study of this subject showing in general a direct relation between the length of life and the length of the colon,--the longer the colon and the longer the retention of fecal matters in it, the shorter the length of life.
The reason for this interesting fact Metchnikoff finds to be the enormous development of poisons by germs which find entrance to the colon, take up their abode there, and subsist upon the remnants of foodstuffs which have escaped digestion. Strasburger claims to have proved that some trillions of bacteria are discharged from the colon daily. Nearly all of these produce poisons, some of which are highly deadly in character.
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IS THE COLON A SUPERFLUOUS ORGAN?

The most important problem, then, according to Metchnikoff, is how to prevent the development of these poisons in the colon. So great importance does Professor Metchnikoff attach to this matter that he even intimates that the colon is quite superfluous, and that man would be better off without it. He cites the case of a woman who lived 37 years without a colon, and mentions several persons whose colons have been eliminated by surgical procedures, and who have recovered health by the operation.

Since the colon can not be removed, however, the practical problem is how to avoid the evils which result from the petrefactive processes which take place in this capacious organ. Since these mischiefs are due to the growth of germs, the remedy which naturally suggests itself to a bacteriological specialist is to find some harmless or comparatively harmless germ with which the poison-forming germs may be combated; in other words, to fight germs with germs.

After much study and research Metchnikoff believes he has found the required beneficent germs in various lactic-acid-forming microbes, particularly a special microbe known by the name of paralactic bacillus.

This bacillus grows in milk, and in growing produces large quantities of pure lactic acid. It does not decompose fats or produce alcohol. Milk is first sterilized by boiling for a few minutes, then allowed to cool, and a quantity of the ferment is added. In a few hours a pleasant sour taste develops. A pint or a pint and a half of this sour milk is taken daily. By this means large quantities of the acid-forming germs are taken into the intestine, and by degrees the poison-producing germs are driven out; thus a more normal condition of the blood and of the body is maintained. The work required of the
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kidneys, liver, and other excretory organs is lessened, and the vigor of the living cells is maintained so that the macrophages do not attack and destroy them.

Incidentally Metchnikoff presents a strong argument against the use of flesh food. He calls attention to the fact that a South American bird which lives upon bananas and other fruits is exceedingly long-lived, and also mentions that the fecal matters produced by this bird are entirely free from putrefaction, and have even the fragrant odor of the apples and bananas upon which it feeds.

LIFE-SHORTENING FOODS.

While the plan proposed by Metchnikoff for overcoming the inconvenience of having a capacious colon possesses evident practical advantages as a measure for general use when it has once been introduced, it is evident that a still better plan is to be found in the elimination from the dietary of those substances which naturally promote the growth of germs in the colon. There are certain foods which are well known to have this character. Metchnikoff calls attention to the danger of using raw milk because of the great number of colon germs and germs of various sorts with which raw milk is always contaminated. Cheese and even ordinary sour milk is shown to abound with germs of different kinds. Such foods encourage the growth of germs in the colon in enormous quantities, not only by introducing dangerous germs, but by supplying the material upon which they rapidly grow and from which they are able to produce the most deadly poisons.

But the substance which constitutes the most suitable food for these poison-producing germs, and in which they develop with the greatest rapidity and produce poisons of the most deadly character, is the flesh of animals. Thus it is that animal flesh becomes so quickly putrescent, offensive, and poisonous when left to itself after the
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death of an animal. The conditions of warmth and moisture afforded in the human colon are those which in the highest degree promote putrefactive processes; hence flesh is of all substances the best calculated to encourage the conditions in the colon which Metchnikoff has shown to be the chief cause of old age, not only in man, but in other of the higher animals.

One of the best means of fighting old age, then, will be found in wholly eliminating from the dietary those substances which encourage the growth in the colon of germs which poison and destroy the body, and substances which add unnecessarily to the labor of the liver and kidneys. To the list of dangerous foods, including raw milk, cheese, and meat preparations, must also be added eggs, especially when eaten in the ordinary way. Undigested portions of hard-boiled eggs lying in the colon furnish the very best sort of food for old-age-producing germs. Mustard, pepper, vinegar, excess of salt and other condiments, as well as alcohol, must be added.

The vegetable world affords an amply sufficient variety of fruits, cereals, legumes, and green vegetables to support human life under the best possible conditions without involving the risk of poisoning the body and shortening life which necessarily accompanies the use of the flesh of animals, and which is even connected more or less closely with the use of animal products of all sorts. That milk, especially when boiled and fermented with the paralactic bacillus, and also eggs, may be used in moderation, will not be denied, and there are doubtless many persons who in abandoning a flesh diet may find more or less essential the use of such proteid foods as milk and eggs, but many persons certainly profit by avoiding these foodstuffs.

It is evident from these profound studies of Metchnikoff that the
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nearer man can approach to the bill of fare for which according to Moses, was originally laid down for him by his Creator, the longer he will be able to live and the freer he will be from disease.
MORE THAN TWO HUNDRED YEARS OF LIFE
FOR MANY A BABY IN 2000 A. D.

"We may predict with more certainty than that with which Jules Verne predicted the submarine, or Bacon the automobile and airplane, that in the year 2000 A. D., unless we wreck our civilization before that date, many a baby will be born with two hundred years or more of life before it; and that men and women one hundred years of age will be quite the normal thing, except that instead of being wrinkled and haggard, they will still be in their vigorous prime."

This is the statement of Professor Hornell Hart of Bynum Manor University. From studies made by him covering mortality statistics as far back as 1850, he finds that the expectation of life has apparently risen from 40 to over 50 years; that since 1850 the gain has averaged a rate of progress four times as great as that in the earlier period, and that the urban expectation of life for a special class of lower wage-earners has extended at even a faster rate.

On the basis of these trends, the expectation of life that is likely to be attained by the year 2000 A. D. may be calculated upon four different hypotheses. Professor Hart believes. The first hypothesis is that our civilization is likely to break down between now and 2000 A. D., with a resulting disastrous setback in life-expectancy, such as apparently occurred in previous dark ages. The author believes that this outcome is unlikely. The second hypothesis might be that the possibilities of reducing the death-rate have been about exhausted; that the control of infectious diseases, the reduction of infant mortality, and the effects of improved standards of living, have used up the easier reductions in death rates, and that from now on nothing as spectacular as in the past can be expected. In this case, by the year 2000 A. D., the expectation of life would be about 65 years. A third
hypothesis might be that medical science has now found its stride, and that further gains will continue only at the present rate. This would give us an expectation of life, by the year 2000 A.D., of about 87 years.

The fourth hypothesis, and the one most plausible in the belief of Professor Hart, is that we shall not only maintain our present gain, but shall maintain our present rate of increase. By the year 2000 A.D., the span of life would then be lengthening at about the rate of 3 years per decade, and the expectation of life at birth would have reached about 104 years.

But Professor Hart believes that the present rate of increase in life expectancy will not only be maintained but will be accelerated. He gives four reasons for his prediction: First, the tendency for the past million years toward accelerating increases in man's power to control his environment; second, the fact that the world has already regained the loss in expectation of life resulting from the war; third, the further fact that the expectation of life for older men and women has ceased falling and has started to increase; and fourth, the fact that instead of showing signs of having used up the major possibilities in preventive medicine, new discoveries bid fair to eclipse past attainments in life-expectancy.
birthday ?.

How would you celebrate your 105th.

Here are what John Nicholas, did on

the 105th. anniversary of his birth.

Arose from his bed at 7 a.m.

Had his breakfast, consisting of oat-

meal, milk, bread and coffee at 7.30 a.m.

Worked at his handicraft from 7.45
to 10 a.m.

Went on the waters of the Passama-
quoddy Bay—St. Croix River, in his canoe at 10.30 a.m.

From 10.30 until 11.30 a.m. did

stunts and participated in paddling races.

Ate his "dinner", as he insisted on

naming the midday meal, at 12. The meal consisting of roast chicken, vegetables, bread, cake, ice cream and tea.

Returned to his handicraft at 12.45

and continued at the baskets, etc., until 2 p.m.

Gave an exhibition of running and

jumping from 2.30 to 3 p.m.

Went on the water again and elabor-

ated on his canoeing stunts of the morning, from 3.30 to 4.30 p.m.

Reminiscenced on the pioneer years

in the Passamaquoddy—St. Croix region, for an audience of whites on the shore, from 4.30 to 5.30 p.m.
Ate his "supper" as he insisted on styling it, at 5.45 p.m. This meal comprised fried halibut, potatoes, bread, rolls, crackers, pudding and milk.

From 7 to 9 p.m. he related stories of his youth, for an audience on the veranda of a friend’s home.

At 9.30 p.m. he retired, tired, as he freely admitted, after his strenuous day.

And yet he was out of bed at 7, the following morning, and busy at his handicraft most of the day, with the exception of time out for his almost daily performance in his canoe.

At 105, John Nicholas looked no older or was less active than the average man of 65. He rarely permitted two days to pass without shaving, prideing himself on his clean shaven appearance, except for his pure white moustache. He consistently refused to crop this moustache and this seemed the only link between Nicholas and the dim and distant past. The moustache always drooped over the corners of his mouth.

Like his moustache, John's hair had been white so long, few remember when it was the original black, or even when it was streaked with white.

John Nicholas was born on the Passamaquoddy reservation, or settlement as it was known at the time. This reservation is now a tidy little community on the southern shore of Passamaquoddy Bay and the mouth of the St. Croix River.

As a young man, Nicholas moved his family across the bay, a distance of about three miles, to St. Andrews. There he established his residence. John had visualized a future for St. Andrews as a summer resort. When he informed other members of the Passamaquoddy tribe that he planned on moving from Pleasant Point to St. Andrews, all of his cronies advised him against this step. All of them ridiculed his prediction that St. Andrews would develop into a summer playground.

Despite the advice to the contrary, Nicholas trans-
ferred his family and effects across the mouth of the river. The removal was made by canoes, without a mishap, although some fairly heavy articles were carried across the water.

The Indian had difficulty in convincing anybody in St. Andrews that the unimposing little hamlet would be the watering place for wealthy people from the large cities. He based his claim on the scenic beauties of the St. Andrews area, and because it was closest to the outside world of any seashore community.

Then the Canadian Pacific Railway penetrated into St. Andrews. That was a beginning, and Nicholas felt sure his judgment would be vindicated.

When the late Sir William Van Horne, president of the Canadian Pacific Railway, made his first trip to St. Andrews, he met John Nicholas. The Indian had approached the chief executive of the railroad, with a suggestion that Sir William buy some handicraft for his Montreal home. This led to conversation between the two men, during which Nicholas predicted a future for St. Andrews as a summer resort.

As a direct result from this conversation, Sir William built a palatial summer home at St. Andrews. His action was duplicated by his immediate successor, Sir Thomas Shaughnessy, subsequently Lord Shaughnessy. Through the interest of Van Horne and Shaughnessy, the Canadian Pacific Railway erected a summer hotel on an elevation overlooking the town.

While St. Andrews made great strides forward as a summer recreational ground each year, it was not until the Algonquin, the C.P. hotel, was destroyed by fire and replaced by a much larger and more elaborate structure that more than ordinary promise was made for the town.

Old John Nicholas was a daily visitor to the Algonquin of old and the Algonquin of today, selling his handicraft to the guests from various corners of the world. He watched the progress of the town step by step, satisfied he made no error in making his prediction.

In selling his handicraft, this Indian came in person-
contact with thousands of men and women in all walks of life. He fraternized with bankers and bellboys, millionaires and mechanics. He was a welcome visitor to every house in the town, whether it was the biggest mansion or the smallest cottage.

While Sir William Van Horne and Lord Shaughnessy were alive, each of them played host scores of times to the picturesque red man. Usually, each of the hosts invited a number of friends from the local hotels and summer residences, to hear Nicholas talk on the olden days of the Passamaquoddy-St. Croix. There amid all the luxuriousness of each of the magnificent estates, the poor basket maker talked to wealthy men and women, and joined them in the refreshments.

His movements on the land have been watched with keen interest, but the greatest fascination he has held for the summer folk of St. Andrews and elsewhere on both shores of the bay and river, has been while he was on the water in his canoe.

From his 8th. birthday, John Nicholas paddled consistently. His father was one of the skilled paddlers of the Passamaquoddy tribe or 'Quoddiies, as they are better known. With his father, as teacher, the boy developed into a stellar canoeist.

Before he got into the teens, John won several races from older boys of the tribe. At 14, he defeated some of the men of the tribe, and at 16, he won most of the paddling events at a meet held between the Penobscot tribe and the 'Quoddiies. The 'Quoddiies had to paddle over 100 miles to reach the Penobscot reservation up the Penobscot River at Old Town, but this exertion did not prevent young John from being the star of the paddling contests.

When the Penobscots came to Pleasant Point, John shone even more brightly in his canoe, capturing all of the races. Then he participated in the land events and won several running events.

Because of the prowess of the boy with the paddle, the reputation of the 'Quoddiies as canoeists was enhanced greatly. This
brought challenges from various tribes and from whites as well.

A delegation from the Micmac tribe came down the St. John River from Oromocto, paddled along the Bay of Fundy shore to St. Andrews, and competed against the cream of the 'Quoddy paddlers, on Passamaquoddy Bay. Thanks to the sterling work of Nicholas, the invaders were turned back, vanquished by a substantial margin. John had captured first place in four of the six canoe races.

On watching John defeat his fellow red men, a wealthy New Yorker went back to New York in his steam yacht, and returned to the 'Quoddy region, with a young white paddler, whom he predicted, would take John's scalp in a series of races.

After the first race, it looked as though the New Yorker was right, for the stranger won this event quite handily. But, Nicholas was suffering from stage fright in that race. He won three races consecutively, and the series. Even this did not convince the rich New Yorker that Nicholas was invincible. Another white paddler was imported from New York, and he, too, fell an easy victim to John's skill and strength.

It was not until he had passed his 75th birthday, that John Nicholas forsook open competition. Even at that advanced age, he made his young opponents travel to beat him, but, of course, he did not often win races from the youths. In one race, he was one of the starters none of which outside himself was older than 35. In that race he finished third.

While Nicholas gave up open competition at 75, he accepted all challenges from men above the 50 mark. In fact, he did most of the challenging, himself. As a treat for summer visitors, he induced veteran Indian paddlers to compete against him for short races. And he, invariably, was the winner. These races usually were features of his birthday celebrations. After he passed his 90th. birthday, these celebrations developed into annual fixtures. With added interest each year.

On his 100th. birthday, the ancient Indian defeated another red man of 65 quite decisively, in two races before an audience of
several hundred in which Indians mingled with whites and a few blacks.

Almost anybody is satisfied to paddle a canoe from the kneeling position. Not so, with John Nicholas. Paddling from a standing position has been a favorite stunt of his. On his 105th. birthday, he not only paddled his canoe while standing erect, but made sharp turns without losing his equilibrium, or upsetting the fragile canoe. He paddled from the upright attitude for several hundred yards as easily as though the stunt was a very simple one. When he made the first turning movement, everybody in the audience on shore gasped.

Every person there felt sure John would be deposited in the water, but the canoe held firmly in the water, which was somewhat rough that day. After paddling ahead and turning, he paddled backwards while standing up in the canoe.

John has had some humorous experiences, too. On one occasion while he was sitting on a log, a few feet from his beloved Passamaquoddy Bay, he was smoking as he whistled.

An elderly lady approached, and without a bit of inquiry, began scolding the Indian for the smoking. She revealed herself as a woman from Boston. She explained quite fully to John just how he could live as long as herself, provided he followed her dictates.

The lady was extremely voluble. John tried to interrupt several times, and then he lapsed into complete silence until she finished her monologue. Then he quietly inquired, "How old are you?". The woman said, very proudly, "I am 70".

"That's nothing. I'm 103".

The woman was convinced Nicholas was joking at her, as he was smiling broadly. She was quite indignant as she walked away. Whether she ever learned he was speaking the truth, John never heard. "That's what I get for looking younger than my age" soliloquized the centenarian, as he told the story.

When John came ashore after doing his stunts on the water in his canoe, a feminine guest at one of the local hotels, appro-
ached him and inquired, "What's your name?"

The reply came clearly, "John Nicholas."

The woman, thinking she failed to hear the sur name, inquired again, "John Nicholas what?"

"Plain John Nicholas" answered the old Indian.

"Plain, is right" rather testily said the woman as she withdrew from the scene.

"Well," remarked John, laughingly, "I never claimed to be a movie shiek", as the woman disappeared.

The most exciting experience which befell John in his later years, was one in which a canoe was involved.

He set out to visit the reservation at Pleasant Point, in his canoe. The water on the bay and mouth of the St. Croix was calm as he paddled to the opposite shore. After staying several hours at the reservation, conversing with friends, he paddled about three miles down along the shore to the town of Eastport. There, he made some purchases, and arranged for some sales of baskets.

When the venerable Indian climbed into his canoe again, dusk was settling, and a wind was developing. It was his impression, he could reach the other side before the wind assumed formidable proportions. However, the storm broke quicker than he expected. About half-way across, the fragile craft and its occupant received the brunt of the gale.

The canoe was tossed about like a chip, in the choppy water. Time after time, the combers threatened to engulf the canoe. But, skilled navigating by the old man prevented a calamity. He brought all his paddling skill and his knowledge of those waters into action, and saved his life.

His relatives were shocked when John arrived at St. Andrews kneeling in a half foot of water. They had been under the impression he would remain at the reservation overnight, because of the impending storm. John, however, had no intention of staying away from home that night as he
wanted to start bright and early the following morning on his handicraft.

Some of the waves nearly lifted him out of the canoe, but he was able to maintain the equilibrium of both the canoe and himself. He was drenched to the skin when he arrived home. Some of his relatives gloomily predicted pneumonia. He discarded his clothing and went to bed, after eating and having several hot drinks. In the morning, he awoke without the slightest cold.

In all, John Nicholas paddled over the bay and return approximately 3,500 times. Although he paddled through some very turbulent water, he never lost control of a canoe or himself. He was proud, too, of never being in a capsized canoe.

The veteran attributed much of his longevity and good health and vigor, to his canoeing. It was his favorite exercise from boyhood, although he did not limit his athletic activities to the paddling. Besides running and jumping, he fished and hunted consistently until he became a centenarian. After that he acceded to the wishes of his close relatives and reduced his daily exertion.

When he was 100 years old, Nicholas gave an exhibition of marksmanship that is rarely equalled for a man of his years. In shooting at a bullseye crudely rigged up by summer residents at St. Andrews, he scored hits in 20 out of 25 shots with a rifle. The same year, he proved he could trail wild animals, too, by still hunting a buck deer, a bull moose and a bear. He also killed a number of wildcats. With a shotgun as well as rifle, he has exhibited his skill. Wild ducks and geese have fallen victims to his accuracy, by the hundreds since he was 90.

I asked John, "What advice would you give to help a person live to a healthy old age?". And he replied thusly;

"I would advise anybody who wanted to live long and be healthy and active to keep in the fresh air as much as possible. The people of today seem to take too little advantage of the fresh air, it seems to me. Pure air is the greatest thing in the world. Why more people
don't take advantage of it, is a mystery to me. Perhaps it's because it doesn't cost anything. I know I can't get enough fresh air to suit my taste.

People should take more exercise. It's another mystery to me that exercise has grown so unpopular. Fresh air and exercise go hand in hand. We should have both together. We should also eat plenty of vegetables and fruits, and not too much meat and fancy foods. Moreover, we should get about 8 hours of sleep out of every 24. After we get above 75, we usually need a little more sleep.

Some people are too busy chasing money to look after themselves. Then they are suddenly cut off.

For a man unable to read or write, Nicholas, since he became a centre of attraction, developed a fairly good command of the English language, in speech. He accomplished this, by his contact with men and women from outside cities, chiefly.
July 5th, 1928.

Mr. William J. McNulty,
Box 316, Station A,
Boston, Massachusetts.

My dear Mr. McNulty:

I have received your most interesting material, and am calling it to the attention of Doctor Kellogg. He will be very much interested in all you have to say. Congratulating John Nicolas on his splendid health and assuring you that I have found your account most fascinating, I am

Very sincerely yours,

Literary Secretary
The Influence of Muscular Exercise on Longevity is a theme which no living man is better qualified to discuss from medical ans from personal experience than Sir Hermann Weber, still hale and hearty in his ninety-fifth year. The stronger pumping of the heart improves the circulation of blood and lymph in the abdominal organs, with the help of the stronger contractions of the diaphragm and abdominal walls, thus leading to improved oxygenation and to increased metabolism, appetite, digestion, and assimilation; therefore daily walks should be taken, if possible in the open country, and in all weathers. The amount of walking required depends on the individual constitution, the state of health, and on the habits and occupation; also on the meteorological conditions—heat or cold, dryness or humidity, strong or light wind, or stagnation of air. The walk ought not to be extended to actual fatigue, but ought to lead to exhilaration and agreeable warming of the whole body. The pace, too, must vary in different persons, from less than a mile to three and four miles an hour.

The following is his enumeration of some of the benefits accruing from walking exercises steadily kept up: (1) Increased afflux of blood to the muscles. (2) Increased nutrition, combined with improved metabolism and production of body heat. (3) Increased exchange of fluid between blood and tissues. (4) Facilitation of the removal of waste products. (5) Preservation of the elasticity of the thorax and lungs. (6) Abundant supply of oxygen for the blood and the metabolism. (7) Maintenance of a healthy condition of the organs of circulation, from the heart to the smallest arteries, capillaries, and lymphatics. (8) Massage of the bones, keeping up the healthy condition of the bone substance and the functions
of the bone marrow, and through this the formation of a sufficiency of blood efficient for the fight with hostile bacteria entering the blood. (9) Increased resisting power of the body against disease. (10) Stimulation of the brain centers which initiate the action of the different sets of muscles.

"Although I know that it is not alone to exercise of the muscular system that I owe the health and strength which I retain in my ninety-fifth year, but that the attention to hygiene in general, to the digestive functions, to the mental work, and the tenor of the mind, as I have explained in my little book on Prolongation of Life, has had a great share in it, yet I am sure that the keeping up of the muscular system has played a prominent part, and does so still. Spending daily two or three hours in the open air, walking as a rule, 30 and more, frequently 40 or 50 miles a week, and enjoying the beauties of nature, have had an exhilarating effect on the mind, and kept up the whole organism and its resisting power. The possibility of heredity might be suggested, but that both my parents died in their sixtieth year—my father from cerebral apoplexy (a frequent cause of death among his forefathers) and my mother from inherited weakness of the heart, leading to frequent bronchial attacks, and to anasarca and effusion into the pleural cavities. More probably there was a predisposition to those life-shortening affections. If so, I have been able to counteract it by a steady struggle from an early period."

Progressive Medicine, September, 1912.
Physiologic Living Leads To Long Life

"The foundations of long life must be laid in physiologic living. An animal compelled to adopt habits of life different from those which the Creator intended for its structure and natural functions, must necessarily perish before it ought to perish, because it must continually fight for existence. It is exactly the same as if you undertook to do a certain kind of work with a tool intended for an entirely different work. For example, if one should undertake to weave aloth with a threshing machine, he would make very poor work of it. If one should undertake to cultivate a garden with a hay fork, he might accomplish something, but the fork would very soon be worn out. It requires a cultivator—a larger and stronger instrument. If one should undertake to comb his hair, for example, with a very delicate instrument made for the most delicate kind of work, he would very soon destroy it. Hair needs a comb; a garden needs a cultivator; a threshing machine should be used for its own particular kind of work; and every instrument must be applied to its own use.

"The results of the abuse of the body are too numerous to mention in a brief talk. We constantly find awful examples of this among the people who come here. For instance, a man undertakes to use his body as an apparatus for distilling nicotine. He rolls up a bundle of leaves, lights a fire at one end, and he pulls away at the other. He is the condenser. The cigar is the pipe which communicates the vapor to his body, and the body is the condenser, and as the nicotine is condensed in the body, it is absorbed by his tissues, and the result is that this man dealing with nicotine very soon finds his vital machinery damaged, perhaps beyond recovery."
Living Long And Living Well.

When in Vienna a few years ago, I visited the famous Doctor Winternitz, who is professor of hydrotherapy at the Royal Medical School at Vienna. While I was there, the Professor and Mrs. Winternitz gave a dinner, to which I was invited. During the course of the dinner, it was noticed that I did not eat any meat, and one of the ladies said to me:

"Doctor, I think you are the most original man I ever met," which was a very polite way of saying that she thought I was a crank.

I said, "Why, this idea of living on a nonmeat diet did not originate with me; if it had, I should have very little confidence in it. It is because it is old, and because it is the original diet of man, that I have confidence in it."

She replied, "Do you think one could live to be very old on such a diet?"

"Why, certainly; I had a relative who lived on this diet to a very great age."

"Is that so? How old did he live to be?"

"Well, I am afraid to tell you, for fear you would not believe me."

"Oh, yes, we should believe you."

"Well, he lived to be nearly a thousand years old."

"O-o-o-h!" Evident incredulity.

A doctor across the table said, "Just tell us his name." I answered, "His name was Adam."

It is astonishing how satisfied and willing we are to be killed off at fifty or sixty years of age by disease germs of some sort. We ought rather to be ashamed to be old in body while we are still young in years,--to be tumbling into ruins when we ought to be still in our prime.
Living Long And Living Well

The Trouble Is, We Do Not Live Right.

We have departed far away from the normal conditions of life. A man is very likely to live as long as his heart, his kidneys and liver are young. He can get along with a very miserable kind of a stomach if he only has a young heart, young kidneys, and a young liver. We have much a great excess of lung capacity that we can get along with a small portion of our lungs. We use less than one-tenth part of our lung capacity in ordinary breathing; so if we are not going to exercise in a violent way, we can get along with small lung capacity. But we can not get along with small liver capacity, because it is the duty of the liver to keep the blood clean; and that is a thing of the greatest importance. The most essential thing for life is clean blood, because it is the blood that maintains the life; it is the blood that heals. And if the blood becomes unclean, then the whole body rapidly falls into decay.

I was just saying that we are young so long as the heart is young. The heart is a muscle, and it has a great work to do; it has the biggest job of any organ in the body. That little muscle, only the size of the fist, does work equal to lifting 124 tons one foot high every day. This seems almost incredible, but the heart does its work one beat at a time, seventy-five beats a minute, lifting so many ounces at each beat; and if we take all those little lifts and put them together, we have a total of 248,000 pounds which that little muscle has to lift one foot every day.

It Makes A Great Difference

whether that little muscles is supplied with clean blood or with foul blood: it makes a wonderful difference whether or not it is saturated with alcohol, tobacco, or caffein, and the poisons of mustard, pepper, peppersauce, ginger and things of all sorts that produce the putrefaction that is going on in the colon: it makes a
Living Long And Living Well -3.

wonderful difference what kind of blood it is that goes coursing through these veins to support that living pump.

It is the duty of the liver to keep the blood clean by filtering poisons out of it. It is the duty of the kidneys to keep the blood clean by separating poisons from the blood, so that it can carry them off. Post-mortem examinations have shown that of all people sixty years of age, seventy-three per cent have degenerated arteries. That means that three-fourths of all the people who die between the ages of fifty and sixty years have old hearts, and that is the primary reason why they die.

You have perhaps noticed that most of the people who die of pneumonia are either infants or old people; the babies die because their hearts are not yet strong. An infant that is carried around in arms is a very sedentary person, and has not taken exercise enough to get a strong heart yet; and an old person who has become too feeble for exercise has a weak heart from lack of exercise or from senility; and if he gets pneumonia, he is pretty certain to die, because his heart has not the power to withstand the paralyzing effect of the poisons which are circulating in the blood of a person who has pneumonia.

We Need To Think More About Our Hearts, and take better care of them. The good Book well enjoins us to "Keep they heart with all diligence, for out of it are the issues of life;" and it applies equally well in physical and moral matters. If we do not exercise, the heart gets weak just as any other muscle of the body gets weak. When one is lying in bed, the heart has only to move the blood in a horizontal plane, but when one is sitting or standing and going about, working, the heart has to circulate the blood in the body in a vertical plane; it has an immensely greater amount of work to do. We must take good care of our hearts if we
Living Long And Living Well -4.

want to live to be old. That is one thing of vital importance. The majority of people die of heart failure; because if the heart were able to keep on with its work, they would not die at the particular time they do, at any rate.

The blood is the most wondefful tissue of the body, for it is really a living, fluid tissue, a sort of circulating market, because it carries around foodstuffs to the other tissues, and takes back from them the waste substances that have been used. The red cells carry the oxygen which feeds the tissues; and the clear portion of the blood, the plasma, carries the dissolved materials which are to be made into tissue.

There is another class of cells known as white cells; they really are transparent, free from coloring matter, and as you look at them through a microscope, they appear as minute transparent bodies. There are several varieties of these white cells; and they possess a remarkable quality by reason of which certain varieties take a stain of one color and reject all others; and each variety takes a different stain from the others, so that by means of stains it is possible to distinguish a number of varieties of these living white cells.

About Seven Thousand

of these white cells are found in a minute drop of blood not so large as the head of the smallest pin, every one of them a perfect, living creature that can feel, smell, taste, digest, that can move about, just a little drop of living jelly, but it is the ultimate living substance, protoplasm, and it has all these properties in one without being differentiated.

Some of these white cells go around through the body and gather up the material that is not useful any longer, carry it off to a sort of garbage box, the spleen, or to the liver, in which it is
Living Long And Living Well -5.
deposited, and finally dumped out of the body. Some of it is car-
ried out through the skin and so thrown off from the body; some by
the lungs, but principally through the kidneys and colon. Germs
are the very greatest of all the enemies of human life. They get
into the body, multiply rapidly, and clog up the blood-vessels and
the tissues. The worst of them manufacture poisons which attack the
body in a variety of ways, setting up degenerations, paralyzing the
nerve centers, and producing a great variety of unpleasant symptoms.
So these white cells are the defenders and the scavengers of the
body.

This is not a fairy tale or an imaginary story I am telling
you; it is what we know to be true.

When The Body Itself Becomes Deteriorated,
these cells sometimes invade the tissues. That is what happens to
a man who has fatty degeneration from the use of alcohol. That is
the reason why, as the pugilists say, a man "fails to come back";
he has lost the power to recuperate. He has lost it because his
tissues have undergone degeneration and are debilitated by the in-
roads of these white cells. We have a very good illustration of this
in what these cells do to us when the hair becomes gray. Each hair
is a tube that has liquid in it, and in this liquid are minute pig-
ment cells, colored granules. The white cells steal away the mel-
 coloring matter, and the hair becomes white because it has been
robbed of its coloring matter. In the same way these creatures
attack our brains and rob our nerves. They steal away the kidney
substance, and Bright's disease is produced by the kidneys being
robbed by the white cells, which naturally are scavengers; but they
have seized upon the body itself and are destroying it, because of
the diseased condition into which the body has come through wrong
habits of life. It is in this way people get locomotor ataxia and
paralysis. That is the way we lose our memories and become stupid in old age, and we get apoplexy because these cells attack the blood-vessels of the brain.

These cells are induced to do this destructive work by the taking of poisons into our blood which destroy and paralyze the heart. These same poisons, when taken into the blood, destroy the blood-vessels, destroy the brain through setting up wrong action of these white cells. These poisons are, for the most part, products of germs. Some of them we take in as poisons, like alcohol, tea and coffee, tobacco, and various other poisons we may inhale. There is opium, strychnia, and other drugs including morphia, that have a similar effect; but the worst of all poisons are those that are generated in our bodies, poisons that are formed in the colon, produced by the putrefaction of undigested remnants of foodstuffs. We are coming to appreciate that more and more. For thirty-five, or nearly forty years now, the world has been learning about ptomaines and leukomains, and other poisons that are generated within the body, but only within the last few years have we come to appreciate the real havoc these poisonous substances work in the body when their action is unrestrained.
Oct. 19, 1925.

I received a note from you about my age and habits of living.
I was born in Plymouth, March 1829, of English parents, and have always resided here.
I was not well in my youth and partially lost my hearing which I have partially regained. About 50 years ago I was treated in the water cure and interested in Good Health and its teachings, but not a strict follower of all its teachings. I am a firm believer in its benefits.
I have never used Tobacco or ardent spirits. Seldom eat meat or any of the common articles of diet. I have 5 children, 19 grand children, and 21 great grand children.
Am the holder of the Cast Cain given to the oldest citizen of Plymouth. Am the oldest citizen of Plymouth. Work in my garden and take walks about town.
Next Wednesday I expect to mail you my photo now in the hands of the photographer.

I expect to be at home for a few weeks and will gladly meet your friend if she should call.

egm
Photo of Mr. James B. Collingwood
12 Bushman St.,
Plymouth, Mass.

Photographs
from Jared Gardner,
Rockland, Mass.
Plymouth, Mass. Oct 19th, 1825

Dear Sister,

I received a note from you about my age and habits of living. I was born in Plymouth March 1829 of English parents and have always resided here. I was always very young and partially lost my hearing which I have partially regained. About 50 years ago I was trained in the male line and interested in book-battle and its attendant teachings. I am not a strict follower of all its teachings. I am a firm believer in its benefits and have used tobacco in adult months and seldom eat meats or any of the common...
Old Age; What Is It?

In a well-known European museum there is to be found a remarkable and most interesting collection of preserved eyes. Some ingenious laboratory investigator discovered a means whereby the human eye could be preserved with such perfection that it retains all the natural brilliancy and transparency of life; so that as one looks at this collection of human eyes, they seem to be still alive and returning his gaze. This remarkable collection includes eyes from those of the infant of a few days to those of the old man of seventy. On close inspection, a marked difference is noticed between the several specimens quite apart from their size and form. The eyes of infants and young children are found to be wonderfully transparent. The structures are as clear as purest crystal. The eye of thirty is less brilliant; the eyes of forty-five are still less transparent; while the eye of sixty is decidedly opaque. This loss of transparency in the eye as a result of advanced years is due to the accumulation of waste matter within the body. Living matter is transparent; dead, waste matter is opaque. The skin of the young child has the same quality of transparency, as is clearly apparent when the hand of a young child is held up between the eyes and the sun and a brilliant electric lamp. The dingy opaqueness of the skin of the old man corresponds to the loss of transparency in the eye of old age. This change in the eye and the skin with advancing years is only an indication of the change which takes place in the entire body. As years roll by, the skin, kidneys, liver and other organs of excretion gradually lose their power to eliminate the waste products, consequently they accumulate little by little till the tissues become more or less saturated with them. Then
changes in the structures of the body begin. The arteries harden and shrivel, and many of the smaller branches are obliterated, cutting off the normal supply of blood from the muscles, brain, liver, heart, and all other organs. The result is the gradual shrivelling or wasting of the body. This change invariably occurs in all living structures, although it may often be hidden by adipose tissue. To this is due the weakening of the muscles, the lessening of the general bodily vigor, the weakening of the mental faculties, the slight diminution in height, and the general loss of physical and mental capacity which comes with advanced age. This process gradually continues till the crippled organs are no longer able to perform their functions; then death closes the scene. Such a death might be regarded as a natural death, if there can be such a thing as natural death. It would be painless fading away, a gradual burning lower of the vital fires, till finally snuffed out by some slight accident, as a sudden fall of temperature or atmospheric change, or some slight digression from the usual life habits.

A death from old age is a very unusual occurrence, however. A vast number of human beings die violent deaths; but in not a small proportion of cases the way has been prepared by the beginning of the senile changes which have been previously described. The old man has little resistive power. His hardened arteries cannot expand to meet the demand of an emergency as from a sudden exposure to cold, requiring a sudden afflux of blood to the skin, or any severe mental or muscular exertion. The result is collapse, or possibly a rupture of a brittle vessel in the brain or lung and resulting paralysis and death. Hence, the age of man depends not so much upon the actual number
of years he has lived as upon the extent to which these senile changes have taken place. As an eminent French physiologist has graphically said, "A man is as old as his arteries." A man at fifty with brittle arteries, the change known to physicians as arteriosclerosis, is really older than a man at seventy-five in whom these degenerative changes are not present. Dr. Harvey, the discoverer of the circulation of the blood, who performed the post-mortem examination in the case of Old Parr, who died in the time of Charles XV at the age of one hundred and fifty-two years and nine months, declared that even at this great age there was no evidence whatever of arterial degeneration, so that we are quite prepared to believe the statement by this eminent physician that he saw no reason why this supercentenarian might not have lived on for many years still had he not died as the result of a surfeit at a feast unwisely prepared for him by his sovereign. If Parr had continued his simple habits, he might have attained the remarkable age reached by Henry Jenkins, one of his countrymen, who died some years before at the age of 169 years.

As regards the cause of old age, it may be said that whatever tends to produce degeneration of the blood vessels invites old age. An Italian physician announced a few years ago that he had discovered the germ of old age, a discovery which, if genuine, might prove of no less benefit to the race than Ponce de Leon hoped to confer when he started out on his famous expedition in search of the fountain of Perpetual Youth; since it might be hoped that the discovery of the germ of old age might be speedily followed by the invention of some method whereby the germ might be destroyed, and thus life perpetuated.
But old age is not due to a germ disease like cholera, typhoid fever and diphtheria. It is a constitutional malady of extremely chronic character. The weakness, decrepitude, and ultimate helplessness of old age are the result, as we have said, of changes in the structure of the body. The old man is shorter in stature than the young man because of the shrinking of the cartilages which separate the vertebrae of his spinal column. The muscles likewise shrink in advanced age, as does also the brain, the liver, the lungs, the kidneys, the heart---in fact every organ of the body.

This shriveling process begins in the arteries, and the shrinkage in the size of the other organs is due to the fact that they are partially starved, a portion of their natural blood supply being cut off.

A few years ago, when feeling the pulse of a patient, the writer noticed its hardened and contracted condition and warned the gentleman that, although his age scarcely exceeded 50 years, he was already an old man; and that he could not hope for any extended lease of life without the exercise of the greatest prudence. A month later the sad news was received that this gentleman, who had in the meantime returned home, suddenly fell dead after a little unusual exertion, the result of the rupture of one of his brittle blood vessels, causing apoplexy of the heart. A gentleman recently under the writer's professional care, although 90 years of age, exhibited no marked evidence of senility, except his white hair and beard, his arteries being soft as those of youth. At 90 he was really younger than the average man at 50, because of his simple temperate habits. This gentleman died a few months later of an
acute bowel disorder from some dietetic indiscretion.

The human constitution may be compared to a chain, the strength of which is not that of the strongest link, but of the weakest one. So with the human body, its strength is not that of the strongest organ, but of the weakest, provided, of course, that the organ involved is a vital one. These organs upon which life most immediately depends are the stomach, the heart, the eliminative organs, including the lungs, liver, kidneys, and skin, and the brain and nerves.

The stomach feeds the entire body. If it fails through nutrition to furnish a sufficient amount of material to nourish the body properly the daily wastes are not repaired, and the tissues rapidly deteriorate. This is one cause of the senile look of the half-starved urchins which throng the gutters and tenement house districts of our great cities.

An abundance of wholesome food well digested is essential to the maintenance and prolongation of life. It must always be remembered, however, that it is not what we eat that nourishes the body, but what we digest.

A man may have a stomach, liver, lungs, and other vital organs vigorous enough to last a century, but if his heart is good is good for only fifty years he will find himself worn out at that age and will die; although, perhaps, of some related malady rather than of disease of the heart. Old Parr had a heart so vigorous that he was able to swim across the swiftest rivers when he was more than a hundred years of age. A heart depressed by tobacco, alcohol, opium, or exhausted by excesses, will falter under its burden long before the age of five score years is reached.
"Heart failure" is the simple record of the cause of death in a large number of cases of sudden death in which no more definite cause of death can be assigned. A vigorous heart will keep the arteries distended and continue to feed the tissues, and thus prevent senile changes long after they have made their appearance in cases in which these changes are favored by a weakened, inefficient heart. Exercise is one of the most important means of developing and strengthening the heart; it is, in fact, the only means by which this can be done.

By the same reasoning, may be shown the absolute necessity of maintaining intact every one of the principal vital organs, especially the stomach, the liver, the kidneys, the lungs and the brain, as well as the heart.

The influence of tea, coffee, alcohol, tobacco and other drugs, as well as the various errors in diet, neglect of exercise, baths, etc. in hastening those changes which develop old age will be clearly pointed out in another chapter.

(MEMO.)

The diseases from which old people die are almost altogether preventible. It is only necessary to begin in time, but in time, means in the majority of cases a score or more of years back. For example, heart failure is a malady which carries off a multitude of persons past middle life every year, but again, which one may usually fortify himself by systematic daily exercise which will call into vigorous play the muscles of the body, thus maintaining the normal tone and nutrition of the heart, which is itself a muscle, and is strengthened or weakened under the same conditions which give muscular strength.
or weakness to the other muscular structures.

In quite a large proportion of all maladies in which failure of the heart is not noted as one of the leading factors in the cause of death, this is nevertheless the final cause; for with a strong heart, the patient would have been able to struggle for a few days longer till the vital forces of the body would have been able to eliminate the poisons of typhoid fever, the toxins of cholera or yellow fever, or might have been able to do much efficient work in pumping the blood through crippled lungs that the patient might have been able to have escaped suffocation from consolidation of the lungs in pneumonia till absorption should have taken place. A sound heart is one of the best guarantees against death in almost any acute malady, and is likewise is a splendid protection against chronic disorders of any sort. Hence, the importance of taking good care of this wonderful pumping machine upon which every vital function depends.
Notes on How to Live a Century.

The chief army officer in examining recruits for the army found deficient height as a common occurrence of well men, saying, "less than the prescribed minimum may be perfectly well otherwise; it is supposed that their constitution is too delicate to stand any prolonged strain and they are therefore invariably rejected. Personally, I consider it a mistake to reject a man who weighs two or three pounds less than the required figure if he be otherwise sound; but, on the other hand, deficient height means lowered vital resistance. Fifty per cent. of all the men who apply for admittance to the army are rejected for one reason or another as physically unsound. The flat-foot is comparatively unknown to the laymen, but it is, nevertheless, a common defect of the foot, and a large number of men are rejected on that account. It is simply that the foot where the arch should be is perfectly flat and the weight of the body rests upon the whole foot instead of upon a part of it. This impedes the foot and produces a sort of shuffling gait which soon tells in a long march, involving as it does increased strain upon the muscles of the thigh and calf as well as of the foot itself. In other words, there is no elasticity to the flat-footed step and the consequence is that the foot soon tires, and in some cases swells to such an extent as to make further walking for the time being impossible.
Dr. D. K. Pearson, four days before his 80th. birth-
day, tells how to live to be 100 years old. He says:

"Never get excited. Old age depends upon
common sense and a good stomach. There are a lot of folks down
town who tell me they want to live a short life and a merry one.
I want to live a long life and a jolly one in my own way. Some
men like their clubs and society, That's all right. I don't
belong to a Club, and they couldn't hire me to wear a swallow-
tailed coat. A lot of men have a fine time with mid-night
banqueting and speech-making. Let them go. I have got a room
up here on the hill 200 feet above Chicago, with the windows open
at the bottom, and it is as good as a picnic to me to go to bed
there at 8:00 every night.

"The trouble with most men is that they are eating
themselves to death."

Dr. Pearson eats a meager dinner at 1:00, and then takes
a nap; and when he awakes he frequently declares himself to feel
"as bright as a button." He proposes to go on with his naps
and his plain eating until he goes to the grave, which he says he
doesn't mean to reach before he is 100 years old. He isn't
going to march in any Chicago Deşey parade, or serve on reception
committees; he isn't going to deliver any more baccalaureate
sermons, and he walks from the train to his Chicago office, and
from the train to his home, every afternoon. He says he is
going to keep cool, give away the rest of his money, and be happy.
He says further, "it is worth all the big celebrations on earth
to wake up from a nap feeling spry as a kitten."

The most remarkable instance of longevity which we meet with in British history is that of Thomas Carne who, according to the parish register of St. Leonard Shoreditch, died the 28th. of January, 1588, at the astonishing age of 207 years. He was born in the reign of Richard II., 1381, and he lived in the reigns of twelve kings and queens,—Richard II, Henry IV and V and VI, Edward IV and V, Richard III, Henry VII and VIII, Edward VI, Mary, and Elizabeth.

The veracity of the above may readily be observed by any persons who choose to search the above mentioned register.

Another instance of longevity is that of Peter Czartan, by birth a Greek. Was born in the year 1539, and died on the 5th of January, 1724, at Rofrosh, a village four miles from Ternaswater, on the road to Karansebe. He had lived there for 184 years. When the Turks took Ternaswater from the Greeks he was employed in keeping his father’s cattle. A few days before his death he had walked, supported by a stick, to the post house at Rofrosh and asked alms from the passengers. His eyes were red but he still enjoyed a little sight. The hair of his head and beard were greenish white, like moulded bread. Some of his teeth were still remaining. His son who was 97 declared that his father had formerly been a head taller; that he married at great age for the third time, and his son was born of this late marriage. He was accustomed, according to the principles of his religion to observe with great strictness the fast days; and he used for food nothing but milk and a kind of cake called by the people rollat schen, and he drank of a brandy made in the
country. He had children descendents in the fifth generation with whom he sometimes sported, carrying them in his arms. His son, though 97, was still hale and hearty. When Gov. Count Vonwallis of Ternaswater heard that this old man was sick, he caused a likeness of him to be taken which was scarcely finished when he died.

(The above account was extracted from a letter written to the States-General of the Union Netherlands by their envoy, Hamel Braining, at Vienna, and dated January 29, 1724.)

A negress named Louisa Truxo was living in January, 1780 at Cordova, in Tucuman, South America, at the age of 175 years. In order to ascertain the authenticity of this extraordinary circumstance, the counsell of that city in their judicial capacity instituted an inquiry with her and collected every bit of information which could throw light upon the subject.

On examination of the negress it appeared that she perfectly remembered having seen the prelate, Fernando Truxo, her first master, who died in the year 1614, and that the year before his death, he gave together with their property,

As no register of baptism existed so long ago, care was taken to collect other evidence that could be brought forward in proof of the extraordinary and very unusual fact. One of these proofs was the disposition of another negress called Vonnema who was known to be 120 years old, and she declared that when she was quite a child she remembered that Luisa Truxo was then an old woman.

We cannot refrain from reflecting that the heat of
South America, the climate of England, and the intense cold of
Russia are not obstacles to the attainment of long life where
temperance is observed.

On the monument inscribed to Henry Jenkins, Yorkshire,
England, who died at the remarkable age of 169 years, we find,

"Though the partial world
Despised and disregarded
His lone and humble state
The equal eye of providence
Beheld and blessed it,
With a patriarch's health, and length of days,
To teach mistaken man,
These blessings are entailed on temperance,
A life of labour, and a mind at ease."

These few instances culled from among the many suffice
to show us that length of days is associated with the abstemious
life found with extreme poverty, with hard work—manual work
usually, in the open air. We do not find among these records
one who arrived to extreme old age who was encumbered with many
cares or gave himself up to worry and unrest; but these people,
though for the most part very poor, seemed to be possessed of
"minds at ease."
The majority of people die violent deaths, killed either by accident or by their own misdeeds and violence of the laws of health. The natural limit of human life is estimated by naturalists to be somewhere from 100 to 120 years, and there are plenty of examples of human beings who have lived beyond this. Death from old age is not a very common occurrence nowadays. Half of the human race die before the age of five years. The average length of life in civilized countries at the present time is barely forty-two years, scarcely more than two-fifths of the normal length of life. This enormous loss of life ought to give rise to consideration of all the influences which bear upon life and longevity. Unfortunately, too much a share of the attention of physicians and scientists is devoted to apologizing for popular practices which shorten life. We have gotten our eyes so intently fixed on civilizing and training and educating the man that we have lost sight of the man himself. We have altogether so enamoured the accomplishments that we waste, excommune, and destroy man by the processes by means of which we are endeavoring to refine and culture him. Civilized to death may be appropriately written upon the great marble monuments in our public cemeteries.
"If thou well observe
The rule of not too much, by temperance taught,
In what thou eat'st and drink'st, seeking from thence
Due nourishment, not gluttonous delight,
Till many years over thy head return,
So mayst thou live, till, like ripe fruit thou drop
Into thy mother's lap, or be at ease
Gathered, not harshly plucked, for death mature." - Milton.

old age
Sir Moses Montefiore lived to a great age (101 years). He became a second Providence to hundreds of thousands of his fellow-creatures, and co-religionists. His charity drew no distinction between creeds. In his ninety-first year (1875) he made his seventh, and final journey to the East.
Among other things touched notably shorter life, expectation are acute diseases, especially typhoid fever, smallpox, scarlet fever, and probably all infectious diseases, especially where a severe attack had been suffered. These diseases were not damage the kidneys and other organs which destroy and eliminate the poisons through the enormous amount of urine. On this account it is of the greatest importance to protect
Children is the greatest effect possible from the so-called children's diseases.

Fortunately, indeed, is a person who has grown to manhood or womanhood without having suffered the injury inflicted by any of these common affections.

Such chronic infections as tuberculosis and syphilis, notable killers the year
longevity. No person who has
suffered from these affection can hope to live out the full measure of his days because of the damage to vital organs which they inflict. In the case of syphilis the necessary treatment as well as the disease itself, imposes an enormous burden upon the body which damages the vital structures and
greatly lessen their capacity for resisting the ravages of time.

When is a Person Old? —

The dictum of the French physiologist, "a man is as old as his arteries," is literally true.

The blood is the life, in the words of the ancient prophet, to which the most science gives full accord. The blood vessels are the channels by which
"life" is conveyed to each bone, cell and tissue of the body. When the blood arteries become old, that is, arteries become hardened, obstructed, thickened, obstructed, thickened, obliterated, finally weakened, their cells first weaken, then this is the chief feature of the old age makers.

But it is equally true that a man is as old as his liver, his heart, his kidneys, the strength of
a change of heart. Once you
wear a chain, you can't take it
off.

Reference: Once again, the

red wash was not the
treatment he needed. He
needed a change of heart.
uncertainty
dependent on the result of the application of their efforts.

Necessity has begun to creep in. The
health breaks through, and gradually the
employee ceases to be effective.
To likewise, the heart. When it begins to fail, every organ suffers, and life is shortened, just in proportion to the rapidity of its advancement, incapacity. A symptom of old age very often recognized is high blood pressure. But one may be old without high blood pressure. When the arteries are hard, hardening and sclerusing, the
The need for successful crop raising is not simply the result of higher food output. It is also a necessary requirement. The need for increased food production is the cause of increased food output. The need for increased food output is the cause of increased food production. The need for increased food production is the cause of increased food output.
years without hardening of the arteries and hence without rise of blood pressure. The writer of this lives at seventy years and has never had a higher pressure. His arteries are still soft as in youth. The section is also advanced.
reason why the blood pressure would rise. Hard arteries with low blood pressure is a most dangerous condition. It is found in old persons whose hearts are worn out and failing. If a person's arteries are not hard and if his vital organs are sound, he is still young, so...
mater what the number
of years he has lived, and
there is no reason why
his blood pressure should
be high. Hence, the normal
blood pressure is the
same for all ages; viz.,
100 to 120. When the
blood pressure begins to
rise, this fact is a sign
of beginning suddenly and hence of very great significance. When the
proceeds once begins it often progresses with great rapidity
It appears that the strain of safety, the vital reserve
has been consumed and the working capital is being eroded.
The body is no
I was able to preserve the balance between waste and repair. The old age process, like a consuming fire, steadily progresses until the house is in ruins or consumed. The process may be slow.
or very rapid. Fortunately the process may be arrested in most cases by changes of habits and the use of simple means which are readily at hand. The details of methods for controlling blood pressure
hundreds of cases by the establishment yet proper regimen, and do not in many cases the improved condition has been maintained for years. That is, the consuming fire was quenched, at least temporarily.
New to Live a Hundred Year

Live on a Good Diet
Broccoli
Drink Pure Water
Eat Natural Foods
Avoid Poisonous Substances
Avoid Disease Germs

Don't Worry
Sleep Enough
Work Hard
Play Often
Eat Clean
Summary

This paper is a comparative study of the death-rate of large and distinct groups of the population selected because of radical differences in habits for the purpose of discovering thereby the influence upon health and life expectancy of such habits as are found to be largely characteristic of individual groups.

Ten different groups are studied:

1. City and Rural Populations.
   The death-rate in registration cities in 1910 was 15.89 and in rural districts 13.40, a difference in favor of the country of 250 deaths per 100,000.

   Probable cause of the lower death rate in rural districts, more biologic habits, notwithstanding some disadvantages.

2. Males and Females.
   Notwithstanding the fact that there is a preponderance of males in our population in the proportion of 41 males to 40 females, the mortality statistics show six male deaths to five female, an excess of 20%.

   Probable cause, the greater use of alcohol and tobacco by men. It is claimed that about ninety per cent of all men are smokers, while few women smoke. Hunter has shown that the mortality of policy holders who are moderate drinkers is double that of abstainers, and Dr. Dwight has shown that the mortality of smokers is 57.6% greater than that of non-smokers.

3. Decedents from Disease of the Blood Vessels.
   The death-rate from disease of the blood vessels has increased nearly 300% in 15 years.
140 males die of this disease to 100 females.
At 20-25 years 300 males die to 100 females.
At 40-44 years 376 males die to 100 females.
170 males die of angina pectoris to 100 females.
Probable cause, the greater use of tobacco among men
as compared with women.

4. Decedents from Bright's Disease.
132 males die of this disease to 100 females notwithstanding the greater mortality of females from renal disease between 10 and 30 years.
Probable cause, the enormous increase in the use of tobacco by men during the last fifteen years.

5. Decedents from Gastric Ulcer.
164 males die of gastric ulcer to 100 females. The disease is increasing among males twice as fast as among females.
Probable cause of excessive mortality of males, the injury done to the stomach by the use of tobacco and alcohol.

6. Decedents from Cancer of the Mouth.
451 males die of cancer of the mouth to 100 females.
Unquestionably the excess of male decedents in this case is the result of tobacco-using.

7. Decedents from Cirrhosis of the Liver.
This disease destroys 213 males for 100 females. All other diseases of the liver claim as victims more females than males.
Probable cause of the excessive mortality of cirrhosis of the liver, the greater use of alcohol and condiments by males.

8. Decedents from Biliary Calculi.
The mortality of females is in the ration of 253 to 100 males. Between the ages of 25 and 29 years the proportion of females rises to 455 to 100 males.

Probable cause, the sedentary habits of men, the wearing of corsets which restrict the breathing movements, and constipation resulting in auto-intoxication and infection.

9. Decedents from Diabetes.

In this group also females exceed males in the proportion of 120 females to 100 males.

Probable cause, the same as those which cause gall-bladder disease, aided, perhaps, by the excessive use of cane sugar.

10. Decedents from Pulmonary Tuberculosis.

137 males die of lung tuberculosis to 100 females, and this notwithstanding the fact that the mortality of females under 25 years is in the proportion of 122 females to 100 males.

Between 25 and 70 years the mortality of males is 166 to 100 females, an excess of two-thirds.

In Michigan, and apparently in fact, in the entire country, the mortality of males pulmonary tuberculous, is increasing while that of females is decreasing and at such a rapid rate as to lower the combined death rate.

Probable cause, the amazing increase in the consumption of tobacco within the last fifteen years.

It is urged that Life Insurance organizations should make the study of the relation of habits to life expectancy, the conservation of the health and the extension of the lives of their
policy-holders through education and other efficient methods, a prominent part of their activities, as a patriotic duty and as a work for which they are especially qualified, and for the doing of which they have most extraordinary opportunity.
from pages 14-17. Published in Good Health for October.

See if this was published in Insurance Press or Word article.
the decedents of both sexes in 1910 and 1915 shows an increase of 42% in the number of male decedents and of 20 per cent in female decedents, from which it appears that the incidence of cancer of the stomach is increasing twice as fast in males as in females. The combined mortality rate from ulcer of the stomach has advanced from 2.6 in 1900 to 4.3 in 1915, an increase of 65 per cent.

It is interesting to note that the excess of male decedents over female is progressive, advancing from 26% in the age period of 20-24 to more than 200% in the age period of 45-60. An exception is to be noted, however, in the age period of 10-20 years, according to the Mortality Statistics of 1915, and 10-25 years in the Mortality Statistics of 1910. During adolescence and the early adult life of females, the incidence of ulcer is greater than in males, a fact which suggests that at this period of life there must be some decided divergence in the habits of male and female human beings which accounts for the remarkable difference in susceptibility to destructive disease identical in character and location. The excess of mortality among females during adolescence and early adult life, is rather convincing evidence that the excessive mortality among males later cannot be due to any sex characteristic, but must be attributed to some marked difference in habits developing prior to the time when the excessive mortality of males first manifests itself.

A point of interest well worth noting is the fact that after seventy-five years the preponderance of male decedents from ulcer of the stomach disappears, and after 80 years, there is an excess of female decedents. The explanation of this change may be found in the fact that hyperhydrochloria in time gives place to hypo-hydrochloria, or achylia through the exhaustion and degeneration
of the secreting cells, so in old age, after the sturdy organism can no longer operate, the preponderance of female decedents observed between the ages of 10-20 years reappears, a further confirmation of the view that the preponderance of male decedents from gastric ulcer is due to the disturbing influence of habits general among men, through which the predisposition to gastric ulcer is produced.

In searching for the disturbing factor we would naturally inquire for some influence affecting the alimentary canal. Various suggestions have been made by eminent pathologists in an attempt to solve this problem. The latest is the theory brought forward by Dr. William Mayo who, at the last Clinical Congress, held in Chicago last fall, in an interesting paper maintained that the cause of the more frequent occurrence of gastric lesions in men is traumatism resulting from the taking of excessively hot food and drinks.

The more frequent incidence of the lesion in men, Dr. Mayo holds is explained by the fact that women serve hot soup and coffee to their husbands first and to themselves last, and so through the cooling of the coffee are less exposed to damage from the excessive heat which endangers their husbands' stomachs.

In the discussion of this paper, an eminent colleague brought out the fact that in Germany the husband serves the coffee instead of the wife, so that the dinner table conditions are reversed, while the Mortality Statistics show the same preponderance of male decedents from ulcer as in this country.

Whatever the controlling factor may be, it is evident that it must be sufficiently strong to overcome the apparent predisposition
of females to ulcer and to produce in the male sex after middle life a mortality double that of females.

Here, again, alcohol and tobacco may be incriminated as probable etiological factors in producing an excess of male decedents from ulcer of the stomach. It is well known that both alcohol and tobacco stimulate the activity of the gastric glands, and so lead to an excessive production of hydrochloric acid. Alcohol is commonly used for this purpose in animal experiments in the physiologic laboratory. Experiments of Chittenden many years ago established the same fact in relation to human beings. Pavlov's observations in relation to the effect of chewing and suction movements, and the presence of sapid substances in the mouth upon gastric secretion, afford a ready explanation of the influence of tobacco in stimulating the activity of the acid-forming glands of the stomach.

The combined use of alcohol and tobacco must produce a very decided effect upon the gastric glands, producing an enormous exaggeration of their activity, a condition which is characteristic of gastric ulcer. It is true that all tobacco users do not use alcohol, but certainly there are very few who use alcohol who do not also make use of tobacco.

The foregoing facts and considerations seem to the writer to afford at least good ground for placing the alcohol and tobacco habits under suspicion as potent causes of gastric ulcer, and as such responsible for at least the excess of male over female decedents from this cause of death.

Men are much larger consumers of meat than women. Pavlov showed that animal flesh greatly stimulates the glands of the stomach,
and produces a very high acid gastric juice. An eminent New York gastric specialist maintains that the free use of meat is the principal cause of gastric ulcer. The large use of meat by men and by women may be one of the controlling factors in producing the excessive male mortality from gastric ulcer.

Many eminent medical authorities now maintain that cancer of the stomach generally originates in simple ulcer, so that gastric ulcer may be, in a certain sense, regarded as the preliminary stage of cancer, or, at least, an open invitation to the development of cancerous disease.

The mortality in 1915 from cancer of the stomach was more than 21,000 in the Registration Area, or more than 30,000 for the whole country, the death rate from cancer having increased nearly 50% in 15 years, or from 22.5 in 1900 to 31.5 per 100,000 in 1915.

In cancer of the mouth, we have another example in a measure akin to that of gastric ulcer, and showing a still greater disparity in the number of male and female decedents. In the year 1915, 1,738 males died from cancer of the mouth, while the number of females dying from this disease was only 385. That is, for every hundred females who died in 1915 from cancer of the mouth, 451 males succumbed to this dread disease.

Up to 25 years, cancer of the mouth is a negligible factor as a cause of death. Beginning with the age period from 25-29, there is a steady increase in the excess of male decedents, reaching a maximum of 909 males for each 100 males at the age of 45-49. The excessively high rate of male mortality is maintained from 45-70 years, after which the excess diminishes gradually but never disappears.
In this case, certainly, the evidence against tobacco is so strong as to be incontrovertible. The culprit is caught red-handed, so to speak.

Tobacco is, of course, not the only cause which may give rise to cancer of the mouth, but it especially opens the door for the disease by breaking down the resistance of the tissues, a property of this drug to which Charrin called attention many years ago, by an experiment which demonstrated that pigeons, which are naturally immune to anthrax, quickly succumb to inoculation with an anthrax culture after having received a minute dose of nicotine. It seems fair, at least, to hold tobacco responsible for the excess of male over female decedents, 1,353 deaths in a single year in 1915.

In cirrhosis of the liver, we have another disease in which the number of male decedents greatly exceeds the female. The male mortality from cirrhosis of the liver, for 1915, was 5741. Female decedents numbered only 2698, or 213 male decedents for every 100 females.

The mortality of males from cirrhosis of the liver exceeds that of females at all ages.

The cause of this excess of male decedents is not far to seek. The influence of alcohol in producing cirrhosis is well known. The number of male users of ardent spirits very greatly exceeds that of females in this country.

But the use of alcohol is not the only unwholesome practice which may be incriminated in these cases. Boix, of Paris, demonstrated some years ago that pepper and other irritating substances which find access to the body through the alimentary canal, are fully as active in developing cirrhosis of the liver as is alcohol. Indeed,
the activity of pepper in producing cirrhotic changes in the liver were found to be six times as great as that of alcohol. It will, I think be conceded that men as a class, make a much larger use of pepper and other hot condiments than do women. The smoking habit and the use of alcohol both have a tendency to lessen the delicacy of the gustatory sense, and to create a craving for palate-stimulating condiments. So we will venture to charge to alcohol and tobacco and the condiment habit the male excess of mortality for cirrhosis of the liver, numbering 3043 decedents.

The mortality charge to biliary calculi affords us still another example of excessive mortality of one sex over the other, but in this case the preponderance is found on the side of female decedents. In the year 1915, 1597 females died of biliary calculi in the Registration Area, while the number of male decedents was 631, or 253 female decedents for each 100 males.

The preponderance of female deaths becomes apparent in the age period of 20-24 years, reaching in the next five year period, a maximum of 455 female decedents for 100 males. The preponderance of female deaths from biliary calculi is pronounced at all ages up to 90 years. This extreme preponderance of disease of the gallbladder in women is particularly remarkable, in view of the fact, that the mortality of males from diseases of the digestive system as a whole exceeds that of females by nearly 20%. It should be noted, also, that a preponderance of female decedents occurs in other diseases of the liver as well as in the case of biliary calculi.

Why should women be more subject to diseases of the liver and gall-bladder than are men. There are several reasons. First, women suffer more from constipation than do men, the natural result of
their more sedentary life, at least in this country. These remarks, of course, have reference to ante-bellum days. The natural result of constipation is auto-intoxication and colitis and ascending infection of the intestinal tract. Through incompetency of the ileocecal valve, there is a reflux of infectious material from the colon and stasis in the small intestine, conditions which sooner or later almost inevitably result in infection of the biliary ducts and the gall-bladder.

I have had an opportunity to study a large number of cases of this sort at the operating table as well as in the examining room, and the investigation has been sufficiently thoroughgoing, thanks to the refined X-ray technic developed by my colleague, Lieut-Colonel James T. Case, to afford positive findings in relation to the conditions present. It is a highly significant fact that iliac stasis is always found present in cases of gall-bladder disease, and it is also possible to demonstrate incompetency of the ileocecal valve.

The innumerable causes of constipation are especially active in women. Their more sedentary habits, beginning generally in girlhood, result in a feeble muscular development. The muscles of the back and abdomen suffer most because of the vicious mode of dress which women, almost without exception, adopt, and because of the abnormal postures assumed in sitting and walking, in which the muscles of the trunk are so relaxed that they cease to afford the abdominal cavity the support necessary for the maintenance of normal intra-abdominal pressure, one of the conditions necessary for proper bowel action.
Another result of bad posture and relaxed abdominal muscles is the accumulation of blood in the splanchnic or abdominal area.

A concentrated diet, and especially the habit of resorting to mineral water and various laxative drugs to secure bowel evacuation are prolific causes of constipation. Probably very few persons who are subjected to the conditions of modern civilized life escape constipation and the dire consequences which result from it. Modern studies of the physiology of the colon have, I think clearly shown that the food residues and associated waste matters, should be evacuated after each meal, or at least three times a day. Persons whose bowels move once a day carry about continually in their colons the residues of several meals with large accumulations of mucous and various intestinal excretory properties, all of which are, through the prodigious activity of billions of bacteria rapidly converted into noisome and highly toxic substances when allowed to remain in the colon for longer than a few hours. The bowel movements must not only be frequent by complete, so that the colon may be kept free from putrefying residues.

Neglect of these simple hygienic facts is no doubt not only responsible for the excessive mortality of women from diseases of the stomach and gall-bladder, but a multitude of nervous and other ailments which render miserable the lives of millions which might easily be made happy and efficient by biologic living.

Civilized human beings, like house dogs, are house-broken, and, like house dogs, are universally constipated in consequence.

When we become wise enough to listen to the teachings of Nature, and to heed her instinctive leadings, we shall be delivered
from a enormous incubus of disease, included in which will be the feminine predilection for infectious disease of the gall-bladder.

That increasingly common malady, diabetes, affords still another illustration of a cause of death which claims a larger number of females than males. The Mortality Statistics for 1915 show that for every hundred males who die of diabetes, 120 females die.

Between the ages of 15 and 40 years, there is a slight preponderance of male decedents from diabetes, but at other age periods, there is a decided preponderance of female decedents. The disparity is greatest between 50 and 85 years.

A probable explanation of the excess of the mortality of females is to be found in the facts and considerations offered in relation to gall-bladder disease. Recent studies of diabetes have seemed to show most conclusively that the chief factor in the disease is failure of the pancreas to produce its internal secretion in sufficient amount to secure the complete utilization of the blood sugar. Careful study of the pancreas in cases of death from this disease rarely shows distinct evidence of pathologic changes of a character naturally resulting from ascending infection, derived from a diseases gall-bladder or biliary ducts.

In a special research made by my request, Lieut- Colonel Case, when in active charge of our X-ray Department, marked iliac stasis was found in every one of thirty consecutive cases of diabetes subjected to complete roentgenological study of the alimentary canal.

Thave in several cases succeeded in curing diabetes by drain-
"Then" God, if he be good, is not the author of all things, as many assert, but he is the cause of a few things that occur to men. But few are the goods of human life, and many are the evils, and the good is to be attributed to God alone; of the evils the cause is to be sought elsewhere, and not in him.

The Universal Anthology, Vol. 4, p. 133

Old Age.

These shriveled seneads and this bending frame
The workmanship of Time's strong hand proclaim;
Skilled to reverse whate'er the gods create,
And make that crooked which they fashion straight.
Hard choice for man—to die, or else to be
That tottering, wretched, wrinkled thing you see,
Yet age we all prefer; for age we pray,
And travel on to life's last lingering day;
Then sinking slowly down from worse to worse,
Find Heaven's extorted boon our greatest curse....
You've cursed it to me as a nightly ill,
Yet borne not, death the price—a greater still;
We covet, yet reject it when arrived—
So thanklessly our nature is contrived.— Crates.

The Universal Anthology, Vol. 4, p. 293
"The Rev. Robert Moffat speaks of Caffir hunters who can eat a half-grown sheep at a single meal, together with potfuls of liquid grease and peppergrass; but such feasts alternate with long fasts, while the epicures of the Danubian metropolis load their digestive apparatus day after day with a quantum of miscellaneous comestibles that would last an average American mechanic for half a week? The ancient Romans contented themselves with one meal in twenty-four hours."

"Jean Jacques Rousseau remarked that it is far easier to civilize a barbarian than to restore the lost vigor of an effeminate nation.

Felix L. Oswald, M.D., Good Health. p. 195
We keep our faculties fresh by exercise. Disuse brings degeneration, introspection, and later despair. It is work only that animates, rejuvenileates, and inspires. Quincy asked John Adams how he managed to keep his faculties entire to ninety years. "By constantly employing them," he replied. 'The mind of an old man is like an old horse; if you would get work out of it, you must work it all the time.' Humboldt at seventy-five worked like a plowman. He completed the third edition of his work at the age of eighty-three, the period at which Cato set himself to studying Greek. Caroline Herschel prosecuted her studies in astronomy at the age of eighty-four, while Hannah Moore at this period was such a cultivated woman as to attract to her house visitors by the hundred every week. A literary life leads to old age, even with, or in spite of, weakness of the body. Neither Fontenelle nor Voltaire was expected to live at the time of birth. Each seemed to be dying; yet the one lived to be almost one hundred and the other to his eighty-fifth year; and both of them retained their faculties. Landor wrote some of his famous 'Imaginary Conversations' after the age of eighty-nine. The lectures of Blumenbach, the celebrated physician, were crowded with students from all parts of Europe after he was eighty-three."


Stephen Greenhill
A Centenarian Indian Medical Officer

Surgeon-Major Henry Benjamin Hinton, late of the Honorable East India's Company's Bengal Army, died at Adelaide, South Australia, on May 14th, 1916, aged 103.

When in his 99th year, Dr. Hinton sustained an intracapsular fracture of the head of the left femur, and after this was unable to walk and could only manage to shift himself from his bed to a chair. Up to the time of his accident, he considered that he had failed in his duty to himself if for any reason he had not taken his daily walk of six or eight miles. Habits: He attributed his longevity partly to heredity and partly to his abstinence; he was a non-smoker, practically a teetotaler, and was a very small eater. He had one strange habit: He always slept with his head covered with blanket and sheet. He abhored cold weather, and loved his sunny clime, though it was strange to hear an old Anglo-Indian sometimes complaining of our summer heat. Final illness only lasted a couple of weeks, and his intelligence was preserved till near the end.

He was apprenticed to a surgeon. A student of Guthrie.

Longevity in Roumania

A recent report shows that the proportion of centenarians is larger in Roumania than in any other country. It is claimed that in this country one person in every thousand is able to celebrate his one hundredth birthday, and that there are numerous examples of persons living to the age of 125 years, and in several instances to the age of 150 years. This exceptional longevity is unquestionably the result of the simple habits of life which still prevail in Roumania.

Good Health (1897), p. 454
How to Keep Well.

By Dr. W. A. Evans.

Questions pertinent to hygiene, sanitation, and prevention of disease, if matters of general interest, will be answered in this column. Where space will not permit, or the subject is not suitable, letters will be personally answered, subject to proper limitations, and where a stamped, addressed envelope is enclosed. Dr. Evans will not make a diagnosis or prescribe for individual diseases. Requests for such service cannot be answered.

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SIGNs OF AGE.

It is said that men are as old as their arteries. This may be true in whole or in part. But, whether true or not, the very fact that it is said every day—that it is one of the every day health epigrams—is proof of the fact that the calendar as a measure of age is unsatisfactory.

Physicians hope the time will come when old age will be the only cause of death. In that day all men will recognize pneumonia, consumption, typhoid fever, and all similar diseases as preventable accidents. Metchnikoff predicted this day years ago. He even went further and speculated on eternal life. He removed those causes which we will figure as preventable accidents and then laid plans to add old age to the list.

Any one who reads Napoleon's life carefully is struck by the variation in the man which experience made and also by the fact that the calendar year was no proper measure either of those experiences or of the variations which they produced in the man.

When a man wants to take stock of himself the first thing for him to do is to count his years. Years count in figuring the estimate of expected longevity. Next he should study his family history. What is the average age at death of the members of his family—particularly those in the direct line of descent? Death age is inherited. How long was the expectancy at that person's age of those who lived longer than he had lived?

In other words, he being 50, what ages were reached by those who lived to pass 60? What disorders did his ancestors develop? Certain diseases run in families. How well has this individual adjusted his habits so as to avoid the family diseases? At what age did his ancestors become senile? Lose their teeth? Become bald? Become obese? Lose their pep?

Next comes an analysis of his own history in the light of his family history and that of the average man: At what ages did he pass through certain epoch-making changes in his functions? At what age did his face begin to wrinkle? His hair to gray? At what age did he mature? In the case of a woman, at what age did menstruation start? Stop?

At what age did he notice he was different as to endurance, wind, energy, speed, enthusiasm, judgment, point of view? What severe diseases had he gone through? Particularly, which has he had of those severe infectious which are so apt to cripple the kidneys in after life? If he must wear glasses because of presbyopia, at what age was it necessary to begin their use? If he has deafness of a type which develops in middle life, at what age was it noticed? Next comes a stock taking of physical conditions.

What is the blood pressure? What is weight as compared with the height? What the pulse? Is the heart organically sound and well balanced in its nervous mechanism? Are the kidneys normal? The lungs? Is the digestion good? Does the man overeat? How is his skin? Is it elastic? Does it quickly smooth out after being pinched up? Is it saggy and wrinkly? At what age did persistent night urination begin?

All signs are apt to fail in dry weather. Prognosticating on length of life is proverbially almost as risky as prognosticating the weather in times of drought. At best, these signs indicate averages of what can be expected.
(From "Seneca's Morals", p. 159)

"There is not anything that is necessary to us but we have it either cheap or gratis: and this is the provision that our Heavenly Father has made for us, whose bounty was never wanting to our needs. It is true the belly craves and calls upon us, but than a small matter contents it: a little bread and water is sufficient, and all the rest is superfluous. He that lives according to reason shall never be poor, and he that governs his life by opinion shall never be rich; for nature is limited, but fancy is boundless. As for meat and clothes, and lodging, a little feeds the body, and as little covers it; so that if mankind would only attend human nature, with gaping at superfluities, (a cook would be found as needless as a soldier: for we may have necessaries upon very easy terms; whereas we put ourselves to great pains for excesses.)"

p. 161.

"Coarse bread and water to a temperate man is as good as a feast; and the very herbs of the field yield a nourishment to man as well as to beasts. It was not by choice meats and perfumes that our forefathers recommended themselves, but in virtuous actions, and the sweat of honest, military, and of many labours."

p. 162.

"Happy is that man that eats only for hunger, and drinks only for thirst."

p. 181.

"It should be our care, before we are old, to live well, and when we are so, to die well; that we may expect our end without sadness."

p. 182.

("We take more care of our fortunes than of our lives.")
(From Seneca's Morals)

p. 183. "How great a shame is it to be laying new foundations of life at our last gasp, and for an old man, with one foot in the grave, to go to school again? While we are young we may learn; our minds are tractable, and our bodies fit for labour and study; but when age comes on, we are seized with languor and sloth, afflicted with diseases, and at last we leave the world as ignorant as we came into it: only we die worse than we were born; which is none of Nature's fault, but ours. I wish with all my soul that I had thought of my end sooner, but I must make the more haste now, and spur on, like those that set out late upon a journey; it will be better to learn late than not at all, though it be but only to instruct me how I may leave the stage with honour."

p. 196. "Life is to be measured by action, not by time; a man may die old at thirty, and young at fourscore: nay, the one lives after death, and the other perished before he died. I look upon age among the effects of chance. (How long I shall live is in the power of others, but it is in my own how well.) The largest space of time is to live till a man is wise. He that dies of old age does no more than go to-bed when he is weary."
(From Seneca's Morals).

"Life is to be measured by action, not by time; a man may die old at thirty, and young at fourscore: nay, the one lives after death, and the other perished before he died."

"How long I shall live is in the power of others, but it is in my own how well."

"He that dies of old age does no more than go to-bed when he is weary."

p. 127 - "What is pain? It will either have an end itself, or make an end of us."

p. 200. "The very necessaries of life are deadly to us. We meet with our fate in our dishes, in our cups, and in the very air we breathe."

p. 248. "He that is naturally addicted to anger, let him use a moderate diet, and abstain from wine; for it is but adding fire to fire. Gentle exercises, recreations, and sports, temper and sweeten the mind."

p. 250. "It is not enough to be sound ourselves, unless we endeavor to make others so."

p. 306. "Much use of a coach makes us lose the benefit of our legs: so that we must be infirm to be in the fashion, and at last lose the very faculty of walking by disusing it."
Wesley's Learning.

Writing of John Wesley some one in *The Outlook* says:
The explanation of his extraordinary physical endurance is the power that the spirit has over the body. He was a little man, "barely five feet six inches in height," and spare as well as short. He was anything but an athlete, and his early life certainly did nothing to develop in him remarkable physical powers. He died in the eighty-eighth year of his age, and on his last birthday he wrote in his diary: "For above eighty-six years I found none of the infirmities of age; my eyes did not wax dim, neither was my natural strength abated."
Yet he had used his body to a degree rare in human history. "In the fifty years of his itinerant life he preached over fifty thousand times—an average of some fifteen sermons a week." "The distance he had to travel made him a hard rider;" yet "his saddle was his study; most of his miscellaneous reading was done on horseback." And it was very miscellaneous. Nothing in literature that was of any value came amiss to him. "He was familiar not only with the great works of his own literature, but with those of the Greek, Latin, Italian, French, German, and he had a good reading knowledge of Spanish."
more things are wrought by prayer than this world dreams of."

A Little Child’s Prayer Answered.

Lee Burris was a conductor on the Pan Handle, or Pennsylvania Railroad. His run was between Columbus and Pittsburgh. He told me he was converted on the road while his train was going at the rate of forty miles an hour. After

THE

“But speak thou"

Volume LII. Number 12. SCRI

“All Night In Prayer.”


“All night in prayer”—whilst others slept,
Or, heedless, their wild revels kept.
In lonely spots, oppressed with care,
The Saviour spent his nights in prayer.

“All night in prayer”—’tis joy to know
I have such comfort in my woe;
And whilst I watch, His pity share,
Who often spent like hours in prayer.

“All night in prayer”—I love to think
(From Seneca's Morals)

p. 336. "Epicurus makes the two blessings of life to be a sound body and a quiet mind.

"A virtuous life must be all in one piece, and not advanced by starts and intervals, and then to go on where it left; for this is losing ground."
"John Wesley loved riding and walking, was an expert swimmer and enjoyed a game of tennis." His journal has been called 'the most amazing record of human exertion ever penned by man.' 'On horseback he traveled more miles, spoke oftener and to more people than any man who ever lived.' 'Eight thousand miles was his annual record for many a long year, during each of which he seldom preached less frequently than five thousand times.' At eighty he writes, 'I find no more pain or bodily infirmities than at five and twenty,' and he imputed this in part 'to my still traveling four or five thousand miles a year and to my constant preaching.'"

James Frederick Rogers, M.D., Popular Science Monthly, July, 1913.
The Romans had their brooks even in their parlors, and found their dinners under their tables. The mullet was reckoned stale unless it died in the hand of the guest; and they had their glasses to put them into, that they might the better observe all the changes and motions of them in the last agony betwixt life and death. So that they fed their eyes before their bodies. "Look how it reddens," says one; "there is no vermilion like it. Take notice of these veins; and that same gray brightness upon the head of it. And now he is at his last gasp: see how pale he turns, and all of a color."
Games and Exercises

After the siesta (rest at midday), follows, as a matter of course, the daily exercise. The young would take this in the form of military sports in the Campus Martius, running, leaping, wrestling, fencing, and the like; but even the old could not neglect it without the charge of indolence. The favorite amusement then, as it is in Italy at the present day, was the game of ball.....The players stripped for the game, even removing their shoes; and in winter-time the room was heated to avoid a chill while playing. Three kinds of ball seem to have been in use. The largest, but lightest, was the follicis, which was filled with air, like our football, and struck with the hand or arm. This game was looked upon as proper for only old gentlemen and children; at one time Augustus was fond of it. The ball next in size was the paranice. The last kind was the nile, a small ball stuffed with feathers, and used in many different games. A favorite game, the tricon, must have answered pretty nearly to our catch-ball, seemingly with six balls going at a time among three players. Besides this there was the harpastum, a kind of boisterous scramble for one ball, or more probably for several balls, among a number of players. The famous Mucius Scævola the Augur, the most learned lawyer of his day, was an excellent ball-player, and used to refresh himself with it daily after his labors in the law-courts; and even that rigid philosopher, the younger Cato, was often seen playing it in public on the Campus Martius.
The exercises taken by the boys were unlike those of the Greeks in one point. The Greeks practised always with a view to bringing the power and the beauty of the body to the highest possible pitch, and held victorious athletes in the very highest honor. But the Roman games and exercises were intended only to make men strong and skilful warriors; and it was not for beauty of form or grace of movement, but only for vigor and prowess in battle, that they were honored by their fellow-citizens.

In the time of Cicero a kind of shorthand came into use.
The Baths

The time given to exercise, though regular, was not long. When the eighth hour came, the bells of the public baths were rung, as a sign that they were now open, and the people came flocking in to what was one of the greatest and most universal of pleasures.

In earlier times a bath was, as a rule, only taken on the mundinae, and merely for the sake of cleanliness, and the first bathhouses, public as well as private, seem to have been quite simple. At most they had two chambers, one for the cold plunge-bath, and another for the warm bath, and a swim in the Tiber was preferred, at least by the younger men, to either. But as early as the second Punic war speculators had begun to build baths (balineae or balnea) to take the place of the early national wash-house (lavatrina). At first, just as in Greece in the days of Aristophanes, old-fashioned folk strongly opposed these luxurious habits, and looked upon them as very weakening. The numbers of the baths increased, and Agrippa, the friend of Augustus, is said to have added as many as 170 to those already in use. Later emperors reared vast piles of buildings known as thermae, to include baths, gymnasia, and often libraries; and none of the ruins of Rome are more extensive than those which are known as the Baths of Titus, of Caracalla, and of Diocletian. At last there was not a town in the provinces, there was hardly a village, without its public bath.
The Dinner

The chief meal of the day was taken just after the bath, as a rule, at the ninth hour (about 2:30 P.M. in summer, and 1:30 P.M. in winter). This was the _gena_; and with regard to it two mistakes are very commonly made. In the first place, its name is often spelt _goena_; but this is entirely wrong. Like many other blunders in Latin spelling, it arose from the notion that the word came from a Greek word — in this case _"a common meal"_ — with which it had really nothing to do: _gena_ is a genuine Latin word, and it means simply "meat" or "eating."

In the second place, it is often translated "supper," a correct translation only for those people who take their supper as a rule before 3 o'clock in the afternoon. There are instances, of course, of a _gena_ later than this, especially with those who were busy in the law-courts till the tenth hour of the day; but the ninth hour was quite the usual one.

What seems rather odd to us is that, if any luxurious banquet was to be given, they began it earlier; so that to dine early in the day was regarded as a proof of extravagance and self-indulgence, and a "timely banquet" was the same thing as an elaborate one. But naturally a banquet which began betimes might also be carried on late; and even those who lived quite simply used to sit for a long while over their dinner.

In early days the common fare at dinner, as well as at breakfast, was the national dish of porridge (_pulmentum_) made of wheat or spelt (_far_); and it long continued to be so among the poorer classes. So Plautus, speaking of some joiner's work, says that it was not made by a "clumsy porridge-eating Roman workman." The only usual addition was vegetables
of various kinds, such as pease, beans and lentils (*lentumina*) or cabbage
leeks and onions (*holera*); but meat was rarely eaten, even at the tables
of the nobles. Even bread (*panis*) was not always used; when it was needed
it was made at home by the women or the slaves. There were no bakers
by trade in Rome until the third Macedonian war, nearly 600 years after
the date commonly given for the founding of the city.

In the time of Plautus, about 200 years before Christ, a cook was
hired from the market whenever a feast was to be given, just as was the
custom at Athens. But afterwards cooks (*coqui*) and fancy bakers (*pistores*)
gave to be among the most valued and costly of slaves. Perhaps it was
at first the feasts, which followed on sacrifices, that afforded the
suggestion of better living, and a knowledge of the luxury of the Greeks
gave rise to increased extravagance, which soon outran that of their
teachers. We have accounts of dinners under the Emperors which could
hardly be surpassed for the profuse and reckless glutony displayed.

In the dining-room the host and his guests took their places,
reclining on the couches around the table, on which no cloth was laid
for fear of hiding its beauties. Every guest had his napkin (*manna*),
either supplied by the host, or as often brought with him from home.
As each one rested on his left elbow, the use of a knife and fork was
impossible; indeed the custom of eating with a fork is not more than 500
years old, and appears to have been invented late in the fourteenth
century in Italy; it did not reach England until the beginning of the
seventeenth century. Forks were, however, used by the carvers, who cut
up the meat before it was placed on the table; the art of doing this gracefully was studied carefully, and practised in training-schools on jointed wooden models.

Spoons (ligulae) were in use for such dishes as required them; but the fingers were chiefly employed, just as is the case in the East still; it is not certain whether knives were set on the table; but as ivory-handled knives as well as spoons have been found by the side of food placed in tombs, it is likely that they were.

An article never wanting on the table was, the salt-cellar: even in the poorest houses, this was, if possible, of silver, and it was looked upon as a sacred vessel. It was used not only to flavor the dishes, but also to mingle with the meal (mola salsa) in the sacrifice, which was offered in the course of the dinner.

At the dinner party every one of course appeared in his best dress; the cumbrous toga was replaced by a gay-colored dining-garment, and sandals were worn instead of the ordinary shoe. But as soon as a guest had taken his place on the couch, his slave, who had come with him from his house, removed his sandals, and took charge of them until they were called for; this was the signal for leaving.

In an ordinary dinner there were three distinct courses. The first was called gustus or gustatio, or sometimes promulsia, because it preceded the draught of mulsum, or wine sweetened with honey. This course consisted of such things as were supposed to whet the appetite for the more solid dishes which followed. These were mostly piquant vegetables, such as sorrel, lettuce, pickled cabbage and gherkins, radishes, mushrooms, and the like, to which were often added oysters and small salt fish, such as sardines; and eggs were also included; from the last item we get the common proverb, ab ovo usque as mala,
meaning, "from the beginning to the end." Then followed the *genus* proper, in the old days only a single course, such as the "beans and bacon" on which Horace tells us he dined at his farm in the country. But afterwards six or seven courses (*ferula*) were not uncommon. Various forms of fish, flesh and fowl were gathered from the farthest corners of the earth to sate the gluttony of the wealthy Romans under the Empire.

We may mention two articles, seen daily at every table now, which were never used by the Romans. Sugar (*saccharum*) is spoken of by Pliny as a sort of white gum, collecting on reeds in Arabia and India, brittle to the teeth, and of use only in medicine;" for sweetening purposes honey was always employed.

Butter (*butyrum*) was recommended by doctors, as a plaster, but in cookery its place was taken, just as in southern Europe now-a-days, by olive oil.
Oct. 25 '26

They also serve who only stand and wait.

Milton

Just a word of greeting

of the members of the

 club in the city.
Just a word of greeting to the membership of the 3 1/3 Club, the only club of its kind in the world and one of the largest clubs in the city, besides being the oldest club, on the average its now small dinner to be a member of the 3 1/3 Czech Club. It takes a lot of
Pluck and stamina, and energy, self-control and character to weather the storms of life for three quartets of a century and a good deal of added tension to escape the rains and fits and which beat the feet of every human foot. Only one person in nine has the qualifications to reach seventy-five years; besides, one has to have studied one's life to a good quality.
to start with. So you see, the members of this club are the cream of society, the very salt of the earth, an aristocracy, in fact.

And every member is to be congratulated that he has the and their warm to be happy and proud of his ancestors and his own attainments. Now I find there are only two minutes more to talk and
We are all happy
that our venerable friend Mr. Gardner is
still with us, having
handed his one hundred
99th milestone yesterday.

He is still as keen and
active as ever.

ahead of old father time
in the race mar a
chance to reach a
hundred years, which
we are all entitled to do.
In behalf of the oldest and biggest 3/4 Century Club in the world I send warm hearty congratulations. To reach 100 years is a noble achievement. Every member of the Club.
According to the ancient
English doctors, life
begins to wane as
Lander Montgomery
begins to wane
though we will have
to organize a sub-
visit for centenarians
before very long.

But I need to hear
only two minutes more
to back and so I am
going right now to
let you into a little secret. You know an
young friend Wheelback.
I am getting up a
surprise for anyone
our young friend
Wheelback. You know
he is tremendously fond of
ancient history, and he is
particularly enthusiastic about
the early history of Rome.
the early history of Maette Creek. Mr. Wheeler has done so much for this club.
I think we should do something to stimulate appreciation and so I propose that at this
ask that each of you will put in your best thinking cap and try to
recall the happenings.
A long ago here in Battle Creek which had some thing to do with the development of the town, and in which for other reasons of interest wrote remembering and then at the next annual meeting we will have a rich treat for our good secretary in listening.
quality for belief

we hope to be able

is it true

we remember it was sunny

her bedroom and

can somebody answer

can she have a cell?
And this will be a part of rehearsal for the great centennial celebration of the founding of America at the birth of our country. When the United States, when this club will be one of the key features, and
to be there and ready to play an part the making the great event & success.

But my time is

Mr and
in that occurring. But you must all plan to be there with your interesting reminiscences.

And do you must not fail to take good care of yourselves. Be sure to get plenty of fresh air, but don’t never allow yourself to get chilled. There’s nothing so depressing as a chill. Keep warm, but by dressing warm, but beware of overheated rooms.
But try twice as often
And don't worry, even
If you have a good deal
Of one time. Remember the
Great English poet, Milton
Wrote, 'They also served
Who only stood and
wait.' So keep smiling.
And so let us all
Keep our heads up and
Keep smiling till we
meet again. Goodnight.
And here's another matter from one you will be interested in. A few years from now, we shall have a great anniversary of the founding of the town of America and the 34th Century Club. It will naturally be a big feature of that great event. And all the information you can gather up will be needed greatly appe-
Just a word of greeting to the members of the Three-Quarters Century Club, the only club of its kind in the world and one of the largest clubs in the city, besides being, on the average, the oldest club. It is no small honor to be a member of the Three-Quarters Century Club. It takes a lot of pluck and stamina, energy, self-control and character to weather the storms of life for three-quarters of a century, and a good deal of adroitness to escape the snares and pitfalls which beset the feet of every human being. Only one person in six has the ability to reach seventy-five years. Besides, one has to have a good heredity to start with. So, you see, the members of this club are the cream of society, the very salt of the earth, an aristocracy, in fact, and every member is to be congratulated, and has reason to be proud of his ancestors and of his own attainments.

We are all happy that our venerable friend, Mr. Gardner, is still with us, having passed his 99th milestone yesterday. In behalf of the oldest and biggest Three-Quarters Century Club in the world, I send him hearty congratulations. He is still a few laps ahead of Old Father Time in the race, and has a chance to reach the hundred years to which we are all entitled, according to the eminent English doctor, Sir Lauder Brunton. It begins to look as though we would have to organize a subdivision for centenarians before very long.

But I see I have only two minutes more to talk and so I am going right now to let you into a little secret. I am getting up a surprise for our spry young friend Wheelock. You know he is tremendously fond of ancient history, and he is particularly enthusiastic about the early history of
Battle Creek. Mr. Wheelock has done so much for this club, I think we should do something to show our appreciation, and so I ask that each one of you will put on your thinking cap and try to recall some of the happenings of long ago here in Battle Creek which had something to do with the development of the town, or for other reasons are worth remember- bering. and then at the next annual meeting we will have a rich treat for which our good secretary in listening to the interesting stories, those of of you who are old residents will have to tell.

And this will be a sort of rehearsal for the great centennial celebration of the founding of the best town in America to be held three or four years hence, when this club will be one of the big features, and we must all try to be there and ready to do our part in making the great event a success. And so you must not fail to take good care of yourselves. Be sure to get plenty of fresh air, but never allow yourself to get chilled. There's nothing so dangerous for an elderly person as a chill. Keep warm by dressing warm, but beware of overheated rooms.

And don't worry, even if you have a good deal of spare time. Remember, the great English poet, Milton, wrote, "They also serve who only stand and wait." And so let us all keep our heads up and keep smiling till we meet again. Good-night.