GOD DOES NOT FIX THE DEATH RATE-BY DR. WOODS HUTCHINSON

LONGEVITY **FALLACIES EXPOSED**

While Human Power Cannot Determine the Death Rate, Much Can Be Done to Prolong Life.

CONDITIONS ARE BETTER

These Have Been Effected in Reduction of Infant Mortality Generally.

Article No. 2.

E old cynic philosophers averred that nothing was sure but death and taxes. But with the death rate cut down 50 per cent within 50 years and single declaring war to the fly away," as our war song, we have I really couldn't say positively, but taxers declaring war to the death on all taxes save one—sand even that possibly to be abolished when we can control our natural resources—it looks as if the saying was in need of revision. Even though there be "a Divinity that shapes our ends, rough hew them as we will," it is evident that our skill with the hatchet is improving rapidly.

If y away," as our war song, we have plenty of leeway before we bump against the inevitable. If every-body lived to be 70, that would roughly body lived to be 70, that would roughly mean a death rate of about 12 per 1000 a year in a stationary community. But, as most modern community. But, as most modern community. But, as most modern communities are not stationary, in fact are increasing at the rate of 2 to 5 per cent per annum, this means an actual possible death rate of about 12 the full, natural, unstarved, uninfected, unsweated possible limit of human life has probably never yet been reached. It leaves all sorts of possible that our skill with the hatchet is per cent per annum, this means an actual possible death rate of about 12 the full, natural, unstarved, uninfected, unsweated possible limit of human life has probably never yet been reached. It leaves all sorts of possible open to us in the future. On the other hand, studies upon the lower In the sense that we must all die six or seven per 1000. And the best legend and tradition, where they best we have ever won yet for a whole long, a great deal of "skimble-skam-

And General Gorgas could work at least two thirds of the same miracle all over these United States if he were appointed secretary to a great national department of health and public safety and given a free hand as to pure water, good food, airy, sun-lit houses, war on infections, and last, but by no means least, good wages. It is very significant that the lowest northern white wage rate points. Continue indefinitely until terminated by capture, drought or disease. The famous "monster," wary old trout, in the deep hole under the tree roots, or the wise old pike, the despair and the delight of the angler, is apparently only an illustration of what many "little fishes in the brook" in three months gained over 30 per might attain to if possessed of adequate intelligence, wariness and courable tortolse weighing nearly 300 pounds was brought to the New York zoo from the Galapunos islands; it was alleged to be over 200 years old, and to grow about an inch in diameter a year. For several months it hibernated, but woke up in the spring, began to grow, and might attain to if possessed of adequate intelligence, wariness and courable tortolse weighing nearly 300 pounds was brought to the New York zoo from the Galapunos islands; it was alleged to be over 200 years old, and to grow about an inch in diameter a year. For several months it hibernated, but woke up in the spring, began to grow, and in three months gained over 30 per cent in size and weight. It was probable to the New York zoo from the deep hole under the tree roots, or the wise old pike, the despair and the delight of the angler, is appointed several months it hibernated to be over 200 years old, and to grow about an inch in diameter a year. For several months it hibernated to be over 200 years old, and to grow about an inch in diameter a year. For several months it hibernated to be over 200 years old, and to grow about an inch in diameter a year. For several months it hibernated to be over 200 years old, and to grow about an inch in diameter a year. cant that the lowest northern white wage rate paid in Panama, the first 50 per cent of what might be called than double what they had been accustomed to at home.

Truth,

Here as everywhere the apparent paradox holds: Double the wages and you halve the death rate and treble the net efficiency. Indeed, when Gorgas was asked what should be the first step to lower the death rate in a northern factory town, he replied: "A minimum wage of \$3!" "But," says some one at once "we all must die sometime of something. Supposing that we can save 1000 lives from poisoned milk in infancy, from the 'little pestilences' in childhood, or tuberculosis and typhoid in youth, aren't we simply shifting the deaths from one part of the life scale to another, postponing the day of account, but altering the final balance and settlement not a whit?" Does not our boasted increased average length of life consist mainly of a huge saving of lives in infancy, childhood and early youth, by coddling and hot housing and promoting the survival of those who would otherwise have died at those periods until they can be no longer kept going and break down and die in spite of us at 40, 45 or 50? This is apparently supported by the curious fact that, while our death rate for all earlier ages of life has gone down tremendously, that from 48 to 60 has not only not diminished, but even instraw is eagerly clutched at by our life insurance companies to explain the fact that they are still insuring lives in the twentieth century with a death rate of 15 per 1000 at rates fixed in the nineteenth when the death rate was over 30.

At the first sight, this pessimistic contention seems plausible and has been used as the basis for bitter attacks upon our modern methods of sanitation and social betterment. But, as a matter of fact, it has astenishingly little support or standing in court when the actual facts are the purely gratuitous assumption that there is a fixed and definite limit to the healthlest and soundest human life, beyond which it is impossible to extend our span upon this planet. This, like most universally accepted assumptions, based upon little more than legend and tradition, and the experience that in the old, unhappy days, before the dawn of the scientific era, barely two-thirds of a century ago, the days of ignorance and filth, of cowardice and cruelty, of poverty and piety, which we fatuously refer to as "the good old days," most human beings worried through the famines and pestilences, and the private stabbings and the public slaughterings, the offal they were glad to for food and the sewage for water, were at the end of threescore or three score and ten years, pretty well worn out and ready to into the chimney corner and prate about "Vanitas vanitatum!" Their bodies had endured more insults, attacks and hairbreadth escapes in a month than ours do in a year. And it is the things that have

yet is their strength labor and trou- father, aged 85, died of, replied after ble, for it is soon cut off and we some minutes of cogitation: rather than otherwise, for the happiest country or large city is from 13 ble stuff about the superior longevity life. like the greatest battle, gets to 15. So we still have a long and be a bore sooner or later and begins to cheerful way to Tipperary before we have gone into the waste paper run around in circles, death is still reach the imaginary limit, stance, have gone into the waste paper sure. But as to the time, the method But is is most singular how the basket, like their alleged human con-

those days, the so-called natural dura- made by eminent biologists and star of their birth. For instance, in the tion of life, may be is still quite unsure, and, for all that we can see, unlimited. Nearly 60 years ago, in the
very dawn of sanitary science, Chadinvestigations covered a large numlimited by eminent biologists and started that the control of the famous London Zological Society's gardens. The
investigations covered a large numLongevity of A: Lals a Popular Myth. wick, the great English health pioneer, ber of species, wild, in captivity and declared that he was prepared to plan domestic, with the singular and unhas ever reached the age of 50. Most and build a city which should have expected result that it appeared important of them show all the signs of old age any desired death rate, from 5 per possible to fix any definite limit at 35 or 40. The royal elephant that at which life under anything ap- had carried five generations of rajahs He was simply laughed at by both proaching ideal circumstances must or kings was found to be a myth, or the pious and the practical men of those days, but within little more than half a century a lineal descendant of balf their maximum and for the under lack of knowledge about the rate half a century a lineal descendant of his in science, one William C. Gorgas, fulfilled his prophecy almost to the letter by building just such a city, a whole country, in fact, and that not in the bracing, healthful north, but in the seething tropics. For two different semi-annual periods the death rate of the white employes in Panama, includ-

"spotless town" in history, an average natural term of life for ply a case of "All coons look alike was \$5 a day, and the lowest colored most animals, including such familiar to me," for the single pair of ravens or tropical white rate \$3 a day, more boarders as dogs, cats and horses. It that had built their nest continuously was found that the lifetime of a dog for 125 years in one turret of the old or a horse was, up to 20 years for the latter and 10 or 12 for the former, from 10 to 50 different generations, An Apparent Paradox That Tells a Big latter and 10 or 12 for the former. tained. This almost perfectly corresponds with the results of our study microscope, in the test tube and on or fowl ever positively known in capthe post mortem table, the more overwhelmingly are we driven to the conclusion that the so-called signs of old London zoo. age are the clear marks of either mal-nutrition, overwork or of infectious We are driven to agreeing diseases which we were supposed to That no living human being have recovered from. It would seem Ever yet was blessed with seeing only reasonable that there should be Bird or beast that reached three-score, such a thing as the decay of our body and its various organs, simply through the cumulative effects of suctive, as evidenced by the condition of cessive decades of wear and tear. But of them shows the unmistakable hand-

Old Age Mardly Ever a Cause of Death only not diminished, but even increased slightly, about 5 per cent in
disease of civilization, is now clearly
males and 2 per cent in females. This
traceable in the great majority of we have not the slightest reason to by prolonged muscular overstrain, bad food and bad air. Even more contrary to popular impression, death by old age is and always has been one of the rarest of exits from this world's stage. Two decades or more ago Flexner discovered that the great majority of deaths occurring in hos-pitals, even in those who had been crippled in their joints, or heart, or kidneys, or liver, or nervous system and were in a state of serious chronic disease, were due not actually to that chronic disease itself, but to a sudden and victous attack of what would under other circumstances have been a trivial infection, like a cold in the head, an influenza, a tonsilitis, or a mild bronchitis or pneumonia. So uniformly was this the case that he coined the phrase "terminal infections" which broke the camel's back" of vital resistance. So widely has the idea extended since that most of our boards of health or census bureaus refuse to accept "old age" as an adequate and intelligible cause of death in a

death certificate. Although we may perhaps be in ting, with a vague sort of feeling that any man who lives to be 75 or over is entitled to de of anything he pleases and no questions asked, yet it is an interesting and consoling thought, with applications of considerable practical value, that so far there is scarcely a single attested case on record of any human being actually dying, simply, in the classic phrase, "because he couldn't live any longer," ly internal grounds. Most deaths from "old age" are due to pneumonia, of a mercifully painless and swift type, sel not the mere length of time we have dom running more than four days and been upon the planet. But even if we often only two. We may even feel secept the mournful wailing dirge: some little sympathy with the man "The days of our years are three-score years and ten, and if by reagiving his family history in making application for life insurance, who,

son of strength they be four-score, when asked what his maternal grand-

and every other detail of our final taking leave of the world. we are almost absolutely free agents, and the sky is the only limit. To paraphrase Scripture: "The dirty and unventilated man shall not live out half his days" And even what the span of the same days." And even what the span of times of animals have recently been complete ignorance of the actual date

Of the few born in captivity none

In the case of the raven, it is simtivity was a parrot which attained the age of 33 in the bird house at the

taking a certain time to reach matur-ity, as evidenced by the condition of On its very first trip in Babbacombe so far as clear and distinguishing of their bones with their shafts, or marks of senile decay in our internal their first mating period, and then live their first mating period, and then live ing so many multiples of that time, writing and footprints of some form of human beings, upon this principle, ought to reach at least 150 to 200 years, must go by the board completely. We That famous decay and hardening come as near to living our full natof the arteries, for instance whose ural span of life as any known animal. Greco-Latin name, arterio- In fact, the conditions under which we ed to thwart the "dispensations of or 10 years ago, but long enough for only when we reach the climax, and son why the death rate after 50 is not cases to one or another of the infec- regard ourselves as inferior in either clearly preventable two thirds; and a sults are beginning to show them- own. But even this counts for noth- way until about 25 years ago, in other tions, or fevers, after the normal re-sistance of the body has been lowered our animal cousins or bird relatives.

Dr. Woods Hutchinson A. M., Former Portland Physician and President-Elect of The American Academy of Medicine. pretty much what we chose to make for anything that any human observer big, massive figures in the death lists graced. And really civilized commu-

"What different lots our birthdays

For instance, one little mannikin thing Survives to bear many a wrinkle,

And a son that it took nine moons to

Within 10 years of the time we had

"The-Lord-gave,-the-Lordhath-taken-away" attitude, we found that a third of this slaughter of the spiratory diseases; another third to!

it by our skill or our ignorance, our care or our neglect, and well attested to the contrary. The same are at the different periods of life, up to the fifth year, has gone to the fifth year. cases are on record of nearly double these equine and canine ages being attained. This almost particles. There cribed to the eagle, the lion, the wild of the scroll is so vividly clear that swan and the boa constrictor. There is absolutely no trustworthy record to have, in the pre-bacterial days, a and experience with the genus human- of any elephant over 50, or any raven death rate during the first year of of their babies. We are finding that from the fifth to the fifteenth year, tion, hurry and excitement; and the and experience with the genus humanum, for the more carefully we look into
the actual facts of the case under the the "sins of the fathers" and a very good work coming in to our aid, which case, cancer, heart disease, paralysis important one, whose removal will be has been done against those modern and other degenerations of the nervaltended by far reaching improvements in many other departments of scarlet fever, diphtheria, whooping hardening of the arteries (arterio human life and happiness.

But, challenges some heavy taxpayer and real estate owners, the real work are bigger, stronger and with make.

Expires without a twinkle. * * that turns men into swine is not weon account of the good care the state of the good care the g er and real estate owner (the real Circe better resisting power against disease, that turns men into swine is not we- on account of the good care that has sion of and by too many acres of dirt). "Suppose you tide these weakly and short coffins sweeps steadily on into sure of city life. On the contrary, alling babes over into their second the next period, that of young adult they survived?"

cough, measles, etc., and partly because sclerosis) have been dubbed the "disthe children with whom we have to The tide of victory over the flood of

bay;

While another rides safe at Port year, won't you simply spread the life, from 15 to 25, for here our fight ly traceable to damages left upon the 10 years of life; and as that will mean the life, from 15 to 25, for here our fight ly traceable to damages left upon the 10 years of life; and as that will mean the life, from 15 to 25, for here our fight ly traceable to damages left upon the 10 years of life; and as that will mean the life, from 15 to 25, for here our fight ly traceable to damages left upon the 10 years of life; and as that will mean the life, from 15 to 25, for here our fight ly traceable to damages left upon the 10 years of life; and as that will mean the life, from 15 to 25, for here our fight ly traceable to damages left upon the 10 years of life; and the life is the life, from 15 to 25, for here our fight ly traceable to damages left upon the 10 years of life; and the life is the life, from 15 to 25, for here our fight ly traceable to damages left upon the 10 years of life; and the life is mortality over the next five years as against tuberculosis, pneumonia and heart, arteries, kidneys, liver and they slip their anchors one after an- typhoid comes to our aid, and clear nervous system by the little infecother, after costing the community through the next period, that of man- tions of childhood, the greater infec-"Captain of the Men of Death" are oulosis, syphilis and rheumatism, and innocents was due to bad air and respiratory diseases; another third to Let the figures answer. We only though the victory is not quite so comin the head, sore throats and summer dirty milk, and we implously proceed- got the mortality cut in two about five plete here as it was in infancy. It is sicknesses. In other words, the reacommunity which loses more than 10 selves already. Instead of rising treinfants in the 100 during their first mendously on account of the unfit and which, as our insurance experts so year-olders had reached young adult Let us see for a moment what the year considers itself more or less dis- undesirable infant lives loaded onto it, loudly trumpet on every occasion, the

eases of civilization."

The moment, however, that these diseases of middle life began to be investigated, it was found that they had no connection whatever with eating, drinking, high living or the preslife. We men and women of middle age are the hangovers from the prehygienic period; and the young people who are coming up to take our place will probably not show a third of the so called diseases of middle life that we do, because they were protected during their infancy, childhood and young adult life from the principal

causes of these chronic degenerations. The intelligent care and protection low given to the teeth alone will add 10 or 15 years to our life, to say nothing of the discovery that abscesses in the gum and about the roots of the teeth are one of the chief causes of chronic rheumatism, particularly of the most painful and crippling varieties, and that dirty mouths cause a large share of our anemias, our dyspepsias and our neuralgias. Twenty years more and toothaches will be a curiosity and plates and dentures and artificial teeth almost unknown. The youngsters now coming up will keep their teeth till they are 80, and their digestion and elastic gait in propor-What would not we semi-centenar-

ans have been spared in the shape of choked nostrils, irregular teeth, perforated ear drums, broken mouths and pigeon breasts if only the magic word 'adenoids" had been known and acted upon in our childhood days? . The cripples of our generation are nearly all dead and our new ones are coming up pitals cure them all now; the blind asylums are emptying fast, and tenanted chiefly by old or middle aged victims. Thanks to spectacles and artificial teeth, old age is relieved of half its dreariness and boredom. Woman Shows No Increase in Death

I may mention in passing that woman has again shown her customary superior vitality and vigor, and

MYTHSABOUT ANIMALS'AGES **ARELAIDBARE**

Theories Relative to Excessive Years Lived by Creatures in Animal Realm Exploded by Science.

GOOD OLD DAYS SCOUTED

Popular Practice of Referring to Glad Times of Days Gone Causes Mirth.

that her death rate at these ages so deadly to men shows practically no increase, and a distinctly superior de-cline at all other periods of life. That this comparatively heavy mortality during the periods from the fiftieth to the sixty-fifth year is due to a specific cause of this sort is supported by the cheering fact that after the sixtyfifth year the death rate again begins to decline, as compared with that of the same age 40 years ago, while the percentage who pass 75 is larger than ever was before. So that we are in a position now

augh at those loud and gloomy predictions about what would happen on account of our short sighted methods of saving infant life, 'promoting the survival of the unfit," and lowering the general average vitality of the The children of today of all ages from the fifth year on are from one to three inches taller, six to pounds heavier and have from threefourths to two inches better chest de velopment than the children of responding ages 30 years ago. And what is practically the same thing the same superiority over the children teday of the particular European country in which their fathers, grandfathers or great-grandfathers were born. How much further this reduc-tion of the death rate can be carried along through the declining years of life is a question, but it is one which need not concern us much. If we cau live a full, active, useful life up to 65, 70 or 75 years of age, what happens to us after that need distress us little. To live hard and usefully, and die as suddenly as possible, are the ideals of biological philosophy. There is neither merit, nor credit, nor comfort, in outliving our usefulness and our har

Minety Years About the Limit of Muman Life.

While we are utterly unable to While we are utterly unable to say that there is any fixed limit to the duration of human life, the probabilities are that even under the most ideal conditions which can be furnished by science the vast majority of us will fall by the wayside before our eightyfifth or ninetieth year, and most of us will not only be willing, but glad to do so. There are just as many old people proportion to the population. The idea that old age was more frequently attained in earlier ages is merely one of the many delusions connected with "the good old days." All the people we have known who belonged to those earlier days were naturally very oldtherefore that was the characteristic of the whole generation. They held the same delusions about their grandparents; our grandchildren will hold it about us. So far as we know, there are just

as many centenarians as ever, for good and sufficient reason that there is not a single legally authenticated case of any human being having passed his hundred and first year in all history, either ancient or modern, as has been proved by careful and exhaustive investigations by competent scientists and statisticians, Sir George Cornwall Berry and others. No one need have the slightest ambition to become a centenarian, for of the thousands of those who are alleged to have reached their hundred and first year, only three names would over have been heard of save for the fact of their mere turtle-like persistence of life, It is probable that the next third of century will see as large a proportie of the human race reaching the age of that we have done our work, lived our lives, started the next generation of ored and comfortable decade or two in which to counsel the rising generation and see the results of our work and muse over what it was all about, we shall be as ready for our last sleep we are now for our pillow after a hard

Next Sunday, Article No. 3 .- Why we get no messages from the other

Spain enjoys more sunshine than

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