



The Owl of Athena

CONTRATYRANNOS

The Isagorial Theory of Human Progress Website

EXCURSUS #9

One of a series of monographs that expands the discussion of important topics examined in *The Natural State of Medical Practice*.¹

AFTER EDEN

Summary: Epidemiological data extracted from the anthropological and archeological literature of early humans and from other hominids as reviewed here are inconsistent with the argument that *Homo sapiens* is a product of evolution on earth.

“Therefore the Lord God sent him forth from the garden of Eden, to till the ground from whence he was taken.”

Genesis 3:23

Modern life-styles in the West and in culturally similar countries, regions, and cities around the globe reflect a level of convenience, security, and prosperity for so many people over recent generations that, despite the billions who share little of that abundance, it may seem, especially to our younger population, that prosperity has always been with us, was deserved and inevitable, the natural state of things, and will, with the digital age upon us, remain so. A future without limitations or cares, a secular Eden on a global scale, is eagerly anticipated and is impelling ideological political thought, although overt and pending hazards periodically dampen enthusiasm.

One marker that supports faith in such a future is life expectancy. Biblical statements declare 120 years to be the expected duration of life for humans, and over the past two centuries it has risen for the common man and woman from 30-40 years to almost 80 years in many countries.² There have always been exceptional persons, exceptional in health or exceptional in luck, who far outlive the average for their societies, but to have so many live for so long and so well is a remarkable fact of modern times. There is no precedent for this. Perhaps this *is* the path to a secular Eden. Pertinent to that path is human progress, and life expectancy can certainly be considered a measure of that progress.

But first is the issue of priority. Should the increase in life expectancy of modern times be attributed to progress, or is progress merely an inevitable consequence of an enlarging population

¹ Volume, chapter and page number of otherwise unreferenced statements in this monograph refer to the version of the four volumes as published by Liberty Hill Press, 2019-2023:

Vol. 1 – *The Natural State of Medical Practice: An Isagorial Theory of Human Progress*

Vol. 2 – *The Natural State of Medical Practice: Hippocratic Evidence*

Vol. 3 - *The Natural State of Medical Practice: Escape from Egalitarianism*

Vol. 4 – *The Natural State of Medical Practice: Implications*

² *Genesis* 6.3. But the conclusion about the 120-year lifespan is not without its critics.

of older, and thereby wiser, members. The wisdom of the patriarch, the sage, old wise men and women, church elders, oral histories, and biblical declarations (Job 12:12 – “Is not wisdom found among the aged? Does not long life bring understanding?”) has reportedly been objectively confirmed.³ Is a society where children usually do not know their grandparents inherently disadvantaged? If so, then most societies since the first man and woman have been so disabled, and this might explain the slow evolution, perhaps for thousands of years, of progress among humankind.

To answer that question, there are two periods that are usually considered to have significantly longer life expectancies: modern times (proven) and the Classical Age of Greece and Rome (unproven). These two eras are credited with great success in human progress, and perhaps a larger mature and experienced population can be shown to explain those periods of progress. There are insufficient plebeian data for the Classical Age, but the issue is readily resolved for modern times. *An increase in life expectancy should precede other evidence of progress* if progress is its inevitable consequence rather than a cause. A recent analysis confirms a significant increase in life expectancy in European populations by 1850, first evident in western Europe and then in eastern Europe.⁴ When relating increased life expectancy chronologically to new health-related practices, Europe at a baseline in the 1770s did not realize a significant increase in life expectancy until 1900, the latter including a significant decrease in infant mortality.⁵ In contrast, medical progress, a wholly Western phenomenon, began in 18th C Europe with notables such as Jenner (smallpox vaccination), Auenbrugger (percussion), and Morgagni (pathology). Laennec with his stethoscope promptly followed (see Excursus 17). This confirms that in Europe, and subsequently in global populations, *progress in medical practice preceded increased life expectancy*.⁶

And so, with our increase in life expectancy as a legitimate gauge of human progress, what has permitted our species to control, at least in part, our destiny in the first place? Such dominance has been declared or is implied as proof of a genetic *tour de force*, survival in the best Darwinian sense, modern man being produced through a rise in posture, stature, and nature from four-legged or knuckle-dragging forebears illustrated so frequently in cartoons. In this postulated triumphant yet inevitable consequence of the blind chance of a Big Bang, there has been produced gradually more upright, taller, and smarter pre-human specimens. Each little development of each of the big and little bones of the shoulder and spine and toes, each millimeter in height, each microgram of thyroid hormone and each point on the Intelligence Quotient have developed slowly by molecular selection in infinitely small gradations and *in coordination with each other* over millions of years, perhaps with infrequent leaps and bounds of “punctuated equilibrium.” The effect of these changes is purportedly to improve mankind’s chance of survival in life-or-death competition with other earthly life-forms and myriads of environmental threats that would finally lead to an increase in

³ Li, Y., *et al.*, *Compensating Cognitive Capabilities, Economic Decisions, and Aging*, in *Psychology and Aging*, 28:595-613, 2013.

⁴ Max Roser (2018), “*Life Expectancy*.” Published online at OurWorldInData.org. Retrieved from: ‘<https://ourworldindata.org/life-expectancy>’ [Online Resource].

⁵ Using this chronological perspective, extraneous rises such as would occur after plague years in earlier centuries can be avoided. As for other demographics, see: Riley, J. C., “Estimates of Regional and Global Life Expectancy 1800-2001” in *Population and Development Review*, 31:537-543, 2005, and Haines, M. R., “The Population of Europe: The Demographic Transition and After” in *The Encyclopedia of European Social History*, Encyclopedia.com, 10 December 2018.

⁶ A more detailed explanation is presented in vol. 1, bk.4, of *The Natural State of Medical Practice*. Complexities of demography are great, and just how much benefit can be ascribed to progress in other areas is a matter of debate, but not here.

life expectancy countless thousands of years in the future, specifically our 19th and 20th centuries. If all this is true, what a masterstroke of luck that our ancient forebears accommodated such an extraordinarily tedious sequence of genetically evolutionary events for us, and what a misfortune that they knew not what was occurring.

How did this all progress in the first place, or did it? What set the continuum in motion that stealthily led, over fifteen million years, from the two-foot tall, four-legged, forty-pound *Proconsul africanus* to *Homo sapiens*? If the true human species, *Homo sapiens*, has exhibited society-wide a level of intelligence that has been both unchanging for thousands of years and globally similar, how is it that “survival of the fittest” or natural selection theories can explain the following: that as early as there is objective evidence, primarily from osteology and going back to Paleolithic times, human life expectancy is routinely found to be in the range of 30-35 years, a finding that changes little until the last two hundred years.⁷

In a related observation, the infant mortality rate of gorillas in the wild (*i.e.*, mortality in the first three years of life, including stillbirths) varies considerably although 25% may be a reasonable approximation. But a recent textbook states that Paleolithic humans (9000 BC) had only a 50% chance of survival to age 15, and study of a Bronze Age inhumed population from 500 BC Italy revealed that from 33-50% of the interred were under 5 years of age.⁸ Such an abbreviated life expectancy and early childhood mortality occurring in a biological body that is thought to permit living to an age well over 100 years does not seem to be a positive indicator of superior survivability, especially as gorillas, chimpanzees, and orangutans have a life expectancy of 35-50 years in the wild and 50->60 years in captivity.⁹

⁷ Angel, L., *Health as a Crucial Factor in the Changes from Hunting to Developed Farming in the Eastern Mediterranean*, in *Paleopathology at the Origins of Agriculture*, Orlando, 1984, M. N. Cohen and G. J. Armelagos, editors, pp. 51-73. This informative paper has been updated in many ways, but the definitions of life expectancy are so varied, vague, or unstated, that it is difficult to group findings from different papers into one statistical base. The listing of approximate longevities (in years) of ancient populations provided by Angel can be used as a starting place for a general statement such as is discussed here: Late Paleolithic (30,000-9,000 BC) – 35.4 (males) and 30.0 (females); Mesolithic (9,000-7,000 BC) – 33.5 (males) and 31.3 (females); Early Neolithic (7,000-5,000 BC) – 33.6 (males) and 29.8 (females); Late Neolithic (5,000-3,000 BC) – 33.1 (males) and 29.8 (females); Early Bronze Age (3,000-2,000 BC) – 33.6 (males) and 29.4 (females); Middle Bronze Age (2,000 BC and for varying periods afterwards) – 36.5 (males) and 31.4 (females); and Early Iron Age (1,150-650 BC) – 39.0 (males) and 30.9 (females). (Note that dating of major divisions of the Stone Age also vary.) Taking a more specific study for comparison, a well-defined population from a Late Neolithic tomb in Spain dated to 3,700 BC had an average age at death for 38 individual skeletal remains as follows: 17 were “subadult” (under 20 years of age) and 21 were “adult” (over 20 years of age). The mean age of the latter group (male and female combined) was 30.5 years (determined from the average of the individual age ranges reported, minus 7 adults in whom an age range was unable to be determined. Violence was not the cause of death, and they “exhibited a moderate number of pathologies.” See: Alt, K. W., *et al.*, (2016) *A Community in Life and Death: The Late Neolithic Megalithic Tomb at Alto de Reinoso* (Burgos, Spain), PLoS ONE 11(1): e0146176. Doi: 10.1371/journal.pone.0146176.

⁸ Stockwell, E. G., and Groat, H. T., *World Population: An Introduction to Demography*, New York, 1984, and Tafuri, M., *et al.*, *Diet, Mobility and Resident Patterns in Bronze Age Southern Italy*, in *Accordia Research Papers*, 9:45-56, 2003.

⁹ The Center for Great Apes reports the following life expectancy (in years) for gorillas – 40-50 (wild), 50-60 (captive). Type of gorilla not stated. The National Geographic Institute reports 45 years for chimpanzees (wild), type not stated. Other estimates include orangutans as 35-45 years (wild, with maximum observed being 53 for a female and 58 for a male) and baboons as 30-45. Some local reports give significantly shorter survivals than these estimates, but the difference is generally in the range of only 5-10 years. And a study of chimpanzees in the Mahale Mountains (Tanzania) indicate female fecundity greatest between ages 20-35 years. (Nishida, T., *et al.*, *Demography, female life history, and reproductive profiles among the chimpanzees of Mahale*, in *American Journal of Primatology*, 59:99-121, 2003.) In Dr. Dian Fossey’s book, *Gorillas in the Mist* (Boston 1983), appendix C, 9 gorillas on whom autopsies

And at Indian Knoll, a permanent prehistoric habitation site in Kentucky that flourished between 3000 and 2000 BC, a recent reanalysis of data has concluded that, of an interred population over centuries numbering 880, only one was deemed over 50 years of age.¹⁰ The Neolithic hunter-gatherers of the Jomon people of Japan had an average age at death of 36 years if those individuals managed to survive to age 15 years; more recent hunter-gatherers of the Japanese Neolithic who survived to age 15 years had an average age at death of 44 years.¹¹

Indeed, very premature death in every age category seems to have been unavoidable until the last two centuries. A reasonable conclusion is that survivability of our early ancestors, or even their first appearance, is not the consequence of a preceding period in which gradual expression of a superior fitness was operative generation after generation. If it had been so, those ancient humans might early on have been gradually approaching that 120-year life expectancy as a consequence of their superior attributes and survivability, primarily due to the complexity of their brain, that their ancestors lacked. Instead, the complex brain of *Homo sapiens* seems to have provided no survivability benefit at all. Evidence even suggests that the life expectancy of early Upper Paleolithic man (considered “modern” man) was no greater than that of roughly contemporary Neanderthals.¹² It almost seems as if humans had not been biologically evolving to inhabit a “survival of the fittest” world, instead just being plopped down in the midst of a dangerous world after emerging from some other state in which their development was guided by quite another process, one in which survival was not predicated on confrontation of danger and chaos, one that was perhaps even Eden-like. If evolution of the complexity of the human brain was not a matter assisting in natural selection, one might wonder why it did so happen.

One unanswered question, of course, is, to what use is the elderly population to survival of a society? If the more complex brain resulted from a selective force for propagation of the human species rather than its longevity, there might be a Darwinian explanation for its development. That, however, would require evidence for increased fecundity or some other mechanism for increasing the number of births and their survival into child-bearing years.¹³ Notably, among mammalian species there is instead a negative interspecies correlation between brain size and fecundity.¹⁴

were performed that did not die from poachers included one that was between 50-55 and the other between 55-60 years of age.

¹⁰ Johnston, F. E., and Snow, C. E., *The Reassessment of the Age and Sex of the Indian Knoll Skeletal Population: Demographic and Methodological Aspects*, in *American Journal of Physical Anthropology*, 19:237-244, 1961. Subsequent reassessments have been made regarding techniques, both osteological and statistical, of this unusual population that displayed much evidence of violence, but the rarity of an “elderly” adult in this ancient Native American population, mostly from *ca.* 3000-2000 BC, is obvious. In the United States in 2016, almost 30% of 300,000,000 people were 55 years of age or older, whereas among the approximately eight hundred Archaic period (8000 – 1000 BC) skeletal remains of Indian Knoll only one was classified as over fifty. The 30% in 2016 can be compared to 0.1% at Indian Knoll, a 300-fold difference or, as usually presented in current popular media, a 30,000% increase.

¹¹ Kaplan, H., *et al.*, *A Theory of Human Life History. Evolution: Diet, Intelligence, and Longevity*, in *Evolutionary Anthropology*, pp. 156-186.

¹² Bocquet-Appel, J., and Degioanni, A., *Neanderthal Demographic Estimates*, in *Current Anthropology*, 54:S202-S213, 2013.

¹³ One area that would have contributed more to species survival than a bigger brain is an increase in fecundity, something impossible to quantitate over the ages, in part because risks attendant to bearing children is blamed for the overall shorter life expectancy of women in prehistoric times, especially for the primigravida. This is one reason why fecundity is not more important in the survival of the human species: its mechanism for success decreases the fecund.

¹⁴ For a recent assessment and review see: C. J. Logan, *et al.*, *Endocranial volume is heritable and is associated with longevity and fitness in a wild mammal*, in *Royal Society Open Science*, 2016 Dec; 3(12): 160622. doi: 10.1098/rsos.160622.

Thus, the finely tuned biological system that each of us has has so many variables that are susceptible to genetic alteration that perhaps they were meant for some other state. What that state might be has always been the grand question. It is in regard to this that it is appropriate to consider Darwin's conclusion on the construction of the human eye in its complexity and fine integration of functions that permit normal sight.¹⁵ His statement was that it seemed absurd to think that such a complex biological system as the human eye could have been the result of a series of selective genetic mutations whereby each genetic change permitted one member of a species to survive where others could not, that survival benefit being the consequence of improved vision or, in most instances, by chance. Nevertheless, he considered his theory of evolution, first expounded in 1859, to be so excellent that he believed it was the truth, despite its element of seeming absurdity. One wonders what Darwin would have to say about this were he to return today and see the true complexity of the eye and vision as far as modern science has been able to ascertain it. That complexity is so incredibly vast and multifaceted, from the simple optics of refraction to the intracellular production of varieties of cells and innumerable species of proteins that make up the eye's tissues and fluids and their individual evolution and regulation, that modern knowledge cannot be mentioned in the same breath with the simple concepts of the mid-19th C of Darwin. And even now we know our knowledge of the entire process of vision to still be at an elementary stage. Were Darwin here today and aware of all that has transpired in modern understanding, perhaps he would revert to his original position.

And think again about mankind's increase in life expectancy that has occurred only over the past 200 years. There is no evidence of a gradual increase in life expectancy over hundreds of millennia to match the gradual or intermittent march posited in cartoons for early hominid to upright man. Prior to the 19th C life expectancy was in the range of 35 years for the average person, even since the beginning of mankind itself, give or take a few years as suggested by the modest increase geographically and chronologically localized to the Hellenistic period (323-31 BC) (see Table).¹⁶ It was no different from the average of 35 years during the European Dark Ages. It is not hyperbole, indeed, it is a fact, to point out that the common man and woman have, since their very beginning, been living in a perpetual Dark Age except for the last three centuries.

With the exemption of the controlling elites of human society who, like the queen bee, might live longer because they lived off the efforts of the plebeians, mankind from the beginning has provided little evidence for improved survival because of an ongoing genetic selection favoring some mythical "fitness." Fitness for what? Despite his vaunted brain mankind's life expectancy

¹⁵ Darwin, C. A., *On the Origin of Species By Means of Natural Selection*, New York, 1860, p. 167: "To suppose that the eye, with all its inimitable contrivances for adjusting the focus to different distances, for admitting different amounts of light, and for correction of the spherical and chromatic aberration, could have been formed by natural selection, seems, I freely confess, absurd in the highest possible degree." Modern biology has integrated Darwinism within the larger scope of genetics that many feel dispels absurdity, but the point is best debated elsewhere rather than here.

¹⁶ Life expectancy in the Greco-Roman world is uncertain even though accurate ages of some of the elderly are known. Socrates, Sophocles, Plato, Seneca and Archimedes lived to age 71, 90, 77, 93, and 75 years, respectively, but they reflect the lifestyle of the rich or famous rather than the average worker or mother. Another major unknown is infant and childhood mortality. Phlegon of Tralles in the 2nd C AD wrote *On Long-Lived Persons* in which he claims to have identified seventy individuals in one area of Italy who lived to be older, some much older, than one hundred years, and Pliny also comments on centenarians in 1st C AD Italy, but see T. G. Parkin, *Old Age in the Roman World* (Baltimore, 2003), especially chapter 6, pp. 173-189, for a discrediting of such claims. The Greco-Roman world was vast and varied, and a meaningful single estimate of life expectancy applicable to either Greek or Roman "culture," especially those of the plebeian class, in that period of history is unavailable.

did not exceed that of the gorilla until 200 years ago.¹⁷ Events suggest instead that man first appeared on this planet quite unprepared for the survival of his species.¹⁸ Despite his capacity for brilliance, life has been for most humans very much as Hobbes noted, short and brutish, but not just from man's unsociable disposition, instead being due in part to an inability to cope.

Table: Mean Stature in Feet and Median Life Span in Years of Humans in Prehistory and History¹⁹

	Mean Stature (ft.)		Median Life Expectancy (yrs.)	
	M	F	M	F
Paleolithic	5.81	5.47	35.4	30.0
Mesolithic	5.66	5.24	33.5	31.3
Early Neolithic	5.57	5.10	33.6	29.8
Late Neolithic	5.29	5.06	33.1	29.2
Bronze/Iron Ages	5.46	5.06	37.2	31.1
Hellenistic	5.64	5.13	41.9	38.0
Medieval	5.56	5.15	37.7	31.1
Baroque	5.65	5.18	33.9	28.5
19th C	5.58	5.17	40.0	38.4
Late 20th C (USA)	5.72	5.36	71.0	78.5

Increased age, of course, cannot be viewed as evidence favoring natural selection because at some point increased age and its inevitable infirmities impose a burden on society rather than a benefit, and age-related decreases in fertility obviate any genetic mechanism for fecundity that might otherwise apply, although it might be a marker for other features that are beneficial. As for brain size, it has long been known that the brain of modern man is smaller than some of his proposed forebears and related species such as *Homo neanderthalensis*. Maybe the idea that the size of man's brain has produced his modern mastery of the world has actually been associated with a decrease in brain size rather than an increase. The Neanderthals may have been too smart for their own good.

If man's brain and his fecundity were truly associated with a bettering of his status in life, why, given tens of thousands of years of his attempts at bettering and our great expectations and predictions, has his progress been so middling that in the 18th C Alexander Pope acknowledged

¹⁷ Wich, S. A., et al., *Life History of Wild Sumatran Orangutans (Pongo abeleii)*, in *Journal of Human Evolution*, 47:385-398, 2004, reports wild orangutans reaching the age of 58 for males and 53 for females, and for gorillas the "life span" usually given as 35-40 years in the wild and 40-60 in zoos. Hakeem, A., et al., in *Handbook of the Psychology of Aging*, 4th ed., Birren, J. D. and Schaie, K. W., eds., San Diego, 1996, p. 79, states, however, that "Long-term observational data suggest that the maximum life spans for zoo-living and wild primates may be about the same." (Life span is not the same as life expectancy.) The life expectancy of the same species contemporary with ancient civilizations discussed in this book is unknown, but when available data are compared to that of humans shown in the Table, the point is made: parallel branches on the theorized hominid ancestor tree support the conclusion that life expectancy of humans relative to other hominids is no better and may well be inferior.

¹⁸ Unprepared, unless his preparation was not meant primarily for propagation of his species. But if not for that, then for what? This is an intriguing question that may resonate with natural law.

¹⁹ This Table is modified from that used by: Wells, S., in *Pandora's Seed: The Unforeseen Cost of Civilization*, New York, 2010, p. 23. Measurements of stature could reflect nutritional status. As an aside, note that the male:female difference in height today, 4.5 inches, remains consistent with the Table's data covering more than 10,000 years, suggesting the validity of the data.

him “Created half to rise and half to fall; Great Lord of all things, yet a prey to all;... the glory, jest, and riddle of the world.”²⁰ Whatever has propelled humankind to its apogee has not been its prehistory and early history, of this we can be sure. And whatever humankind was capable of doing 10,000 years ago, it is no more capable of doing now.

But a few hundred years ago something happened, some other circumstance intervened that, after millennia of mankind’s milling about in self-imposed incarceration, opened the cage, progress was unchained, with the betterment of the mass of mankind finally improving and doing so at a previously unimaginable rate.

In conclusion, what explains this phenomenon, this sudden appearance of longevity? With human history packed with successes in all sorts of ventures, whether building of empires, climbing mountains, winning great battles, building massive monuments, or growing the largest pumpkin, why is it only now that life expectancy clearly exceeds that of man’s fellow hominid, the orangutan? As it turns out, there *is* a path to a secular Eden, a path that is now evident. That path, born of the Reformation and parliamentary process and bred by the Judeo-Christian ethos, is characterized by three features: recognition of the importance of the individual, liberty of conscience (*i.e.*, no restrictions on adherence to natural law), and freedom of self-determination (protection of our natural rights). Their mechanism of operation and its importance in human collaboration and progress have been analyzed in some detail in *The Natural State of Medical Practice*, but for time on earth, for appreciating the pleasantness that life can offer, for the personal interactions with others that provide meaning and fulfillment, a long life, perhaps even one of Biblical proportions, might be desired and attainable, unless humanity reverts to its unpleasant default state.²¹

But why has it taken so long for mankind to realize this path, and will it be permitted to continue the journey? That is the question, and circumstances suggest it is best that it be answered soon.

²⁰ From Pope’s second epistle of *An Essay on Man* (1734).

²¹ It is curious to note, with regard to Eden, that the calculations of F. A. Hassan (“On Mechanisms of Population Growth during the Neolithic” in *Current Anthropology*, 14:535-542, 1973) show that, beginning with a single fertile couple and a population growth rate of 0.1 percent per year, the total world population at the time of Hassan’s article would have been reached in 20,000 years. The present annual rate of global population growth is 1.1 percent.