

Toward Achieving Omega Point through Healthspan Extension

Teilhard de Chardin Scholarship Essay 2017

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Humanity has survived throughout aeons by developing tools that assisted them to overcome their problems. For the first time in history, the world is facing an unprecedented situation in which the population is becoming increasingly old -- and hence, supposedly, fragile. From the economic perspective, the current welfare system risks becoming unsustainable as the number of younger, productive generation who support it dwindles. On top of that, from the political perspective, the current aging societies will be predicted to be increasingly less adaptive, and thus, prone to having a breakdown. Not to mention that, individually, we have been fearing to approach our advancing years: the time when we are most likely to agonize and to be forgotten. The notion that seniority is associated with dotage does not have to hold anymore if people can stay in good shape *until* the end of their lifetime. Recent breakthroughs in the biological sciences have given us a chance to move forward by extending the healthspan of the people: scientists have developed genetic engineering tools that offering such premise possible -- in a great ease. I am imagining that granted each of us is given a hale livelihood, even if one is reaching the winter of one life, as 'starting point', the prolongation of healthspan might lead us to a more egalitarian society, while also better equipping our people with a greater sense of wisdom and justice. Accordingly, this development of genetic means of transforming our condition should not be deemed as heretical. Surely, without a judicious mind, mishandling of the technology might instead perpetuate, or even exacerbate, the present hardship. It is, however, not a reason to be timid as to reject every opportunity to thrive. As Teilhard de Chardin has propounded, humanity is obliged to reach its *material* zenith in order to achieve spiritual erudition -- the omega point.

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Essay

Introduction

As many parts of the world turn greyer than ever before, the risk that our society destabilizes under the current economic system looms big. (What I refer to by the current economic system is the way that retirees receive allowances from tax deductions paid by the working population). Such a forecast is based on the following proposition: decreasing number of productive member of society, presumably the young, can no longer adequately support the increasingly bigger population of the elderly, the majority of whom are presumed to be non-productive. The assumption that old age is equivalent to low productivity has been held throughout history as we are simply accustomed to thinking that, as it is still the case until now, we are tied up to the limit of the biology of our body, which has long been formed through evolutionary processes^[7]. A recent headway in the sciences has finally given us a glimpse of what may be possible in the near future. Those possibilities includes the creations that allow human healthspan, the duration in life in which an individual is characterized as being healthy -- 'ailment free' -- (not to be confused with the more well-known 'lifespan') to be extended to last just before the actual termination of life so that the period in which a human individual experiences dotage-associated agony is minimized as much as possible. That is the research field I want to undertake, were I given the chance. As one may expect, and this is actually the thesis I would like to defend in this essay, extending human healthspan shall be the next milestone of human progress whose beneficial consequence is unprecedented, realizing that there are at least 7 billion of humans living on earth today, a large fraction of which are suffering senility due to oldness, yearning for extensive treatment and support from the still able, young generation.

Next, let me also introduce what humanity has achieved thus far: unbeknownst to many of us, we have actually been accelerating the rate of evolution by means of, among plenty other ways, selective breedings of crop plants and domesticated animals in the way that it maximizes their productivity. These days, again, unlike what some of us might think, we are doing no different than that what our ancestors had been doing to nature. Apart from its capability to transform the nature of living beings in an unprecedented scale, genetic engineering is simply another tool that has been invented to improve lives. Indeed, just as selective breedings led to the present state of monoculture (which is undesirable since the method has actually threatened biodiversity), genetic engineering might pose a much more potentially devastating risk than that the other methods if it is handled unwisely. Yet, it is a question of usage, and it should not preclude us in pursuing the potential goodness we could harness from utilizing this or any particular tool. Used rightly, the technology shall bring us closer to



the attainment of greater wisdom and understanding of existence. Someone might have tried to relate this discovery as a threat to the god-granted, 'supposedly to be kept pure' characteristics of living beings, especially of humans. Well, as Teilhard de Chardin argued, I believe certain amount of *material effort* is demanded for an optimum development of spirit "So, if we wish to make the mystery of the flesh fully our own, we must make a considered choice which will be an expression in our own consciousness of the very effort of creation, and so to discredit the false evidence of mirage which tends to drag us down."^[6]

Background: about my prospective research project

First of all, let me explain further the actual research field I am inclined to. From biological point of view, scientists have already discovered some factors that causes aging and senility: many of the mechanisms are hereditary-based, which means that it is encoded in the genetic materials^[8], which consequently means that such innate factors are tractable and has possibility to be changed, either permanently (through genetic engineering) or transiently (via development of certain drugs). Regardless of what is the way chosen and is tried to be developed, it is always a prerequisite to elucidate further what is possible corollary effects that might happen if the current balance of metabolism are changed, at least, to the overall state of health of the transformed individual. That is, therefore, the first step I would like to undertake in my future research: to test the feasibility of current proposals of how to increase the healthspan. Apart from finding the possible side-effects of altering the gene expressions, one will eventually be compelled to address the fact that a multicellular organism like a human has trillions of cells that need to be modified altogether in order for the desired metabolism pattern to actually manifest. One possibility of the method that I surmise has a high likelihood to work out is the one through the utilization of virus. By changing its protein coat, a component of virus that interacts with the immune system and the target cells, we can expand the scope of tissue that one species of virus can infect as well as increase its transfection efficiency by enhancing its capacity to evade the immune system. After all, there is still much work to do; nevertheless, given the present enthusiasm and the awareness of necessity in realizing this invention, I believe the world shall work together to address the issue, and that will accelerate the pace of finding the desired breakthrough. As has been mentioned in the first paragraph, my target is to compress the state of morbidity affecting people with senescence, resulting in an abridged, brief period of suffering.

What I hoped my research to impact upon posterity

So, let me reiterate again the reasons why we are desperate to find the solution for the aging world population. At the current state, 15% of world population in the



advanced-age cohort are afflicted with mind-retarding illnesses such as dementia (which includes the incurable Alzheimer's disease)^[1], apart from symptoms like general physical weaknesses and increased susceptibility to infection. There is a clear association between aging and the prevalence of certain debilitating conditions that almost certainly hinder those affected from having a productive and fulfilling life, let alone a happy one. In fact, a majority of our personal health care costs over our lives will be spent during the very late part of our life^[2]. Coupled with the fact that the world population, on average, just keep moving toward of the eld group, medical treatment and costs associated with it are predicted to grow further while income from taxing the productive young stagnates, or even dwindles, especially in the post-industrial countries like Japan. Developing countries are going to be affected by this problem too: sooner or later they will face the aging population problem as there is always a limit in how much human population can expand. In the end, it is going to be the whole world apprehension. Unless the productivity per worker increases, the current prospect of sustaining the current system appear to be a total dead-end. The paradigm by which we see the deadlock can be altered if we believe the old can stay productive, even in their advanced stage of life, that is, by healthspan extension.

Furthermore, in the long term, continuing the current trend will eventually cause our political system to collapses. A sole supremacy of the ideas that comes from the elderlies will almost certainly give rise to gerontocracy in which voices are dominated by senior citizens, leaving the new and novel, which is more likely to be voiced by the young, stranded. In the worst case, the gerontocracy would accelerates the rate of societal collapse if those elderlies in power promote only policies that address their own concerns, while leaving other policies that may be equally dire and important, such as plans that serve the younger generations, in neglect, which, in turn, diminishes the degree of adaptability and innovation that a society inherently possesses to survive against environmental vicissitudes. Naturally, it is no surprise that the policies will be increasingly serving the numerical majority, the elderly in this case, because self-preservation instinct is embedded in any living organisms. For apologists who doubt the proposition, just remember that it was not so long time ago when the past Churches were so prohibitive toward interests outside its realm of theology for it feared such a discovery and innovation would threaten its dominance in the society. They shut up contact with the reality (e.g. teachings that became increasingly abstract, detaching sacramentalism that emphasizes quantity over quality, and of unnecessary extravagance in piety), such an act precisely brought about its downfall^[3]. That is being so, it is very unlikely that the problem can heal by itself once it began. Such a prediction need not manifest if we can address the issue that the old stick to their own 'senile' way. If we can make the mind of the elderlies stays sharp and accommodating toward



common alarm pertaining to societal and environmental sustainability, as by extending, at least, the “healthspan of the mind”, we might just save the civilization.

Assuming that a protracted healthspan is achieved permanently, such a new condition will ultimately lead to greater equality. A permanent, genetically encoded, long healthspan characteristic in people physical body will enable the unfortunates to live as *thoroughly* as the rich, and even acts as a safety net that everybody can rely on: there would be no urgency to spending on an expensive medical care, the rich's perquisite, for maintaining a state of productive and satisfactory livelihood if every person is given the innate bodily trait to stay healthy as their *starting point*. More concretely, if we try to think a historical analogy, let us imagine a state of “un-healthfulness” as a preventable disease. In the past, before the invention of the vaccine, people had to be always anxious to the possibility of catching infection-based disorder such as polio, smallpox, encephalitis, etc. The treatments for the aforementioned debilitating condition were costly, if not outright unaffordable for most people in a society since it is simply incurable and most often fatal once caught. With polio, for instance, a person shall eventually become handicapped, unable to walk by itself; not to mention that these affected people have to live in isolation because of the infectious nature of the disease. They are likely to be totally dependent on others' care and have to spend a relatively higher amount of money to maintain at least the state of subsistence. The invention of vaccines have given the poor the chance of obtaining the same ‘life baseline’ as the rich: they do not need to worry as much as before about the prohibitive cost of medical treatment of those diseases anymore. Hopefully, by now, one can see that, in many ways, a state of dotage resembles people suffering the above-mentioned diseases. If somehow the healthspan is prolonged, the invention may become a salvation for everybody.

Finally, healthspan extension will free human preoccupation to some of the current mundane problems and harmful way of thinking and of dying, enabling them to advance to higher interest and enlightenment. For instance, it was not long before, not until a certain level of the economic foundation has been reached recently, the existence of the females is thought to be no more than the ‘instrument for the continuation of the species’^[4]. If we can discover a way to increase the healthspan to the extent of the old age, there will be a liberation of time by which people can utilize it to ponder what refinements could be made further. That includes, at least this is what I wish to be, more concerns for the minority, the hapless and the disadvantaged, greater consideration for the environment and other living beings on Earth. Healthspan extension is hoped to result in *morbidity compression*; by knowing that death can come suddenly anytime -- unexpectedly -- people do not have to worry to prepare their departure from life; instead, they can use much longer of their given time to focus on higher goals such as on pondering what is the true meaning of being alive and conscious.



Prospectus to the far future

Extending human healthspan may lead directly to the development of the extension of lifespan. As long as the state of healthfulness accompanies an extended lifetime, the development should be seen as favorable. Additionally, such an ambition should not be feared or seen as temptation of the devil for we knew that, at least from the current understanding of the limit of physical law, humanity will still be ever bounded through the workings of the second law of thermodynamics (which says that the entropy of the universe will just keep increasing, and therefore, complexity can go only when energy is still flowing). At the same time, perhaps we need such an extended life to be an ever maturer human being, which, as Teilhard pointed it out, is a prerequisite to understanding Christ *wholesomely*^[5]. The boundary of the humanity may indeed serve as a way to Christ fulfilment in the world; however, the extension of human lifetime, I argue, instead may serve as an opportunity to expedite the rate of human development toward a more conscious living and whence, a mean to prepare to reach genuine growth and attain the highest complexity of noosphere -- or the *Omega Point* -- as Teilhard coined it. I imagine, if we can eliminate the period of human life in which one experiences the state of doddering, that is, by extending the expected healthspan, then we can expect a great change forthcoming: there will be no more need for human society to perpetuate the 'evil cycle' in which population begets more children as they are expected to serve the increasingly many older generation. Nor we have to worry anymore about the foreseen collapse of the civilization from the state not being able to adequately support the old anymore (owing to the fact that of population cohort imbalance) if the elderly can stay productive, and therefore support themselves independently, even if they are approaching the apogee of their lifespan.

Admittedly, there are possibilities that this future technology may lead to destruction. The rich and powerful may instead, either advertently and inadvertently monopolize the use of healthspan extension technology. High initial cost that is expected to manifest during the early stages of the technology debut and adoption would serve as a barrier to widespread use of the technology to people who stand in need of it the most: the poor and disadvantaged whose lifestyle, unlike the rich, accentuate the rate at which they become increasingly fragile as their age advances. However, to proscribe the invention of this technology altogether is tantamount to not using modern medicine in view of the fact that it was (or, it *is*), in many cases, affordable only to the rich. In other words, such a phenomenon has accompanied every new discovery and invention that humanity ever found and developed. What I would like to do is something as commonplace as other research specializations in medicine that has been done throughout history and is viewed as the norm (which I consider to be quite inefficient). The difference is perhaps the pace that of change that I would like to elicit



through my research: instead of treating a person that is already sick due to old-age-associated complications, I would like to eliminate the source of the problem altogether: altering the genes that are causing bodily disrepair.

Similar to the previous argument, some people also voiced displeasure over the development of this prospect for the reason that they think extending health-span will reduce the significance of “life-lessons” that one get during their lifetime on earth. Well, I would like to respond to it by pointing out that there are some people who committed suicide and/ or as well embrace the negative, (pessimistic) nihilistic attitude, the principle in which one believe whatever he/ she does will not matter to the world affairs. Those people are desperate, hopeless individuals that find life unbearable, and are not given chance to recover from hardships. How do you expect these individuals to find meanings in life if they are not in the state of contentment? Rather, I would propound the opposite: a salubrious life on Earth will enable earthlings to better appreciate the significance of their life experiences. Just think about it, do you agree that a demented, forgetful elderly will have much opportunity to ponder in their current situation than one who still possesses a keen mind?

Other opponents also stated that healthspan extension, which may lead to eventual discovery lifespan extension will bring about an overpopulated planet (if not already). While it is completely plausible that that tools and method that has been used to discover healthspan extension may be used in, and lead to an acceleration in, lifespan extension research, I am skeptical that the latter will be discovered soon. It is because, I argue from scientific point of view, death has been a result of evolutionary process whose step is essential in ensuring species adaptability to the environment: a mortal organism allows its progeny to thrive as they don't have to compete with the older generation, which, in turn, if the species are reproducing sexually, allows genetic reshuffling, which, in turn, through a process of trial-and-error (i.e. natural selection), leads to generation of organisms that fits to its current surrounding. Stopping this life-and-death cycle, in the human case in particular, is expected to spell a doom to our species survival as we are trapped into the hegemony of the present credence. However, even if such a discovery is made one day, Teilhard de Chardin has been propounding, through his works, something resembles the following line: *it doesn't really matter which technology is invented first but how the technology is used*. Almost anything can be used for wrongdoings just as almost all things are having a potential to alleviate sufferings that pervades the lives on Earth. Every misstep that humanity may make shall be a lesson that the Christ has planned.



References

[1] World Health Organization. *Mental health and older adults*. Last modified April 2016. Last accessed 19 November 2017.
<<http://www.who.int/mediacentre/factsheets/fs381/en/>>

[2] Working Group. *The Health Report to the American People*. Last modified: March 31, 2006. Last accessed 25 November 2017.
<<https://govinfo.library.unt.edu/chc/healthreport/healthreport.html>>

Teilhard de Chardin, René Hague (translator). *Toward the future*. 1st eds. Mariner Books: New York. 2002.

[3] Page 29 - 30 and Page 38

“In order, then, to maintain her power, she clings to an antiquated apologetics. She claims that the historically established miracles of the gospels entail for men the intellectual and moral obligation to conform to her dogmas, *whatever may be the new demands of man’s religious sense*. Her effort is wasted: the facts of psychology all efficacy to this method of intellectual conversion and domination”

[4] Page 70

“The truth is as old as man himself; but it could not take on its full value until the world had reached such a degree of psychological consciousness that, for a human race that had spread far and wide and had a sound economic footing, the problems of food supplies and of reproduction had begun to be dominated by those of maintaining and developing spiritual energies.”

[5] Page 158

“But I wonder whether these timid believers ever suspect what treasures of man’s vital energy, what precious ‘tangibility’ of support for spiritual effort, they are denying themselves, simply from failing to understand a very simple and very important fact: that man cannot hope to meet Christ ‘supernaturally’ without at the same time (or, indeed, without first) arriving in his own nature at the furthest limit of his human self?”

[6] page 77-78

“In the relationship between spirit and body everything is, indeed, a matter of ‘potential.’ ‘Burn or be burned.’ Volatilize matter or be corrupted by it. Throughout the whole range of things, such is the law of life: a law which we cannot conceivably avoid if we are to develop the most sublime peak of our being.”

[7][8] Fahy, Gregory M. *et al. The future of Aging: Pathways to Human Life Extension*. Springer: New York. 2010.

