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A hypothesis for survival on the planet earth in present: Fittest and most aware ones

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Abstract

The hypothesis of “Survival of the fittest”, which was linked with Darwin’s natural selection has been in existence for several decades and had been challenged by various scholars from different schools of thought. Although it was accepted too at a particular time in evolution, as it lacks some basis for as long as today’s world is concerned. If technologies, economies, environmental problems and diseases are evolving and transforming, so do we have sufficient knowledge that who will be fit to survive in such a situation? Nobody has ever thought that the whole world will stop one at a particular time or day, but you could witness the helplessness of humankind within this year 2019 - 2020 as a result of COVID-19. Several questions have been raised in order to know that who is responsible for this and what should be done? How to tackle with the situation and many other problems are yet to address including climate change which is of utmost importance in present scenario As a result of these and many other reasons, it is important to reevaluate the hypothesis of survival of the fittest to be fit in our present world. Incorporating awareness in the hypothesis may bring about several aspects which seem to be excluded in the previous hypothesis. Awareness may include but not limited to one’s own life style (i.e. consciousness of the impact of their actions or activities on the environment), access to information, knowledge of current world trends and happenings and their timing. Here we represent an improved hypothesis of “Survival of the Fittest and tried to explore current aspects that suits in ongoing conditions.

Keywords: awareness, evolving, fittest, hypothesis and survival

Introduction

Corona virus disease 2019 (COVID-19) has changed many individuals instinct on life and what really runs the universe and what livelihood depends on? Different individuals viewed this situation from different angles and perspective including political, health/medical, religious, etc. Very few people actually look at the pandemic or the situation as it is (i.e. enemy of humanity). This pandemic and many other catastrophes have proved to the world and this generation that a lot chaos is going and would lead to the severe consequences if it continue to do so on the other hand it is depicted that this generation is approaching to its limit. Survival of the fittest hypothesis was assumed to play a key role in modeling the human thinking and way of life though it covers only a portion of our lives and challenged by many philosophers. Who survives and who will not, it purely depends on so many other factors apart from being fit biologically to survive and sustain. According to Waters (1986) [8] in the article, natural selection without survival of the fittest, “The principle of the survival of the fittest, in its sophisticated form, means that an organism with higher fitness in an environment will probably have greater reproductive success in that particular environment than conspecific organisms with lower fitness”. However, those have been able to reproduce fast and nature of an organism alone is not the only criteria for survival on the Earth. Schuster & Yamaguchi (2009) [7] in their work studied that “The survival of the fittest and the reign of the most robust: In biology and elsewhere” have suggested robustness as another fundamental strategy for survival in nature apart from fitness. Robustness, which is a term that has various meanings depending on where and how it is used? It can mean a modification in the biology of an organism, or an update, improvement in a machine or a system. However, even a modified system is required to keep modifying itself to suit some certain newly developing conditions or else it may also have chances to be collapsed. Moreover, if robustness may include cognitive modification and sense of development that does not depend only on biology, then it may be its role in survival in our world today.

COVID-19 pandemic has led to devastating effects in the world. Several Scientists, scholars, government agencies, international organizations, NGOs and individuals have actively put forward ideas and insights on the nature of the new corona virus and how disease spread throughout the world in a very short period of time? If such an unprecedented threatening event can occur in such a short period of time, then what about the effects of climate change and global warming? Are we ready for more such catastrophic events now, will it be feasible to survive in these simultaneous events?

Discussed above and many more reasons are enough to show that just being fit or biologically fit does not stand as a single factor for survival on Earth. One has to be aware of what's happening around him/her and around the world extensively? In addition, being "aware" does not only mean education/school knowledge in this context, because information means a lot, now a day's being informed at actual time is one of the most valuable resource ever, as long as today's world is concerned.

Our world has been assumed to be a system by some scholars that operate based on several processes. However, such system may have a carrying capacity or may be undergoing homeostasis (Dyke & Weaver, 2013; Lovelock & Margulis, 1974) ^[4, 5] which is a process through which a system balances itself and corrects errors. Some scholars have hypothesized that Earth may possess a carrying capacity (Daily & Ehrlich, 1996) ^[2] based on available resources and other factors associated. This alone cannot be enough to back such argument because discoveries are made day in and day out. According to Price (1999) ^[6], carrying capacity may be a self-validating belief and that it has limited relevance to human population growth, which is better understood in other ways.

In addition, various studies have shown that Earth can arguably be considered as the most complex system known in our universe. Dyke & Weaver (2013) ^[4] in their work on the "Emergence of Environmental Homeostasis in Complex Ecosystem" considered such complex system to exhibit stability in many sense including surface temperature (habitable) that is required for liquid water and an ever evolving biosphere. But, even such kind of complex and evolving system may also be faced with challenges through various processes in its segments. Danilov-Danil'yan and Reyf (2018) ^[3] discuss in their book "The biosphere and civilization: they have mentioned of several factors concerning the interdependencies between biotic and abiotic factors and how biotic mechanism effectively support environmental stability? Issue of stability in an ecosystem depends on several factors and the role of various organisms in such an environment. In the book, they also include an example with the roots, trunk and canopy of a tree and plant eating insects with their larvae, which serves as food for other predatory insects and birds. All these events plays a significant role in such ecosystem in many ways including pollination of the tree as it flowers and the birds gulping down its ripe fruits and spreading its seeds. In addition, organisms on the ground act on the fallen organic matter and reduce it or decompose it into essential substances required by the tree for its proper growth and development. However, any alteration or removal of any trophic level in this situation can lead to the collapse of the entire ecosystem.

Long ago, Earth was considered to be a ball of fire, which have gone through several processes as stated in Big Bang theory evolves into such a complex and conducive system that sustains life. However, Earth's normal temperature without greenhouse effect was around -170C, which was not suitable for even liquid water. Several processes including greenhouse effect and evolution increases the normal Earth atmospheric temperature to a conducive level so that human beings can survive. Furthermore, theories of evolution have shown that life on Earth have gone through extinction due to reasons that are yet to be proved scientifically.

Several factors and conditions need to be considered here, for as long as Earth carrying capacity is concerned. If we look at Earth according to Gaia hypothesis as a system that runs based on its biotic and abiotic components, then any alteration to such a complex system may lead to a feedback or a negative feedback to stabilize the system. Additionally, regarding the Earth as having a carrying capacity based on the available resources on it, then it has a limit of what it can carry. However, as an ever evolving complex system, there is a possibility that Earth is still evolving or it might have reached its apex of evolution. Some scientists believed that Earth atmosphere may be undergoing a process like homeostasis, where it auto-corrects itself through various methods. Issues of natural disasters like incidences of El Nino and La Nina, hurricanes, tornadoes, etc. to mention a few that have no direct relation to human activities though it can be enhanced by anthropogenic activities may be some of such negative feedback or corrective mechanisms. Climate change and global warming are direct results of anthropogenic activities that involve enhanced natural greenhouse effect and may not be part of such corrective mechanism. Current and anticipated effects from under nutrition, heat stress and disease have led the WHO to declare climate change the greatest threat to global health in 21st centuries. This is because such processes may be reduced through various human activities or reduction in emission of greenhouse gases (GHG) into the atmosphere. In addition, other human activities that includes pollution of different kinds, improper disposal of waste in the environment including dumping of plastic garbage in oceans and other water bodies are direct actions of man, these serious processes can be reduced effectively if we change our ways or spread awareness with regard. Nonetheless, the effects of such actions on the ecosystem are another issue. When there is no balance between biotic and abiotic factors of such complex system, there may be a negative feedback by such system in order to correct such problem. Therefore, Earth may reach its carrying capacity, if we continue to destabilize its components.

If such a complex and ever-evolving system can face such a serious threats that hampers with its stability, then who will be able to survive, sustain and flourish? Is it man (a consumer) that almost totally depends on producers for food and energy or just the producers themselves? Could survival be only based on biology (who is fit, ability to produce new offspring and immunity) and memory alone, does other factors determine survival and sustainability? Issues of climate change, global warming and conflict on available resources have made it clear that Earth may have reached its carrying capacity. What will happen, if such time really comes? We really need to be conscious about the up comings. Outbreak of SARS-Cov-2 has also put the entire world in various states of uncertainties and dilemma that includes;

what will happen to the world in the future? If such incidence or a pandemic can occur and affect or determine everything on Earth with our current technological and scientific advancement, then what will be the fate of our world? If world with its blooming technologies and everything is struggling to sustain itself in this calamitous time, then what will happen next? When effects of climate change and global warming would start then one can guess of it becoming more severe and detrimental?

In terms of these and various other factors and events that determine the way of life on Earth, with regard definitely a question arises that who is fit to survive and who is not? Thus, a hypothesis or an upgraded hypothesis of “Survival of the Fittest and Most Aware” has been proposed. But, interestingly who is the most aware?

Being aware or having an idea or knowledge or information of an event or incidence on time is of utmost importance which comprises so many things and not limited to education alone. Ability to get information and work with it requires much more than school or college degree and education. An example can be seen in current situation of COVID-19 pandemic, where individuals are becoming careless and reluctant about their own safety. Those that act on the information provided can be regarded as aware about the consequences of not acting on it. Also, climate change is another scenario, various activists, scientists and environmentalists have been preaching about consequences of climate change and what will happen, if care is not taken earnestly to reduce the emission of greenhouse gases and stop the destruction of the environment? However, due to lack of awareness of various communities and policy makers, little emphasis is given towards tackling the matter. Those who are aware of the outcome of such situations pay utmost attention and look for the ways to save themselves. The hypothesis of Schuster & Yamaguchi, (2009) [7] on “Survival of the fittest and most robust” may also play a role here in a different ways. However, robustness in the other side may not include being aware and ability to process information regarding safety of individual. Nature has got the enormous ability to remove different individuals at different time even if they are modified to fit certain conditions but are less aware of various information regarding what, where and when an incidence may occur? One must be aware of the impact of our activities on the environment. For example, if an individual is misusing electricity in a developing country, where about 70% of electricity comes from combustion of coal (non-renewable energy source), such action will have a direct and tremendous effect in the environment, as it may directly increase the carbon footprint and greenhouse effect. Though, in developed countries where share of renewable energy is comparatively high, the misuse of such energy can also enhance greenhouse effect and global warming (Usman *et al.*, 2020) [1].

Some of the criteria of being aware considered in our proposed hypothesis includes the following;

- Awareness for health and hygiene
- Sustainable life style
- Use of ecofriendly approaches
- Access to information on time
- Ability to interpret information and to work with it
- Abiding by laws and criteria in order to stay safe
- Organizing events regarding environmental literacy
- Love for one another

In conclusion, we tried for an improved hypothesis that finely touches different aspects of life and consequences of carelessness of today’s world. It gives an emphasis on eco-friendly ways of life and significance of right information at the right time that is vital for dealing with such outcome; At last, it is highly significant and important to make information available in a simple and easy way and manner of dissemination. Finally, the survival of the fittest and the most aware are necessary for humanity and the environmental wellbeing.

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Conflict of interest

The authors declare no conflicts of interest.

References

1. Usman, A, Ameta SK, Tukur A, Danjuma MS, Yusuf TU, Hamza YG *et al.* An Overview of the Adverse Effects of Renewable Energy Sources. *International Journal for Research in Applied Science & Engineering Technology (IJRASET)* 2020;8(7):477-486. <http://doi.org/10.22214/ijraset.2020.7079>
2. Daily GC, Ehrlich PR. Population , Sustainability , and Earth ’ s Carrying Capacity 1996;42:761-771.
3. Danilov-Danil’yan VI, Reyf IE. The biosphere and civilization: In the throes of a global crisis. In *The Biosphere and Civilization: In the Throes of a Global Crisis.* Springer, Switzerland 2018. <https://doi.org/10.1007/978-3-319-67193-2>
4. Dyke JG, Weaver IS. The Emergence of Environmental Homeostasis in Complex Ecosystems. *PLoS Computational Biology* 2013, 9(5). <https://doi.org/10.1371/journal.pcbi.1003050>
5. Lovelock JE, Margulis L. Homeostatic tendencies of the Earth’s atmosphere. *Origins of Life* 1974;5(1–2):93-103. <https://doi.org/10.1007/BF00927016>
6. Price D. Carrying capacity reconsidered. *Population and Environment* 1999;21(1):5-26. <https://doi.org/10.1007/BF02436118>
7. Schuster A, Yamaguchi Y. The survival of the fittest and the reign of the most robust: In biology and elsewhere. *Minds and Machines* 2009;19(3):361-389. <https://doi.org/10.1007/s11023-009-9156-4>
8. Waters CK. Natural selection without survival of the fittest. *Biology and Philosophy* 1986;1(2):207–225. <https://doi.org/10.1007/BF00142902>