

COVID-19, THE PATHS OF NATURAL SELECTION AND THE DAY AFTER

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The story about survival is more or less common and known to all people. According to the theory of natural selection the goal for every living species is to survive and develop descendants, dictated by nature itself. Adapt and change (Darwin, 1859). During this process many attempts to adapt in the given environment take place and can be described by the several random genetic changes as the source of heritable characteristics in a plant or the animal's observable characteristics (phenotype). Historically, natural choice is unavoidably causing extinction, a fact that is geologically validated as well. So all living organisms work towards achieving a betterment of their characteristics by differentiating themselves from the population in terms of habit, structure and make-up in order to ensure that many more will live together escaping the danger of being wiped out. The goal of augmenting their differences will result in the prevalence of fittest.

For people of the latest generations never experienced a pandemic before, this is an unprecedented adventure. The fear of all is the unknown intentions of a virus whose primary life goal is to transmit and to get transmitted. What Darwin named as “*natural choice*” is nothing else but the recognition of the prevalence of the most apt variations within a population that benefits only a number of individual members due to their developed characteristics, especially in their reproductive system.

Natural choice is present at every moment. Nature doesn't pay attention in appearance at all, when it comes to survival. A special challenge in the case of COVID-19 is that genome sequence data is happening rapidly and at high volumes, implying that by the end of the pandemic we could expect hundreds of thousands of the virus genomes to have sequenced (Rambaut et al., 2020), while the nomenclature system is not intended to represent every evolutionary change. A phenomenon called “*phenotypic gambit*” has been reported in modern evolutionary theory and behavioral ecology as the mode that leads to changes in phenotype. Exactly like the homonymous chess tactic, sacrificing measurable features for tactical gain-like eyes or hair color- makes the living organism fitter for winning the game of future reproduction. And through the process of natural selection these advantageous traits become more common and are transmitted through generations. Scientists have been working on identifying the upper limits to genome sequence diversity and possibly the boundaries of mutational space in Covid19 (Rambaut et al., 2020). When taking biology into account this number is limited only to those genomes that would allow the virus to be able to infect and replicate, justifying the gambit phenomenon. Nature dictates the evolutionary constraints of the hypothetical genomes that have little or no functional consequence. Regarding the fact that extinction really plays a major role in our world as we know it, if one only considers the fossils or those rare species representatives found living in the most secluded areas of the world obviously most likely accidentally-hidden from the life-threatening game of survival, can explain the abovementioned hypothesis of the triumph of only a number of the strongest offshoot. Linking this fact to the Covid19, the virus is itself being exposed to different selective pressures in different regions. As it gets more transmissible in a fast pace, it is likely that more favorable properties might emerge.

The day after will find our ecosystem severely upset. Physical human interaction was coordinated in order to follow patterns similar of the 1582 plague outbreak inspired manual “*Ectypa Pestilentis Status Algheriae Sardiniae*” (1588) with a series of social distancing measures. In many cases what is meant to be “*quaranta giorni*” for quarantine period is way exceeded even during or after vaccination periods, and rule-breaking is always present. The future of work is still unknown as the outbreak of a virus which was transmitted to humans through an animal host is something that should be further analysed to get to the root of it. Economists worldwide try to model future outcomes and predict the levels of economic stability and economic growth always according to the getting along with the virus.

There’s one more lesson we are taking from this ongoing pandemic, that natural selection does not only force a virus to adapt and change in order to survive. The same pattern stands for all other living organisms, humans included, in order to build resilience for the future, maybe some faster than others. Change is true that is facilitated more rapid under pressure, but this phenomenon also has two sides as we are not referring only to businesses but also to employees and societies. If planners do not consider all sides then the result from pressure will be exactly the opposite from the desired growth every stakeholder wishes for. Already a large part of women are displaced from the workforce, as the “*Women in the workplace 2020*” McKinsey study analyses on the effect of the pandemic on women in corporate America. In a very detailed way the report says that pandemic affected the workplace in ways never seen before risking losing women in leadership- future leaders too- and blowing over painstaking progress of gender diversity. And the bottom line is that women leaving the workforce lose their purpose in life which they were deriving through work. Losing out on these goals to ensure women in the workforce will result in a rollercoaster that will entrap all other stakeholders in it.

There will be a lot to look forward as the pandemic will cease. In the post pandemic era countries will need to rethink long-held beliefs and plan ahead in the future of work. Climate risks and fossil fueled equipment, new technologies and cyber resilience, capital markets and financial literacy (Kassapi, 2020), public health innovation are some of the issues arising for the day after. Inequality will escalate and material deprivation will also be on the rise as for many countries (Eurostat, 2021). In the near future we need to become skilled in identifying cultural patterns in order to be able to pull ahead the ones that drive “*distinction*” (Bourdieu, 1984) and develop them through sustainable paths.

REFERENCES

- Bourdieu, Pierre (1984). *Distinction*. Routledge
- Darwin, C. (1859). *On the origin of species by means of natural selection*. London: J. Murray.
- Eurostat (2021). *People at risk of poverty or social exclusion*. European Commission.
- Kassap, S.A. (2020). Financial literacy or lessons for life?. *Journal of the International Academy for Case Studies*, 26, 1-4.
- Rambaut, A., Holmes, E.C., O’Toole, Á., Hill, V., McCrone, J.T., Ruis, C., & Pybus, O.G. (2020). A dynamic nomenclature proposal for SARS-CoV-2 lineages to assist genomic epidemiology. *Nature microbiology*, 5(11), 1403-1407.