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The Case Against The ‘Singularity’

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The definition of a ‘Singularity’ is something with ‘an unusual or distinctive manner or behaviour’. Something, or an event, that is ‘out of the ordinary’. Something that can be perceived to be so rare that it doesn’t warrant serious consideration, even though its impact may be devastating. So, does that mean that we shouldn’t be prepared for such events? If not, why not? Are ‘Singularities’ real, or merely constructs of a risk-averse human culture?

The individual and, by extrapolation, society as a whole, businesses and governments alike are, by and large, risk averse. We all encounter risk, on a day to day basis, and have learnt to deal with many of them, through training and education, careful planning, and/or adaptation. We mitigate against future risk events and manage to quantify them in terms of frequency and potential impact. Risk/Impact, Cost and Return on Investment, are all calculations that we undertake, knowingly, or otherwise, daily. But what happens to decision making and mitigation on a grand, global, scale if the risk event is ‘perceived’ as extremely unlikely, infinitesimally small, even if its impact is catastrophically large? Does it mean that we should not plan and mitigate against such an event happening, even if the cost of mitigation far outweighs the potential benefits? The answer might be a qualified ‘No’, assuming that the event never happens or, at worst, happens only once. However, would our thinking be different if the frequency of such a calamity increased and some of our mitigation resources were reusable? Would thinking change from reactive to proactive?

Major conflicts, for example World War 1, financial crises like The Wall Street Crash of 1929 and viral pandemics, such as smallpox, have beset the world for millennia. The Plague pandemic of the 14th century killed upwards of 75 million people and plagues of various types continued to be experienced, in some form, nearly every year, up until the mid-18th century. In the 18th century, 400,000 people per year died from Smallpox in Europe and an estimated 300 million in the 20th century, worldwide. Influenza outbreaks have occurred since 1580. The ‘Spanish’ ‘Flu pandemic of 1918/19 infected 500 million people and killed an estimated 17-50 million, globally. The H2N2 ‘flu virus pandemic of 1957 killed over 1 million people. In the 2000’s the world experienced first SARS (2002), then MERS (2012), both Corona viral infections. SARS had a relatively low infection rate with the majority of deaths (648 out of 774) occurring in China, or Hong Kong. MERS seemed equally rare with 452 deaths out of 866 occurring in Saudi Arabia. Meanwhile, every year, since medical records have been kept, we’ve lived through the ravages of another Corona Virus, seasonal ‘flu, which kills upwards of 500,000 on average, every year, globally. Other viral pandemics include; Poliomyelitis, AIDS, Measles and Ebola.

Many of the above have one thing in common – that is the perception of a ‘Singularity’. For example, the ‘flu pandemic of 1918 was viewed as the ‘greatest medical disaster of the 20th century’, which overlooked the devastation caused by Smallpox in the same period. A vaccine for this strain of ‘flu was formulated in the 1930’s and for Smallpox in 1978. However, AIDS, SARS and MERS remain untreatable by vaccination. AIDS is clearly a pandemic, by any definition of the word. Of the 30 million HIV positive people, worldwide, some 70% live in sub-Saharan Africa. However, compared with ‘Spanish’ ‘Flu and other contagious, air borne, viral diseases, its transmission rate is relatively low and is more difficult to contract, especially if some basic precautions are taken. Mitigation is thus comparatively inexpensive. Given that vaccines can take decades to develop, test and roll-out, other actions have been taken to mitigate against the next outbreak. The creation of the W.H.O., National Disease

July 2020

Control Centres and National Pandemic Strategies, have all sought to mitigate against the next outbreak - after the last one. We had plans, but were we prepared?

Now, in 2020, the world is in the grip of another, global, Corona Virus pandemic, Covid-19, that has so far infected 9 million people and killed in excess of 475,000. In financial terms it has already cost nations 10 trillion dollars and led to tens of millions of people being made permanently, or temporarily, unemployed and caused global economies to shrink by between 6-20%. With some notable exceptions (Germany, South Korea, Japan, Finland, Australia, New Zealand and a handful of others), it would appear that most major governments slept walked into how to deal with the pandemic. In the last decade there have been numerous scientific reports and symposia, some government sponsored, warning of an inevitable, global pandemic. (A prime example is Bill Gates' address to TED in 2015) These were largely ignored, looked upon with scepticism, or played to political short-termism, 'it won't/can't happen on my watch'. They were perceived as scare mongering and therefore too costly to mitigate against, especially when the same governments were cutting health service budgets. It could also be that they were just too frightening to contemplate. That the logistics and the resources required to deal with such a pandemic would be too complex to manage. If only. If only governments had taken one step back and viewed the inevitable as 'A Rare, but Repeatable Event', something that could be managed, rather than a 'Singularity', another 'one-off' pandemic. Once one accepts that and that global supply chains will be broken as a result, national solutions, with international co-operation, become necessary and can be planned for and costed. So, could we have planned ahead and significantly reduced the impact of Covid-19? Could we have acted proactively, rather than reactively? Would the cost have been so prohibitive and the logistics so unmanageable?

At the start of 2020, many of the following measures and actions had already been developed and proven to work in dealing with MERS, SARS and Ebola outbreaks. Some, which were labour intensive, have since been superseded by technological advances, such as track and trace Apps. They may sound familiar:

1. Agreeing cross-departmental, co-ordinated responsibilities at a national, government level and internationally
2. Effective and understandable communication by national governments and internationally, via the W.H.O., informing everyone about what has happened, what is happening, why and when.
3. The development of rapid detection and contact tracing tools and treatment and isolation facilities
4. The introduction of social distancing measures, or some form of societal change of habit
5. The isolation of the vulnerable in society and, if necessary, larger communities
6. The stockpiling of as much PPE as possible, in specially regulated storage facilities
7. The same for respirators and other medical equipment necessary to treat bronchial disease, organ failure and the like
8. The construction of production facilities for medical equipment and supplies, even if they remain 'dark rooms' for years
9. The provision of testing facilities in research labs, universities, other medical establishments, both in the private and public sectors
10. The formulation and trial of a testing strategy and infrastructure and how this might be rolled out, nationwide
11. Provision of financial assistance directly to those who suffer the most in society
12. Financial aid and loans for businesses to prevent or minimise mass unemployment
13. Actionable, and realistic plans for reopening businesses and public transport after confinement

July 2020

Governments that adopted most of these measures in the early stages of the pandemic succeeded in controlling the spread of Covid-19 and its social impact. Those that acted late, failed in degrees – some catastrophically, such as the USA, UK, Spain, Italy, France, Russia and latterly, Brazil and Central America.

What have we learnt? Firstly, it would appear that there is no such thing as a ‘Singularity’. When something really significant happens, on the global stage, it is only a matter of time before it happens again. Indeed, in all probability, it already has. Secondly, the frequency of these catastrophes depends on the actions of the human race and our understanding of the natural world. Thirdly, preparedness is nowhere near as costly as cleaning up the mess after the event. Fourthly, there needs to be an enforceable, international agreement as to how we classify, plan, manage and de-risk global catastrophes. Fifth, national governments ignore warnings of pending catastrophes at their peril and must have actionable, realistic plans of mitigation. Finally, I doff my cap to a learned friend from my school days. He is a Nuclear Physicist and in later years, has become a keen astronomer. His advice to me was not to worry too much about Climate Change, pandemics and the like; we are in a position to deal with those. We all should, however, be looking skyward, towards the Oort Cloud. But then he would say that, wouldn’t he? If something sizeable (in the order of 200kms diameter or greater) from that part of deep space happens to cross the orbit of the Earth, at the same point in time as us, my belief in the non-existence of ‘Singularities’ will, quite literally, be shattered.

ABOUT THE AUTHOR

Graham Wilkes has a degree in Pure Maths, Statistics and Systems Failures from the University of Sussex. He's spent 40 years working in the world of IT, and for the last 25 years has been managing large scale, complex software implementations, globally, in the Finance Sector. He has lived and worked in The Americas, Asia, Russia, Europe and Indian Subcontinent.