

All of a sudden we get what Black Swans meant.

7 facts and a bunch of other implications which Covid-19 leaves us with.

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Author's note: This article is being written on 31st March 2020 in the context of state-imposed self-isolation with a view to slowing down the spread of Covid-19. Some of the reflections might be obsolete by the time of publication of this article. Should that be so, the reader is to understand them in their historical context.

In recent years, all professors who impart courses in the field of *management (especially those of us who focus on innovation and strategy)*, have been concentrating on what is known as the Fourth Industrial Revolution, and most if not all companies are embroiled in the arduous process of, as I'm in the habit of calling it, *Re-Thinking and Re-Shaping* so as to face up to the transformation which this new revolution requires. A moment in our history which is, presumably, going to produce the convergence of various technologies that will potentially have an exponential impact (AI, Blockchain, Big Data, Robotics, Digital Manufacturing, and such like).

And thus we were proceeding, occupied (as well as somewhat preoccupied, let's be candid about it, given the alarming bells that were indicating that things could change radically in this *topsy-turvy*¹ world) with anticipating what the real impact could be of the convergence in our businesses, how to lessen the abruptness of this all-but certain transition toward the new paradigm and how to take full advantage of the gains to be reaped from changes in the rules of the game, etc., etc., etc., when out of the blue Covid-19 reared its head, which is the epitome of a Black Swan², and it knocks us flat onto the canvas.

And although it's still early to draw definitive conclusions, we can nonetheless tease out interesting lessons from this worldwide pandemic. Some facts that we garnered from the unexpected irruption (which I've structured in seven bullet-points) and which if we understand them and we internalize them, as soon as possible, can help us to face what the future brings. A future, an epoch, which will be known as the post-Covid era.

¹ An upside-down world, in which instability has become the new normality and in which facts that in another moment would qualify as extraordinary become just an everyday, habitual routine.

² A black swan is what the Lebanese-American writer, researcher and financier Nassim Nicholas Taleb characterized as an anormal unpredictable occurrence because nothing -and nobody- saw it coming before it happened and which in its wake brings about changes. Given their transcendence we could characterize as "recent" Black Swans the fall of the Berlin Wall in 1989 and the subsequent collapse of socialism, followed by the disintegration of the USSR, which eliminated the bipolar division of the world, thus imposing the capitalist system. And the 9/11 terrorist attacks which heralded an international "war on terror" and which, moreover, plunged the US economy into recession (by sharply reducing consumption as a consequence of the state of psychosis among the US population, who avoided travelling). An economy which, in an attempt to alleviate the situation, leaned heavily on deregulation of markets, tax cuts, interest-rate cuts and credit expansion, which gave rise to the real estate bubble, which itself ended up imploding in 2008 when investment bank Lehman Brothers filed for Chapter 11 bankruptcy.

1. The first fact is clear. **In situations of maximum uncertainty (fear), *homo sapiens sapiens* (over-)reacts just as does any other animal struggling to preserve what is most precious: its life.** Covering our basic physiological needs and ensuring our survival become our primary concern, even our only one, under extreme uncertainty. How far we suddenly find ourselves from aspiring to reach the pinnacle ("self-actualization") of Maslow's famous pyramid. All at once we've tumbled to the bottom of that pyramid; retreating to the very basics.

Thus we have seen and experienced first-hand how faced with alarm bells and a stay-at-home order from the Government, grotesque behaviours in supermarkets aimed at stockpiling basic products (and among those, toilet paper emerged as the King).

If we step back a tad and analyze the whys and wherefores of these goings on, the reasons behind the over-reaction (regardless of official assurances communicated to the public that supplies would not be scarce), we find contrasting theoretical fundaments that can shed a little light and that can help us not only to interpret the events but to anticipate future recurrences.

In order to understand what's behind this apparent irrational conduct to which we've all been eye-witnesses, or indeed which we ourselves have fallen prey to, we must re-read the magnificent books that tell us about how our mind works in terms of decision-making and apply the learning.

Among those books, three stand out to me:

- Kahneman, D. (*American-Israeli psychologist and winner of the 2002 Nobel Prize in Economics*). (2011) ***Thinking, Fast and Slow***. Farrar, Straus and Giroux,
- Ariely, Dan. (*Professor of psychology and behavioural economics at Duke University*) ***Predictably Irrational: The Hidden Forces That Shape Our Decisions***. (2008) HarperCollins.
- Thaler, Richard H. (*American economist and winner of the 2017 Nobel Prize in Economics for his contributions to behavioural economics*). ***Misbehaving: The Making of Behavioral Economics***. (2015) New York: W. W. Norton & Company.

Although some of these books might seem "out-of-date" (The one by Ariely is over a decade old and that by Kahneman almost the same vintage), today more than ever they have total validity because many of the things that on reading them back in the day might have seemed anecdotal (given our perch as comfortable readers), are now our day-to-day reality.

A case in point, Kahneman tells us that, distinct from what we believe about what happens in our mind (a conscious thought which runs in an orderly manner), the mental task that produces most of our decisions is carried out without our conscious control and responds to a series of "hidden" forces (emotions, norms, expectations and context) which form them. Kahneman calls this way of thinking System 1; a fast response system (non-reflexive and automatic) which reaches immediate, effortless conclusions using simplifying short-cuts (heuristics) so as to be able to react instantly. This way of proceeding, generally and applied to decision-making in "normal/known/habitual/stable" surroundings, serves us well because resting on heuristics yields an appropriate solution avoiding having to engage in a deeper thought process which Kahneman calls System 2, which consumes a great deal

more energy. Be that as it may, we must be aware that, sometimes, in the functioning of System 1 there are biases, systematic errors which tend to be committed in "anormal/not previously experienced" circumstances. When that occurs, people can take decisions which fall outside the pattern of rationality that one ought to expect of *homo sapiens sapiens*.

So then, that apparent irrationality observed in humans in certain "special" circumstances is fruit neither of happenstance nor stupidity; it is systematic and predictable (this is the point where Ariely comes in) and is preconditioned by human biology (responding to the way our mind is "hard-wired").

Some of the goings-on we've seen taking place in supermarkets following the announcement of self-isolation are the outcome of the latter. Doubtless, some of the events we've witnessed in the media or experienced first-hand were the result of applying at least two heuristics and of being prey to at least three unconscious cognitive biases, namely:

The availability heuristic. A dramatic event such as a plane crash, a terrorist attack or a pandemic, to name but three examples, with extensive media coverage, can manage to alter and momentarily condition our perceptions as regards the safety of air travel, cities and even our own lives, etc. and condition our decisions ...although the likelihood that such events happen to us is very low. The alarm caused by continuous media bombardment about the anomalous, unforeseen event makes us feel that this is the new normality and it can happen to us, conditioning our behaviour, severing us from what, statistically, the rational behaviour might be.

The representativeness heuristic. Attached to the latter, we observe how "apocalyptic" stories no matter how coherent and/or well-told are not always and necessarily the most probable reality, statistically speaking, but since they're plausible and irrefutable (it's always possible they might occur ...albeit unlikely), it could easily lead us into confusion and into making erroneous/precipitous decisions.

With regard to biases:

- **The WYSIATI (What You See Is All There Is) Effect.** The jump to general conclusions based on limited/partial evidence makes us ignore anything which we don't know, making a story seem coherent, even though it might very well be incomplete and wrong.
- **The Anchor Effect.** When we're unaware about something, any indication at all no matter how arbitrary it might be can serve as a valid reference when it comes to decision-making, even though that indication that we cling to could be totally false.
- **The Loss Aversion Effect.** Fear of loss influences us so that, depending on the way in which the event which requires our decision is presented to us, we end up taking a completely irrational decision.

That is the "power" that persuasive communication can wield over humans, whether for good or ill. Depending on how a given fact is communicated, it can be totally ignored or quite the opposite, it creates a stampede.

In normal market conditions capturing our customers' and prospective customers' attention is indispensable. Thinking about appealing to System 1 in response can be a way to get closer to our commercial aims. But although the latter might be a reading of what I have explained, the more important message we're left with, here and now, is that, as a society, we must respond in a more diligent way faced with events such as those that have taken place. We ought first to apply social pedagogy to what those books tell us and what I've sought to summarize very succinctly and, afterward, be sufficiently diligent as to apply this *medicine* and not fall prey to panic next time around. Once System 1 takes hold ...it's very hard to stop. The reactions and decisions that have come about as a result of the spread of the pandemic are, presumably, a combination of fear and unawareness exacerbated by one of the abovementioned biases.

2. Something we've learnt "thanks" to Covid-19 is that there are "things" that grow (in cases whereby they occupy us, they spread) at an exponential rate. Until the arrival of the virus, whenever we were talking about exponential growths we always took as a case in point what is known as Moore's Law (which, more than a law is a pattern that has remained true for more than 50 years) which predicted that computing power would double every year (later it was adjusted and was reliably doubling every 18 months or so). And much earlier we heard some mathematics professor who, in order to illustrate exponential growth, told us the apocryphal fable about the prize, which was grains of wheat, which the sage who invented the game of chess requested from the king of a far-off land in the Orient, in exchange for pleasing him. Specifically, the wise man asked the King to put a grain of wheat in the first square of the chessboard, and to successively double it in every subsequent square until he completed the 64 squares of the board. The King, incapable of foreseeing the magnitude of the request, agreedwithout the slightest idea that the prize which the sage had requested was impossible to fulfill. That is the mirage of the exponential; something which barely moves at the start of the series (in the first square one grain of wheat, in the 2nd, 2, in the 3rd 4, in the fourth, 8, in the fifth, 16), so as to afterward take off and give rise to the typical exponential curve (in the 6th, 32, in the 7th, 64, in the 8th, 128, in the 9th, 256, in the 10th, 512..., in the 64th, 9,223,372,036,854,775,808 grains of wheat, which turns out, once we accumulate all the wheat which the king must deposit on the chessboard, to be more than a thousand times the worldwide production of wheat in ...2017!!!!).

These stories of the past are now being replaced by a new one. The growth curve of coronavirus contagion.

What have we learnt about this new experience with exponential phenomena? That that which grows in this way overwhelms the capacity of any system that is ...finite. The collapse of the healthcare system, above all in ICUs, is buckling under the pressure of rapidly rising contagion far from the aims of the management, is to flatten the curve at all costs, that is, ensure that the arrival of patients at hospitals isn't concentrated all at one short moment.

All of a sudden, we discover that we live in a world where capacities are not infinite and it is hard to respond to exponential events. We end up short of ICU beds, gloves, masks, ...and everything (fortunately, though, not toilet paper!). And in this situation we rediscover that key concept in Operations: lead time.

Lead time is the time required by the supply chain to get something done. It is the time that elapses between acknowledging the need and fulfilment of the need which, finally, takes the form of an available product or service. So, then, in conditions whereby the exponential vastly overtakes the expected, the dreaded supply interruptions occur (the bane of Operations directors). And when these stock shortages kick in, the lead times always seem long and unacceptable. Nothing has changed, except that the exponential has overwhelmed the foreseen, the emergency stocks we're used to counting on in the supply chains have disappeared because consumption has surged beyond what was budgeted for as demand outstrips supply and we find ourselves starting right from scratch with the whole process of procurement/production/distribution.

We ought to learn from this experience that shouting ever more loudly that we don't have enough masks, ...won't make the masks come along any sooner. Everything is subject to lead time.

Finite capacity (overtaken by exponential demand) + lead time = howling customers.

It's easy to grumble, groan and gripe and/or whinge and whine about bad planning or low reaction capacity ...once the horse has already bolted, about the stable door having been left swinging open, complaining. A better understanding of what a supply chain is and how Operations work would moderate, on the basis of knowledge, certain criticisms. This doesn't exclude at some point nailing down accountability for negligence, poor execution and so on and so forth, but in general what *Covid-19* brings to the table is the difficulty to face up to the exponential with systems that grow in a linear manner.

And also fruit of this dramatic situation we're undergoing we've seen how queues form in supermarkets and how cumbersome they are. We should begin to value much more everything carried out by the people who work in the Operations function and what they deal with daily, thanks to their knowledge and diligence, so that ordinarily there are no queues, that all needs are met and a long et cetera of things to which we don't pay even the slightest attention every day yet which are FUNDAMENTAL. And in all these invisible goings-on we must not forget that planning plays a fundamental role.

3. Planning, as I've said, **is fundamental**. It is the task which aims to strike the balance between scarcity and excess. It is the "art" of anticipating. Of doing beforehand and in time what we believe is going to be required of us in the future. And within that "art", the foreseeing of sales, is the cornerstone. If we anticipate well what is going to be required of us, we can prepare beforehand and arrive in time with our products and services that the market is going to demand. The Plan is the guide for the organization.

What happens to plans when unforeseen situations arise?

They go up in smoke and are of little use ...and yet we cannot get away from the need to plan. At calm moments (the 90s was a fairly stable decade, without substantial lurches and as such amenable to a degree of foreseeability) planning prevailed at every level; from strategic 5-year plans to day-to-day operative plans. Everything seemed to function like a perfectly-oiled gearbox which rolled out the plan thoroughly; that was the time when ERP systems deployed everywhere.

Planning in times of tranquillity is child's play. What is tricky is planning in times of tumult, such as we're currently undergoing. Times of transition because new tech is transforming every aspect of our lives and times of transition too because of what we'll be left with by Covid-19 after this period of self-isolation and economic paralysis which in turn is having an exponentially accelerative effect on the former.

The big challenge revolves around **How to plan in "topsy-turvy" surroundings? How to plan in a world which defies all predictions?** That is something which we're going to have to learn to do. For the time being we can get used to the fact that that magnificent spreadsheet that set out the path for the coming 5 years ...is of no use.

More daring planning models are needed!

Zoom out/Zoom in the planning approach that Deloitte Center for the Edge advocates, could be a way forward. It consists basically of projecting over 10 years ahead in order to "flesh out" what the scenario might be in which we'll find ourselves (how new technologies might change consumption patterns and new business models; in short, how the rules of the game might change) and once defined, return to the here and now in order to map out an operative plan for the current year which serves as a guide during the first steps toward that outcome. It's easier said than done, above all in this period of double uncertainty in which we live.

Whatever we do, don't be surprised when that which we predict doesn't end up taking place. In that sense, this quote from the book *La Bataille d'Occident* by Éric Vuillard (French writer, filmmaker and director) strikes me as excellent in defining the moment in which we find ourselves.

"Everything was taken into consideration, except what happened. And nothing happened as foreseen".

That is the attitude with which we must face up to these "modern times", assume that no matter how much we plan, something unexpected will occur and, hence, we'll end up having to ditch the plans that we'd prepared and go back to the drawing board. Just as Dwight D. Eisenhower (army general and statesman; 34th President of the USA) stated, **"Planning is everything. Plans are nothing"**.

4. And, yes, it will fall to us to plan during these turbulent times, because moreover some of the precepts upon which we based our planning are going to be, for sure, reviewed. One of these **unquestioned (and unquestionable) precepts was free trade and globalization**. As a consequence of the pandemic and the lockdown of

many countries perhaps **the concept of globalization is due for a re-think**. For the time being we have become aware all of a sudden, right across vast swathes of the West, that our capacity for industrial reaction was limited because for many years we were busying ourselves de-localizing our factories out in developing countries (mainly in Asia, especially China) and now, when local muscles need to be flexed so as to react quickly, it turned out that we didn't possess such muscles and we were stuck with having to improvise on the hop. Doubtless this will be a lesson well-learned and maybe, just maybe this might cause us to redesign our supply chains, making them less dependent on far-off producers so that we avoid a supply shock such as that which has arisen practically halting production in Asia. Perhaps, and only perhaps, this is going to be the definitive boost to digital and 3D production as a way to regain competitiveness. Everything will have to be seen just as we will see what the countries' reaction is going to be; whether they will tend to shut down borders and lean on a certain amount of protectionism or whether instead, the concept of the global village ends up prevailing and that forces us to re-assess the canons of global governance. In any event, we're on the cusp of a period of many questions which require consensual answers and a whole lot of empathy.

5. There are always at least two paths, two ways (and often a few more) to face the same reality, to face up to the same challenge. And that is a very good lesson that we're left with for when we have to deal with the next challenge with which we're presented and it is a practice worth fomenting: never be satisfied with one sole solution. Just as Linus Pauling (US biochemist, molecular biologist, medical researcher and 1954 Nobel laureate in Chemistry) said, *"the best way to have a good idea is to have lots of ideas"*.

The way in which each different affected country has tried to slow down the spread of the pandemic could be summarized as three options, led respectively by China, the UK (at first, although later it changed course) and South Korea. The three options are thus: (1) general confinement (in countries such as Spain and Italy a variant has been deployed whereby the confinement was gradual); (2) aim for herd immunity; and (3) mass diagnosis plus isolating the infected individuals. The interesting thing, as I mentioned, revolves around the diversity of alternatives so as to be able, afterward, with data to hand, to develop new standards which can be applied in future. Time will tell which of these three options has been the most effective one by virtue of a macabre indicator, namely the death toll. But that aside (which is no small matter and which must provide lessons for us should some similar pandemic ever occur again) the fact is that we've experienced first-hand the trade off that a situation of maximum uncertainty yields. And subsequently moral dilemmas of the sort: Should we first save as many human lives as possible or save the economy?

It's a debate which will have many twists and turns and there are many interests in play, and it'll have to be heard with a keenly critical ear and a systemic vision, something which, as we have seen in point 1 above isn't our forte.

Things being as they are, our dear Earth has been transformed, overnight, into an enormous testing ground (or, as the business vernacular would have it, a "sandbox") in terms of the model for slowing down the infection rate and the way to try to save the economy. And as regards the latter, we have heard about how governments have

wasted no time in falling over themselves to butter us up with colossal monetary and fiscal interventions. And among them a measure announced back (pre-Covid) when the scenario in prospect was that of "abundance": the universal basic income (UBI). An income that possessed the spirit of permitting people to climb to the top of Maslow's pyramid (self-actualization) while machines/robots displace us in ever more work posts. An income that aimed to cover people's minimum requirements to pursue a decent life, for the simple fact of being a citizen, and thus, citizens could occupy themselves with things of a higher order than repetitive, routine tasks which they were going to yield to machinery. So then, what was overwhelmingly rejected in 2016 by the Swiss in a referendum (76.9% of voters rejected the proposal of a UBI of €2250 plus €565 for each minor) might end up being implemented now, being the silver bullet to get us over the bump in the road to which the pandemic has confined us. What, four years ago, was dismissed voluntarily and decisively could, ironically, end up being what we're crying out for now. And do not doubt, the amount now is going to be for sure below that which was presented to the Swiss for a vote in the referendum.

Surely this very intricate situation will wind up bringing forth some solutions which were simply unthinkable in another context as well as accelerating the implementation of others which, unbeknownst, will be necessary.

6. And focusing just on economic-financial matters, what to say?! For one thing, this situation forces us to **experience constant volatility**. Never before in the history of stock market crashes have we seen such a quick plummet in every index on the planet. In just 17 days the S&P 500, for instance, lost more than 27% of its value; there's no telling how long it will take to recuperate the highs immediately prior to the coronavirus outbreak. It seems that the economic hangover is going to be huge and although it's always risky to predict, most are now talking up a vast recession, or even a depression the like of which has never before been seen. Only time will tell, or it could pull the rug from underneath such prognoses.

And we wonder, will we get out of this? And the answer is emphatic: yes.

Human beings have a capacity for extraordinary resilience. We have demonstrated it on countless occasions, adapting to extreme situations and staying afloat (not without enduring a high cost, sometimes, the highest, paid with human lives). So, the question is not whether we'll get out of this or not. The question is how will we get out. What things we are going to have to do differently from now on.

7. The sure thing is that from a recent time until this one, much of humanity has seen itself lashed by very severe natural forces (the wildfires in Australia, storm Gloria in Spain, and now this pandemic) as if to remind us that **nature acts of its own accord per its own dynamic and not at our convenience**. Perhaps all these batterings serve to show us that the illusion that we're in control of events ...is nothing more than that, an illusion. And even though dealing with this reality might be disheartening and it might cause us to feel unhinged or lost, there's no alternative; we will have to face it. Let these events serve to redesign our economy, our society, our world. A world which has no replacement spares and which we have to preserve for future generations. A world in which perhaps some of the practices which out of obligation

Covid has thrust upon us (sharing things, reducing emissions because we couldn't get around, tele-working, entertaining ourselves digitally, producing collaboratively and an endless list of "and so ons" and "and so forths") might stick around and serve to modify some of those practices which we knew very well were not doing us much good but while the merry-go-round was whizzing around nobody dared to stop it. Let's hope so! Meanwhile, no matter how the cookie winds up crumbling ...**crisis!** and as in all crises, **change** arrives and we know very well that, by definition, change is not something we're keen on ...but it's what we've got, so: **shall we give it a shot?**

The only failure would be not to bother trying.