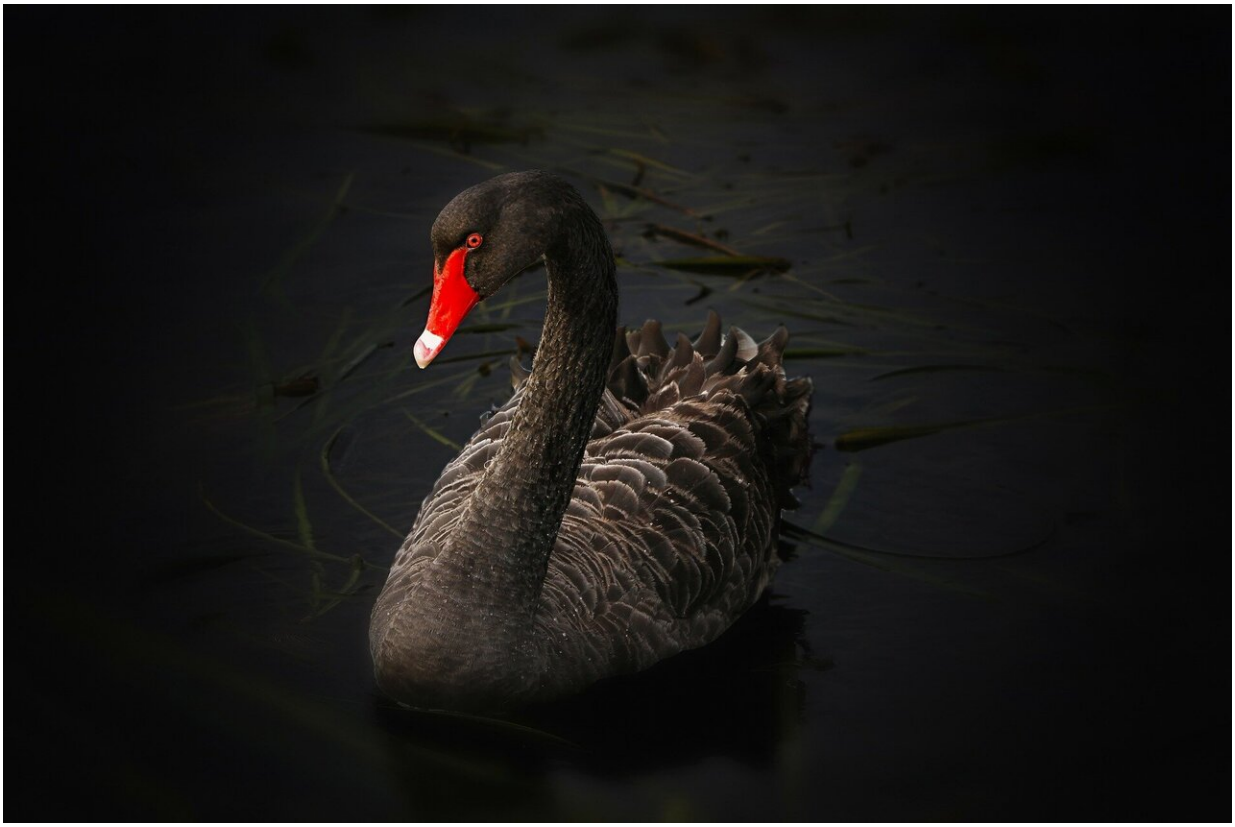
Coronavirus is significant, but is it a true black swan event?

May 1 2020, by Glenn McGillivray



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Since the "black swan" metaphor was coined in the 2007 book of the same name it has become fashionable to label virtually all low probability/high impact events black swans.

But the danger of making an occurrence like the COVID-19 outbreak appear to be astronomically rare is that we will treat it as such and fail to prepare for the next pandemic. What's more, those accountable for this preparation will dismiss their blatant failures because of the perceived exceptional nature of the event.

As managing director of the oldest university-based disaster risk reduction research institute in Canada, and with almost 30 years of researching and writing about disaster risk management, I know this all too well. When you make an event seem exceptional when it really isn't, it will be used as a crutch by those who failed to prepare in the face of the known risk.

What is a black swan?

In *The Black Swan*, written by professor, statistician and former options trader Nassim Taleb, the author explains how an event can come to be named a black swan:

"First, it is an outlier, as it lies outside the realm of regular expectations, because nothing in the past can convincingly point to its possibility. Second, it carries an extreme 'impact.' Third, in spite of its outlier status, human nature makes us concoct explanations for its occurrence after the fact, making it explainable and predictable."

So, by their very nature, black swan events are quite exclusive. They must be, because if next to everything is a black swan, then nothing is.

But this still leaves the question: Can COVID-19 be considered a black swan?

Let's look at some of the facts and place them against the three attributes set out by Taleb.

Attribute one: Is the COVID pandemic an outlier?

History shows that infectious diseases, epidemics and pandemics, have been the number 1 mass killers of people, outperforming even natural disasters and wars (indeed, more people died from the 1918 flu outbreak than died in the First World War).

That pandemics break out from time to time is well known and well documented.

So, too, are warnings about the "next" outbreak. Says journalist Ed Yong in *The Atlantic*:

"In recent years, hundreds of health experts have written books, white papers and op-eds warning of the possibility. Bill Gates has been telling anyone who would listen, including the 18 million viewers of his TED Talk. In 2018, I wrote a story for *The Atlantic* arguing that America was not ready for the pandemic that would eventually come."

Both George W. Bush (in November 2005) and Barack Obama (in December 2014) warned of the next pandemic in speeches at the National Institutes of Health.

Along with the historical record and the many articles, papers and other sources that warn of the next pandemic, governments themselves often conduct exercises, including table-top simulations and other planning, in an attempt to determine how to get ahead of the next pandemic.

Seven days before Donald Trump took office on January 20, 2017, his aides and out-going Obama administration officials were briefed on a table-top exercise that played through a fictitious outbreak of H9N2—an influenza virus—with effects not unlike what we have seen with SARS-CoV-2.

Similarly, in 2019, the Trump administration's own Department of Health and Human Services carried out a pandemic simulation tagged as "Crimson Contagion," which played out a viral outbreak originating in China that could kill close to 600,000 people in the United States alone.

So, can we say in all fairness and honesty that no one saw the possibility of COVID-19 coming?

Attribute two: Does COVID-19 carry an extreme impact?

Taleb's second requirement is that the event must have a major impact.

At writing, attempting to provide an accurate quantitative impact of COVID-19 would be akin to snapping a picture of an odometer as the car is racing down the Autobahn.

However, while COVID-19 is not anticipated to have an impact even remotely close to that of the 1918 flu outbreak (at least 50 million deaths), there can be no question that the current pandemic has had—and will continue to have—an extreme impact, both on people and on national economies.

Attribute three: Is it, or will it be, normalized after the fact?

The concept of "normalizing" a large event—by rendering it explainable or predictable in hindsight—completes the three criteria and makes it a black swan. However, this element seems quite arbitrary, raising several questions:

Who is qualified to normalize an event in this manner, whereby the

initial shock of the event is then casually dismissed?

How can we know if an event is normalized unjustly or if the normalization is legitimate?

Can important comments by journalists like Bryan Walsh ("COVID-19, could not have been more predictable" and "COVID-19 marks the return of a very old—and familiar—enemy") and Yong ("A global pandemic of this scale was inevitable") be effectively neutralized by dismissing them as mere attempts to normalize or brush off the current crisis? The danger in doing so is that rejecting the inevitability of a pandemic like COVID-19 also enables us to reject the likelihood of future pandemics, and the need to be better prepared.

And, since the propensity to normalize can be attributed to a blind spot in human cognition (that is, people are hardwired to normalize), should it even be an attribute of a black swan in the first place?

Since we are still in the midst of the current pandemic crisis, we do not yet know whether the COVID-19 pandemic will be normalized.

So COVID-19, a black swan or no?

In the study of natural hazards, the chances of a flood or an earthquake or a hurricane happening in any given period in a given place is expressed in terms of time and probability. For example, the probability of one in 100 years for a flood means that there is a one percent chance of a flood affecting a given area in any one year. This means that there is a 99 percent chance that a given place will not be flooded—pretty good odds.

However, if you carry that same probability over a longer time frame—say over the life of a mortgage or the time residents plan to stay

in a home (let's say it's 30 years)—the probability of a one in 100 flood hitting that house goes from one percent per year to 26 percent over the course of the mortgage—greater than one in four odds.

In a 2018 research study, investigators made the assumption that the probability of a pandemic of a certain level occurring is one in 100, or one percent in any given year. So, just as with a flood, when calculated for a 30-year period, there is greater than a one in four chance of a pandemic occurring. Carrying the odds over 50 years means there is almost a 40 percent chance of a global outbreak.

The subtitle of Taleb's book is "The impact of the highly improbable." But an event like COVID-19 is not all that rare. Indeed, history is replete with such events, there have been numerous warnings from many sources, and the mathematical odds of an occurrence are not all that remote. With pandemics, it is not really a question of if, but usually when.

Indeed, Taleb recently weighed in on the question of whether COVID-19 is or isn't a black swan.

Spoiler alert: it isn't.

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