



Featured Book Review

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Uncertain Times, All the Time

How Improbable Events Shape the World We Live In

Review by Stephen Wolter

Trying to describe Nassim Nicholas Taleb's latest book, *The Black Swan: The Impact of the Highly Improbable*, in a succinct fashion simply will not do the book justice. Yes, the ideas within *The Black Swan* can be condensed, and its abundance of fascinating ideas and observations can be discussed, dissected and explained. But in order to fully understand Taleb's absolute enthusiasm for the subject at hand — which in this case is how improbable events affect our lives and our world — the reader needs to pick up the book. *The Black Swan* is a kind of crazy kaleidoscope of ideas, each one practically bursting off the page, and Taleb has strong opinions about every one of those ideas. There's nothing lukewarm about this author.

In the book's prologue, Taleb calls his book a personal essay, and that's a fair self-assessment. Even when the book veers into the technical, Taleb's personal voice comes through loud and clear. Some readers might find Taleb abrasive. At times you might think he is full of himself, an egomaniac. But also consider that this is an extremely smart, confident individual who possesses a near effortless ability to explain complex ideas in an entertaining and thought-provoking manner.

All Swans Are White

Some 300 years ago, it was a popular assumption in the Old World that all species of swans were white. Every bit of empirical evidence confirmed this as true. But in the late 17th century, the discovery in Australia of a swan species that was completely black destroyed any previous notion that all swans are, and must be, white. It hardly mattered anymore that thousands of years of recorded history had only produced

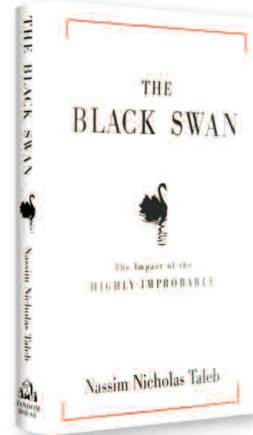
the undeniable truth that swans were white, because with the first sighting of a black swan, the undeniable truth was rendered false.

What does the story of the black swan teach us? Taleb describes it as a lesson that “illustrates a severe limitation to our learning from observations or experience and the fragility of our knowledge.” Regardless of what we know from history, a single improbable event can change everything we think about the world. Taleb calls these improbable events Black Swans.

How to See a Black Swan

There are three attributes found in Black Swans, according to Taleb. First, they are events that lie outside the realm of regular expectations. Black Swans are the name Taleb uses for outliers. No past events or prior evidence ever indicates that an outlier can possibly become a reality. In other words, outliers are completely unpredictable. Second, a Black Swan carries an extreme impact. And third, even though a Black Swan event is something that could not have been predicted, human nature compels people to create explanations for the occurrence of the event, making it explainable and, in retrospect, predictable.

By way of example, Taleb lists Black Swans from the last century: the events leading up to World War I; the rise of Adolf Hitler and World War II; the stock market crash of 1987; the fall of the Soviet Union in the 1990s; the fantastic worldwide growth of the Internet; and what is probably the most significant Black Swan in recent years — at least in the public's consciousness — the terrorist attacks of September 11, 2001. No doubt any number of historians



THE BLACK SWAN
by Nassim Nicholas Taleb
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“Wars, Taleb writes, are fundamentally unpredictable. The consequences of predicting the course of war can be disastrous if we live in a world in which we can only see white swans.”

would take issue with Taleb as to whether or not these events really were beyond the realm of imagination before they occurred, but readers should consider giving Taleb the benefit of the doubt. The argument concerning what major events in world history were truly improbable and what events were predictable can be discussed in another book — what Taleb is trying to explain in this book is the concept of improbable and unprecipitable occurrences.

As for the reliance on predictions, Taleb recoils from the idea, since according to his theory it is impossible to predict a Black Swan. Taleb writes that if these outlier events really are unpredictable, then by implication

predicting the course of history is also impossible. Yet that is what human beings continue to do, much to Taleb’s great distress.

“We produce 30-year projections of Social Security deficits and oil prices without realizing that we cannot even predict these for next summer,” he writes. And even though colossal errors of prediction — from stock market returns to who will win the World Series — are ever present, what surprises Taleb even more is that people are seemingly unaware of how far off the mark these predictions are.

It’s one thing to lose money on an investment, thanks to a prediction of a Wall Street analyst. But what happens when we make predictions and apply them to deadly conflicts? Wars, Taleb writes, are fundamentally unpredictable. The consequences of predicting the course of war can be disastrous if we live in a world in which we can only see white swans.

The Day Before Thanksgiving

Picture this: Every day for three years a turkey is fed and cared for by a farmer. The turkey is well-treated and lives in a comfortable pen, and with every single feeding from the farmer, the turkey’s belief in the farmer’s role as a food provider is reinforced.

The pattern of feeding and care continues for three years, until one Wednesday in November when the farmer, carrying an ax, takes the turkey out behind the barn and ... well, the next day is Thanksgiving, after all. What happens, from the turkey’s point of view, is com-

pletely unexpected. As Taleb puts it, the event on that fateful Wednesday “will incur a revision of belief.”

Taleb credits the story of the doomed bird to philosopher Bertrand Russell, and he uses it to illustrate this problem: How can we know what the future holds, based on our knowledge of the past? Making the question even more general, Taleb asks how it is possible to understand the properties of the unknown, based on what is known.

He considers the dilemma of “learning backward.” If we learn from observation, shouldn’t that tell us something regarding the world we live in? Well, consider the turkey, whose confidence in the farmer increases every day during its three years of life — right until the moment its head is placed on the chopping block. Suddenly, everything that has happened in the turkey’s past proves worthless as far as predicting the future is concerned. (So much for observation.)

According to Taleb, the turkey’s “naive projection” of future events can be applied to anything in our world. Not only might this learning backward be worse than having no value, he writes, it may actually have *negative* value. Something works in the past (the turkey gets fed), until one day when it no longer works (the turkey gets dressed for Thanksgiving dinner). This strikes at the very nature of empirical knowledge, because everything we have learned in the past turns out to be irrelevant, false or dangerously misleading.

History and societies, Taleb tells us, do not crawl along. Instead they make jumps. People, however, tend to believe that history moves in small and predictable increments. This is a form of self-delusion, not unlike that of the poor turkey who wasn’t able to predict the monumental jump in his own life on the day before Thanksgiving.

Tell Us a Story

One of the ways in which human beings are blind to the occurrence of Black Swans has to do with something that Taleb calls the “narrative fallacy,” a problem that illustrates our need to turn abstract concepts into understandable stories. Taleb writes, “We like stories, we like to summarize, and we like to simplify, i.e., to reduce the dimension of matters.” He sees this need for storytelling as something that distorts our view of the world, and this distortion is especially potent when we observe rare occurrences.

Taleb devotes an entire chapter of his book to examining both the psychological and physiological reasons that people need to create narratives in order to explain events. We can observe a sequence of facts easily enough, but Taleb writes that before long we start assigning explanations to link those facts together. In doing so, the facts become easy to remember and make

more sense to us.

The use of narratives affects our understanding of Black Swans. For one thing, we are attracted to the sensational, which is often an attribute of the narrative fallacy. As an example of the sensational, Taleb asks the reader to imagine sitting on an airplane bound for New York City. The passenger next to you tells a story about a person he knew who was murdered in Central Park in 1989. The victim left behind a wife and three children. It was a tragedy — one that could have been avoided — considering that the murdered man was a tourist who didn't have to take a stroll through the park on the day he was killed. Now, it would be possible for you to verify crime rates in New York City by using the Internet, or at the library, or from a variety of respectable sources. But anecdotal information has a strong pull, and it's difficult for you to shake this story about a single murder. As it turns out, you end up skipping a visit to the park.

Taleb is highly critical of the media for propagating narrative fallacies and the sensational. He chastises news sources that routinely attach causes to stories in which causes are not readily apparent. Market fluctuations are a prime example of how the media employs a narrative fallacy.

He describes the story of Bloomberg News reporting the movement in U.S. Treasury bonds on a day in December 2003. At 1:00 in the afternoon, Bloomberg linked a rise in U.S. securities to the belief that the recent capture of Saddam Hussein might not stem terrorist activity. Thirty minutes later, the same news source reported that with a fall in U.S. securities, the capture of Saddam suddenly made risky assets look like a good investment. An identical explanation was given as the cause of events that were completely opposite, all in the space of half an hour. The fact that bond prices fluctuate daily didn't seem to matter. Whether it's economic ups and downs or trying to explain why a certain candidate lost an election, Taleb writes that "a cause is proposed to make you swallow the news."

There are other reasons for our blindness to Black Swans, and Taleb spends a number of chapters discussing each at great length. These include focusing on preselected segments of known evidence, which can result in prejudices that are inaccurate; history's ability to hide Black Swans; and our inclination to "tunnel," which occurs when we focus on specific Black Swans, but ignore others that don't come to mind.

And finally, Taleb writes that we simply live as though Black Swans don't exist. Human beings really aren't hardwired to accept the phenomenon. Yet when a Black Swan occurs, and we can no longer deny its reality, we will try our hardest to explain how it happened in the first place.

The World According to Taleb

Reading this book can remind the reader of having a long dinner conversation with someone who is extremely intelligent; someone who is curious about a seemingly endless number of topics, whose lengthy monologues are never dull and whose opinions are well-informed. The next morning you might not remember every topic you and your dinner companion spoke about during the course of your three-hour meal, but you know it was heady stuff, always interesting and occasionally exhilarating.

The Black Swan falls into a growing group of titles that is rapidly becoming a sort of specific genre, one that combines an intriguing mix of social psychology, economics, business and popular culture. This genre attracts a surprisingly large number of readers, and it might be a Black Swan for publishers. Titles in this genre include *Freakonomics*, *The Tipping Point*, *Blink*, *The Wisdom of Crowds* and *Made to Stick*, among others. Like these books, *The Black Swan* contains passages that can confound readers, leaving them with rereading as the only option. But then there's no shame in rereading, especially when the writer is as engaging as Taleb.

It is highly likely that among the titles listed above, — with the possible exception of *Freakonomics* — that *The Black Swan* will produce the most controversy of this genre. For one thing, Taleb isn't shy about doling out criticism, and he makes no attempt to sugarcoat his annoyance with economists, boring academics, journalists, Wall Street analysts, various Nobel laureates and any so-called expert (in apparently any field, except perhaps meteorology) whose primary function in life is to predict the future — a future that naturally does not include Black Swans. That's a lot of people Taleb might potentially pick a fight with. And experts aren't experts for nothing, even if Taleb thinks they're overrated.

He displays a special disdain for any true disciple of the bell curve. In one chapter, under the unambiguous title "The Bell Curve, That Great Intellectual Fraud," he

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sets out to dismantle the theories of Gaussian distribution. It's a fairly technical portion of the book — Taleb advises some readers to just skip the chapter, especially if they are among the “fortunate people who do not know about the bell curve” — but he attacks his subject with the same enthusiasm that he displays in the rest of the book. In other words, he's not dull.

Some readers may accuse Taleb of repetition — that he is merely milking the same idea over and over across the space of 300-some pages. But then there will be other readers who disagree. Taleb is writing passionately about a topic he obviously loves to discuss. What some critics might see as repetition, others will view as an exploration of tangents. If some of these tangents don't seem pertinent to the promised topic of improbability, it is preferable to view them as part of a carefully layered argument in defense of a theory most laypeople were unfamiliar with, until now.

Making an Example of a Swan

One of the only things that readers will have a true problem with in *The Black Swan* is Taleb's odd inclusion of the story about author Yevgenia Nikolayevna Krasnova, a neuroscientist whose first novel — originally published on the Web — later sold millions of copies in book form, but only after it was turned down by numerous publishers.

Her story, of course, is an example of a Black Swan, and if you've never heard of Ms. Krasnova, you shouldn't feel like you're living outside the literary loop. Krasnova is a fictional character that Taleb made up. He doesn't inform the reader of this fact until the chapter *after* he initially tells Krasnova's story. Why he would rely on such an odd device as using a fictional character to illustrate his idea about Black Swans is puzzling, especially an example that involves an unknown writer whose first book sells in the millions.

If that's the scenario he wanted, why not describe the story of a young British woman, an unemployed single mother, who gets it in her head to write a children's

story about a boy wizard, and who ends up being England's most popular novelist since Dickens? That is undeniably a Black Swan! Not to mention, a Black Swan that actually happened. Instead, Taleb's fictional Krasnova comes off like one of those characters found in too many “how to” business books, in which the author needs to create a fake business populated with fake employees, just to prove his particular theories on how to manage a company.

That aside, *The Black Swan* is a terrific book, one that should make you think twice about how you perceive world events as well as events in your own neighborhood. It should certainly cause you to consider the source of the next prediction you read about, even if it's a prediction you agree with. Taleb can be blustery in his writing, like some opinionated old relative who never thinks he's wrong, but that only adds to the book's distinctiveness.

In the end, Taleb's world is one in which we can't predict Black Swans, and we can't stop them from occurring. “The rare event equals uncertainty,” Taleb writes. An uncertain world is scary to most of us, but then it is the only world we have ever lived in. Taleb's introduction to this world is smart, entertaining and well worth the read. ■

The Black Swan on the Lists

Since its publication in mid-April, Taleb's *The Black Swan* has managed to impress critics and readers as well as other authors. Chris Anderson, author of the 2006 best seller *The Long Tail*, has claimed the book to be “a delightful romp through history, economics, and the frailties of human nature.”

The numbers don't lie either. *The Black Swan* has consistently been one of Amazon.com's best-selling books, and best sellers lists for *The New York Times* and *BusinessWeek* have both hosted the title for a number of months.

The author: Nassim Nicholas Taleb is an essayist, researcher and self-proclaimed “philosopher of randomness,” in which he has a fascination with the issues surrounding uncertainty, probability, knowledge and luck. Taleb is the author of the best-selling book *Fooled by*

Randomness, which has been translated into 20 languages. He earned an M.B.A. from the Wharton School of Business and a Ph.D. from the University of Paris. Taleb is currently the Dean's Professor in the Sciences of Uncertainty at the University of Massachusetts at Amherst.

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