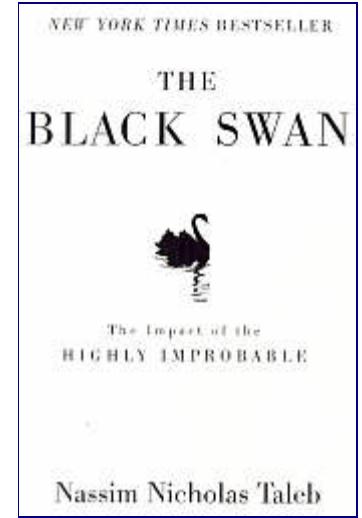


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A READER'S JOURNAL
The Black Swan
The Impact of the Highly Improbable
by
Nassim Nicholas Taleb

ARJ2 Chapter: Evolution of Consciousness
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A Book Review by Bobby Matherne ©2011



Nassim Nicholas Taleb

"All swans are white" was an unassailable truth up until the discovery of Australia — it was something everyone knew to be a fact. But it was neither true nor a fact. All it took was the sighting of one black swan in the new southern continent to turn the Old World upside down on its head. Taleb, a cagey Lebanese-born philosopher and thinker, has grabbed onto the "black swan" as a synecdoche for an *abruptly appearing, totally unexpected event which has a great impact on the world*, but for which the world conjures up *ex post facto* explanations which makes it all sound reasonable and predictable. Sure, antiseptic procedures for doctors sound reasonable today, but the black swan Dr. Ignaz Semmelweis was imprisoned in a mental institution by the head of his hospital, even after his procedures had saved over a hundred-thousand women in Vienna from dying in childbirth! I have made a vocation of seeking out such *black swan* innovators, both those like Semmelweis whose contributions grace history books and some whom I have been fortunate to meet and or converse with, such as Immanuel Velikovsky, Richard Bandler, John Grinder, Joseph Newman, Andrew Joseph Galambos, Doyle Philip Henderson, and Kaisu Viikari. Those that I have met *only* through books constitute a longer list, and I will mention their names in case you wish to look up their contributions as outliers in their unique fields of innovation and discovery: Alfred Korzybski, Rudolf Steiner, Gregor Mendel, Owen Barfield, Anastasia, Barbara McClintock, Carlos Castaneda, Jane Roberts, Thomas Kuhn, Paul Watzlawick, Gregory Bateson, Richard Feynman, Robert Axelrod, and Thomas Paine, among others. It is only fitting that I add the author of this book, Nassim Nicholas Taleb, to the list of *black swans* I have met through books because his coined phrase *black swan* will echo down the halls of time, much as Tom Kuhn's word *paradigm* which he rescued from obscurity and pumped new life into in 1962.

In New Orleans in the Fall of 2005, my wife and I lived through the Black Swan known as Katrina. It appeared overnight and left in its wake a devastated metropolitan area. How did we react to Katrina? We restored our home on the West Bank and our fourplex apartments in New Orleans. I had ridden out Hurricane Betsy about 40 years before Katrina and seen the devastation left behind then, and I had heard of the Great Flood of 1927, about 40 years before Betsy. Knowing something about batting averages, it seems to me that the City of New Orleans needs a catastrophe about every 40 years. The first generation after the catastrophe remembers it and expects another catastrophe like it every year. The second generation only hears about it and never expects one, but the new third generation forty years later gets shook up by a new and unexpected catastrophe and the cycle starts over. I doubt that Taleb would accept my simple baseball metaphor of batting average for predicting a city's experience with catastrophes, but I offer it in the absence of any other explanation. It can bring a certain measure of comfort to those who might otherwise spend Spring through Fall of every year worrying about another Katrina.

Here's how Taleb describes the dynamics of Black Swans and what might qualify as a Black Swan:

[page viii] Just imagine how little your understanding of the world on the eve of the events of 1914 would have helped you guess what was to happen next. (Don't cheat by using the explanations drilled into your cranium by your dull high school teacher.) How about the rise of Hitler and the subsequent war? How about the precipitous demise of the Soviet bloc? How about the rise of Islamic fundamentalism? How about the spread of the Internet? How about the market crash of 1987 (and the more unexpected recovery)? Fads, epidemics, fashion, ideas, the emergence of art genres and schools. All follow these Black Swan dynamics. Literally, just about everything of significance around you might qualify.

This combination of low predictability and large impact makes the Black Swan a great puzzle; but that is not yet the core concern of this book. Add to this phenomenon the fact that we tend to act as if it does not exist! I don't mean just you, your cousin Joey, and me, but almost all "social scientists" who, for over a century, have operated under the false belief that their tools could measure uncertainty.

Taleb's forte is the world of finance and economics, and his advice is that *no advice from anyone* can predict Black Swans. He even gives you a way of discovering this truth he offers, an operation that many of you can easily perform to ascertain how oblivious the best informed experts in the world are to Black Swans.

[page xviii] . . . the applications of the sciences of uncertainty to real-world problems has had ridiculous effects; I have been privileged to see it in finance and economics. Go ask your portfolio manager for his definition of "risk," and odds are that he will supply you with a *measure* that *excludes* the possibility of the Black Swan — hence one that has no better predictive value for assessing the total risks than astrology (we will see how they dress up the intellectual fraud with mathematics). This problem is endemic in social matters.

Do you begin to feel as if a rug has been pulled out from under you, causing you to lose your level of comfort in the world? If not, you have not yet understood the problem, and you may gently pull yourself away from this review, dear Reader, and return to your favorite illusory world where Black Swans don't exist, where the world is uniform, slowly changing, and where manufacturing gasoline pumps will always be a prosperous business to invest in. You and I live in a world where no Black Swan will suddenly pop up to make oil a useless black goo best left underground.

[page xix] The central idea of this book concerns our blindness with respect to randomness, particularly the large deviations: Why do we, scientists or nonscientists, hotshots or regular Joes, tend to see the pennies instead of the dollars? Why do we keep focusing on the minutiae, not the possible significant large events, in spite of the obvious evidence of their huge influence? And, if you follow my argument, why does reading the newspaper actually decrease your knowledge of the world?

The world is out there, alive and throbbing, and the newspaper can only report a map of that territory which may be filled with unnoticed and unappreciated Black Swans birthing and growing up into maturity to surprise all of us. The so-called live news media are no better because the world they show us is a carefully selected world that is squeezed through a small lens pointed in only one direction at a time. Black Swans typically happen in the very direction no one is looking and every camera is pointed in the direction where some producer or director is expecting to find something. The very word "expecting" should raise the hair on your neck when you hear it or any of its synonyms from now on — because it means the possibility of being blind sided by events is present, the possibility that what is being shown on the TV screen is from a camera pointed in the wrong direction or in the wrong location. No one was looking at the Twin Towers until the first plane flew into it. What footage we have of the first plane

crashing into a tower came from someone who was looking at something else. When a broker tells you what to expect in the market, fire him. You need help choosing the dramatic things that might happen that no one is expecting. Invest in one IBM, Microsoft, Google, etc, when they are cracking open their egg, and your own nest egg will be ensured. Yet, no broker can tell you when a company will soar out of its nest as a Black Swan and make you rich.

[page xix] Black Swan logic makes what you don't know far more relevant than what you do know. Consider that many Black Swans, can be caused and exacerbated by their being unexpected.

The most amazing collection of insights about life that I have found are in [Sufi stories](#). People hear some of them only when they are converted into ordinary jokes, but most never bother to mine their riches. One such story involves two men who go on a hazardous journey through a desert region inhabited by brigands and wild carnivores. The first man, a Sufi, manages the journey quite well, finding water and food at an oasis when he needs it, and arrives safely at the end of his journey where no one gathered to meet him. The second man is set upon by robbers who try to steal money and he fights them bravely and chases them off even though he emerges from his fighting all bloody. He resumes his journey and a large lion pounces on him from the overhead rock outcropping in a passage through a hilly region and in the battle, the man manages to pull his knife and kill the lion, having to drink the lion's blood to quench his thirst as he had run out of water. When he arrives in the town where the Sufi is now resting in an inn, the man is greeted by a crowd of people who want to hear about the adventures he underwent during his treacherous journey. He is feted at a big dinner where all the dignitaries of the town come out. The question for you, dear Reader, is which man was the more successful, the lion-killer or the Sufi?

[page xxii, xxiii] We remember the martyrs who died for a cause that we knew about, never those no less effective in their contribution but whose cause we were never aware of — precisely because they were successful.

Taleb gives us an update on this Sufi story with a thought experiment where he runs the events of 9/11 twice: once with a man who prepared so well that nothing unusual happened on that day, and once without the man's contribution. Then he has us look at what likely happens to the prepared and successful man.

[page xxiii] Assume that a legislator with courage, influence, intellect, vision, and perseverance manages to enact a law that goes into universal effect and employment on September 10, 2001; it imposes the continuously locked bulletproof doors in every cockpit (at high costs to the struggling airlines) — just in case terrorists decide to use planes to attack the World Trade Center in New York City. I know this is lunacy, but it is just a thought experiment (I am aware that there may be no such thing as a legislator with intellect, courage, vision, and perseverance; this is the point of the thought experiment). The legislation is not a popular measure among the airline personnel, as it complicates their lives. But it would certainly have prevented 9/11.

The person who imposed locks on cockpit doors gets no statues in public squares, not so much as a quick mention of his contribution in his obituary, "Joe Smith, who helped avoid the disaster of 9/11, died of complications of liver disease." Seeing how superfluous his measure was, and how it squandered resources, the, public, with great help from airline pilots, might well boot him out of office. *Vox clamantis in deserto*. He will retire depressed, with a great sense of failure. He will die with the impression of having done nothing useful. I wish I could go attend his funeral, but, reader, I can't find him. And yet, recognition can be quite a pump. Believe me, even those who genuinely claim that they do not believe in recognition, and that they separate labor from the fruits of labor, actually get a serotonin kick from it. See how the silent hero is rewarded: even his own hormonal system will conspire to offer no reward.

When one, like Joe Smith, is a Black Swan, one becomes a "voice crying in the desert" and is often

beheaded as the Biblical voice in the desert was. If not beheaded literally, Joe's voice will be ignored precisely because he is talking about unique situations that no one else has read about in the newspapers or heard about on the radio or seen on TV or the Internet.

The people I listed in my first paragraph are Black Swans because they saw things few others saw or understood, even to this day. As a whole we treat these people like Joe Smith in the thought experiment above, we allow them to die in obscurity, only to have their contributions suddenly re-arise as a phoenix decades or centuries later. Barbara McClintock worked in obscurity for three decades while her colleagues ridiculed her "jumping gene" theory, right up to the moment she walked on stage to receive her Nobel Prize. Richard Feynman, also a Nobelist, was ridiculed when he put an O-ring in ice water to demonstrate the cause of the Challenger disaster. He was later proven to be right on. These were among the lucky few. Gregor Mendel's work with smooth and wrinkled peas sat unread for decades until William Bateson read it and decided to found the science he called *genetics* based on Mendel's work. Note how Bateson slighted Mendel by not naming the unit of hereditary transmission, the *gene*, after the discoverer.

Joe Smith could have prevented the 9/11 catastrophe, but would have gotten only scant attention. But, if like Pogo said, "A national catastrophe gets an overwhelming majority", like certain infamous Presidents of the USA, they tend to be glorified and spread across the pages of history.

[page xxiv] It is the same logic reversal we saw earlier with the value of what we don't know; everybody knows that you need more prevention than treatment, but few reward acts of prevention(1). We glorify those who left their names in history books at the expense of those contributors about whom our books are silent. We humans are not just a superficial race (this may be curable to some extent); we are a very unfair one.

As a writer I am very much aware that few people read Introductions, Prefaces, or Prologues to books. They want to get right to the meat of the matter, as they might say if you asked them, as I have. But I am aware of the paradox of the bootstrap, having worked on primitive minicomputers in the 1960s when we had to fat-finger the code of the bootstrap program into our computers each time we turned them on. Our current word "boot" and "reboot" for computers comes from that bootstrap program. To get a program into a computer you simply turn on the program loader. Okay, that's simple, you say. But the program loader is a program. How does it get into the computer? There's the paradox. Starting a computer is like pulling yourself up by your own boot straps! It can't be done, but it is done. Learning a new subject or reading a new book involves a similar bootstrap paradox. It would sure help if you knew all about it before you started. Authors provide the "all about it before you start" in those prefatory sections called Introductions, Prefaces, or Prologues. That's why they are there — to provide you a hand up into the new knowledge presented in the book.

Taleb's Prologue is full of wonderful bootstraps into the meat of his book, and for this reviewer it is a gold mine! For example, he introduces the Great Intellectual Fraud (GIF) which is otherwise named the Bell Curve. There is nothing fraudulent about the Bell Curve, but the way it is used presupposes the non-existence of Black Swans and thus it is the primary tool of real-life Intellectual Frauds, and Taleb spends much of his time explaining how to identify them and how to avoid being misled by their techniques. Skip the rest of book at the peril of losing every thing you own, no matter how rich you are, in fact, the richer you are the more in danger of that ignominious fate.

The next life-saving concept Taleb offers us is the Platonic Fold. Before your eyes glaze over, let me tell you a quick story which happened to me. I was in my boss's office and he told me, "You know, Bob, in the Norwegian Boy Scout Handbook, in the section on map-reading, it stated, 'When the terrain differs from the map, believe the terrain.'" He grew up in Norway and was probably a Boy Scout as a child, and I could imagine him believing his map while ignoring the terrain and plunging 1200 feet into an icy fiord. It was good advice and prepared me well for later meeting the work of Alfred Korzybski who famously wrote, "The map is not the territory", a rather dry expression of the same insight as Per Holst shared with

me years before. The Platonic Fold of Taleb is like a sudden drop into the "dangerously wide" gap of an icy fiord for someone who has believed in a map like the Bell Curve.

[page xxv] The Platonic fold is the explosive boundary where the Platonic mindset enters in contact with messy reality, where the gap between what you know and what you think you know becomes dangerously wide. It is here that the Black Swan is produced.

Few people understand what an essay is, lumping it together with theme, paper, and any other synonyms, thereby neutering the word and truncating their own ability to understand an essay when they read one. Taleb tells us in his Prologue that he is writing an essay which means he is stepping off the beaten path to communicate something original with this book. In an essay we must expect our notions about life to be challenged — in an essay we rarely find something written that would lead us to spout the epithet of shallow thinkers, "I know that."

[page xxvi] This is an essay expressing a primary idea; it is neither the recycling nor repackaging of other people's thoughts. An essay is an impulsive meditation, not science reporting. I apologize if I skip a few obvious topics in this book out of the conviction that what is too dull for me to write about might be too dull for the reader to read. (Also, to avoid dullness may help to filter out the nonessential.)

Decades ago, I noticed that on any given month I was buying more books than I read during that month. When people would ask why I have so many books in my library (about 3,000) I would tell them, "My goal is to buy more books than I read in any given month and to live long enough to read them all." I meant it facetiously because most people don't understand that the unread books in my library are more valuable than the read ones. Each unread book represents a book whose contents I will need on the spur of the moment at some time in the future, and a short walk will allow me to read it or search its contents. The unread shelves are my research library and comprise about 2/3rds of my library volumes. The read books are mostly reviewed and have my marginalia in them containing ideas and concepts, many of which never made it into my reviews of them. Those handwritten comments and sketches are another treasure trove of research material which I want nearby. Several years ago, my wife would grimace every time a new box of books arrived. She began saying, "Bobby, you cannot bring another book into this house." I had to admit I was challenged to find places for the new books arriving, so I finally said, "Okay, Del. Maybe we should look for a bigger house." A few months later we were living in a home with lots of room for my books and no more grimacing.

Taleb begins the meat of the book talking about Umberto Eco's Antilibrary, which he defines as the unread books on the shelves of Eco's 30,000 volume library, the research volumes. Like my visitors, people would come into Eco's home and notice the size of his library and ask him how many of the books he's read, as if that were the sole reason for owning a library, to read every book. That concept of *antilibrary* goes to the heart of Taleb's profession as he deems himself to be a *skeptical empiricist*.

[page 2] Let us call an antischolar — someone who focuses on the unread books and makes an attempt not to treat his knowledge as a treasure, or even a possession, or even a self-esteem enhancement device — a skeptical empiricist.

Before we actually reach the first page of Chapter One, we know all about Taleb in a thumbnail sketchy way so that we are well-prepared for the main course which will flesh out the menu explanations he has shared with us during his impressive Prologue. I don't know about you, but I wanted to order and digest every meal on his menu and was well-satisfied with my dining experience with him as I closed the book.

I cannot tell all the many things I learned in this book, nor do I intend to try. We live in a world full of people who believe that eventually computers will figure out everything and predict everything which is going to happen. These are people who have not read or digested the material of this book, which is indeed an eponymous Black Swan among books and as such will likely be unread and misunderstood when read. Gregory Bateson, a Black Swan among thinkers and an eminent cyberneticist, was asked once

by a student, "Professor Bateson, how will we know when computers have reached the level of human intelligence?" Bateson thought for a minute and answered, "We will ask the computer a question, and it will answer, 'That reminds me of a story.'" As Taleb writes on page xxvi of his Prologue, "Ideas come and go. Stories stay." Computers will never answer any questions with stories, and thus will never provide anything lasting, but Nassim Nicholas Taleb has provided a monument to his skeptical empiricism which will stand for all time to come. He explains to us what it means to be human in an inhuman world and how to survive given the reality of Black Swans.

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----- *Footnotes* -----

Footnote 1. One person in my list of Black Swans, Dr. Kaisu Viikari, M.D. Ph. D., devoted her life as a Doctor of Ophthalmology to the prevention of myopia and cure of migraine headaches by careful prescription of eye glasses, something the finite knowledge of the optical profession world-wide deems impossible. For her selfless devotion to the health of her patients, she has been exorcized by most of her colleagues, up until now. Read her description of her trials in [The Struggle](#).

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