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*THE BLACK SWAN*

SKIN  
IN THE  
GAME

Hidden Asymmetries  
in Daily Life



NASSIM  
NICHOLAS TALEB

# **SKIN IN THE GAME**

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HIDDEN ASYMMETRIES  
IN DAILY LIFE

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**NASSIM NICHOLAS TALEB**



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**BOOK 1**



INTRODUCTION

This book, while standalone, is a continuation of the *Incerto* collection, which is a combination of a) practical discussions, b) philosophical tales, and c) scientific and analytical commentary on the problems of randomness, and how to live, eat, sleep, argue, fight, befriend, work, have fun, and make decisions under uncertainty. While accessible to a broad group of readers, don't be fooled: the *Incerto* is an essay, not a popularization of works done elsewhere in boring form (leaving aside the *Incerto's* technical companion).

*Skin in the Game* is about four topics in one: a) uncertainty and the reliability of knowledge (both practical and scientific, assuming there is a difference), or in less polite words bull\*\*\*\*t detection, b) symmetry in human affairs, that is, fairness, justice, responsibility, and reciprocity, c) information sharing in transactions, and d) rationality in complex systems and in the real world. That these four cannot be disentangled is something that is obvious when one has...skin in the game.\*

It is not just that skin in the game is necessary for fairness, commercial efficiency, and risk management: skin in the game is necessary to understand the world.

First, it is bull\*\*\*\*t identification and filtering, that is, the difference between theory and practice, cosmetic and true expertise, and academia (in the bad sense of the word) and the real world. To emit a Yogiberrism, *in academia there is no difference between academia and the real world; in the real world, there is.*

Second, it is about the distortions of symmetry and reciprocity in life: If you have the rewards, you must also get some of the risks, not let others pay the price of your mistakes. If you inflict risk on others, and they are harmed, you need to pay some price for it. Just as you should treat others in the way you'd like to be treated, you would like to share the responsibility for events without unfairness and inequity.

If you give an opinion, and someone follows it, you are morally obligated to be, yourself, exposed to its consequences. In case you are giving economic

views:

*Don't tell me what you "think," just tell me what's in your portfolio.*

Third, the book is about how much information one should practically share with others, what a used car salesman should—or shouldn't—tell you about the vehicle on which you are about to spend a large segment of your savings.

Fourth, it is about rationality and the test of time. Rationality in the real world isn't about what makes sense to your *New Yorker* journalist or some psychologist using naive first-order models, but something vastly deeper and statistical, linked to your own survival.

Do not mistake skin in the game as defined here and used in this book for just an incentive problem, just having a share of the benefits (as it is commonly understood in finance). No. It is about symmetry, more like having a share of the harm, paying a penalty if something goes wrong. The very same idea ties together notions of incentives, used car buying, ethics, contract theory, learning (real life vs. academia), Kantian imperative, municipal power, risk science, contact between intellectuals and reality, the accountability of bureaucrats, probabilistic social justice, option theory, upright behavior, bull\*\*\*t vendors, theology...I stop for now.

### **THE LESS OBVIOUS ASPECTS OF SKIN IN THE GAME**

A more correct (though more awkward) title of the book would have been: *The Less Obvious Aspects of Skin in the Game: Those Hidden Asymmetries and Their Consequences*. For I just don't like reading books that inform me of the obvious. I like to be surprised. So as a skin-in-the-game-style reciprocity, I will not not drive the reader into a dull college-lecture-type predictable journey, but rather into the type of adventure I'd like to have.

Accordingly, the book is organized in the following manner. It doesn't take more than about sixty pages for the reader to get the importance, prevalence, and ubiquity of skin in the game (that is, symmetry) in most of its aspects.



But never engage in detailed overexplanations of *why* something important is important: one debases a principle by endlessly justifying it.

The nondull route entails focusing on the second step: the surprising implications—those hidden asymmetries that do not immediately come to mind—as well as the less obvious consequences, some of which are quite uncomfortable, and many unexpectedly helpful. Understanding the workings of skin in the game allows us to understand serious puzzles underlying the fine-grained matrix of reality.

For instance:

How is it that maximally intolerant minorities run the world and impose their taste on us? How does universalism destroy the very people it means to help? How is it that we have more slaves today than we did during Roman times? Why shouldn't surgeons look like surgeons? Why did Christian theology keep insisting on a human side for Jesus Christ that is necessarily distinct from the divine? How do historians confuse us by reporting on war, not peace? How is it that cheap signaling (without anything to risk) fails equally in economic and religious environments? How do candidates for political office with obvious character flaws seem more real than bureaucrats with impeccable credentials? Why do we worship Hannibal? How do companies go bust the minute they have professional managers interested in doing good? How is paganism more symmetrical across populations? How should foreign affairs be conducted? Why should you never give money to organized charities unless they operate in a highly distributive manner (what is called Uberized in modern lingo)? Why do genes and languages spread differently? Why does the scale of communities matter (a community of fishermen turns from collaborative to adversarial once one moves the scale, that is the number of people involved, a notch)? Why does behavioral economics have nothing to do with the study of the behavior of individuals—and markets have little to do with the biases of participants? How is rationality survival and survival only? What is the foundational logic of risk bearing?

But, to this author, skin in the game is mostly about justice, honor, and sacrifice, things that are existential for humans.

Skin in the game, applied as a rule, reduces the effects of the following divergences that grew with civilization: those between action and cheap talk (*tawk*), consequence and intention, practice and theory, honor and reputation, expertise and charlatanism, concrete and abstract, ethical and legal, genuine and cosmetic, merchant and bureaucrat, entrepreneur and chief executive, strength and display, love and gold-digging, Coventry and Brussels, Omaha and Washington, D.C., human beings and economists, authors and editors, scholarship and academia, democracy and governance, science and scientism, politics and politicians, love and money, the spirit and the letter, Cato the Elder and Barack Obama, quality and advertising, commitment and signaling, and, centrally, collective and individual.

Let us first connect a few dots of the items in the list above with two vignettes, just to give the flavor of how the idea transcends categories.

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\* To figure out why ethics, moral obligations, and skills cannot be easily separable in real life, consider the following. When you tell someone in a position of responsibility, say your bookkeeper, "I trust you," do you mean that 1) you trust his ethics (he will not divert money to Panama), 2) you trust his accounting precision, or 3) both? The entire point of the book is that in the real world it is hard to disentangle ethics on one hand from knowledge and competence on the other.

PROLOGUE, PART 1  
**Antaeus Whacked**

*Never run away from Mamma—I keep finding warlords—Bob Rubin and his trade—Systems like car accidents*

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**A**ntaeus was a giant, or rather a semi-giant of sorts, the literal son of Mother Earth, Gaea, and Poseidon, the god of the sea. He had a strange occupation, which consisted of forcing passersby in his country, (Greek) Libya, to wrestle; his thing was to pin his victims to the ground and crush them. This macabre hobby was apparently the expression of filial devotion; Antaeus aimed at building a temple to his father, Poseidon, using for raw material the skulls of his victims.

Antaeus was deemed to be invincible, but there was a trick. He derived his strength from contact with his mother, Earth. Physically separated from contact with Earth, he lost all his powers. Hercules, as part of his twelve labors (in one variation of the tale), had for homework to whack Antaeus. He managed to lift him off the ground and terminated him by crushing him as his feet remained out of contact with his mamma.

We retain from this first vignette that, just like Antaeus, you cannot separate knowledge from contact with the ground. Actually, you cannot separate *anything* from contact with the ground. And the contact with the real world is done via skin in the game—having an exposure to the real world, and paying a price for its consequences, good or bad. The abrasions of your skin guide your learning and discovery, a mechanism of organic signaling, what the Greeks called *pathemata mathemata* (“guide your learning through pain,”

something mothers of young children know rather well). I have shown in *Antifragile* that most things that we believe were “invented” by universities were actually discovered by tinkering and later legitimized by some type of formalization. The knowledge we get by tinkering, via trial and error, experience, and the workings of time, in other words, *contact with the earth*, is vastly superior to that obtained through reasoning, something self-serving institutions have been very busy hiding from us.

Next, we will apply this to what is miscalled “policy making.”

### **LIBYA AFTER ANTAEUS**

Second vignette. As I am writing these lines, a few thousand years later, Libya, the putative land of Antaeus, now has slave markets, as a result of a failed attempt at what is called “regime change” in order to “remove a dictator.” Yes, in 2017, improvised slave markets in parking lots, where captured sub-Saharan Africans are sold to the highest bidders.

A collection of people classified as interventionistas (to name names of people operating at the time of writing: Bill Kristol, Thomas Friedman, and others<sup>\*1</sup>) who promoted the Iraq invasion of 2003, as well as the removal of the Libyan leader in 2011, are advocating the imposition of additional such regime change on another batch of countries, which includes Syria, because it has a “dictator.”

These interventionistas and their friends in the U.S. State Department helped create, train, and support Islamist rebels, then “moderates,” but who eventually evolved to become part of al-Qaeda, the same, very same al-Qaeda that blew up the New York City towers during the events of September 11, 2001. They mysteriously failed to remember that al-Qaeda itself was composed of “moderate rebels” created (or reared) by the U.S. to help fight Soviet Russia because, as we will see, these educated people’s reasoning doesn’t entail such recursions.

So we tried *that thing* called regime change in Iraq, and failed miserably. We tried *that thing* again in Libya, and there are now active slave markets in the place. But we satisfied the objective of “removing a dictator.” By the exact same reasoning, a doctor would inject a patient with “moderate” cancer cells to improve his cholesterol numbers, and proudly claim victory after the

patient is dead, particularly if the postmortem shows remarkable cholesterol readings. But we know that doctors don't inflict fatal "cures" upon patients, or don't do it in such a crude way, and there is a clear reason for that. Doctors usually have some modicum of skin in the game, a vague understanding of complex systems, and more than a couple of millennia of incremental ethics determining their conduct.

And don't give up on logic, intellect, and education, because tight but higher order logical reasoning would show that, unless one finds some way to reject all empirical evidence, advocating regime changes implies *also* advocating slavery or some similar degradation of the country (since these have been typical outcomes). So these interventionistas not only lack practical sense, and never learn from history, but they even fail at pure reasoning, which they drown in elaborate semiabstract buzzword-laden discourse.

Their three flaws: 1) they think in statics not dynamics, 2) they think in low, not high, dimensions, 3) they think in terms of actions, never interactions. We will see in more depth throughout the book this defect of mental reasoning by educated (or, rather, semi-educated) fools. I can flesh out the three defects for now.

The first flaw is that they are incapable of thinking in second steps and unaware of the need for them—and about every peasant in Mongolia, every waiter in Madrid, and every car-service operator in San Francisco knows that real life happens to have second, third, fourth, *n*th steps. The second flaw is that they are also incapable of distinguishing between multidimensional problems and their single-dimensional representations—like multidimensional health and its stripped, cholesterol-reading reduction. They can't get the idea that, empirically, complex systems do not have obvious one-dimensional cause-and-effect mechanisms, and that under opacity, you do not mess with such a system. An extension of this defect: they compare the actions of the "dictator" to those of the prime minister of Norway or Sweden, not to those of the local alternative. The third flaw is that they can't forecast the evolution of those one helps by attacking, or the magnification one gets from feedback.

***LUDIS DE ALIENO CORIO***<sup>\*2</sup>

And when a blowup happens, they invoke uncertainty, something called a Black Swan (a high-impact unexpected event), after a book by a (very) stubborn fellow, not realizing that one should not mess with a system if the results are fraught with uncertainty, or, more generally, should avoid engaging in an action with a big downside if one has no idea of the outcomes. What is crucial here is that the downside doesn't affect the interventionist. He continues his practice from the comfort of his thermally regulated suburban house with a two-car garage, a dog, and a small play area with pesticide-free grass for his overprotected 2.2 children.

Imagine people with similar mental handicaps, people who don't understand asymmetry, piloting planes. Incompetent pilots, those who cannot learn from experience, or don't mind taking risks they don't understand, may kill many. But they will themselves end up at the bottom of, say, the Bermuda Triangle, and cease to represent a threat to others and mankind. Not here.

So we end up populating what we call the intelligentsia with people who are delusional, literally mentally deranged, simply because they never have to pay for the consequences of their actions, repeating modernist slogans stripped of all depth (for instance, they keep using the term "democracy" while encouraging headcutters; democracy is something they read about in graduate studies). In general, when you hear someone invoking abstract modernistic notions, you can assume that they got some education (but not enough, or in the wrong discipline) and have too little accountability.

Now some innocent people—Ezidis, Christian minorities in the Near (and Middle) East, Mandaeans, Syrians, Iraqis, and Libyans—had to pay a price for the mistakes of these interventionistas currently sitting in comfortable air-conditioned offices. This, we will see, violates the very notion of justice from its prebiblical, Babylonian inception—as well as the ethical structure, that underlying matrix thanks to which humanity has survived.

The principle of intervention, like that of healers, is *first do no harm* (*primum non nocere*); even more, we will argue, those who don't take risks should never be involved in making decisions.

Further,

*We have always been crazy but weren't skilled enough to destroy the world. Now we can.*

We will return to the “peacemaking” interventionistas, and examine how their peace processes create deadlocks, as with the Israeli-Palestinian problem.

### **WARLORDS ARE STILL AROUND**

This idea of skin in the game is woven into history: historically, all warlords and warmongers were warriors themselves, and, with a few curious exceptions, societies were run by risk takers, not risk transferors.

Prominent people took risks—considerably more risks than ordinary citizens. The Roman emperor Julian the Apostate, about whom much later, died on the battlefield fighting in the never-ending war on the Persian frontier—*while emperor*. One may only speculate about Julius Caesar, Alexander, and Napoleon, owing to the usual legend-building by historians, but here the proof is stark. There is no better historical evidence of an emperor taking a frontline position in battle than a Persian spear lodged in his chest (Julian omitted to wear protective armor). One of his predecessors, Valerian, was captured on the same frontier, and was said to have been used as a human footstool by the Persian Shapur when mounting his horse. And the last Byzantine emperor, Constantine XI Palaeologus, was last seen when he removed his purple toga, then joined Ioannis Dalmatus and his cousin Theophilus Palaeologus to charge Turkish troops with their swords above their heads, proudly facing certain death. Yet legend has it that Constantine had been offered a deal in the event of a surrender. Such deals are not for self-respecting kings.

These are not isolated anecdotes. The statistical reasoner in this author is quite convinced: less than a third of Roman emperors died in their beds—and one can argue that given that only few of these died of really old age, had they lived longer, they would have fallen either to a coup or in battle.

Even today, monarchs derive their legitimacy from a social contract that requires physical risk-taking. The British Royal family made sure that one of its scions, Prince Andrew, took more risks than “commoners” during the Falkland war of 1982, his helicopter being in the front line. Why? Because noblesse oblige; the very status of a lord has been traditionally derived from

protecting others, trading personal risk for prominence—and they happened to still remember that contract. You can't be a lord if you aren't a lord.

### **THE BOB RUBIN TRADE**

Some think that freeing ourselves from having warriors at the top means civilization and progress. It does not. Meanwhile,

*Bureaucracy is a construction by which a person is conveniently separated from the consequences of his or her actions.*

And, one may ask, what can we do since a centralized system will necessarily need people who are not directly exposed to the cost of errors?

Well, we have no choice but to decentralize or, more politely, to localize; to have fewer of these immune decision makers.

*Decentralization is based on the simple notion that it is easier to macrobull\*\*\*t than microbull\*\*\*t.*

*Decentralization reduces large structural asymmetries.*

But not to worry, if we do not decentralize and distribute responsibility, it will happen by itself, the hard way: a system that doesn't have a mechanism of skin in the game, with a buildup of imbalances, will eventually blow up and self-repair that way. If it survives.

For instance, bank blowups came in 2008 because of the accumulation of hidden and asymmetric risks in the system: bankers, master risk transferors, could make steady money from a certain class of concealed explosive risks, use academic risk models that don't work except on paper (because academics know practically nothing about risk), then invoke uncertainty after a blowup (that same unseen and unforecastable Black Swan and that same very, very stubborn author), and keep past income—what I have called the Bob Rubin trade.



The Bob Rubin trade? Robert Rubin, a former Secretary of the United States Treasury, one of those who sign their names on the banknote you just used to pay for coffee, collected more than \$120 million in compensation from Citibank in the decade preceding the banking crash of 2008. When the bank, literally insolvent, was rescued by the taxpayer, he didn't write any check—he invoked uncertainty as an excuse. Heads he wins, tails he shouts “Black Swan.” Nor did Rubin acknowledge that he transferred risk to taxpayers: Spanish grammar specialists, assistant schoolteachers, supervisors in tin can factories, vegetarian nutrition advisors, and clerks for assistant district attorneys were “stopping him out,” that is, taking his risks and paying for his losses. But the worst casualty has been free markets, as the public, already prone to hating financiers, started conflating free markets and higher order forms of corruption and cronyism, when in fact it is the exact opposite: it is government, not markets, that makes these things possible by the mechanisms of bailouts. It is not just bailouts: government interference in general tends to remove skin in the game.

The good news is that in spite of the efforts of a complicit Obama administration that wanted to protect the game and the rent-seeking bankers,<sup>\*3</sup> the risk-taking business started moving toward small independent structures known as hedge funds. The move took place mostly because of the overbureaucratization of the system as paper shufflers (who think work is mostly about paper shuffling) overburdened the banks with rules—but somehow, in the thousands of pages of additional regulations, *they avoided considering skin in the game*. In the decentralized hedge fund space, on the other hand, owner-operators have at least half of their net worth in the funds, making them relatively more exposed than any of their customers, and they personally go down with the ship.

### **SYSTEMS LEARN BY REMOVING**

Now, if you are going to highlight only one single section from this book, here is the one. The interventionista case is central to our story because it shows how absence of skin in the game has both ethical and epistemological effects (i.e., related to knowledge). We saw that interventionistas don't learn

*because they are not the victims of their mistakes, and, as we hinted at with pathemata mathemata:*

*The same mechanism of transferring risk also impedes learning.*

More practically,

*You will never fully convince someone that he is wrong; only reality can.*

Actually, to be precise, reality doesn't care about winning arguments: survival is what matters.

For

*The curse of modernity is that we are increasingly populated by a class of people who are better at explaining than understanding,*

or better at explaining than doing.

So *learning* isn't quite what we teach inmates inside the high-security prisons called schools. In biology, learning is something that, through the filter of intergenerational selection, gets imprinted at the cellular level—skin in the game, I insist, is more filter than deterrence. Evolution can only happen if risk of extinction is present. Further,

*There is no evolution without skin in the game.*

This last point is quite obvious, but I keep seeing academics with no skin in the game defend evolution while at the same time rejecting skin in the game and risk sharing. They refuse the notion of *design* by a creator who knows everything, while, at the same time, want to impose human *design* as if they knew all the consequences. In general, the more people worship the sacrosanct state (or, equivalently, large corporations), the more they hate skin in the game. The more they believe in their ability to forecast, the more they

hate skin in the game. The more they wear suits and ties, the more they hate skin in the game.

Returning to our interventionistas, we saw that people don't learn so much from their—and other people's—mistakes; rather it is the system that learns by selecting those less prone to *a certain class* of mistakes and eliminating others.

*Systems learn by removing parts, via negativa.*<sup>\*4</sup>

Many bad pilots, as we mentioned, are currently in the bottom of the Atlantic, many dangerous bad drivers are in the local quiet cemetery with nice walkways bordered by trees. Transportation didn't get safer just because people *learn* from errors, but because the system does. The experience of the system is different from that of individuals; it is grounded in filtering.

To summarize so far,

*Skin in the game keeps human hubris in check.*

Let us now go deeper with the second part of the prologue, and consider the notion of symmetry.

---

\*1 Interventionistas have in common one main attribute: they are usually not weight lifters.

\*2 Playing with others' lives.

\*3 *Rent-seeking* is trying to use protective regulations or “rights” to derive income without adding anything to economic activity, not increasing the wealth of others. As Fat Tony (who will be introduced a few pages down) would define it, it is like being forced to pay protection money to the Mafia without getting the economic benefits of protection.

\*4 *Via negativa*: the principle that we know what is wrong with more clarity than what is right, and that knowledge grows by subtraction. Also, it is easier to know that something is wrong than to find the fix. Actions that remove are more robust than those that add because addition may have unseen, complicated feedback loops. This is discussed in some depth in *Antifragile*.

PROLOGUE, PART 2

## A Brief Tour of Symmetry

*Meta-experts judged by meta-meta-experts—Prostitutes, nonprostitutes, and amateurs—The French have this thing with Hammurabi—Dumas is always an exception*

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### I. FROM HAMMURABI TO KANT

**S**kin-in-the-game-style symmetry, until the recent intellectualization of life, had been implicitly considered the principal rule for organized society, even for any form of collective life in which one encounters or deals with others more than once. The rule had to even precede human settlement since it prevails in a sophisticated, very sophisticated, form in the animal kingdom. Or, to rephrase, it *had to* prevail there or life would have been extinct—risk transfer blows up systems. And the very idea of law, divine or otherwise, resides in fixing imbalances and remedying such asymmetries.

Let us briefly travel the road from Hammurabi to Kant, where the rule gets refined along with civilized life.

#### ***Hammurabi in Paris***

Hammurabi's law was posted on a basalt stele around 3,800 years ago in a central public place in Babylon, so every literate person could read it, or, rather, read it to others who couldn't read. It contains 282 laws and is deemed to be the first codification of our rule extant. The code has one central theme: