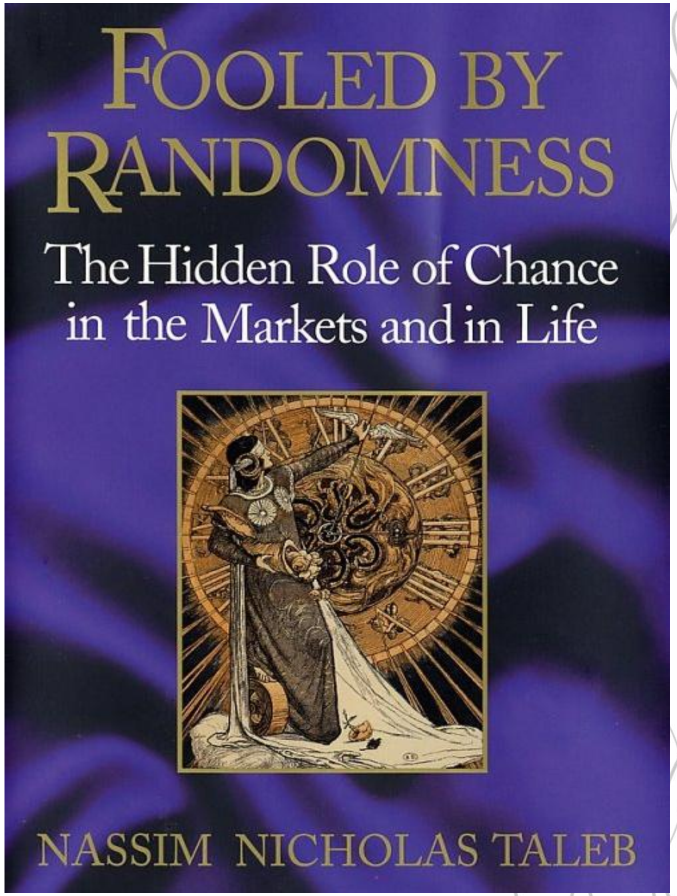
<u>Fooled by Randomness</u> <u>The Hidden Role of Chance in the Markets and in Life</u>, Nassim Nicholas Taleb © 2001

This book, by an unconventional options trader and mathematics professor, is about disguised luck and how we often mistake it for something else (eg. skill). While it is proposed this happens in all facets of life (eg. politics, business), it is very prevalent in investment and speculative trading.

This book is thought provoking but difficult to summarise. It meanders through topics including philosophy, mathematics, human behaviour and history. It is full of interesting anecdotes, some of which we summarise here.

In short, our minds are wired in a way that makes it easy for randomness to fool us. This book may make you question how much luck has played a role in your life (or possibly for one of your bosses). More importantly, it will arm you with appropriate scepticism to help you make more informed investment decisions, and guard yourself from your own emotions.



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Nassim's "Table of confusion"

"the best way to summarize the major thesis of this book is that it addresses situations (many of them tragicomical) where the left column is mistaken for the right one"

General	
Luck	Skills
Randomness	Determinism
Probability	Certainty
Belief, conjecture	Knowledge, certitude
Theory	Reality
Anecdote, coincidence	Causality, law
Forecast	Prophecy
Market performance	
Lucky idiot	Skilled investor
Survivorship bias	Market outperformance
Finance	
Volatility	Return
Stochastic (random) variable	Deterministic variable

Physics and engineering	
Noise (eg. "the market moved up 10 points today in response to …")	Signal
Literary Criticism	
? (no name for things they don't understand)	Symbol
Science	
Induction (eg. "black swan" or rare event problem)	Deduction
Epistemic probability (eg. cancer clusters)	Physical probability
Synthetic proposition	Analytic proposition

(cont.)

Taleb's advice to others

Be careful not to attribute all success to skill, and failure only to bad luck

- **At any one time, the most profitable traders are likely to be simply those whose style best fits the (temporary) rally. Bad traders have a short/medium term survival advantage over good/conservative traders, ie. until they "blow up" (lose more funds than they cumulatively earned)**
- **A random series will always present some detectable pattern**

Learn from history, even though it is unnatural

- **Funds that crashed in 1987, 1990 (Japan), 1994 (bonds), 1998 (Russia), 2000 (Nasdaq) all offered well constructed arguments why times were different**
- **Children only learn not to touch the stove until being themselves burned**

Be aware the "black swan" (or the unplanned occurrence of the rare event / inductive reasoning)

- **Philosopher Hume pointed out, no amount of observations of white swans can discount the possibility of a black swan (later discovered with the discovery of Australia)**

Take steps to cut yourself off from noise

- **Don't review short-term performance, avoid daily market commentary**

Employ reason, not emotion or superstition, when making a decision

- **Psychologist Skinner observed pigeon's developed extremely sophisticated, individual "rain dance" behaviours thinking they were coaxing food into their cage when in fact it was delivered randomly**

Don't be wedded to a decision, be willing to change your mind in the event of new contradictory information

- **"it is said science evolves from funeral to funeral" (scientists get wedded to their ideas)**

On survivorship bias (a.k.a. Monkeys on typewriters)

"If one puts an infinite number of monkeys in front of a typewriter, there is certainty that one of them would come out with an exact version of the *Iliad*

- **Would anyone bet their life savings that the same monkey would write the *Odyssey* next?**
- **I don't deny that if someone performed better than the crowd in the past, there is a presumption of this ability to do better in the future. But the presumption may be very weak. It all depends on two factors: the randomness content of the profession (eg. investment market volatility) and the number of monkeys (eg. number of investment managers)"**
- **Furthermore, one only sees the survivors, which imparts a mistaken perception of the odds**
- **Volatility actually helps bad investment decisions**

Construct a population of 10,000 managers with 50% pa probability of success. Let's throw out of the sample any manager who has a bad year. After 5 years we have <u>313</u> managers who made money each year, for five years in a row.

Now construct a population of 10,000 <u>incompetent</u> managers with 45% probability of success (ie. on average, the managers will lose $1000 pa each year on $10,000 invested). After 5 years we will still have <u>184</u> who made money each year.*

***PW Note: there are currently 10,762 hedge funds listed in the Alternative Asset Center, global hedge fund database (100 added in June 2006 alone) and there are 7,977 US mutual funds reported in 2005 by the Investment Company Institute. "Top 100 Funds" articles appear frequently in popular investment magazines – how can you separate skill from luck? Note, there luck's higher hurdle is beating the momentum of the market (the index)**

On noise, information, time scale and emotion

Imagine a retired dentist, now a day-trader earning a 15% return with a 10% volatility

The probability of him making money varies at different time scales (see below)

Over a narrow time frame, observation will reveal nothing

However, emotionally he will feel pain after each loss (registering 2.5x the pleasure of a gain)

- **"At the end of each day, the dentist will feel emotionally drained"**

Imagine instead he only looks at his monthly statement – then he will experience four pangs of pain and eight uplifting experiences per annum

We observe 0.7 parts noise for every one part performance over one year, 2.32 parts noise every month, 30 parts noise every hour and 1796 parts noise every second

Conclusions

1. **Over a short time, one observes variability, not returns**
2. **Our emotions aren't designed to understand this**
   - **People who look too closely at randomness, burn out**
3. **When you see an investor monitor his portfolio on his Blackberry, smile**
   - **It is better to read the *Economist* on Saturday than the *Wall Street Journal* daily**

Timescale	Probability
1 sec	50.02%
1 min	50.17%
1 hour	51.3%
1 day	54%
1 month	67%
1 quarter	77%
1 year	93%

Some thoughts about success in life

"Can we judge the success of people by their raw performance and their personal wealth? Sometimes – but not always. A large section of businessmen with outstanding track records will be no better than randomly thrown darts … they will fail to make an allowance for the role of luck in their performance"

"Life is unfair in a nonlinear way" – sometimes a small event can be translated into a large advantage ("mistakenly called Chaos theory")

- **Imagine a waiting room filled with talented actors. One is picked on the day, possibly because his last name sounded like a dish enjoyed at a restaurant the previous night. He is given a part, which leads to another … and the rest make café lattes at Starbucks, fighting the biological clock between auditions**
- **For some in investment management, one succeeds wildly drawing in all the cash, while others fail to draw a single penny**

"In expectation, a dentist is considerably richer than a rock musician in a pink Rolls Royce"

- **One needs to consider the average of many who succeeded, not just the sample**

Machiavelli ascribed to luck at least a 50% role in life, the other to cunning and bravura

About Dr. Nassim Taleb

Taleb operates a "crisis hunting" trading firm called Empirica Capital

Specifically he believes enough traders don't plan properly for rare events, including the most macho who swear off using stop losses. This is backed by observation that funds unpredictably "blow up" when the fundamental assumptions underlying their approach stop applying (eg. Long Term Capital Management). He feels that emotions and modern mathematics don't properly account for rare events.

He buys "out of the money" options that payout only in the rare event of large, including negative market movements. His approach means he loses a little bit of money regularly (his counterparties earning a steady income stream) but he earns overwhelmingly large returns when things turn sour (eg. 1987, 9/11).

In his own words

- **"My wish is for investors to remain fools of randomness (so I can trade against them), yet that there remain a minority intelligent enough to value my methods and supply me with capital"**
- **"we start every meeting at my trading boutique by convincing everyone that we are a bunch of idiots who know nothing and are mistake prone, but happen to be endowed with the rare privilege of knowing it"**

Taleb has an MBA from Wharton and a PhD from the University of Paris

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