

The Black Swan by Deepthinker Oh
April 5, 2011



Nymf Hathaway: Welcome everyone at Biomedicine Research Organization, the home of The Science Circle.

Today Deepthinker Oh presents "The Black Swan: Probability and Human Decision Making"

For those still in need of catching up on the subject I point towards the black swan-box on stage and one in the aisle.

Or visit: <http://sciencecircle.org/index.php/current-subject>

This event will be recorded and put on our website as a PDF.

If you like our Editor to remove your additions: IM Arisia Vita

For questions about the Science Circle or our Students group you can IM me.

Wishes everyone a couple of "Oh's" and "Ah's" today and gives the word to the most lovely 'Oh' of them all.

Deepthinker Oh: If you have not already gotten the notecard for today's discussion, please do so now and read the section under background.

Thank you Nymf

Hello. welcome to today's discussion.

quaezar Agnomen: ☺

Templeton Tigerpaw: What did I just click on?

Deepthinker Oh: Well, at least I'm still clothed

Vic Michalak: haha

Deepthinker Oh: We will be discussing how people use or mis-use probabilities in making decisions and planning.

I'll give you a few minutes to review the notecard

Vic Michalak: If they use them at all and do not just "wing it"... 😊

Deepthinker Oh: yes

Kiki Walpanheim: hi are we in voice

Deepthinker Oh: What today's discussion is NOT about. The movie, The Black Swan. Just in case anyone was expecting Natalie Portman.

Vic Michalak: Will I be handicapped if I did not see the movie?

Deepthinker Oh: no text only

Kiki Walpanheim: i see ty

Deepthinker Oh: not as regards this discussion

Today's discussion is based on Taleb's book The Black Swan. This book is just a starting point for our exploration. I neither agree nor dis-agree with Taleb. I do find the interplay of probability and our behavior to be fascinating. I'll be offering up a series of questions for discussion. With each question the floor is open. I do ask that you allow others sufficient time to present their points. This is meant to be an exchange of ideas in a friendly and academic manner.

Also, watch for when I toss out a question. When I do offer the next question please conclude your current thought and we'll move on. We can always come back to hot ideas. Sometimes the questions get lost in the discussion.

and I'll not cut anyone off

Vic Michalak: [Hazard of Second Life discussions sometimes! 😊]

Deepthinker Oh: So, any logistical concerns?

too hot, cold?

can you all hear me

hehehe

OK. Let's see about a first question.

Vic Michalak: My seat is uncomfortable, but it will keep me awake...

Deepthinker Oh: good your snoring always disturbs the class

Vic Michalak: 😊

Deepthinker Oh: Wait, let me just toss out one factoid

Black swans are characterized by;

1. The disproportionate role of high-impact, hard to predict, and rare events that are beyond the realm of normal expectations in history, science, finance and technology
2. The non-computability of the probability of the consequential rare events using scientific methods (owing to the very nature of small probabilities)
3. The psychological biases that make people individually and collectively blind to uncertainty and unaware of the massive role of the rare event in historical affairs (http://en.wikipedia.org/wiki/Black_swan_theory)

itsme Frederix: I thought we are without voice.

Deepthinker Oh: a definition of a black swan

the can you hear me was a joke

itsme Frederix: Yes but how did you know Vic snores?

Deepthinker Oh: Ah!

Vic Michalak: ambient sounds...

Deepthinker Oh: ask me later in private

itsme Frederix: lol

Templeton Tigerpaw: Fly, thoughts, carried by yearning . . .

Deepthinker Oh: Was the US subprime mortgage crisis a black swan event?

Based on your knowledge of the definition - Was the US subprime mortgage crisis a black swan event?

itsme Frederix: Yes

Astronomer Somerset: no it was just a group of greedy financiers trying to earn a quick buck

Alethia Slade: Perhaps the severity of it was

anaximenes Resident: No. Its was a consequence of known factors and therefore inevitable. The only unpredictable thing eas when

Deepthinker Oh: here is one person's opinion - "The nationwide decline in housing prices that began in 2006 was supposed

to be, we were told, impossible ... That prediction, we now know, turned out

to be horribly wrong." Mohammad Fadel

anaximenes Resident: *was

Vic Michalak: It was if you believe that economics can be predicted, but otherwise it was just a bunch of greedy people messing with the economy

Greed often is a good predictor of failure in the long run..

anaximenes Resident: or irrational exuberance..

Deepthinker Oh: Greed is an interesting variable to addto the prediction.is it a constant or a variable?

Templeton Tigerpaw: According to Michael Moore the crash was carefully planned and brilliantly executed to make the right people rich(er)

anaximenes Resident: the aggregation of status - however defined - is a constant in human affairs

Astronomer Somerset: lets not dress this up guys these were a bunch of con artists and thieves who saw an opotunity to fleece an already unstable market

Ima Troglodite: The same has been said of the great depression (what michael moore was saying)

Vic Michalak: Oh, it is definitely a constant among people who worship money, but it is difficult to predict the outcome of it because it pops up in so many sectors..

Deepthinker Oh: Yes,a black swan is not a surprise to everyone

Templeton Tigerpaw: Well, I'm agnostic, that's why I attributed the phrase. Otherwise I would have stated it as a bare truth

Deepthinker Oh: Next question - How about air terrorism? Are significant acts of air terrorism black swans?

itsme Frederix: They see it grey.

Deepthinker Oh: "Aviation accidents are extremely rare, with the probability of a passenger being killed on a single flight at approximately eight million-to-one. If a passenger boarded a flight at random, once a day, everyday, it would statistically be over 21,000 years before he or she would be killed." Richard Kebabjian. Based on 5,000+ crashes as of January 2010 (<http://www.planecrashinfo.com/rates.htm>)

Astronomer Somerset: no in that it can be predicted as a a possibility oof happening at some point

Kiki Walpanheim: if you know something is going to happen,but just a matter of time...does it make it black swan

and you know when it happens, it would be more or less that way, fatal accident...

Deepthinker Oh: goodpoint

anaximenes Resident: terrorist acts are reactions to political events so any specific response is unpredictable...

itsme Frederix: Small adjustment - if a passenger boards and get killoed it would take another 21.00 year ot never to get kiled again.

Templeton Tigerpaw: I'll have to say something about airline accidents later. I don't think they are black swans. I would call them white crows.

Depthinker Oh: yes
white crows?

anaximenes Resident: a response of some kind is predictable

Ima Troglodite: do we know the truth regarding the cause of these terrorist acts.. The motives?

anaximenes Resident: most are to provoke outrage

Astronomer Somerset: most terrorist events are planned in great detail in advance so are not reactive they are pro active

Templeton Tigerpaw: I would point out that the Black Swanitude (cygnitude?) of airline accidents is a man-made artifact.

Kiki Walpanheim: black swan has to do with what we know i think...for terrorists, it is careful long term plan to attack, so it is all in plan, not black swan for ppl with no knowledge, then yes it is great surprise

Depthinker Oh: it's not a surprise to the terrorists

Vic Michalak: Terrorist acts by nature are unpredictable -- if they were predictable you could avoid them and they would not be terrorist acts -- just murder and vandalism..

Depthinker Oh: "A vicious black swan has an additional elusive property; its very unexpectedness helps create the conditions for it to occur. Had a terrorist attack been a conceivable risk on Sept. 10, 2001, it would likely not have happened. Jet fighters would have been on alert to intercept hijacked planes, airplanes would have had locks on their cockpit doors, airports would have carefully checked all passenger luggage. None of that happened, of course, until after 9/11." Nassim Nicholas Taleb, Learning to Expect the Unexpected, New York Times, 4-8-2004. (<http://www.fooledbyrandomness.com/nyt.htm>)

anaximenes Resident: ..the swan just not its colour

Zobeid Zuma: Airline hijackings aren't completely unpredictable, there was already a lot of experience with those. It was because of how the 9-11 attacks were *different* from previous incidents that they were so effective.

Astronomer Somerset: i would beg to differ as terrorist targets are always against major populated targets and are mostly against infrastructure

Breeze Underwood: there is a difference between the act itself and being a victim of the act

anaximenes Resident: some can be assassinations Also Moro in Italy for example

*Aldo

Astronomer Somerset: the twin towers is a classic example of this as it represented the USA financial heart

Zobeid Zuma: Previous incidents had effectively trained the airline industry to cooperate with hijackers, and the terrorists took advantage of that.

Kiki Walpanheim: maybe black swan is epistemological issue. if we have enough knowledge of that ppl hating us while carefully planning on things years and years....then something has to happen at some point...

Ima Troglodite: how many here have really dug into 911? Do we believe it was an event planned and executed as the American press portrayed, as the government portrayed?

anaximenes Resident: it had no antecedents which is unusual for terrorist attacks

Ima Troglodite: was it a black flag attack?

Templeton Tigerpaw: Please note that there are various dividing lines here, all created artifacts. One is the dividing line between the knowledge of the terrorists and the ignorance of the victims. Another dividing line lies in the unexpectedness of the incident - but on the other hand the incident was planned to be unpredictable from the outside.

Astronomer Somerset: if i wished to engage in a terrorist act against the muslim state the obvious target would be mecca on the occasion of a hage

anaximenes Resident: *terrorist

Deepthinker Oh: yes, how much real knowledge do we have and what can be base predictions on?

Templeton Tigerpaw: I was going to call Black Swans that actually are artifacts under human control
White Crowns - for lack of a better term.

Deepthinker Oh: I like that

Templeton Tigerpaw: White Crows

Kiki Walpanheim: maybe all randomness is a way of lacking knowledge, if everything is determined effect
from causes

Deepthinker Oh: I don't seem to hit the space bar today myself so we won't worry about grammar

Breeze Underwood: terrorist acts are not random

Templeton Tigerpaw: There are genuine Black Swans which are unpredictable from this side

Astronomer Somerset: I agree breeze

Breeze Underwood: my being present at the site of a terrorist act may be random

Deepthinker Oh: That's a great point - what is a random act?

is there such a thing?

Ask any Calvinist

Breeze Underwood: yes....murder as an "act of passion" or sudden loss of control

Deepthinker Oh: next event - Are Large earthquakes, like the recent one in Japan or last year's in Haiti,
black swan events?

"I estimate that one to three M9 earthquakes should occur globally per century, and the past half century
with five M9 events reflects temporal clustering and not the long-term average." Robert McCaffrey
(<http://geology.gsapubs.org/content/36/3/263.abstract>).

Zobeid Zuma: Most of the time not.

Astronomer Somerset: I'm not sure they are random they are an end result of a series of events and are
therefore predictable

Templeton Tigerpaw: I think conceptually it would be helpful to divide the landscape into the area of
"HERE" side, the side into which the Black Swan enters randomly - and the "THERE" side, the side from
which it enters. It would be a black box. We don't know (yet) about the regularities or irregularities under
which it took flight.

Kiki Walpanheim: probability and statistics are about analysing unknown questions in a statistical way,
making it tractable, e.g. pooling risks, when knowledge to individual case is lacking, we get knowledge to
the whole in statistical terms....black swan might be the grey area when this attempt won't work

Zobeid Zuma: The Haiti one wasn't all that exceptional. It wasn't a huge quake, it was just horrible
because of where it happened. Predictably horrible.

Astronomer Somerset: Earthquakes are not random

Deepthinker Oh: But perhaps the effects at a particular location are random?

Zobeid Zuma: The Japan quake + tsunami is more interesting. . . Their reactors were designed for
quakes, and for tsunamis, but not for the *size* of the tsunami that occurred. It was simply bigger than
any the engineers had imagined possible.

itsme Frederix: I like this one from Kiki "black swan might be the grey area when this attempt won't work"

Deepthinker Oh: yes, that makes the reactor reactions a black swan?

Templeton Tigerpaw: Black Swans take flight from Black Boxes

Kiki Walpanheim: Thx

Deepthinker Oh: hehehe

Astronomer Somerset: there is only one type of event I am aware of which is truly random

Deepthinker Oh: yes?

Nymf Hathaway: ☺

Interesting Astro.... ☺

Astronomer Somerset: and that is a hit from an asteroid or comet

Zobeid Zuma: Katrina, on the other hand, was rather the opposite. Experts had been warning for many years that the city could be flooded by a hurricane, but the efforts to ward off that threat were slow and seemingly halfhearted.

Deepthinker Oh: how is that random?

yes and katrina did come as a surprise

Zobeid Zuma: A surprise to who?

Deepthinker Oh: even tho it was expected

Astronomer Somerset: because there is no predictability in either the direction of the impacter or its final impact point

Zobeid Zuma: An expected surprise? ;D

Deepthinker Oh: those living in NO

Zobeid Zuma: I guess that's sort of like the earthquake threat in LA. Everybody knows it's coming, but the timing will be a surprise. ;/

Deepthinker Oh: they are orbiting bodies their behavior would seem to be predictable

I'd think the decay of an atom might be random

Astronomer Somerset: no they are very widely spaced in their orbits and there is no predictability in the initial collision that sends them on their trajectory

Deepthinker Oh: is that just a lack of data?

Astronomer Somerset: its a bit like trying to play snooker blindfolded

Templeton Tigerpaw: I think those are true black swans, in the sense that their rarity is not influenced by anything humans can do. On the other hand air plane accidents are rare only because we made them so.

Deepthinker Oh: If I knew where the balls were and the cue I could play blindfolded

Astronomer Somerset: there is a true random chance of either hitting or missing balls

Deepthinker Oh: OK last event - What about, one's parachute failing to open?

Astronomer Somerset: thats dependant on who packed it

Templeton Tigerpaw: That is a clear white crow

Deepthinker Oh: "In the U.S., the average fatality rate [due to parachute failure, main and reserve] is considered to be about 1 in 80,000 jumps." (<http://en.wikipedia.org/wiki/Parachute>)

itsme Frederix: that is a red bloody piece of flesh

Deepthinker Oh: It does come as a surprise to the jumper

itsme Frederix: what about that white crows - shouldn't it be halve sheeps

Astronomer Somerset: one would imagine so

Zobeid Zuma: I liked the one where the guy with the helmet cam was filming the other jumpers, and then realized he'd *forgot* his parachute. ;P

Astronomer Somerset: ouch

Deepthinker Oh: wow

In general I consider that the last two are probably not black swans as we do expect large earthquakes and parachute failures are common and jumpers are aware of the issues involved.

Astronomer Somerset: thats just sheer stupidity

Templeton Tigerpaw: Just like in airplane accidents, or in industrial accidents, with parachutes, if we were careless (as people used to be in the 20's and 30's - 50 percent of Edison's electrical linemen got electrocuted) - well, if we were careless usually, then parachutes not opening would be a ho-hum occurrence. Through long diligence we have pressed their likelihood into the area of unpredictability.

Zobeid Zuma: Parachute failure is sort of like the flip side of winning the lottery. You know it happens to somebody, you just never thought it would be you.

Deepthinker Oh: very good point

Astronomer Somerset: a case of jeronimooooooooo ohhhhhhhh heck

Deepthinker Oh: Or some stronger word

Astronomer Somerset: i was being polite

Vic Michalak: You can improve the odds by packing your own chute and knowing what you are doing...

Deepthinker Oh: Having that reserve chute changes the odds from 1 in 4000 to 1 in 80,000

Astronomer Somerset: there is an even better way its called terror firma the more the firma the less the terror

Deepthinker Oh: How do black swans affect people in their daily lives?

Look at thechartover on your right

it's a rather nice way to look at predictability and effects and where black swans can occur

Events with good predictability,those that fit a normal curve for example, do not produce back swans

Astronomer Somerset: um thats not quite true

Deepthinker Oh: and events with simple consequences don'tlend themselves to black swans either

itsme Frederix: How do yu now it's gaussian?

Astronomer Somerset: once again deepthinker i disagree with that

Deepthinker Oh: well it's true to the extent that we know there will be a rare event sometime in the future like a giant earthquake

and we can extrapolate the consequences from that rare but predictable event

itsme Frederix: Deep why in the future, it could have been in the past - remember

Deepthinker Oh: past event do effect us much, not in the same wasasones in the present way

itsme Frederix: sure

Astronomer Somerset: oh thats not true at all

Templeton Tigerpaw: It may also be that BSs divide into components. the Jap earthquake was actually three BSs rolled into one (earthquake, tusnami, nuclear) - Katrina was at least two - the storm and how it hit.

Kiki Walpanheim whispers: i think most cases in real life can NOT be quantified, not all can be studied empirically, which is not a surprise. so maybe black swan applies to what we *think* we have track of, then suddenly lose the track...like maths models in economics. for other issues in human affairs, since we give up predicting it totally, there is no such issue no more?

Kiki Walpanheim: i think most cases in real life can NOT be quantified, not all can be studied empirically, which is not a surprise. so maybe black swan applies to what we *think* we have track of, then suddenly lose the track...like maths models in economics. for other issues in human affairs, since we give up predicting it totally, there is no such issue no more?

itsme Frederix: but a lot of passes event did come up with ... us

Astronomer Somerset: i have a current proof of just how inaccurate that statment is

Templeton Tigerpaw: I like the Turkey yard metaphor. Tell about the turkeys.

Deepthinker Oh: Astro yes what?

itsme Frederix: Yep thats great!

Kiki Walpanheim: me too, the turkey metaphor is one of my favourite now

Deepthinker Oh: yes the turkey is surprised

Kiki Walpanheim: read taleb's paper today...then updated my facebook page with my new favourite quote....turkey metaphor

itsme Frederix: Consider a turkey that is fed every day. Every single feeding will firm up the bird's belief that it is the general rule of life to be fed every day by friendly members of the human race "looking out for its best interests," as a politician would say. On the afternoon of the Wednesday before Thanksgiving, something unexpected will happen to the turkey. It will incur a revision of belief.*

(* Since Russell's original example used a chicken, this is the enhanced North American adaptation.)

Deepthinker Oh: The turkey story is one where the turkey expects to eat each day and the day he/she becomes a meal comes as a total surprise

Astronomer Somerset: ok for the last four years i have undergone major reconstructive surgeries on my legs all the surgeries were sucessful then in november of last year i developed a huge blood clot in my leg as a result of those surgeries it was totraly unredicted because of the length of time between the ops and the clot forming that clot could yet still cost me my leg

Deepthinker Oh: It's wat taleb callsa heavy ended distribution
aw,l'msaddendedto hear that

Astronomer Somerset: so past surgeries can cause direct serious effects in my future

Deepthinker Oh: yes,past event influence future ones

but each event in the present can have either a predictable result or an unpredictable one

Vic Michalak: At least we hope that past events influecne future ones -- otherwise the world is not understandable and we go crazy...

Deepthinker Oh: so in a way each event is independent but the prior history has an effect of the prediction

Astronomer Somerset: i just say this as proof that predictive events still have an ability to generate random effects with serious consequences

Deepthinker Oh: yes, I agree

Vic Michalak: Establishing a past history is the way we learn new things -- we compare them to prior events and experiences to make sense of them...

Deepthinker Oh: on another level the 1906 San francisco earthquake has little effect on the one in japan

Astronomer Somerset: but its not a black swan because a clot was one predicted possible outcome

Vic Michalak: Up to a point... same tectonic plate (Pacific) though distantly affected..

Deepthinker Oh: right, not a black swanbut personally very important

So, What can we do to plan ahead?

Templeton Tigerpaw: We still need to realize that Black Swans are more or less a perception issue. Even the blackest swans fly on a gradient of lesser events of like kind. Often we overlook that the eyepopping event is surrounded by snoozers. Like look how Homeland Security is trying to ramp up severity of sundry misc. terrorist activities.

Vic Michalak: On the other hand, random events make the world interesting (maybe too interesting at times)...

itsme Frederix: don't expect normal curves

Alethia Slade: But a black swan doesn't mean randomness....just that we don't have the data to calculate probablility

Vic Michalak: Some people are just fatalists -- que sera sera....

Deepthinker Oh: right

What can we do to plan ahead?

Astronomer Somerset: and i would also disagree with the earthquakes because sanfansico earthquake could have been used to predict future casualties and damage to populated centres built on seismically active zones

Breeze Underwood: the earthquake and tsunami are now past events....but radioactive materials emptying into the ocean is a present event and the effects--from what I read--are still unknown and unpredictable

Vic Michalak: So no need to plan ahead if you have a "laissez faire" approach (if I am using that term correctly)..

Deepthinker Oh: right

Vic Michalak: That is one extreme though...

Deepthinker Oh: For example, how could the US subprime mortgage crisis have been avoided?
9/11?

Vic Michalak: Then there is the illusion of complete control over the world and its events... (including our own)

Deepthinker Oh: Has the US Homeland Security agency been effective in reducing the possibility of future black swans?

Have the banking regulators taken steps to minimize the effects of the next unknown financial crisis or simply closed the barn door after the cows got out?

Vic Michalak: Maybe not, but we love to legislate or regulate -- it gives us the sense of control..

Kiki Walpanheim: i crashed...

Vic Michalak: See... event..

Deepthinker Oh: wb Kiki

Astronomer Somerset: also dont forget japan and the rest of the world was given a very dramatic warning of what a deep seated large quake generated tsunami was capable of in the 2004 tsunami in indonesia

Kiki Walpanheim: ty

Breeze Underwood: the banking has been systematically deregulated to permit crisis

Templeton Tigerpaw: Well, if anybody is interested in my division of Black Swan and White Crow, get in touch with me or Birric Forcella. I had started to think about this last week, but got sick before I got far. I'm interested in a philosophical aspect - namely the Black Swans that come at us actually truly random and the Black Swans whose randomness is the effect of our diligence in eliminating the (more) predictable events around it. I think this divide my give us some deeper insight into how the world is put together - especially in view of some aspects of chaos, etc. Well, if you are interested, contact me or Birric

Deepthinker Oh: cool

Vic Michalak: The problem with some of these events is that people are involved and people lead to less predictable results...

Deepthinker Oh: Our hour is almost up and i needto pause here if people needto leave

Vic Michalak: ...as does any imperfect understanding of the modeling of a complex system.

Kiki Walpanheim: seems most difficulty here rises from *social science*, so is it possible to quantify issues in human affairs as we do in natural science...since it seems induction/lab work really have made great contributions.....while models in economics/social issues arent that accurate, or can be very inaccurate in black swan cases

Deepthinker Oh: The number of relevant variable are a factor in different disciplines

Templeton Tigerpaw: Yes, let's hear about the Flight of the Black Bumbleswan in the Financial Crisis . . .

Astronomer Somerset: all events are predictable its a matter of looking at all possible outcomes from all possible events

Vic Michalak: Which never happens except for simple systems..

Kiki Walpanheim: well in natural science too...e.g in ecosystem, weather etc

Vic Michalak: ...or closed or totally controlled systems.

Deepthinker Oh: I have a few more questions for those of you who wish to stay longer

Nymf Hathaway: Deep would like you to know that if you want to leave... you should feel free! For those who stay... Deep will address a couple of more questions.

