When Black Swans Aren't:
On Better Holistic Assessment and Forecasting of Emerging Global & Country-Level Change

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A <u>True</u> Black Swan Event Is:

- Rare, Large-scale, Large-impact.

- <u>Unpredictable</u> (at least using then-current assessment methods).

- In modern parlance ➔ Far out on the modeling probability tail so that we cannot predict it using our current assessment tools.

General Discussion Goals

- Clarify what is a true 'black swan' from other large-scale, large-impact rare events (LSLIRE) <u>thought by most people to be black swans</u>.

- Assess Taleb's core claims in *The Black Swan.*

- Offer solutions to help better forecast many LSLIRE's ➔ REDUCE perceptive black swan events.

Presentation Deliverables.

- Move PERCEIVED "black swan" ➔ LSLIRE Status.

- Address quantitative/qualitative methodological relations & timing in better LSLIRE forecasting.

- Use <u>mainstream</u> analyst, modeling, and organizational <u>FAILURE</u> dynamics as an event timing tool for forecasting LSLIRE emergence.

Why <u>These</u> Presentation Deliverables?

- Someone "got" most perceived "black swans" & was punished /ignored ➔ Society <u>DOES NOT</u> listen to unpopular opinion.

- 1) If it is not a true black swan ➔ <u>NOT</u> impossible to predict.

- 2) People often don't know <u>which</u> expert to believe (or WANT to).

- 3) Models and organizations <u>systemically fail</u> to forecast.

- ➔➔➔ We need to leverage <u>mainstream</u> analyst & model failure dynamics to solve "black swan" reduction ➔ LSLIRE forecasting.

There <u>are</u> Black Swans, but…

- **<u>Just Because An Event Was Broadly Missed, Doesn't Make it Unpredictable</u>**. Since often, someone (many) foresaw it and was (were) ignored ➔ A Societal, Organizational & Practice Challenge.
- **<u>We Lack of Synthetic/Syncretic Thinking</u>** ➔ A Teaching/Training and Practice Challenge.
- **<u>Is the World Really Shaped By The Unpredictable?</u>**
- Is that proposition true or useful? ➔ A Philosophical Challenge ➔ Operations Challenge

In *The Black Swan*, Taleb Makes Many Strong Claims That Fundamentally Impact:

- Futures forecasting & risk / uncertainty assessment as to its 'Best Practice' <u>potential</u>.

- Philosophy/Cognition/Thinking rules that speak to the very <u>possibility</u> (or impossibility) of doing LSLIRE forecasting and achieving meaningful risk / uncertainty assessment.

Is Taleb correct?   If so, to what extent?

- <u>Are "bell curve methods of inference" really:</u> A "Great Intellectual Fraud"? _{Taleb 2007, xxiv}

- <u>Is it true that</u>: "Almost everything in social life is produced by rare but consequential shocks and jumps..." _{Taleb 2007, xxiv.}

- <u>Is it true that</u>: "Indeed, the normal is often irrelevant." _{Taleb 2007, xxiv.}

Of Change & Risk/Uncertainty in a Complex Dynamic World?

- <u>Is it true that</u>: "...our world is dominated by the extreme, the unknown, and the very improbable..." _{Taleb 2007, xxvii}

- <u>Is it true that</u>: "The inability to predict outliers implies the inability to predict the course of history." _{Taleb 2007, xx.}

Of Philosophical Groundings

- <u>Is it reasonable / useful to assert that</u>:

  "I disagree with the followers of Marx and those of Adam Smith: the reason free markets work is because they allow people to be lucky, thanks to aggressive trial and error, not by giving rewards or "incentives" for skill." _{Taleb 2007, xxi.}

- This grounding junks the *Wealth of Nations* & *Theory of Moral Sentiments*…and much else.

Of Knowable Knowledge…

- "Black Swan logic makes *what you don't know* <u>far more relevant that what you do know</u>." _{Taleb 2007, xix (emphasis in the original)}

- This view expands even Rumsfeld's famous: "Known knowns…known unknowns…and unknowns unknowns" forecasting comment.

Or is it truer that…

- Very few things just come from out of nowhere.

- O'Toole's less famous "unknown knowns" is relevant
  Wheatcroft , Geoffrey. "A World in Denial of What it Knows" The New York Times, December 31, 2011.

- Most (or at least many more) rare, large scale, large impact events have practically knowable emergences

If Not, We Have a Modern Version of the Pre-Hellenic Problem:

- The future – any future - cannot be foreseen.

- The meaningful stuff just drops on us unpredictably, and its impacts cannot be foreseen ➔ We are thereby essentially toys of the gods.

- Taleb asserts: "…All (events) follow these Black Swan dynamics. Literally, just about everything of significance around you might qualify." Taleb 2007, xviii.

This is Strong Stuff!

- Wherein is Taleb likely correct?

- Wherein is Taleb likely incorrect?

- What are the "black swan" ➔ LSLIRE futures forecasting, risk / uncertainty implications?

Taleb is Very Correct That Too Often…

- "…we keep focusing on the minutia…" Taleb 2007, xix.

- "…odds are (your) portfolio manager…excludes the possibility of the Black Swan" Taleb 2007, xviii

- "We don't seem to be good at getting [metarules]" Taleb 2007, xxi.

- "We lack imagination and repress it in others" Taleb 2007, xxvii.

And So, It Seems That We Should Certainly Discuss ➜

- How cognitive/philosophical groundings and perspectives impact LSLIRE futures forecasting and risk/uncertainty assessment.

- What can be done better, operationally.

- What the shape of better solutions look like.

<u>Exclusions From Our Talk</u>: People Who Don't Want to See the LSLIRE.

Exclusions From Our Talk: People Who are Lazy; Aren't Looking; Think Everything is Fine.

Exclusions: People Who Fail to See a "Quite Ugly" Reality Hiding in Plain Sight Taleb 2007, xvii
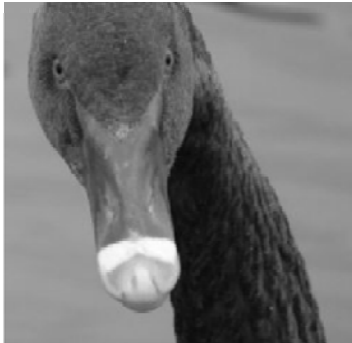
People Prone to "Black Swans Everywhere" Thinking.

So, What is a <u>Real</u> Black Swan?

Hi, I am a Real Black Swan

But, I'm Real Too

Taleb's Famous "Black Swan" Examples (1):

Taleb's Turkey Farm Example

On Perspective

- Every Day the Farmer Feeds You:
  - (Pattern Formation, Recognition & Historic Trend Assessment → Used to Form Futures Expectations & Forecast Likely Futures in Scenarios; Model Construction; AI. Learning Agents: Hindsight → Insight → Foresight)

- You Come to Expect the Same Every Day.
  - (Source of norms, error, risk assessment)

- Then, Shortly Before Thanksgiving, Your Expectation is Radically Undone → A *Black Swan*.

This Logic Only Works if You See The World As the Turkey Did.

- Any turkey FARMER has a far better and more accurate emerging futures view.

- Anyone who STUDIES turkey farms or turkey markets has a better/more accurate one too.

- As does anyone who lives/studies U.S. culture and society→ Perspective integration → Holism solves.

How NOT to Think About Emerging Complex Futures Like the Turkey Did.

- Avoid single disciplinary explanations ➔ Foster multi-disciplinary ➔System's level holistic thinking and "syndromes" views.

- "Officer, he came out of nowhere."

- You DRIVE holistically. Why not assess so?

How NOT to Think About Emerging Complex Futures Like the Turkey Did (2)

- Think WITHIN multiple bias systems (assess different perspectives; internal logics; cognitive system implications; cultures).

- Recognize that this isn't the first time (Use relevant lessons from history).

- But be careful in KNOWING that history doesn't repeat itself (Systems shape-shift; Morph within their contexts; Systems ➔ Syndromes thinking).

Note That Turkey's Change Event Was Qualitative, But "In" The Expected Series.

- <u>Lesson:</u>   The farther out on the probability tail, the MORE a <u>Qualitative</u> insight technique helps ➔ (Use <u>Quantitative</u> wisely out there. Did the turkey notice/ignore near-term <u>farmer/farm operations changes</u>?)

- <u>Lesson:</u>   A broad systems-level view and a multiple-integrated perspectives view helps illuminate emerging "rare" outcomes. See Andrew Lo. *Reading About the Financial Crisis: A 21-Book Review*. Draft for the J. of Economic Literature. January 9, 2012.

The Turkey's Change Event (2)

- I call this <u>OPEN</u> <u>FLOW</u> thinking process "Folding In" / "Layering the Onion", and it is essentially PASSIVE with regard to information flows. [Example: Officer/wife]

- It is NOT a closed model thinking process.

- It is also NOT random, unknown, or "extreme" ➔ You are always grounded within change processes and are especially focused on watching <u>changing forms</u>. This is called <u>syncretic</u> thinking (SOLVED LATER).

The Turkey's Change Event (3)

- What is needed ties to the creativity and integrative/synthetic thinking literature on the need to do broad, generalist learning.

- This is the opposite of what most firms hire and train for (See GE's recent announcement).

From "Black Swan" to LSLIRE

- What we did here is take Taleb's "Black Swan" event and normalize it via some very simple multi-perspective and holistic techniques.

- This is very do-able for all kinds of things, from economic crisis, socio-political crisis, to global/regional crisis change forecasting.

Taleb's End of the Lebanese "Paradise" Black Swan Example (1)

Taleb's Black Swan Narrative

- "Lebanon…in the early twentieth century, appeared to be a stable paradise…" Taleb 2007, 5.

- "The Lebanese "paradise" suddenly evaporated…a Black Swan coming out of nowhere transformed the place from heaven to hell." Taleb 2007, 7.

A Multi-Perspective View (BBC and various online encyclopedia sources).

- In 1926, Lebanon declared a republic, and a constitution is adopted.

- The constitution was suspended in 1932 due to upheaval: Some factions demanded unity with Syria; a larger number demanded independence.

- 1936 - Christian Phalange Party forms.

- **1944 – Lebanese Independence ➔ Quota system in parliament.**

Taleb's End of the Lebanese "Paradise" Black Swan Example (2)

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- **1958** - Faced with increasing opposition which develops into a civil war, President Chamoune asks the US to send troops to preserve Lebanon's independence. The US…sends marines.

- Various militia groups form, then "deteriorated to mafia-like organizations" in the 1950's-1970's.

- **1967** June - Lebanon plays no active role in the Arab-Israeli war but is affected by its aftermath when Palestinians use Lebanon as a base for activities against Israel.

Taleb's End of the Lebanese "Paradise" Black Swan Example (3)

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A Multi-Perspective View (BBC and various online encyclopedia sources).

- **1968** December - In retaliation for an attack the Popular Front for the Liberation of Palestine (PFLP) on an Israeli plane in Athens, Israel raids Beirut airport, destroying 13 civilian planes.

- **1969** November - Army Commander-in-Chief Emile Bustani and Palestine Liberation Organization (PLO) Chairman Yasser Arafat sign an agreement to control Palestinian guerrilla activities in Lebanon.

Taleb's End of the Lebanese "Paradise" Black Swan Example (4)

Taleb's Black Swan Narrative

- "Lebanon…in the early twentieth century, appeared to be a stable paradise…" Taleb 2007, 5.

- "The Lebanese "paradise" suddenly evaporated…a Black Swan coming out of nowhere transformed the place from heaven to hell." Taleb 2007, 7.

A Multi-Perspective View (BBC and various online encyclopedia sources).

- **1973** 10 April - Israeli commandos raid Beirut and kill three Palestinian leaders, close associates of Arafat. The Lebanese government resigns the next day.

- **1975** 13 April - Phalangist gunmen ambush a bus in Beirut, killing 27 of its mainly Palestinian passengers. The Phalangists claim that guerrillas had previously attacked a church. **(These clashes regarded as the start of the civil war).**

Alternatives to Taleb's Black Swan View of a
Lebanese "Paradise" Suddenly Lost

- <u>Meta-rule Lesson:</u>   An extensive Confessionalism and Consociationalism literature exists from late 1800's➔ Divided Societies and their KNOWN stability problems. ➔ <u>Unknown known</u>.

- <u>Cognitive Lessons:</u>   Why build a sectarian quota system into a Parliament at Independence if Lebanon is "Paradise"?

- Why form sectarian "mafia-like" militias in "Paradise"?

- <u>History & Practice Lesson:</u>   The U.S. 1958 Marine's intervention was to <u>prevent an Iraq-style disintegration repetition</u> in Lebanon (See Catherwood's *Churchill's Folly*). ➔ <u>Known known</u>.

Embedded & Entangled Change Processes Forecasting:
"Old Water Flowing in New Banks." _{Tocqueville, Alexis de}

- Using then-existing reasons for actions, specific literatures and news, broad-context assessment, we can falsify the "coming out of nowhere" perception.

- Lebanon was EMBEDDED in and ENTANGLED with historic⬅➔then-current⬅➔then-emerging complexities. These easily falsify "Paradise" lost views.

- <u>Lesson:</u>   We would have likely missed the "trigger" event but not the risk ➔ Shades of the "Arab Spring?"

Recent Economic Crises as Examples of Other Purported "Black Swans."

REPORT TO FANNIE MAE REGARDING SHAREHOLDER COMPLAINTS BY MR. NYE LAVALLE

OCJ CASE NO. 5595

BAKER & HOSTETLER LLP

Mark A. Cymrot Ambika Biggs Washington Square, Suite 1100 1050 Connecticut Avenue, N.W. Washington, D.C. 20036

May 19, 2006 (EMPHASIS ADDED)

(Source: Available online through various news sources)

Other Recent Claimed 'Black Swans'

- 9-11 ➔ Rick Rescoria (WTC); FBI; Lots of other warnings, near and far.

- 2007/08 Financial Crisis ➔ Lots of warnings. Nourial Roubini: "In 2005 Roubini said home prices were riding a speculative wave that would soon sink the economy. Back then the professor was called a Cassandra. Now he's a sage"

Taleb's Pre-emptive Answer to People Who Do Better Assessment/Forecasting.

- "Experts" and "Empty Suits"…[who] act as though we are able to predict historical events." Taleb 2007, xx.

- "[The experts]…smoking you with complicated mathematical models. They are also more likely to wear a tie." Taleb 2007, xx.

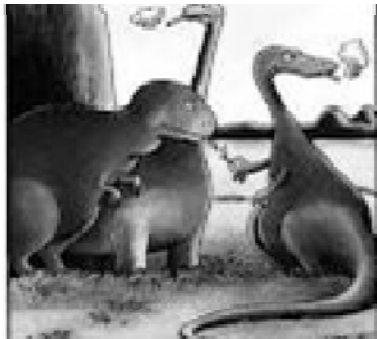## What, Then, Does Better Practice Entail?

- Philosophically, I doubt that a <u>societal system</u> "produced by rare but consequential shocks and jumps" coming out of nowhere is true.

- As a forecasting tool, a foundation of LUCK is belied by experience: People <u>DO</u> foresee (not perfectly nor exactly time-wise)➔ HOW?

A True Black Swan Coming From Out of Nowhere Perspective
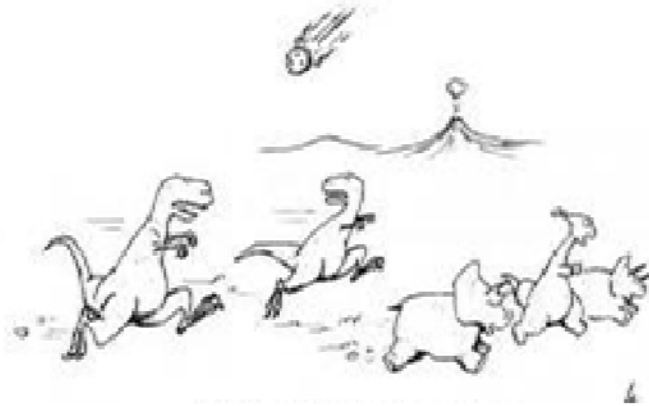
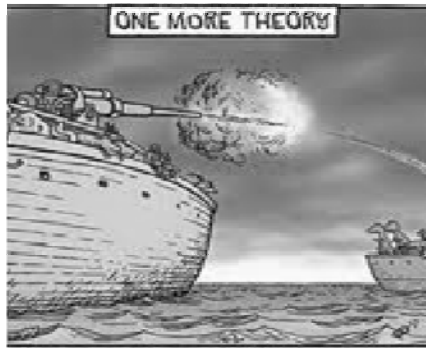# A Few Connected Orders Yielding Foreseeable Outcomes?

Smoking Related Extinction   **You Missed the Boat, Dude!**

Connected Orders <u>are</u> Useful in Forecasting Rare, Large-Impact Events

Advanced Technology Prevails

Most Rare, Large-Impacts, Large-Consequence Events Are:

- Emergent.

- Entangled.

- "New" Syndromes of Complex Adaptive System's Changes.

- Shape-Shift like Old Water Flowing in New Banks. _{Tocqueville, Alexis}

There Are Three "Black Swan" ➔ LSLIRE Reduction Issues That We CAN Address.

- <u>LEARN</u> holistic <u>profiling of change processes</u>.

- <u>DEAL WITH</u> the question of arithmetic (quantitative) and qualitative interface change issues <u>just</u> <u>prior</u> to a LSLIRE emergence.

- <u>BETTER JUDGE THE TIMING OF SYSTEM'S SHIFTING EVENTS</u> ➔ Trigger point insight development.

The First Involves Moving from Synthetic Thinking to Syncretic Thinking

- Synthesis involves <u>integration of information</u>.

- Syncretism involves seeing <u>how forms change</u>.

- Both involve aspects of understanding <u>specific</u> emergence and entanglement. NOT GENERIC.

We can USE the Fact That Most Analysts are Not Good at This To Address the Second/Third Need.

- Analysts and their analytical organizations are very herd-like; <u>especially mainstream ones.</u>

- ODNI judged an average 1.5 / 5.0 (5=synthetic thinker) quality for synthetic thinking ability of analysts.

- Still, you never know <u>which one</u> is right/better in any particular specific context. Someone almost always is.

Emergence: LSLIRE Events Come From Somewhere.

Predator Drone – Technology Advance

Meet Mr. Maynard Hill (A Nice Old Gentleman with a Hobby)

Technology Morphs into a "Rare" "Large Scale, Large Impact" Event

Mr. Hill Flies a Model Across Atlantic Ocean

A Not-So-Nice Man Tries to Fly a Model Aircraft Into the Pentagon

Entanglement: Systems are Not Free

We Always Build the Future...

Via Old Water Flowing in New Banks
Tocqueville, Alexis de (Letters)

Syndromes Shape-Shift to "New" Syndromes ➔ Entanglement Offers Core Lessons.

- Limits the likely paths of an emerging change?

- Insight into what can be, and can never be.

- Offers insight into direction of coming change.

This is Largely Qualitative Thinking

- We need to integrate that into QUANTITATIVE method's success and failure dynamics.

- We need to address the QUALITATIVE weakness as to seeing TIMING of emergence.

- We need to ITERATE to foresee new normal.

Why Most "Scenarios", AI, Models, and Learning Agents Fail.

- Retrospective (hindcasting) mindset.

- Fail to link the internals (Cognitive bias; shifting norms) of change to externals.

- They often fail to see the specifically "themed play", which is a qualitative aspect of change.

Foreseeing Rare Event Emergence & Entanglement is Largely About:

- Understanding Shifting Contexts ➔ Profiling the Change Processes of Biased Systems.

- It is Specific, and not Generic or Universal.

- No Solely Arithmetic Approach Can Capture This Kind of Dynamic Themed Play.

"The Model is an Adjunct to the Analyst" Ilchinski

- The state of the futures forecasting art remains qualitatively grounded ➔ experts.

- You don't listen to correct experts. Roubini = "Dr. Doom." Rescoria died on 9-11 = being correct.

- We must, then, rely on failed mainstream analysts / institutions / thinking.

We Focus on Herd-like Mainstream Analysts, NOT Correct "out" Analysts.

- You rarely know, pre-event, who WAS correct.

- Being a good forecaster in one context is no guarantee of being correct in other contexts.

- It is harder to statistically evaluate broadly divergent "out" / correct analyst opinion.

Link LSLIRE Timing with the Fact That Herd-like Analysts Are Bad at Synthesis/Syncretism.

- GOAL ➔ Better see the timing of an emerging and entangled LSLIRE change?

- TRIGGER IDENTIFICATION ➔ How can we better foresee trigger (syndrome change) points using variously great⬅➔average⬅➔ clueless <u>MAINSTREAM</u> analysts?

Some Hypotheses: The Closer a LSLIRE Syndromes' Change…

- The more QUALITATIVELY the overall data begins to differ from what was true before (recall the turkey's <u>coming</u> bad day).

- Retrospectively created mind-maps and models of normal change, risk, and so forth will <u>then</u> not only systematically fail but, worse, systematically mislead (Ditto).

Using Mainstream Analyst Dissonance

- Used "a homogenous group is terms of financial reporting" Park and Xie 2011, 7.

- Noted "The market makers and analysts had informational problems…during the unstable economic period" (2005-2008) not before. Sojung Park and Xie 2011, 26-27.

- Noted "….the market did not view structured bonds as opaque assets before 2005."

Using Analysis Dissonance (2)

- Results ➔ Just prior to the LSLIRE, the mainstream analyst ratings diverged significantly (their herd-like behavior declined) as they could no longer all see the same play.

- Even if NONE were correct, we have a timing tool that can be integrated with QUALITATIVE.

Timing the Arab Spring?

- "Our methods worked until they didn't." Israeli Consul Kutner of Philadelphia, May 17, 2011.

- Most analysts thought <u>known</u> conflicts could be contained, as they previously had been.

- Were there increased mainstream analyst dissonances?

More Broadly ➜ Arrayed Model Use

- Among model ARRAYS quantitative dissonances – crazy readings in some, divergence in some, not others provide an analogue for individual analyst evaluation dissonances just prior to an LSLIRE emergence. Werther 2008;

- This works best when specific context arrays are used for each targeted system. Werther 2008

LESSON: The QUANTITATIVE Indicators Increasingly Don't "Make Sense" within the Logic of Models

- We can use this insight to time "Rare", "Large Impact" "Large Consequence" emergence.

- No straight-forward "Big Data" or "Total Information" approach will help here.

- Linking to SYNCRETIC qualitative indicators will.

Reduced "black swan" ➔ LSLIRE

- We might still be wrong ➔ The event may not emerge.

- We will not be clueless.

- At this stage, iteration of qualitative and quantitative methods works to foresee "new normal" emergence.

- Recall entanglement lessons ➔ "Old water flowing in new banks."

A Closing Comment on <u>Twin</u> Perceived "black swans" from an "out" analyst.

- <u>WHO said this and WHEN?</u>

- Expressed concern that the government "…drowned the country in a sea of debt…" Berner 2006, 23

- The U.S. "…economy can easily collapse…the very flaws of the…fiscal system are becoming its own noose." (Berner 2006, 105, 169).

Check Out Proposed Defense Spending and 2012 U.S. Political Polling.

- UBL's strategy "of hitting the U. S. economy by all possible means" included getting the U.S. stuck in foreign entanglements such as Afghanistan and Iraq so that the U.S. will in the future focus domestically. (Berner 2006, 171)

- "If their economy is destroyed, they will be occupied with their own affairs" (Berner 2006, 118-119).

- Thank You -

Any Discussion?