EBMgt™
for
Software Organizations

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software is eating the world

"

Our civilization runs on software.

–B.Stroustrup

In short, software is eating the world.

–M.Andreessen

"

management. a matter of beliefs?

- annual budgeting
- resource management (a.k.a. people shuffling)
- fixed-everything (but quality) contracting
- vertical org structures (competence silos)
- phase-gate/stage-gate approaches
- enterprise architecture
- quaterly goals
- employee performance reviews
- risk management
- disciplined/scaled agility frameworks
- ...

beliefs spark beliefs. and *behaviors*.

- devs are not good enough to talk to the customer (*so let's isolate them*)
- testers are less skilled than programmers (*so let's pay them less*)
- people work more efficient under pressure (*so let's talk them into fake deadlines*)
- people work more efficient when promised a reward (*so let's create a clever bonus system*)
- buffering is the best risk mitigation technique (*so let's multiply estimates by some magic factor*)
- more people more work done (*so let's hire more contractors*)
- management is a matter of telling people what to do (*so let's micromanage everyone*)
- our company is organized vertically (*so let's just ignore the fact that value is created horizontally*)
- more code the better (*so let's put quality aside for now*)
- estimates are just like commitments (*so let's build huge plans around them*)
- manual testing is just more flexible (*so let's postpone automation till never*)
- according to magazine/book/conference I read/attended ... (*so let's make it a policy*)
- on my last team/company ... (*so let's make it mandatory here*)
- our case is so unique (*we simply can't do X here, so we won't even try*)
- ...

a story of two minds.

- **System 1** – the instant, unconscious, emotional, intuitive thinking. It operates automatically, with no effort. <u>Feels like it happens to you</u>.

- **System 2** – the slower, conscious, rational, reasoning and thinking. It allocates attention to the effortful mental activities. <u>This is what you have to deliberately do</u>.

*A bat and a ball cost $1.10. The bat costs $1.00 more than the ball. How much does the ball cost?*

THINKING,

FAST AND SLOW

DANIEL KAHNEMAN

WINNER OF THE NOBEL PRIZE IN ECONOMICS
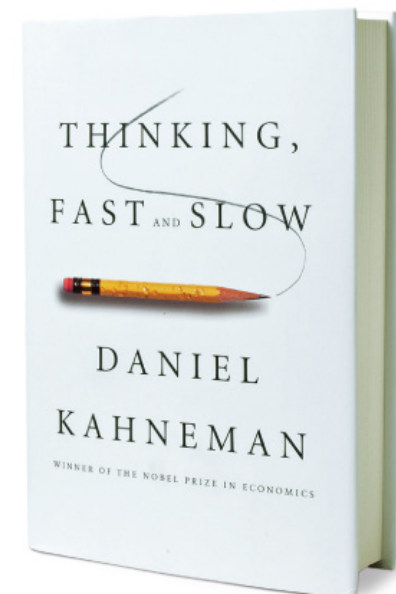
System 1 effortlessly originates impressions and feelings that are the <u>main sources</u> of the explicit beliefs and deliberate choices of System 2.
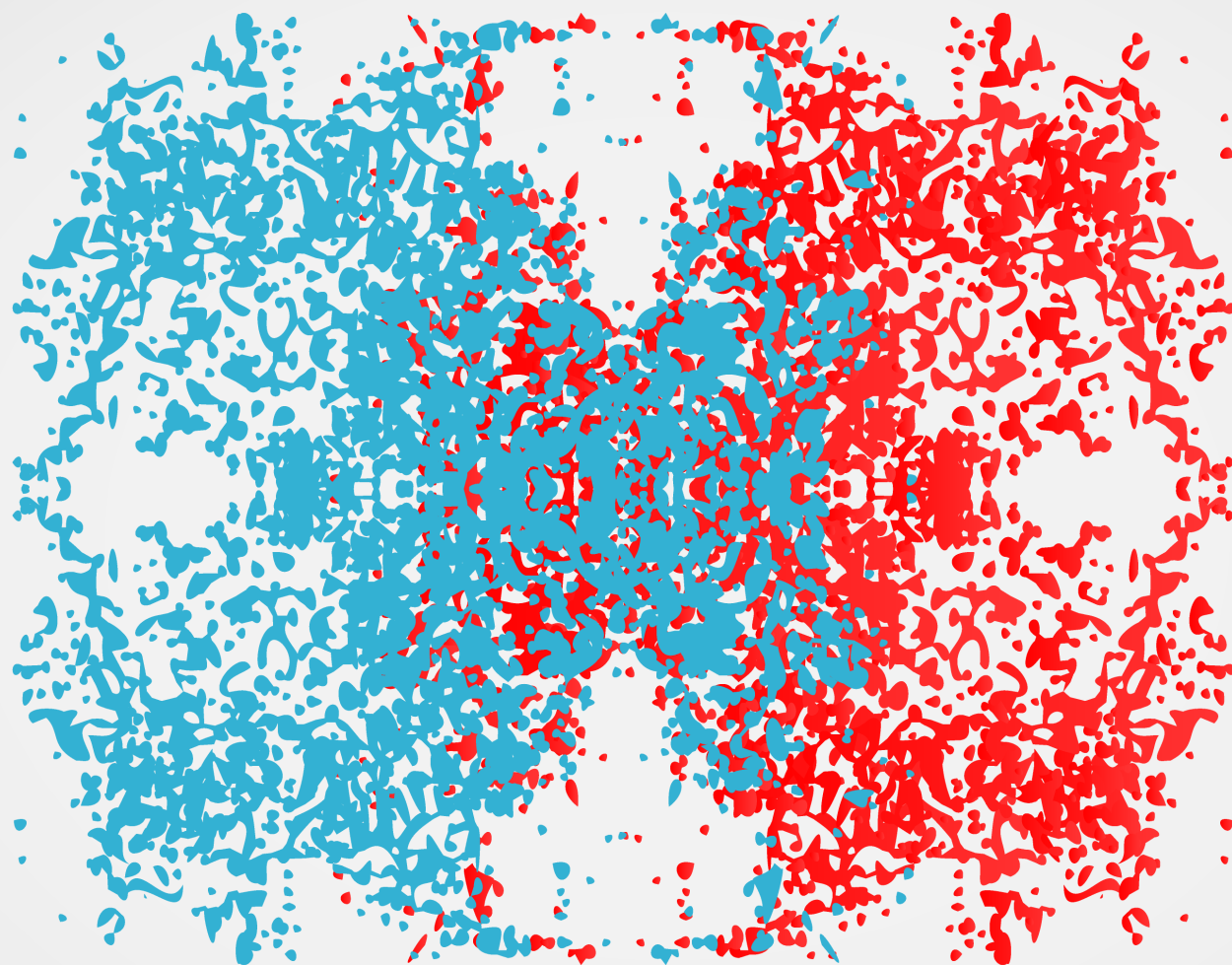
a story of two minds. horribly biased.

- confirmation bias
- halo effect
- egocentric bias
- false consensus effect
- backfire effect
- hindsight bias
- sunk cost fallacy
- either/or choice
- seeing order in randomness
- misinterpretation of incomplete data
- cognitive dissonance reduction
- normalcy bias
- anchoring bias
- ...

http://en.wikipedia.org/wiki/List_of_cognitive_biases
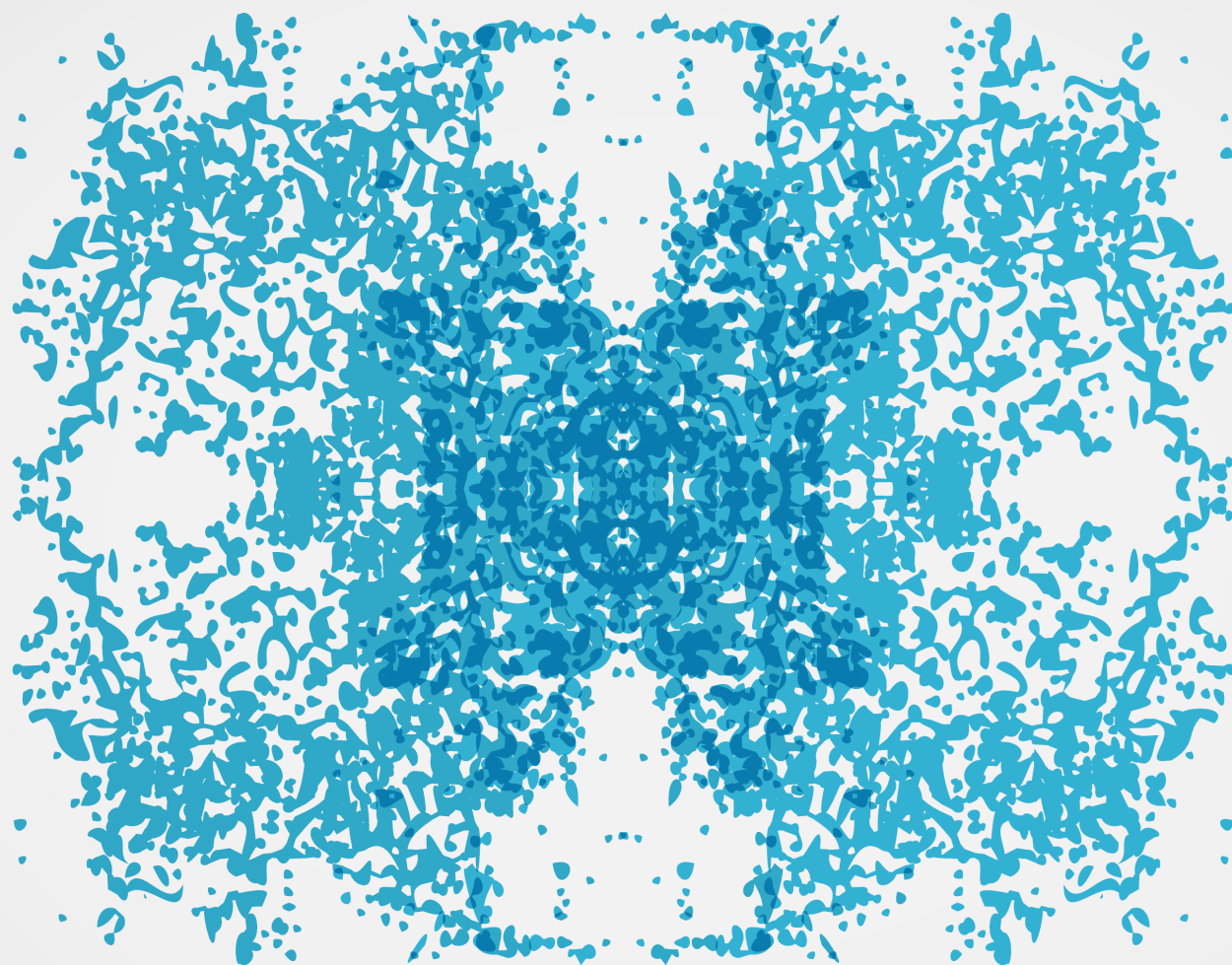
is your new organization...

~~better?~~ ✔

~~faster?~~ ✔

~~cheaper?~~ ✔

*most likely
System 1 replies*

*let's kick
System 2 right in
its sleepy butt...*

(you sure? like by how much?)

(is the change easily reversible?)

(what are the next steps and why?)

*wake up
System 2!
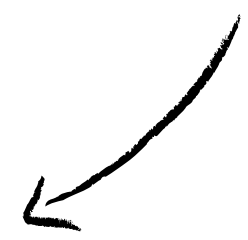(surprise)*

*wake up!!
(reasoning)*

it <u>has</u> to be better...

oh, it's definitely
System 1 we're talking
to (substitution)

System 1
kicks back!
(beliefs)

- we've spent fortune on The Agile Framework™, training, consultancy and tools
- we do continuous integration
- we do test first and code reviews
- we measure teams velocity
- we've automated our builds
- we have whiteboards and stickies everywhere
- we have kanban boards
- we use the only original Planning Poker™ cards
- ...

... up to this point
System 1 has
eclipsed System 2.
Coherence is high,
beliefs get reinforced.
No rationale, just opinions.
A bummer.

but wait, I still can do fixed-scope in Scrum, right?

sure. it will get you to the wrong destination in a series of sprints.

how can one measure "**better**" better?

Our highest priority is to satisfy the **customer** through **early** and **continuous** delivery of **valuable** software.

Manifesto for Agile Software Development, 2001
http://agilemanifesto.org/principles.html

"

Evidence-based management is about making decisions through the **conscientious**, **explicit**, and **judicious** use of four sources of information: practitioner expertise and judgment, evidence from the local context, a critical evaluation of the best available research evidence, and the perspectives of those people who might be affected by the decision.

The Oxford Handbook of Evidence-Based Management. Briner, Denyer, Rousseau, 2009
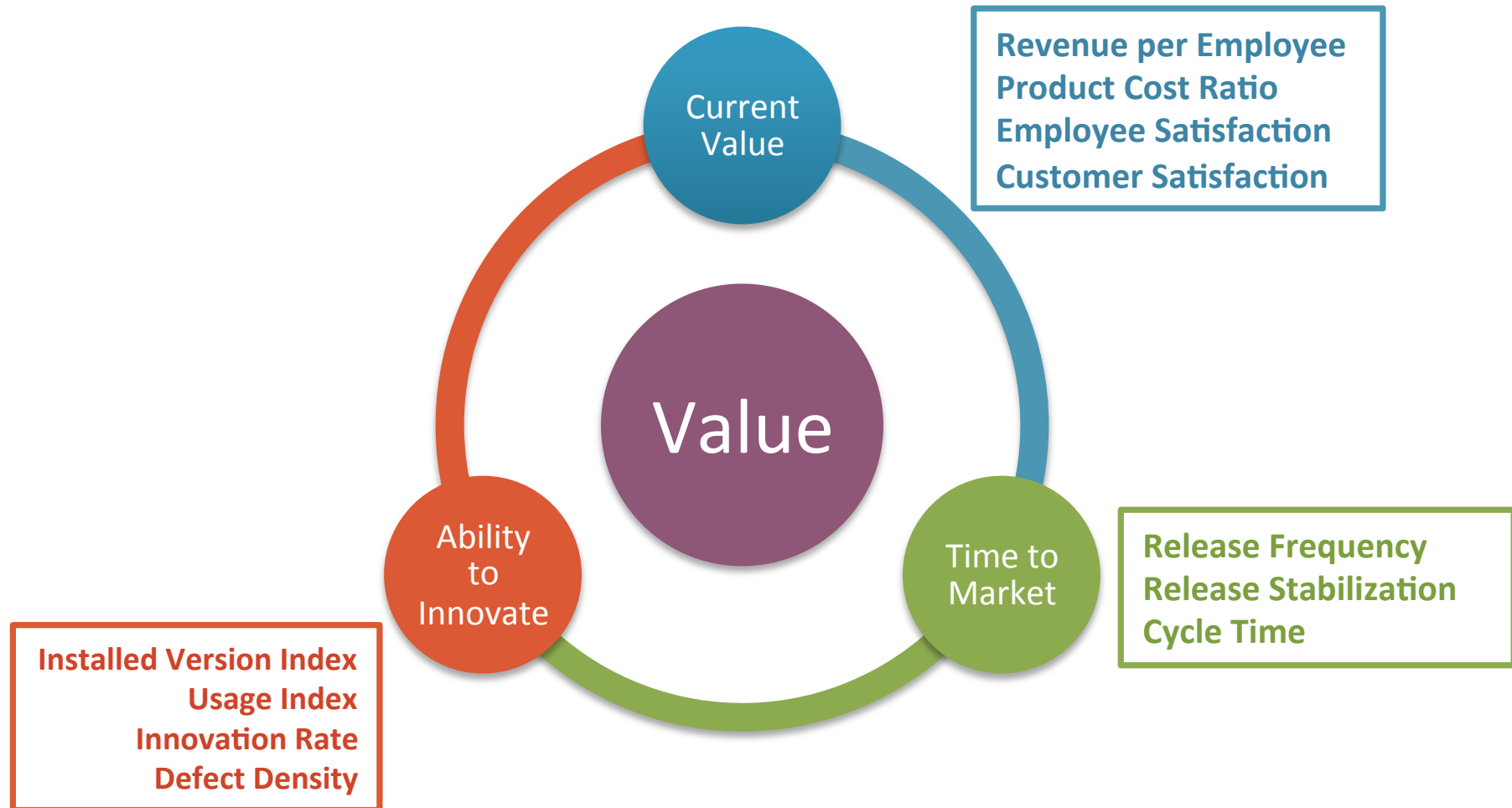
"

System 1
(intuition)

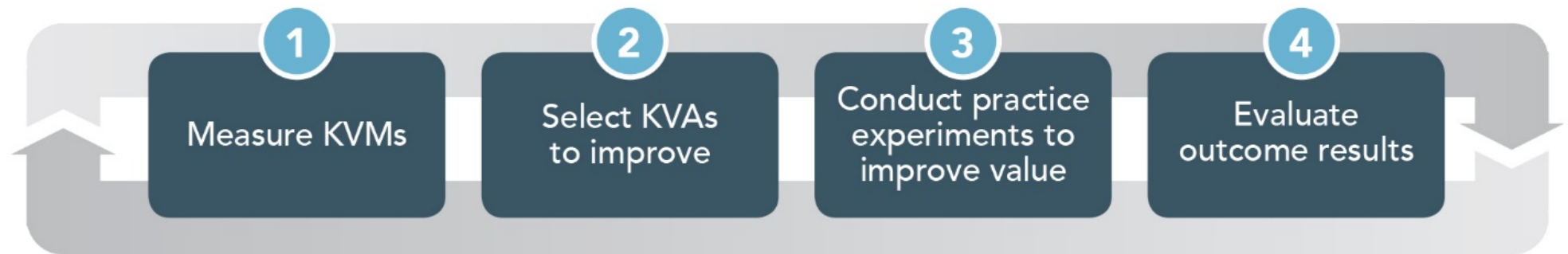**evidence = assertion + <u>data</u>**

System 2
(reason)

Evidence-Based Management

- formulate an answerable question

- search for the best available evidence

- critically appraise the evidence

- integrate the evidence with your managerial expertise and organisational concerns and apply

- monitor the outcome

Scrum.org

Value

Current Value

Revenue per Employee
Product Cost Ratio
Employee Satisfaction
Customer Satisfaction

Time to Market

Release Frequency
Release Stabilization
Cycle Time

Ability to Innovate

Installed Version Index
Usage Index
Innovation Rate
Defect Density

Scrum.org

EBMgt for Software Organizations runs on Scrum mindset – **empiricism** and **self-organization** – to optimize value.

1	2	3	4
Measure KVMs	Select KVAs to improve	Conduct practice experiments to improve value	Evaluate outcome results

*KVMs – Key Value Measures, KVAs – Key Value Areas

(it adds explicit **evidence** and **critical thinking** as a wake up kick for **System 2**)

System 2
(reason)

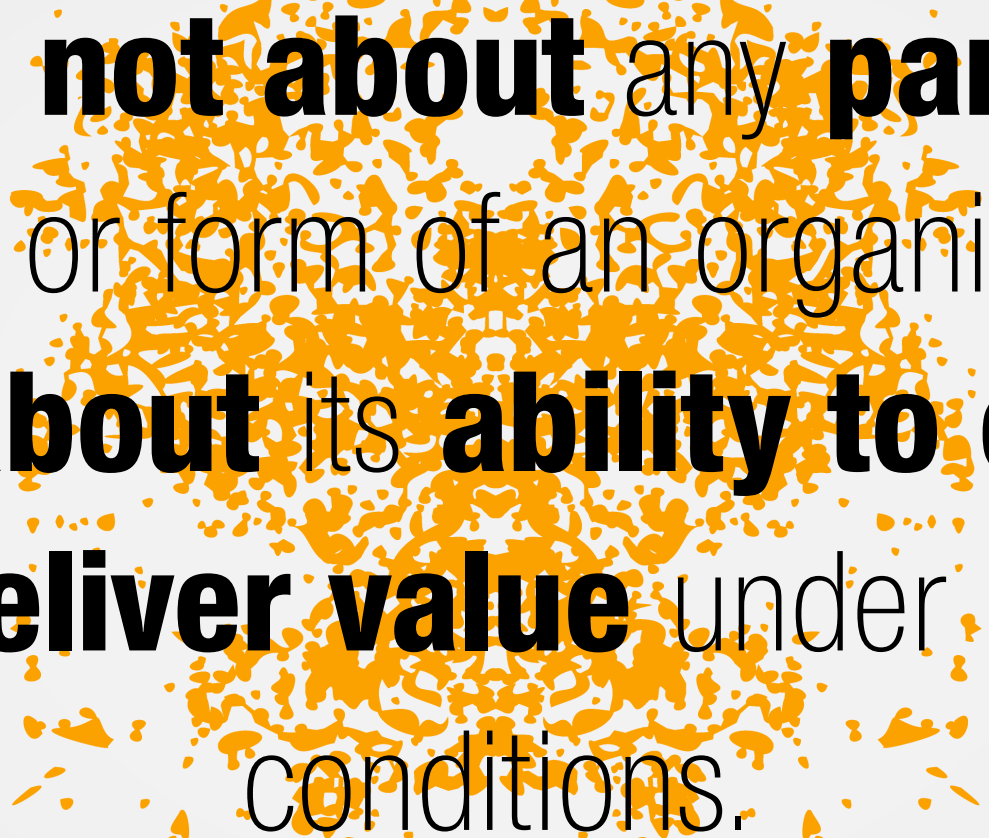System 1
(intuition)

scientific experimentation

" Developing these experimentation systems is the responsibility of senior management; they have to be put in by the leadership.

–Scott D. Cook

http://www.inc.com/magazine/20040401/25cook.html

"

Agility is **not about** any **particular** shape or form of an organization. It's **all about** its **ability to change** and to **deliver value** under uncertain conditions.

thank you!

EBMgt for Software Organizations Guide.
http://www.ebmgt.org/Evidence-Based-Management

Hard Facts, Dangerous Half-Truths, and Total Nonsense: Profiting from Evidence-Based Management. Jeffrey Pfeffer, Robert I. Sutton, 2006

The Oxford Handbook of Evidence-Based Management. Denise M. Rousseau, 2014

Thinking, Fast and Slow. Daniel Kahneman, 2011
(https://www.youtube.com/watch?v=CjVQJdlrDJ0)

Antifragile: Things That Gain from Disorder, Nassim N.
Taleb, 2012
(https://www.youtube.com/watch?v=S3REdLZ8Xis)

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