

Amazing. We did it all by ourselves!

(And so can you.)

Chet Richards
November 2015

slightlyeastofnew.com



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What it's all about

The Toyota Way:

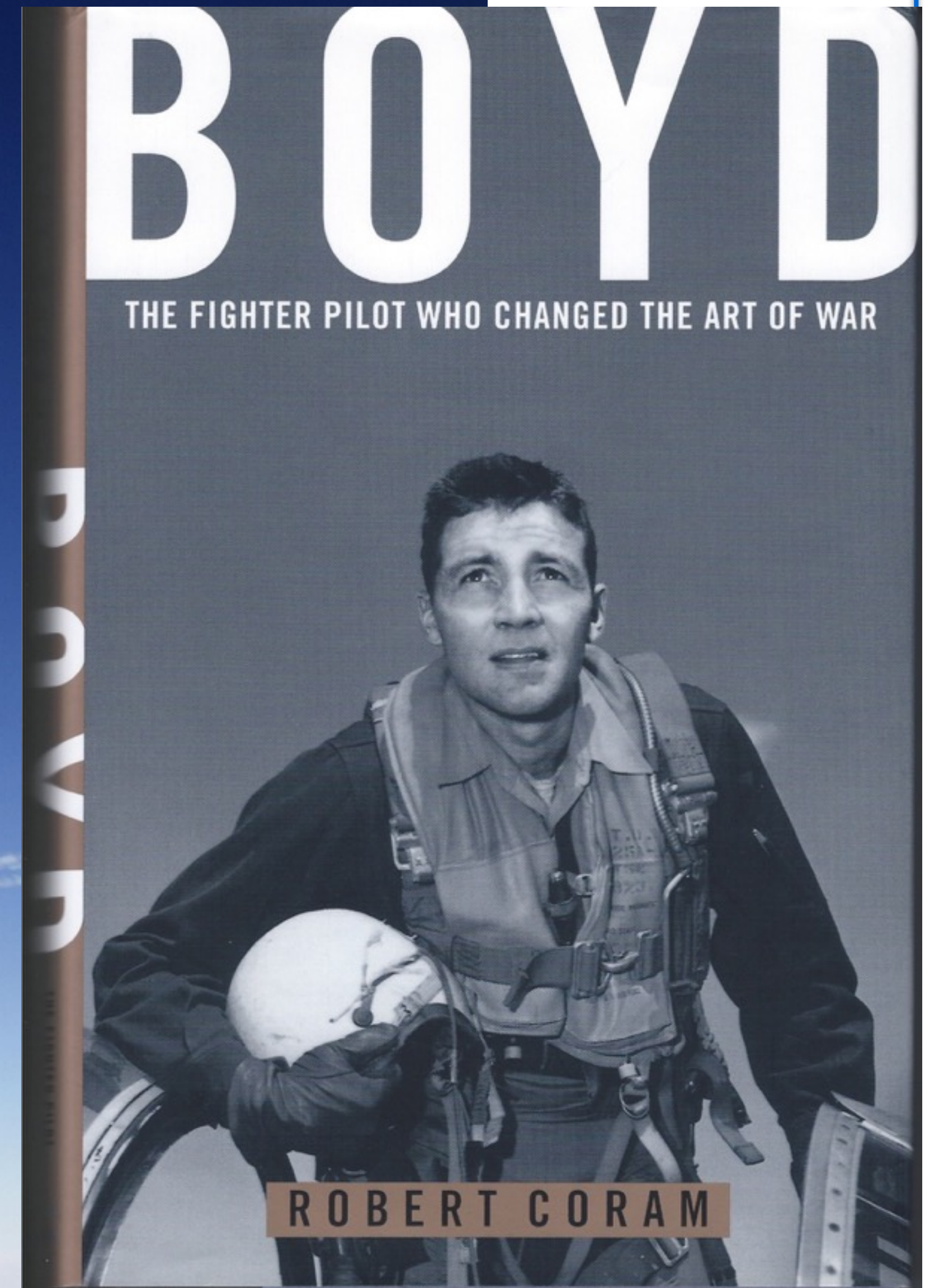
Taking our destiny into our own hands: Companies should not be and need not be like ships adrift at sea, cast about uncontrollably by external factors.

Theory of conflict:

Our goal is to survive, survive on our own terms, or improve our capacity for independent action.

In a world of limited resources and many competing interests.

**But first, advice
from our guru**



Good advice for our times

You should not be convinced by:

- unconfirmed reports
- tradition
- hearsay
- scriptures
- reflection on superficial appearances

You should not be convinced by:

- logical reasoning
- delighting in opinions and speculation
- the appearance of plausibility
- or because you think, *This person is our teacher.*

You should not be convinced
by:

- unconfirmed
- tradition
- hearsay
- scriptures
- reflection on superficial appearances

**Oops, sorry.
Wrong guru**

convinced

reasoning
delighting in opinions and speculation

- the appearance of plausibility
- or because you think, *This person is our teacher.*

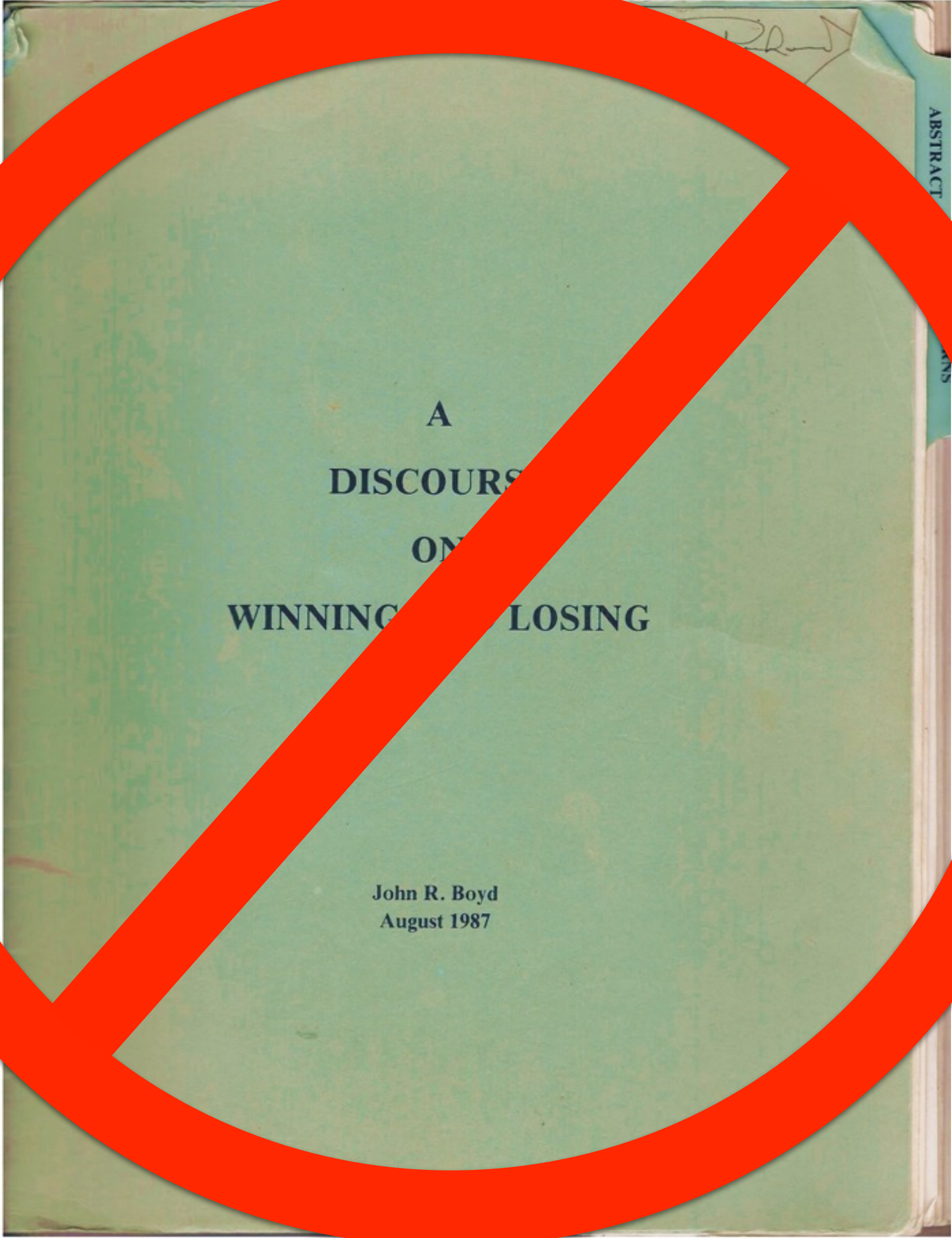
That was a lot older than Boyd

From the *Kalama Sutta*
c. 400 BCE



This is Boyd's advice

- Don't be a member of Clausewitz's school, because a lot has happened since 1832.
- Don't be a member of Sun Tzu's school because an awful lot has happened since 500 BCE.
- And if you're going to regard my stuff as some kind of gospel or dogma ...



A
DISCOURSE
ON
WINNING AND LOSING

John R. Boyd
August 1987

ABSTRACT

This is Boyd's advice

- And if you're going to regard my stuff as some kind of gospel or dogma, stop. **Take it out and burn it. Now.**
- Instead, gather interesting thoughts from a variety of sources and disciplines, then evolve your own ideas.

Thought Experiment

- New project, high impact (& high visibility)
- Mostly people new to you, some new hires, all technically competent
- Strategy 1: Let them do it “all by themselves.”
- Strategy 2: Don’t take the risk. Plan it for them and monitor

What do you think happens?

- With strategy 1?

Lots of action, little confidence of achieving project goals.

- With strategy 2?

Limited ability to handle uncertainty, little development of team members, work yourself into a frazzle.

There has to be a middle way

Return to the origins of Lean:

- Toyota Production System
 - Taiichi Ohno, *Toyota Production System* (1988)
 - Toyota Motor Corporation, *Toyota Production System* (1992)
 - Jeffrey Liker, *The Toyota Way* (2004)
- “Maneuver warfare” — official doctrine of the US Marine Corps
 - MCDP (Marine Corps Doctrine Publication) 1, *Warfighting*
 - John R. Boyd, *A Discourse on Winning and Losing* (1987)

Brothers from another mother

LeanKanban

“Maneuver” Warfare

↑
Toyota Production System

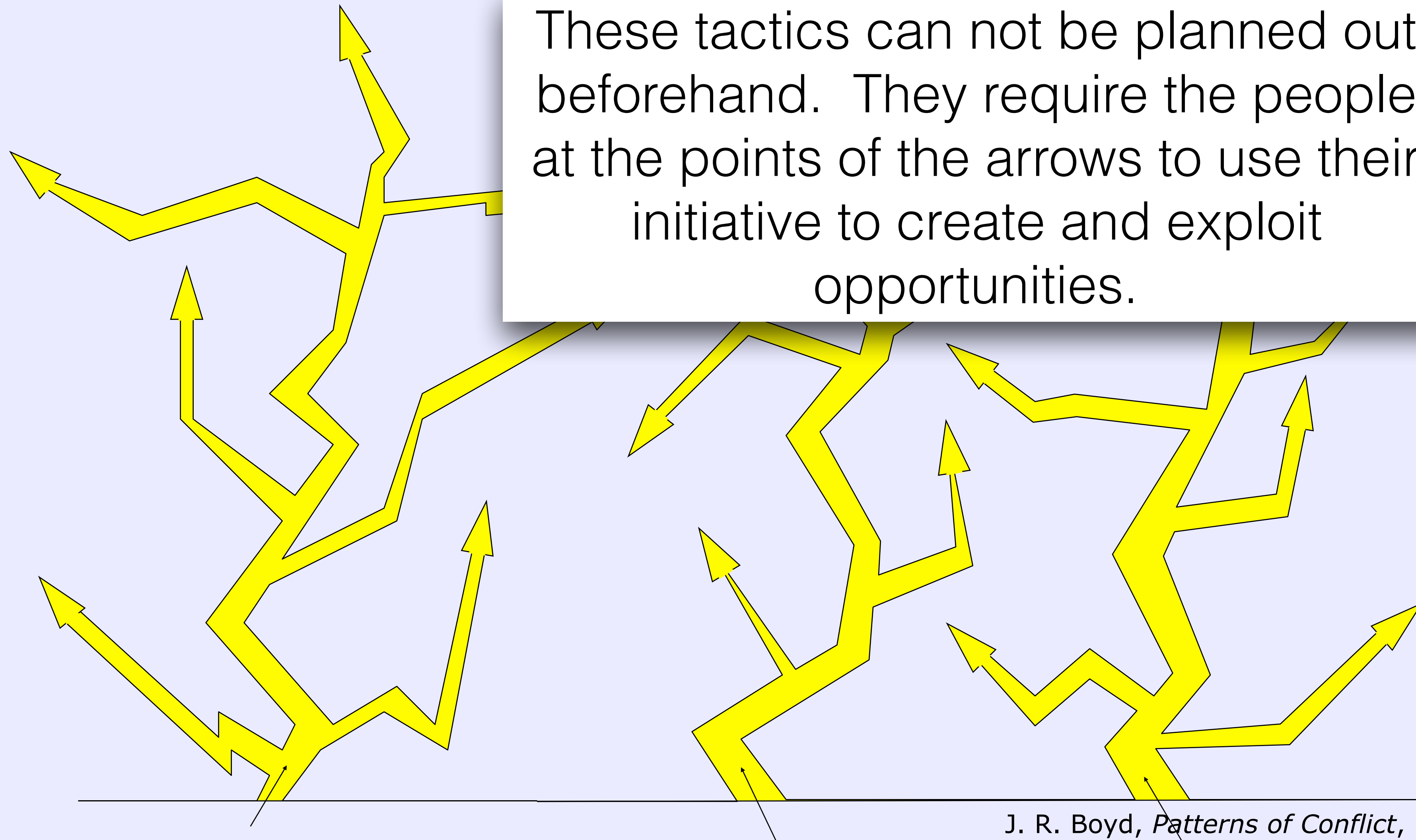
↑
John Boyd, USMC, German experience in WW II

Common Foundation

Pump up the creativity and initiative of everybody in the organization and harmonize them to achieve the purposes of the organization.

Everything you need to know about maneuver warfare

These tactics can not be planned out beforehand. They require the people at the points of the arrows to use their initiative to create and exploit opportunities.

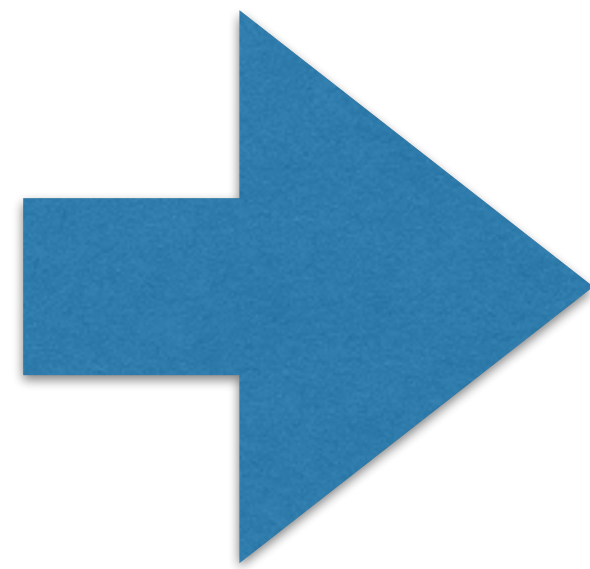


And from the Theory of Lean

Employees undertake tremendous responsibilities in the Toyota Production System. At each worksite, a team of employees designs the standardized work procedures for their own jobs and strives to find ways to continuously improve those procedures.

Sounds good — how do we do it?

John Boyd, USMC,
German experience in
WW II, Israeli Def.
Force



Organizational climate
encompassing:

- *Fingerspitzengefühl*
- *Einheit*
- *Schwerpunkt*
- *Auftragstaktik*
- *Behendigkeit*

Fingerspitzengefühl

Literally “Finger-tip Feeling”



Field Marshal Erwin Rommel
(15 November 1891 – 14 October 1944)

Fingerspitzengefühl

- More than just “You can do it without thinking.”
- In fact, it is never, “You can do it without thinking.”
- The “feel” refers to an ability to sense the future, in particular, how well team members will do, how customers and competitors will react.
- You have *Fingerspitzengefühl* if your mental model is making accurate predictions of “what will happen if ...”

Fingerspitzengefühl

The easy part:

- *Abyasa*: Practice becomes firmly grounded when well attended to for a long time, without break and in all earnestness. Sutra 14, *The Yoga Sutras of Patanjali*, c. 300 BCE - 200 CE

Fingerspitzengefühl

The easy part:

One must exert oneself unceasingly and study very hard. ... Practicing a thousand days is said to be discipline and practicing ten thousand days is said to be refining.

Miyamoto Musashi, *A Book of Five Rings* (1645),
Epilogue to The Water Book

Fingerspitzengefühl

The harder part:

We can't just look at our own personal experiences or use the same mental recipes over and over again; we've got to look at other disciplines and activities and relate or connect them to what we know from our experiences and the strategic world we live in.

If we can do this,

We will be able to surface new repertoires and (hopefully) develop *Fingerspitzengefühl* for folding our adversaries back inside themselves, morally-mentally-physically—so that they can neither appreciate nor cope with what's happening—without suffering the same fate ourselves.

Musashi would probably agree

- Do not harbor sinister designs
- Diligently pursue the path
- Cultivate a wide range of interests in the arts
- Be knowledgeable in a wide variety of occupations
- Be discreet regarding one's commercial dealings
- Nurture the ability to perceive the truth in all matters
- Perceive that which cannot be seen with the eye
- Do not be negligent, even in trifle matters
- Do not engage in useless activity

Miyamoto Musashi, *The Book of Five Rings*, Epilogue to Book One, "The Earth Book."

A modern example

[Ichiro] Suzuki [chief engineer of the first Lexus] had a feeling that the way to beat Mercedes was to build a better car, from an engineering standpoint AND have such esthetic appeal that it would grow on its owners over time.

“Mercedes was kind of a cold vehicle in terms of styling ... I decided that our vehicle would have human warmth, beauty, elegance, refinement.”

A modern example

Liker: But having exceptional functional performance and human warmth are somewhat contradictory to each other. Suzuki, however, believed that he could have both.

[“Suzuki was known as the Michael Jordan of chief engineers. This reputation came from repeated technical achievements that demonstrated remarkable technical skills and engineering intuition.”]

Einheit

Literally “One-ness” “Unity”

Teamwork is everything — Taiichi Ohno

Einheit

A military interpretation

Without a common outlook, superiors cannot give subordinates freedom of action and maintain coherency of ongoing action.

Implication:

A common outlook possessed by “a body of officers” represents a unifying theme that can be used to simultaneously encourage subordinate initiative yet realize superior intent.

They do it all by
themselves

How do we get Einheit?

Arrange setting and circumstances so that leaders and subordinates alike are given opportunity to continuously interact with external world, and with each other, in order to more quickly make many-sided implicit cross-referencing projections, empathies, correlations, and rejections as well as create the similar images or impressions, hence a similar implicit orientation, needed to form an organic whole.

Put another way

It's like your whole organization, viewed as an organism (by a Martian, for example) has *Fingerspitzengefühl*.

It is another ancient idea

“The Way” means inducing the people to have the same aim as the leadership so that they will share death and share life, without fear or danger. Sun Tzu, Chapter 1 (Cleary Trans).

The image features a large, bold, black Chinese character '道' (Dào) in a traditional calligraphic style. The character is positioned on the right side of the slide, partially overlapping the text box. It has a soft, grey shadow effect behind it, giving it a three-dimensional appearance. The character is the central focus of the visual design, representing the concept of 'The Way' discussed in the text.

With Einheit You can read minds

We believe that implicit communication—to communicate through mutual understanding, using a minimum of key, well-understood phrases or even anticipating each others' thoughts—is a faster, more effective way to communicate than through the use of detailed, explicit instructions. We develop this ability through familiarity and trust, which are based on a shared philosophy and shared experience.

Schwerpunkt

Literally "Hard, difficult, heavy" point

Schwerpunkt

- Usually: center of gravity, focus of main effort, focus and direction
- Stephen Bungay: Tell me what you want, what you really, really want
- Idea: When in doubt, use your creativity and initiative to take the action that best accomplishes the organization's *Schwerpunkt*.

An example

We will not accept the lack of orders as justification for inaction; it is each Marine's *duty* to take initiative as the situation demands. We must not tolerate the avoidance of responsibility or necessary risk.

USMC Doctrine Pub 1, *Warfighting*, p. 58.

Schwerpunkt

Schwerpunkt acts as a center or axis or harmonizing agent that is used to help shape commitment and convey or carry out intent at all levels from theater to platoon, hence an image around which:

Maneuver of all arms and supporting elements are focused to exploit opportunities and maintain tempo of operations,

and

Initiative of many subordinates is harmonized with superior intent.

They do it all by themselves

Schwerpunkt

The Toyota Production System, quite simply, is about shortening the time it takes to convert customer orders into vehicle deliveries.

Easy: Let's just stock lots of different models, colors, etc. and when customers show up, we give them the ones they want!

Auftragstaktik

From *Auftrag* — a contract

Classic Auftragstaktik

Commander: Lt. Smith, secure the Village of Bindlach by 1700 hrs and prevent the advance of enemy forces in your sector. 3rd Platoon is the Schwerpunkt and will be attacking on your right.

Lt. Smith: I can do it, but it may take until 1900 because I don't have the use of two of my heavy machine guns.

Commander: Very well. Just keep me informed of your progress.

A different way to do Auftragstaktik

CDR David Marquet: I vowed henceforth never to give an order, any order. *Turn the Ship Around!*, chapter 11.

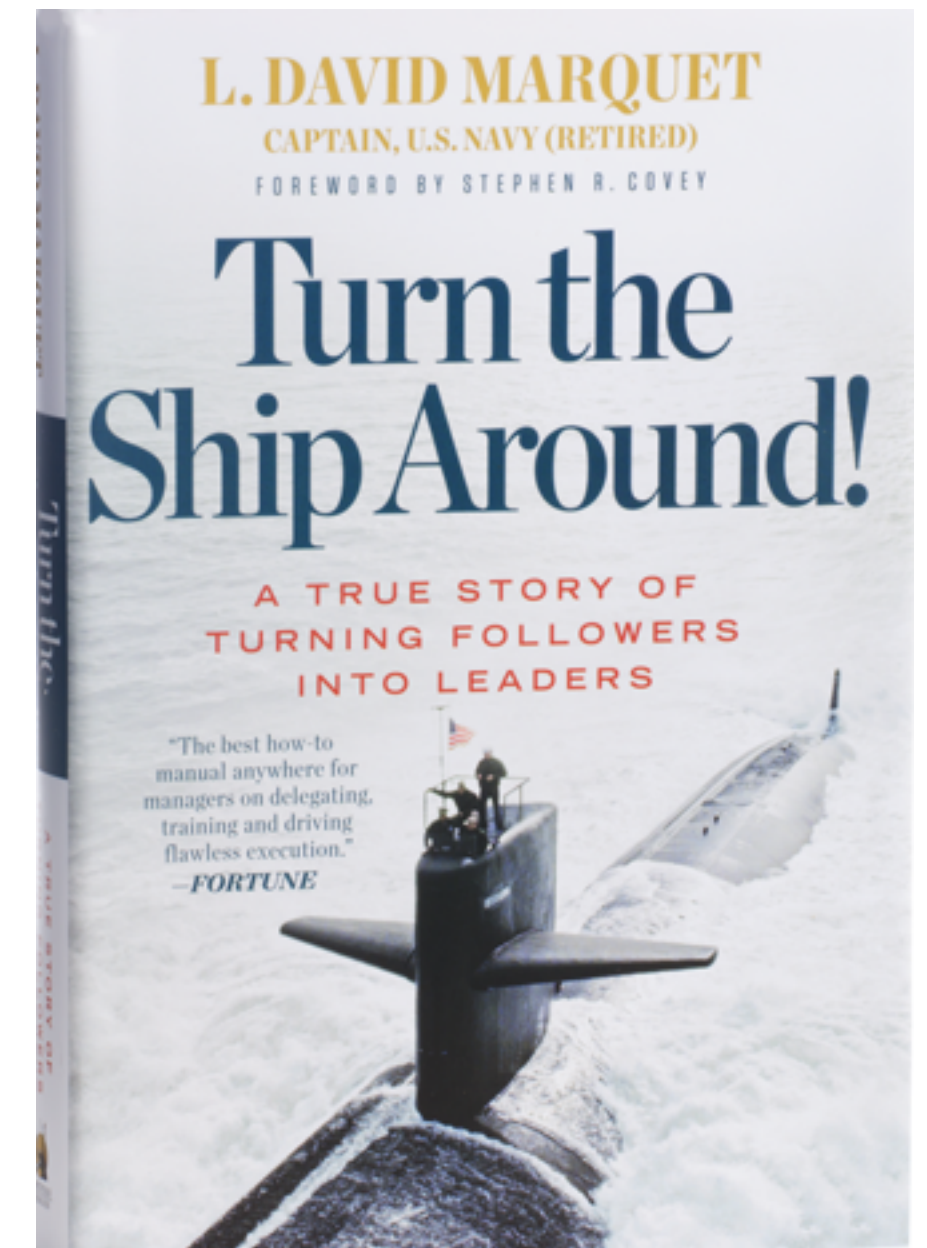
Key point: An order, any order, even a mission order (*Auftrag*), has the potential to limit creativity and initiative.

Key Point #2: There may be other ways to accomplish the purpose of an *Auftrag*, without actually giving an order. Depends on your organization and what you are trying to accomplish.

Auftragstaktik — Another view

Officer of the Deck: Captain, the hatch is secured, the depth is adequate, and all men are at diving stations. The ship is rigged for dive, and I've certified my watch team. I intend to dive the boat.

Captain: Very well.



How Toyota does Auftragstaktik

Line supervisor: We are having a persistent problem operating the 5-axis milling machine within specs.

Manager: Interesting. What is the problem?

LS: After 25 cycles, the machine drifts out of spec while rotating in the B-axis and moving in the Z-axis.

M: Well, what could cause that?

LS: It could be a worn pneumatic seal, or bearing beginning to go bad, but I checked all those.

M: What about the hydraulic fluid?

LS: It is within its use-by date.

M: Yes, but have you tested it once the machine starts wandering out of spec?

How Toyota does Auftragstaktik

Line supervisor: We are having a persistent problem operating the 5-axis milling machine within specs.

Manager: Interesting. What is the problem?

LS: After 25 cycles the Z-axis.

M: Well, what could be the problem?
LS: It could be a wear on the Z-axis.

M: What about the tool?

LS: It is within its use-by date.

M: Yes, but have you tested it once the machine starts wandering out of spec?

You can tell whether a man is clever by his answers. You can tell whether a man is wise by his questions.

Naguib Mahfouz

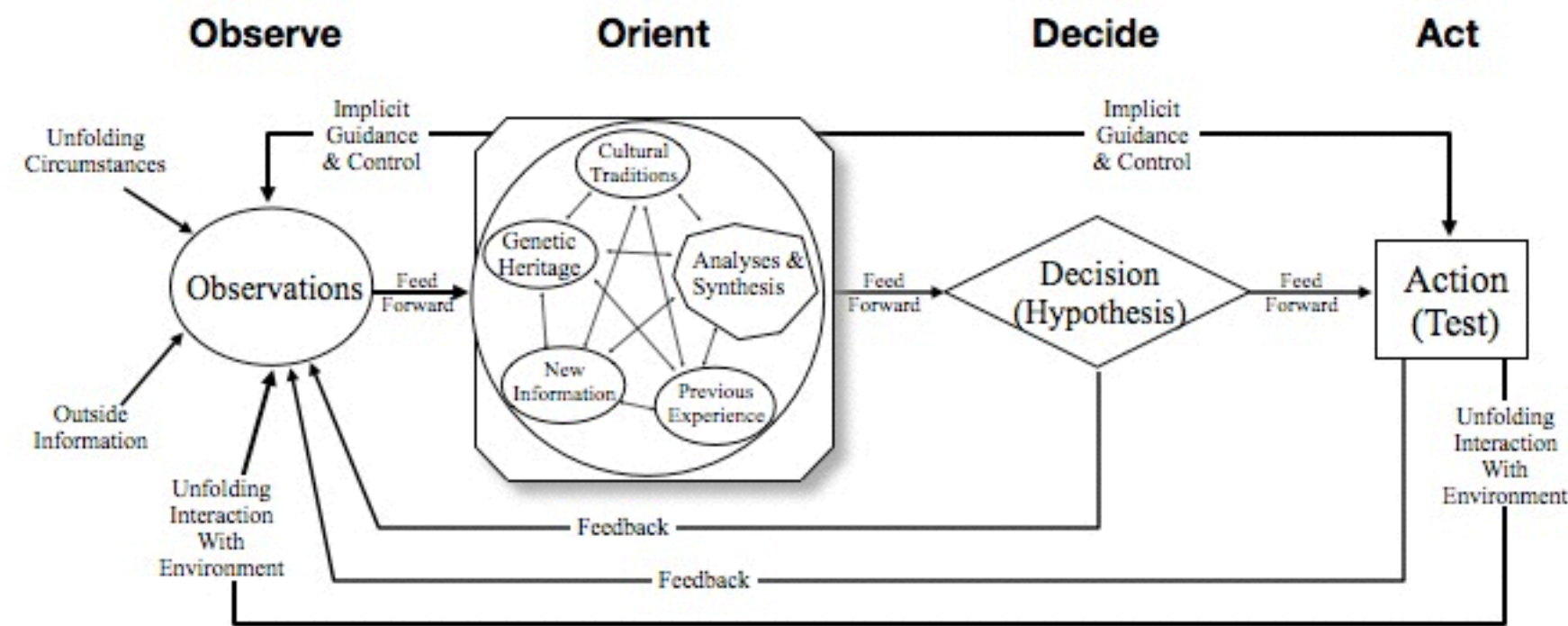
Behendigkeit

Literally “Agility”

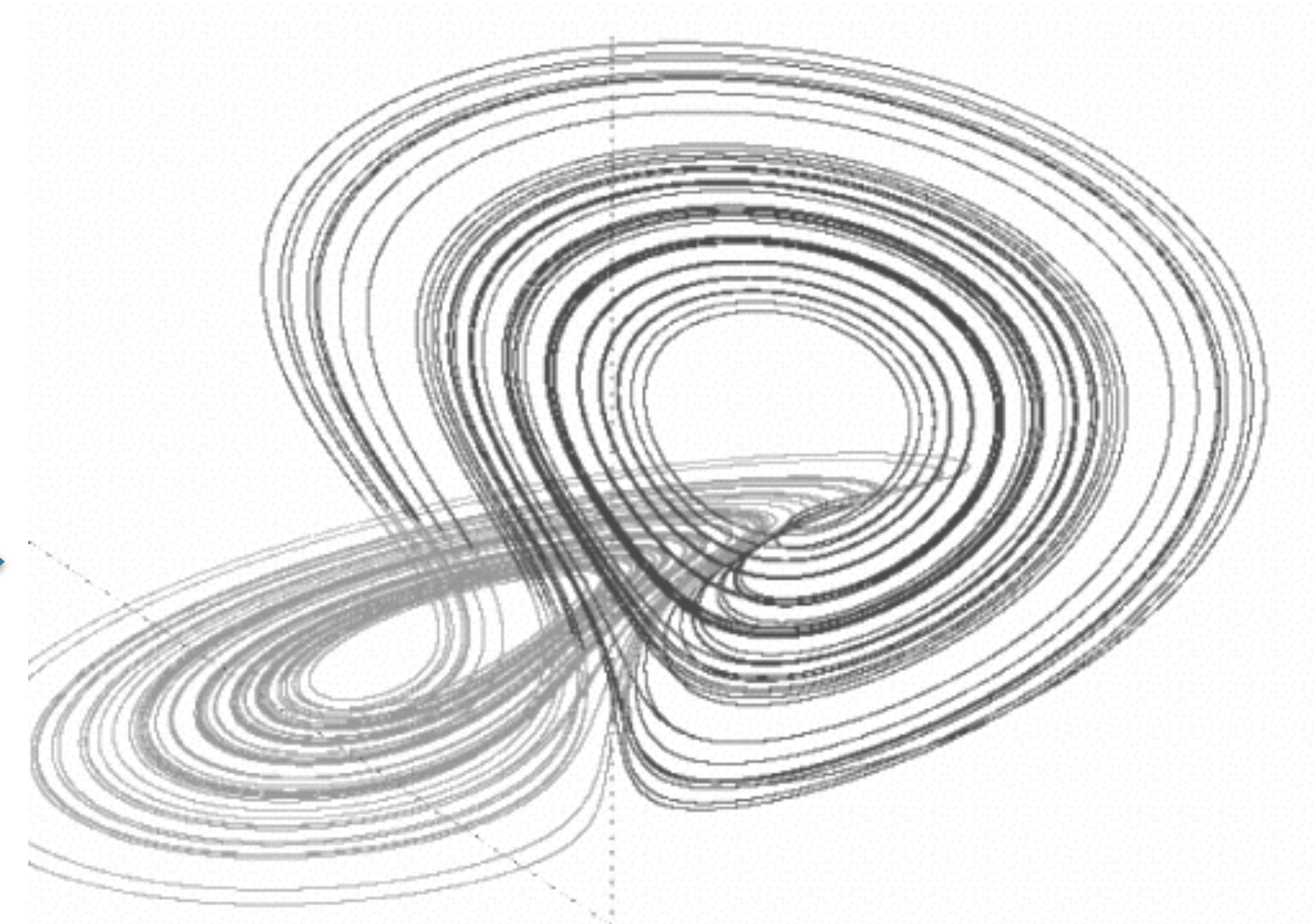
Behendigkeit

You can get a lot of agility with just the first four elements, but it will be agility within a pattern:

Boyd's OODA "Loop" Sketch

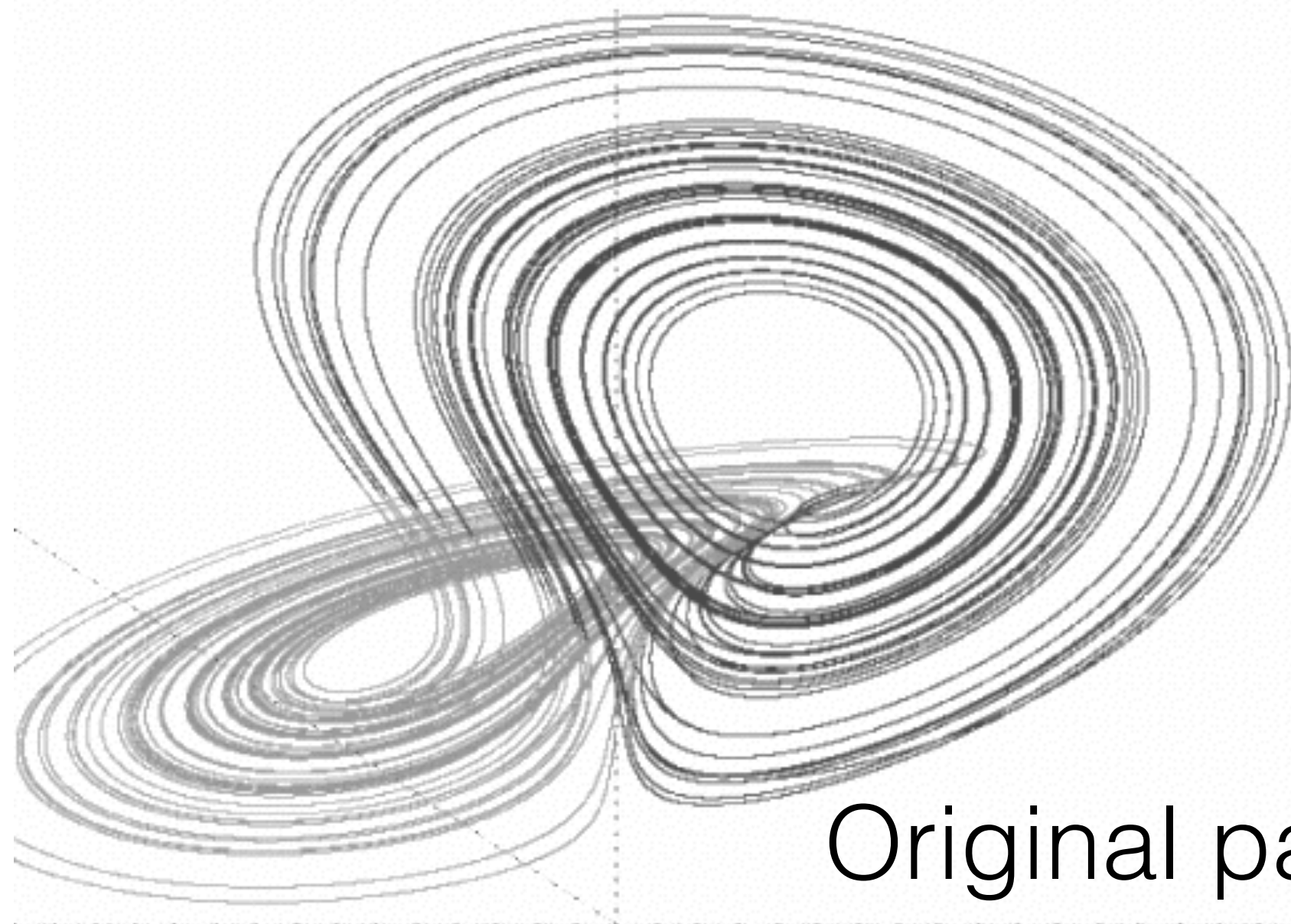


Falls into patterns

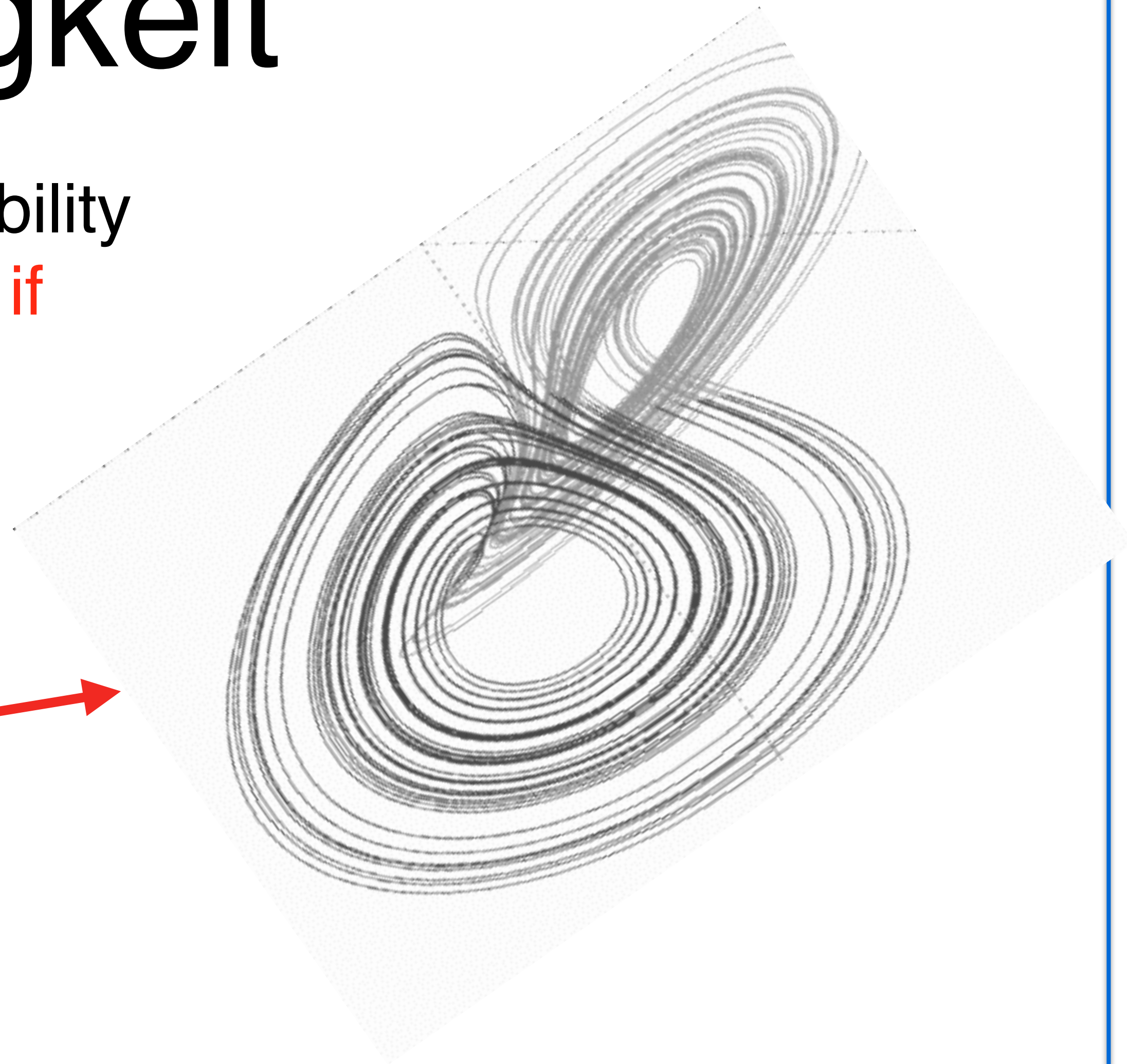


Behendigheid

Behendigheid, the way Boyd used it, is the ability to break out of long-standing patterns, **even if they have been successful.**



Original pattern of ideas & actions



Behendigheid

You may recognize the “Innovator’s Dilemma,” AKA Tom Peters’ “Deep Grooves Paradox.”

Tough to do, since:

- Need to foresee that current methods soon won’t work (even though they may be working now).
- The more you understand your current philosophy — especially if you helped create it — the more logical, even inevitable, it seems.

Not just fiddling with details

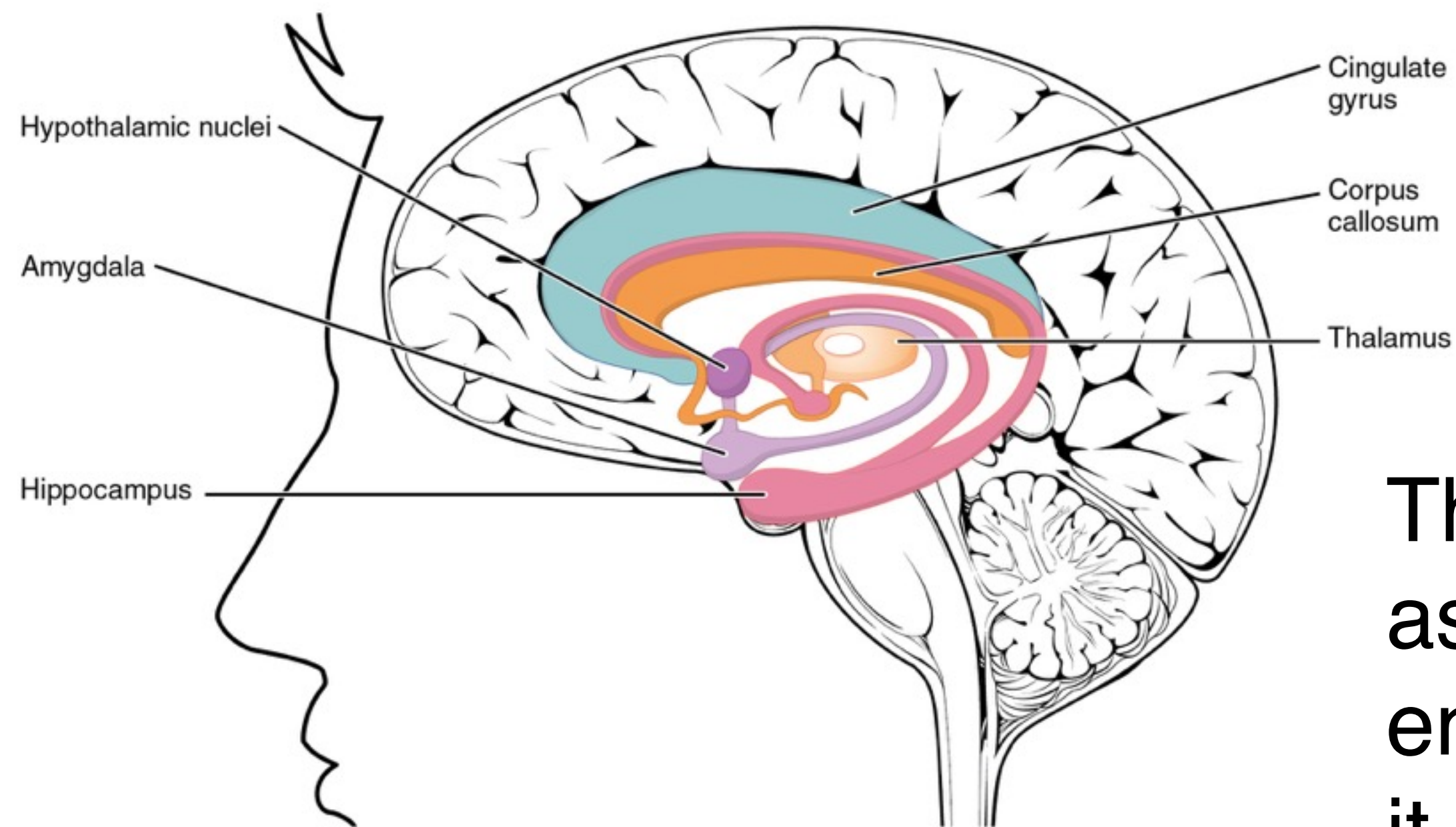


This requires what I call a revolution in consciousness, a change in attitude and viewpoint by business people.

Changing how you think about your business

- “People ask, ‘Is there a silver bullet?’” IBM CEO Virginia Rometty said in a recent interview. “The silver bullet, you might say, is speed, this idea of speed.”
- “In the past, we changed what we were working on, but we were pretty much working the same way,” IBM Sr VP John Kelly said. “Now, we’re changing how we work too. And the how element is always related to speed.”

Where the heart leads, the mind will follow

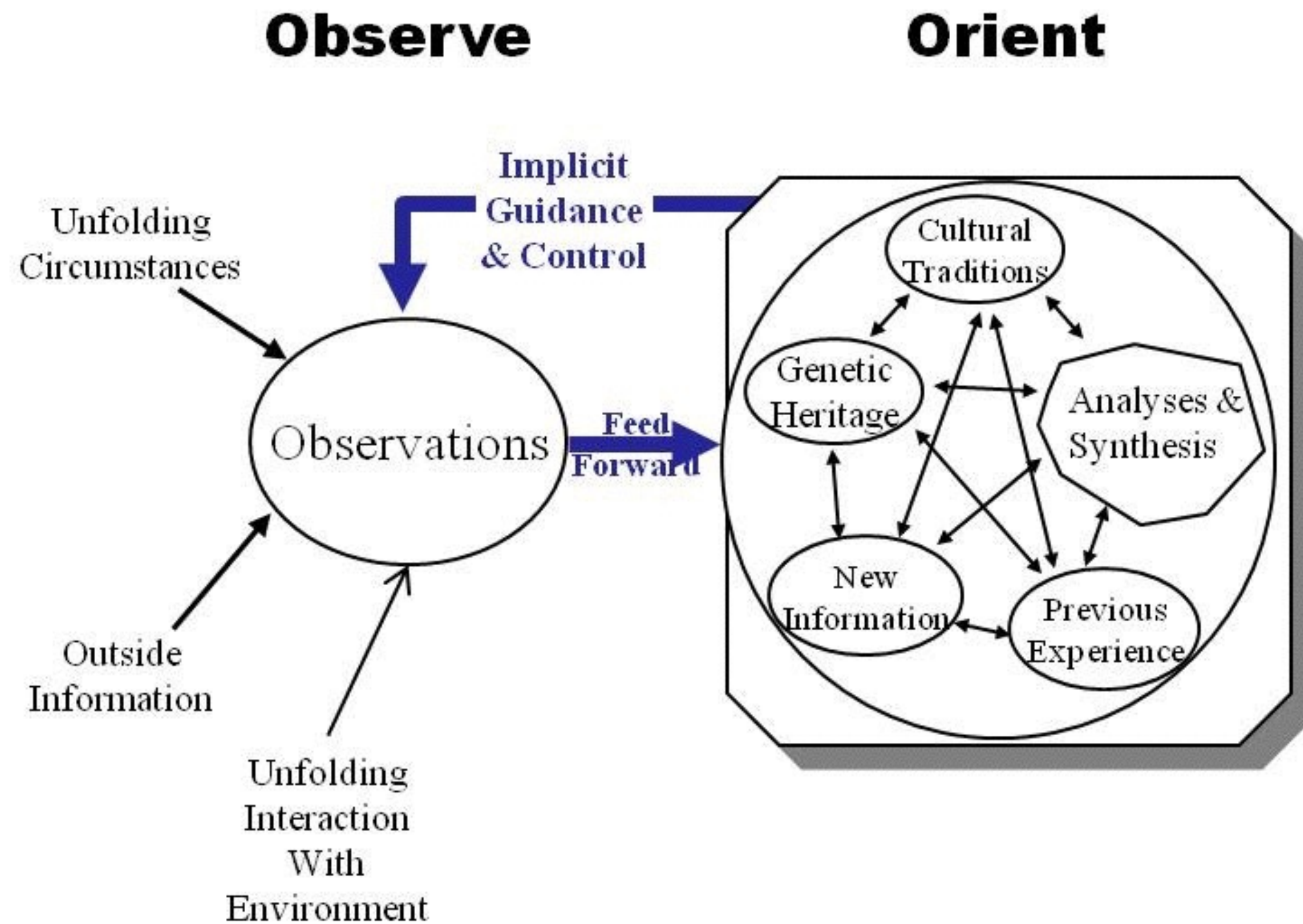


The sensory cortex, motor cortex, and association areas of the cerebral cortex enable you to perform complex tasks, but it is largely the limbic system that makes you want to do them.

"1511 The Limbic Lobe" by OpenStax College - Anatomy & Physiology, [Connexions Web site.](#), Jun 19, 2013..
Licensed under CC BY 3.0 via Commons -

Martini, Nath, Bartholomew,
Fundamentals of Anatomy and Physiology, p. 480

This often produces “incestuous amplification”



“All lies and jests, still a man hears what he wants to hear and disregards the rest.” Paul Simon, “The Boxer” (1969)

You may give up facts before you give up ideas

In 2006, the political scientists Brendan Nyhan and Jason Reifler identified a phenomenon called the “backfire effect.” They showed that efforts to debunk inaccurate political information can leave people more convinced that false information is true than they would have been otherwise. Nyhan isn’t sure why this happens, but it appears to be more prevalent when the bad information helps bolster a favored worldview or ideology.

Maggie Koreth-Baker,
“Why Rational People Buy Into Conspiracy Theories,”
New York Times, May 21, 2013.

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Achieving Behendigkeit

The secret is to achieve non-attachment (another ancient concept, *vairagya*) by going outside your system.

Going outside: “Willingness to support and promote unconventional or difficult subordinates who accept danger, demonstrate initiative, take risks, and come up with new ways toward mission accomplishment;”

Boyd, quoting Gen Hermann Balck,
Patterns of Conflict, p. 120

Behendigkeit

Here's to the crazy ones. The misfits. The rebels. The troublemakers. The round pegs in the square holes. The ones who see things differently. They're not fond of rules. And they have no respect for the status quo. ... Because the people who are crazy enough to think they can change the world, are the ones who do.

Steve Jobs

Behendigkeit

A way to tell you're doing it right:

Through deep understanding, you break ancient trade-offs:

- Accuracy / complexity — Ptolemaic model vs. Copernican model
- Affordability / quality — Toyota Production System
- Control / initiative — Maneuver warfare

“But having exceptional functional performance and human warmth are somewhat contradictory to each other. Suzuki, however, believed that he could have both.”

Evolutionary Epistemology*

**A Personal View of John Boyd's
“Destruction and Creation”
... and its centrality to the ...
OODA Loop**

Franklin C. Spinney

V2.4 (Dec. 2014)

* Although I came up with this title on my own, it turns out that I am not the first to use this term, as I explain at this link: <http://slightlyeastofnew.com/tag/chuck-spinney/>.

All about
complexity <==> accuracy

(Available from the Articles page at
[Slightly East of New](#))

From one of Steve Jobs' favorite books

As long as you are caught by duality you cannot obtain absolute freedom.

Shunryu Suzuki,
Zen Mind Beginner's Mind, p. 138.

Another duality: “Command & Control”

“Command” = Telling people what to do

“Control” = Making sure that they do it.

Can we resolve this duality?

Einheit: Your best C&C system

Including:

- A shared moral code. For example, “If you say you're going to do it, do it. If you mess up, ‘fess up, and make it right.”
- A doctrine that is generally understood and accepted. The Toyota Production System is a doctrine for manufacturing. Some of this needs to be explicit, which is why the military writes doctrine manuals.
- Shared concept of what we’re trying to accomplish, including the Schwerpunkt(s)

Einheit: Your best C&C system

Including:

- Shared — and accurate — mental model of the current, evolving situation. This includes both what's going on outside the organization as well as an appreciation of how well we are working together to accomplish our mission (“How's it going?”)
- Mutual appreciation of our capabilities and limitations: Who has *Fingerspitzengefühl* and who doesn't

And so you get both
“command” and “control.”

And
“comm

I didn't want to “control” my Marines. I wanted to unleash them on the enemy. Col Mike Wyly, “Thinking like Marines.”

(Available from the Articles page at slightlyeastofnew.com)

Agility and intuitive competence are closely related

(Another ancient principle)

Behendigkeit



Removing afflictions of the mind — dwelling or attaching on something, even for a moment — is for the purpose of perceiving intentions.

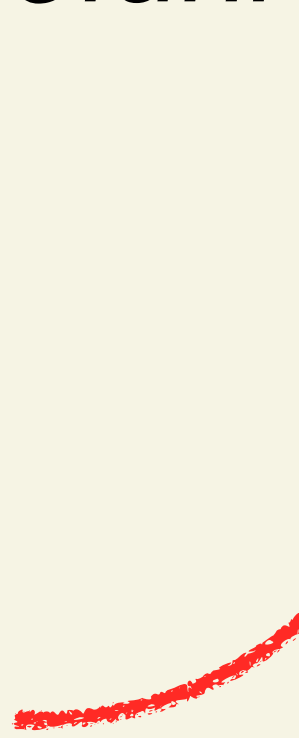
Fingerspitzengefühl



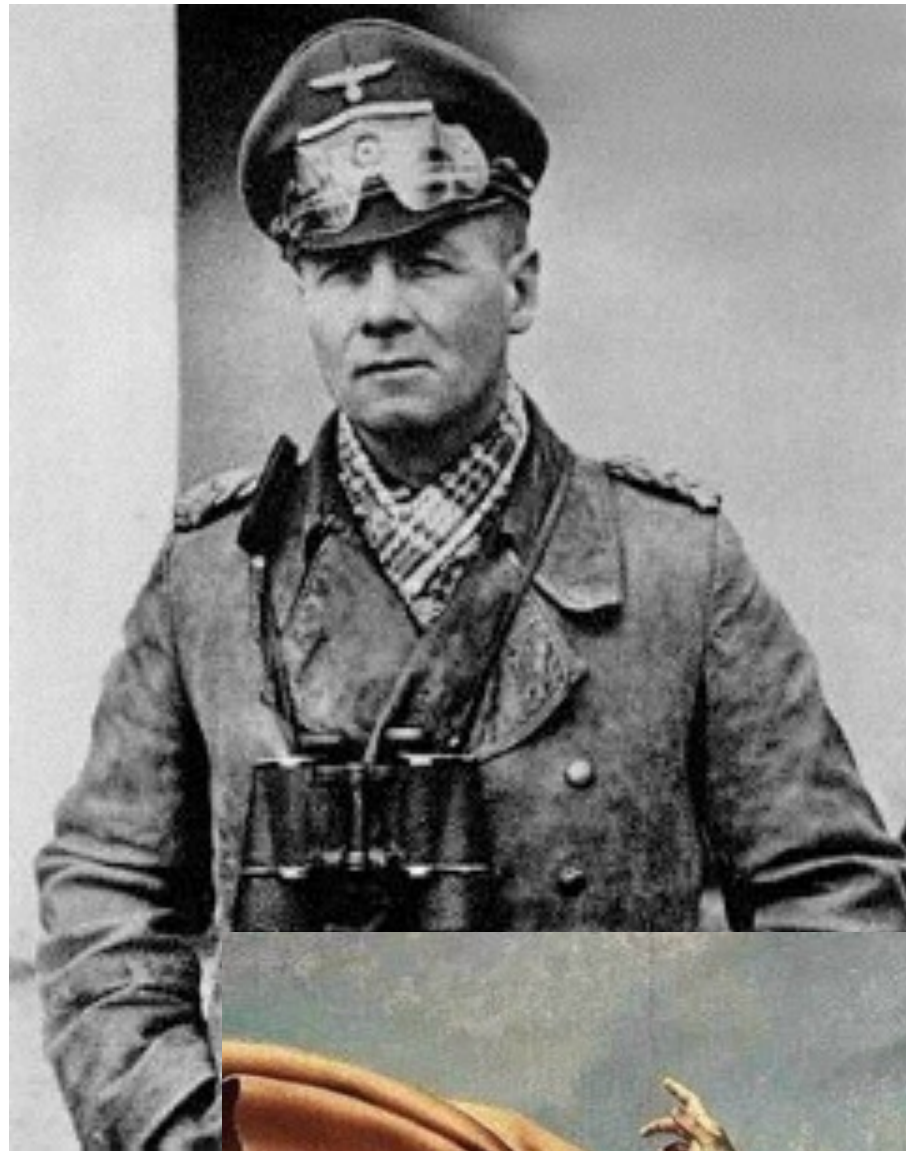
Japanese samurai / Zen Master Yagyu Munenori, early 1600s

In other words, Behendigkeit —
Agility — is the foundation of it all

Organizational climate
encompassing:

- *Fingerspitzengefühl*
 - *Einheit*
 - *Schwerpunkt*
 - *Auftragstaktik*
 - *Behendigkeit*
- 

Any leadership style you want



So long as it has ...

Real leadership is evolving a climate that has these attributes.

An organizational climate encompassing:

- *Fingerspitzengefühl*
- *Einheit*
- *Schwerpunkt*
- *Auftragstaktik*
- *Behendigkeit*

They do it all by themselves

Kanban: The paperwork is minimal. The efficiency is maximal.
And the employees themselves are completely in charge.



Thoughts? Questions?

