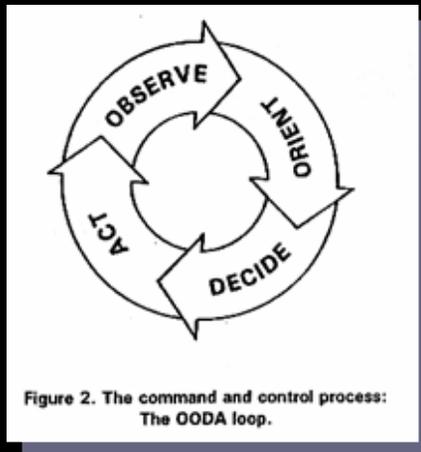


# ***A Discourse on Winning and Losing***



**Introducing  
core ideas  
&  
themes  
Of**

**Boyd's 'Theory of intellectual evolution and growth'**

Col Dr. Frans Osinga  
Quantico, 13 July 2007

Main aim: to see the whole elephant & beyond the rapid OODA loop idea

## What people think he said

- Get inside OODA loop
- Decision cycle
- C2 process
- Decide & act quicker
- Disrupt info flow
- Take out C2

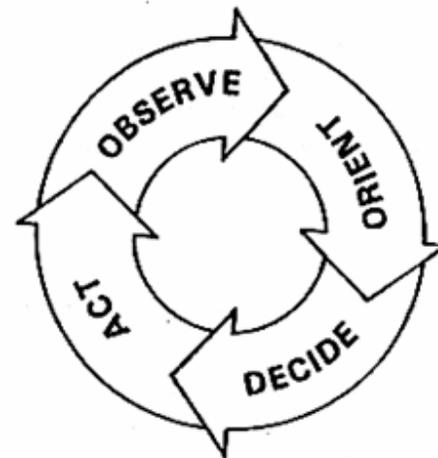
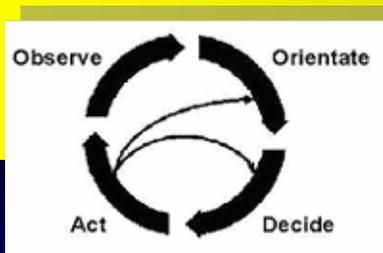
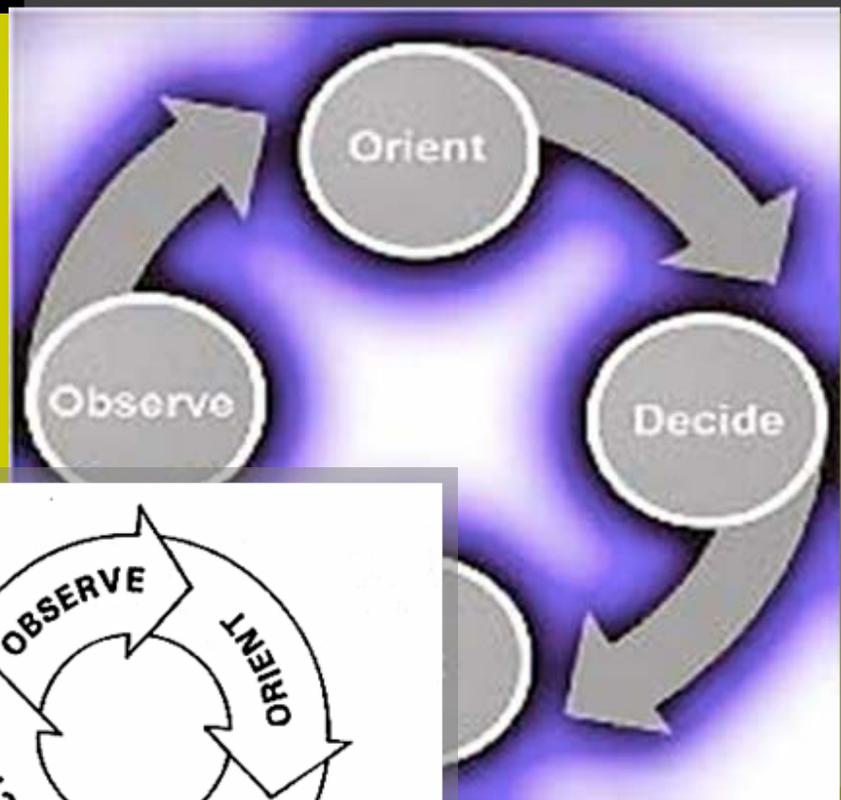


Figure 2. The command and control process:  
The OODA loop.



# First Corrective

## Getting the full picture on Boyd's military thought

### *A Discourse on Winning and Losing*

- Essay ***Destruction and Creation***
- ***A New Conception for Air to Air Combat***
- ***Patterns of Conflict***
- ***Organic Design for Command & Control***
- ***Strategic game of ? & ?***
- ***Conceptual spiral***
- ***The Essence of Winning and Losing***

### **A Discourse is:**

- An epistemological investigation
- A military history & search for patterns of winning and losing
- An argument against
  - Attritionist mindset
  - Deterministic thinking & predictability
  - Techno-fetishism
- A rediscovery of the mental/moral dimensions of war
- A philosophy for command and control
- A redefinition of strategy
- A search for the essence of strategic interaction
- A plea for organizational learning and adaptability
- An argument on strategic thinking

## Second corrective: the formative factors (1); post-Vietnam military & techno-fetishism

### Post Vietnam turbulence

- US Army & Marine Corps
  - Low morale/Trauma of defeat
  - End of conscription
  - Refocus on conventional ops Europe/Often outnumbered
  - Need for new doctrine/identity
- Carter/Reagan era
  - Surprise Yom Kippur/Afghanistan
  - Techno spending up
  - Spiraling costs

### US strat culture (Gray, 1986)

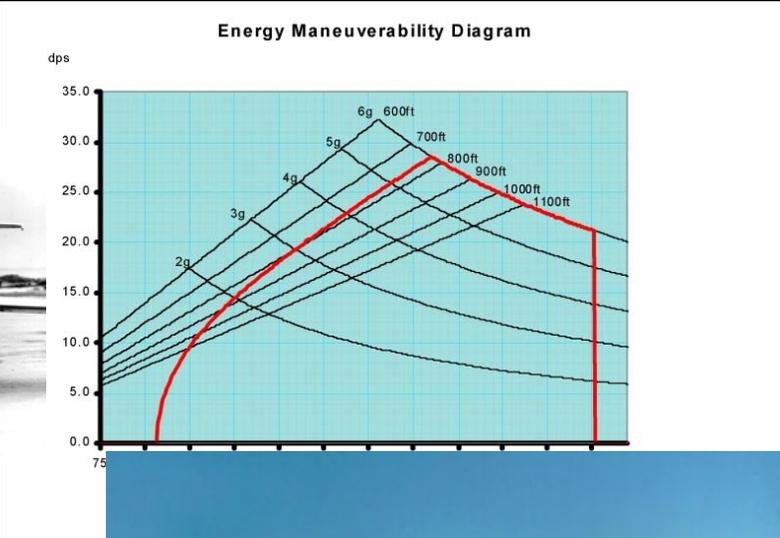
- Indifference to history
- Engineering style/Technical fix
- Impatience
- Blindness to cultural differences
- Indifference to strategy/Evasion of politics
- Resort to force
- Jominian
- Emphasis on the technical and logistical rather than the politically well informed and and operational agile

### **Focus on intangibles, leadership, morale**

Back to operational art; beyond tactics  
Critique of managerial mindset & attritionist approach  
& Techno-fetishism & ever rising complexity

**Deep Intellectual/doctrinal innovation vs shallow technological innovation**

# The formative factors (2): Air Combat



# New Conception of Air to Air Combat

## Action

Exploit operations and weapons that:

- Generate a rapidly changing environment (quick-clear observations, orientation and decisions, fast tempo, fast transient maneuvers, quick kill)
- Inhibit an adversary's capacity to adapt to such an environment (cloud or distort his observations, orientation, and decisions)

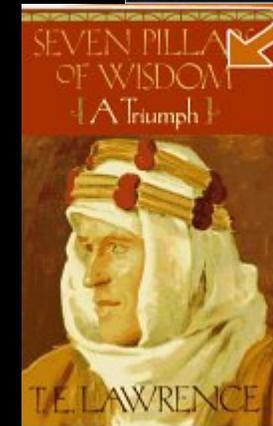
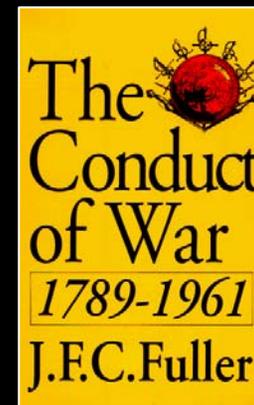
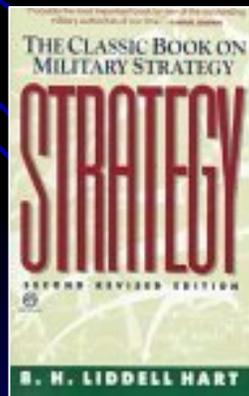
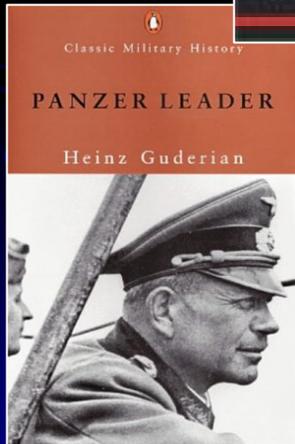
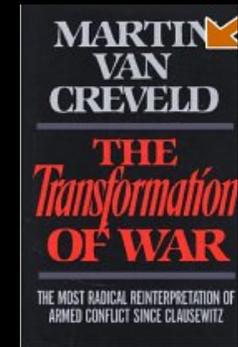
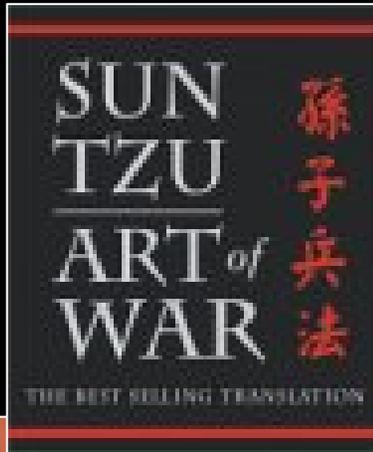
## Idea

- Simultaneously compress own time and stretch-out adversary time to generate a favorable mismatch in time/ability to shape and adapt to change.

## Goal

Collapse adversary's system into confusion and disorder by causing him to over and under react to activity that appears simultaneously menacing as well as ambiguous, chaotic or misleading.

# The formative factors (4): military history



# IMPACT OF 19TH CENTURY TECHNOLOGY ON WAR

## Defense prevails over offense

### Key Ingredients

- Railroad/Telegraph
- Quick Fire Artillery
- Machine Gun
- Repeating Rifle
- Barbed Wire
- Trenches

### Early Trends

- Emphasis toward massed firepower and large armies supported by rail logistics.
- Increased emphasis on a holding defense and flanking or wide turning maneuvers into adversary rear to gain a decision.
- Continued use of frontal assaults by large stereotyped infantry formations (e.g. regiments, battalions), supported by artillery barrages, against regions of strong resistance.

### Result

Huge armies, and massed firepower and other vast needs supported through a narrow fixed logistics network, together with tactical assaults by large stereotyped formations, **suppressed ambiguity, deception, and mobility** hence **surprise of any operation**

physical

cognitive

# HISTORICAL PATTERN

## SUN TZU - The art of war - Around 400 BC

### Theme

- Harmony
- Deception
- Swiftness-of-Action
- Fluidity-of-Action
- Dispersion/Concentration
- Surprise
- Shock

### Strategy

- Probe enemy's organization and dispositions to unmask his strengths, weaknesses, patterns of movement and intentions
- 'Shape' enemy's perception of world to manipulate his plans and actions
- Attack enemy's plans as best policy. Next best disrupt his alliances. Next best attack his army. Attack cities only when there is no alternative.
- Employ Cheng and Ch'1 maneuvers to quickly and unexpectedly hurl strength against weaknesses.

### Desired Outcome

- Subdue enemy without fighting
- Avoid protracted war

Unique & novel  
synthesis

## Blitz/Guerrilla Theme

### Essence

- Avoid battles - instead penetrate adversary to **subvert, disrupt, or seize those connections, centers, and activities that provide cohesion** (e.g., psychological/moral bonds, communications, lines of communication, command and supply centers,....)
- **Exploit ambiguity, deception, superior mobility, and sudden violence to generate initial surprise and shock followed by surprise and shock again, again, again.....**
- Roll-up/wipe out the isolated units or remnants created by the subversion, surprise, shock, disruption, and seizure.

### Intent

Exploit subversion, surprise, shock, disruption, and seizure to generate confusion, disorder, panic, etc., thereby **shatter cohesion, paralyze effort, and bring about adversary collapse.**

## Message

•Blitz and Guerrillas, by being able to operate in a **directed, yet more indistinct, more irregular, and quicker** manner than their adversaries, can:

•Repeatedly **concentrate or disperse more inconspicuously** and/or more quickly from or to lower levels of distinction (organizational, operational, and environmental) **without losing internal harmony**, as well as,

•Repeatedly and unexpectedly infiltrate or penetrate adversaries' vulnerabilities and weaknesses in order to **splinter, isolate or envelop, and overwhelm disconnected remnants** of adversary organism.

Or put another way

•Blitz and Guerrillas, by operating in a **directed, yet more indistinct, more irregular, and quicker manner**, operate inside their adversaries' observation-orientation-decision-action loops or get inside their mind-time-space as basis **to penetrate the moral-mental-physical being of their adversaries in order to pull them apart**, and bring about their collapse.

Underlying idea

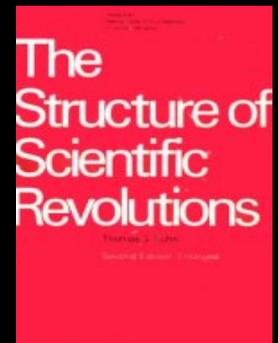
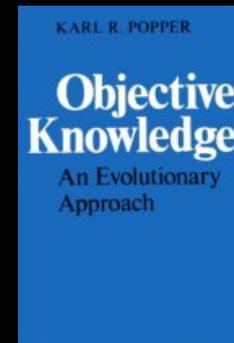
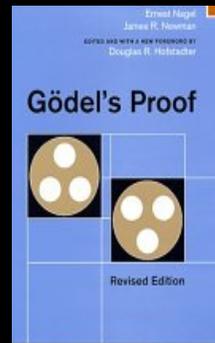
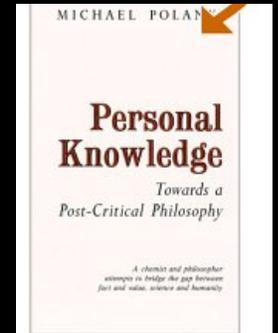
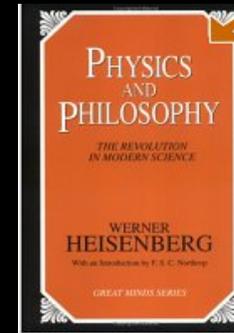
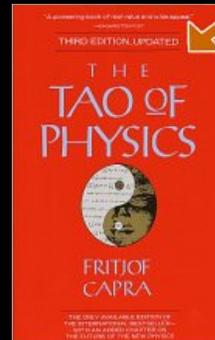
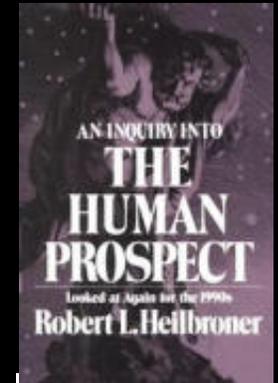
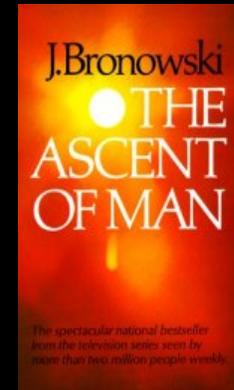
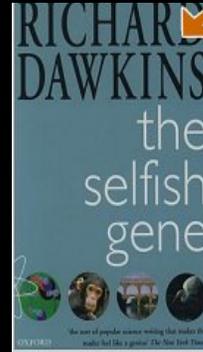
•**Such amorphous, lethal, and unpredictable activity** by Blitz and Guerrillas make them appear awesome and unstoppable which altogether **produce uncertainty, doubt, mistrust, confusion, disorder, fear, panic,... and ultimately collapse** - a notion implied by Sun Tzu around 400 B.C. and more recently by J.F.C. Fuller after observing the impact of Ludendorff's infiltration tactics in 1918.

# the formative factors(4) : paradigm shift in science & multi-disciplinary approach

## Paradigm shift

- Neo-Darwinism
  - Constant change/evolution
- Epistemology
  - Non-deterministic
  - Pervasive uncertainty
  - Holistic/systems view
  - Non-linearity/emergent order
  - Social construction of knowledg
  - Hypothesis – test
  - Conjecture - refutation
  - Induction + deduction
  - Destruction + construction
  - Analysis + synthesis
  - Variety of mental models
  - Multi-spectrality

10/1/2007



# HUMAN NATURE

## Starting point 1: competition

### Goal

- **Survive, survive on own terms, or improve our capacity for independent action.**

The competition for limited resources to satisfy these desires may force one to:

- **Diminish adversary's capacity for independent action, or deny him to opportunity to survive on his own terms, or make it impossible for him to survive at all.**

### Implication

- **Life is conflict, survival, and conquest**

**Starting point 1b: adapt**

COMMENT

In addressing any question about conflict, survival, and conquest one is naturally led to the

**Theory of Evolution by Natural Selection  
and The Conduct of War**

since both treat conflict, survival, and conquest in a very fundamental way. In this regard, many sources (a few on natural selection and many on war) are reviewed; many points of view are exposed

**J.F.C. Fuller**

**Darwin c.s.**

## ILLUMINATING EXAMPLE

**Starting point 2: pervasive uncertainty**

? - What does the Second Law of Thermodynamics say - ?

All natural processes generate entropy.

? - What did Heisenberg say - ?

One cannot simultaneously fix or determine precisely the momentum and position of a particle.

? - What did Gödel say - ?

One cannot determine the consistency of a system within itself.

## UNDERLYING MESSAGE

There is no way out, unless we can eliminate the features just cited. Since we don't know how to do this: we must continue the whirl of reorientation, mismatches, analyses/synthesis over and over again ad infinitum as a basis to comprehend, shape, and adapt to an unfolding, evolving reality that remains uncertain, everchanging, unpredictable.

**Starting point 2b: live with it,  
thrive in it, exploit it**

## POINT

Since survival and growth are directly connected with the uncertain, everchanging, unpredictable world of winning and losing we will exploit this whirling (conceptual) spiral of orientation, mismatches, analyses/synthesis, reorientation, mismatches, analyses/synthesis... so that we can comprehend, cope with, and shape, as well as be shaped by that world and the novelty that arises out of it.

## ? - WHAT'S THE POINT OF ALL THIS - ?

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 experiences and the strategic world we live in.**

If we can do this

**We will be able to surface new repertoires** and (hopefully) develop a 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.

## ? - WHAT DOES THIS EXAMPLE SUGGEST - ?

To discern what is going on we must interact in a variety of ways with our environment.

### IN OTHER WORDS

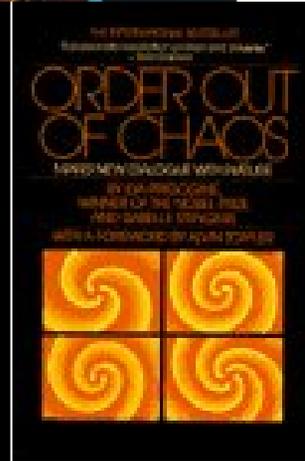
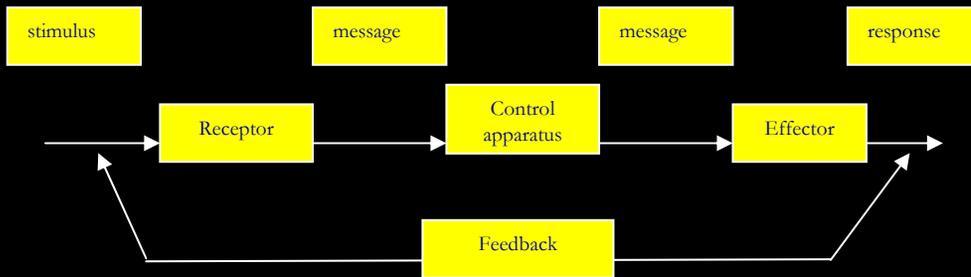
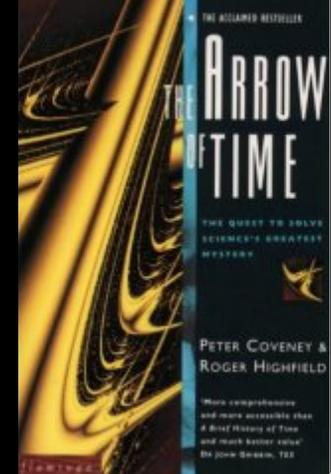
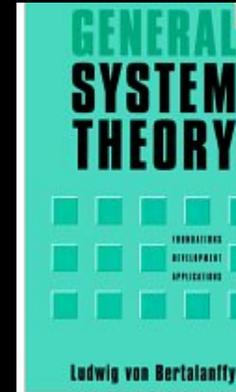
We must be able to examine the world from a number of perspectives so that we can generate mental images or impressions that correspond to that world.

### MORE TO THE POINT

We will use this scheme of pulling things apart (analysis) and putting them back together (synthesis) in new combinations to find how apparently unrelated ideas and actions can be related to one another.

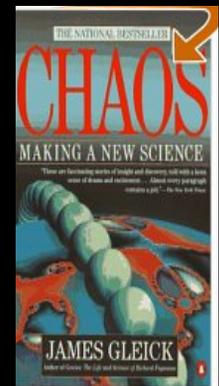
# ● Scientific zeitgeist cont'd

- Cybernetics
- Open system
- Non-linearity/complexity:  
Complex Adaptive System



**“We express this by saying that living systems are basically open systems. An open system is defined as a system in exchange of matter with its environment, presenting import and export, building up and breaking down of its material components... Closed systems are systems which are considered to be isolated from their environment”.**

**(Bertalanffy)**

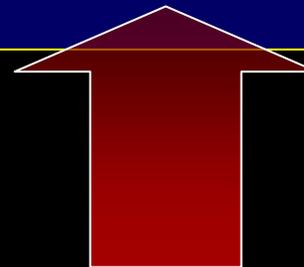
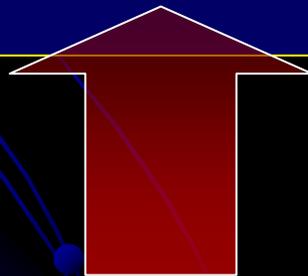


! - SIMPLY STATED - !

As human beings, we cannot exist without an external or surrounding environment from which we can draw sustenance, nourishment, or support.

IN OTHER WORDS

Interaction permits vitality and growth while Isolation leads to decay and disintegration.



NOW WE CAN SEE BY  
GOING BACK TO THE BEGINNING

The Strategic Game  
is one of  
Interaction and Isolation

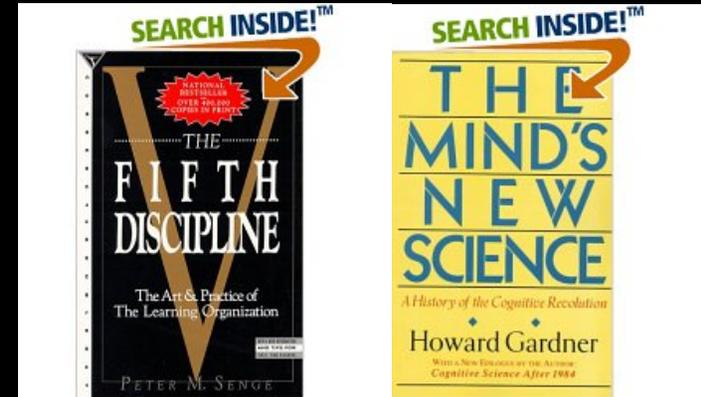
A game in which we must be able to diminish adversary's ability to communicate or interact with his environment while sustaining or improving ours.

- Scientific zeitgeist cont'd
  - Cybernetics
  - Open systems
  - Non-linearity/complexity: Complex Adaptive System
  - Cognitive science
  - Creativity
  - Organizational learning

Mental agility  
&  
Organizational agility

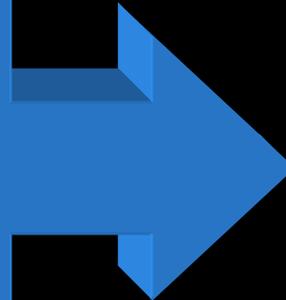


- a process of detecting and correcting error;
- the process by which knowledge about action-outcome relationships between the organization and the environment is developed;
- Occurs by encoding inferences from history into routines that guide behavior;
- occurs through shared insights, knowledge, and mental models [and] builds on past knowledge and experience – that is, on memory;
- Increases the range of potential behaviors.



# Organic design for Command and Control

Blitzkrieg/guerrilla warfare  
Maneuver conflict  
Interaction/isolation  
Cognitive sciences  
Organization theory  
Godel/Heisenberg etc  
Van Creveld



Leadership  
Organizational culture  
Organizational cohesion  
Organizational adaptability

Decentralized tactically  
Centralized strategically  
Cellular/network  
Implicit communication  
Optimized for local uncertainty  
Fostering innovation

- What is Strategy ?

Theme: uncertainty, conflict

- A **mental tapestry** of changing intentions for **harmonising and focusing our efforts** as a basis for realising some aim or purpose in an unfolding and often unforeseen world of many bewildering events and **many contending interests**.

- What is the Aim or Purpose of Strategy?

Theme: we need superior adaptability

- To **improve our ability to shape and adapt to unfolding circumstances**, so that we (as individuals or as groups or as a culture or as a nation-state) survive on our own terms.

- What is the Central Theme and What Are the Key Ideas that Underlie Strategy ?

- The central theme is **one of interaction/isolation** while the key ideas are the moral-mental-physical means toward realising this interaction/isolation.

Theme: prevent the opponent from doing so

- How Do We Play to this Theme and Activate these Ideas ?

- By an instinctive see-saw of **analysis and synthesis across a variety of domains**, or across competing/independent channels of information, in order to **spontaneously generate new mental images** or impressions that match-up with an unfolding world of uncertainty and change.

Theme: innovate, learn, constantly

## Tactics

- **Observe-Orient-decide-act more inconspicuously, more quickly, and with more irregularity** as basis to keep or gain initiative...to repeatedly and unexpectedly penetrate vulnerabilities and weaknesses.... .tie-up, divert, or drain-away adversary attention (and strength) elsewhere.

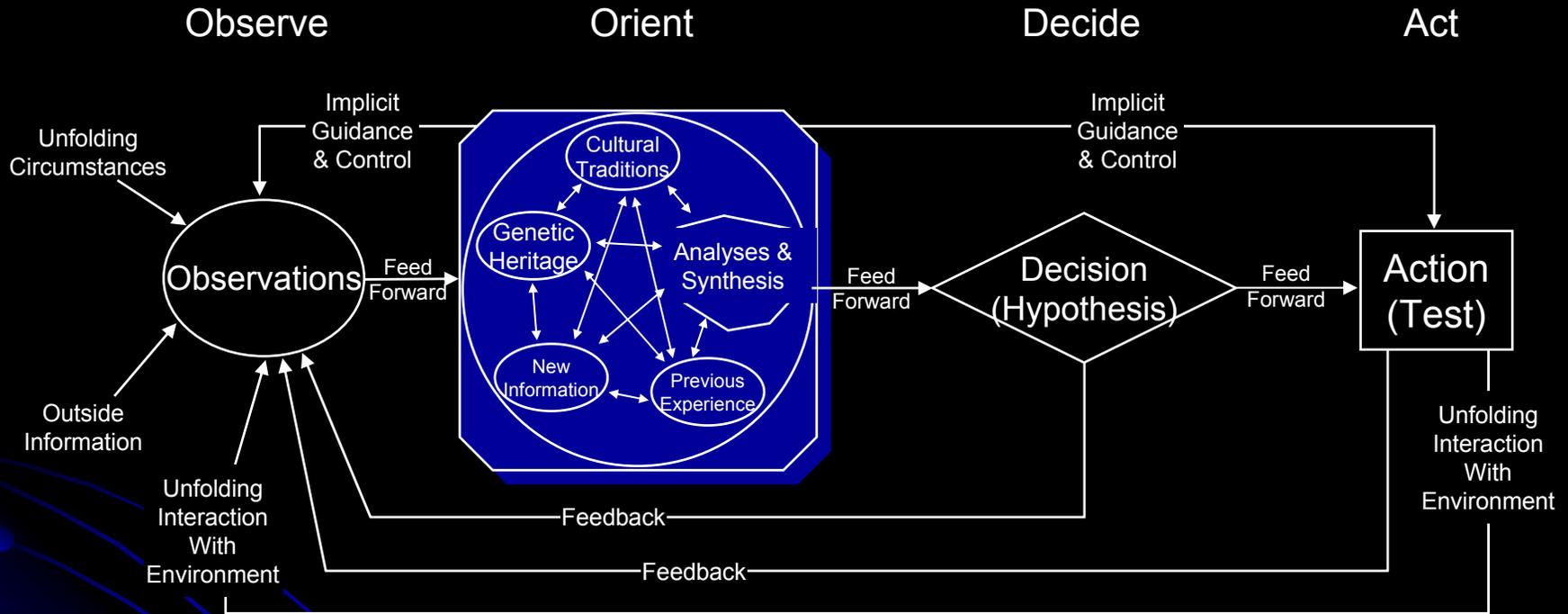
## Strategy

- **Penetrate adversary's moral-mental-physical being** to dissolve his moral fiber, **disorient his mental images**, disrupt his operations, and overload his system, as well as subvert, seize those moral-mental-physical bastions, connections, or activities that he depends upon, in order to **destroy internal harmony**, produce paralysis and collapse adversary's will to resist.

## Strategic Aim

- **Diminish adversary's capacity while improving our capacity to adapt as an organic whole, so that our adversary cannot cope while we can cope with events/efforts as they unfold.**

# Final corrective: The real OODA “Loop” Sketch



‘...the OODA loop sketch and related insights represent an evolving, open-ended, far from equilibrium process of self-organization, emergence and natural selection’

# Getting the full picture on Boyd's military thought: 'a theory of intellectual evolution and growth'

## A Discourse on Winning and Losing

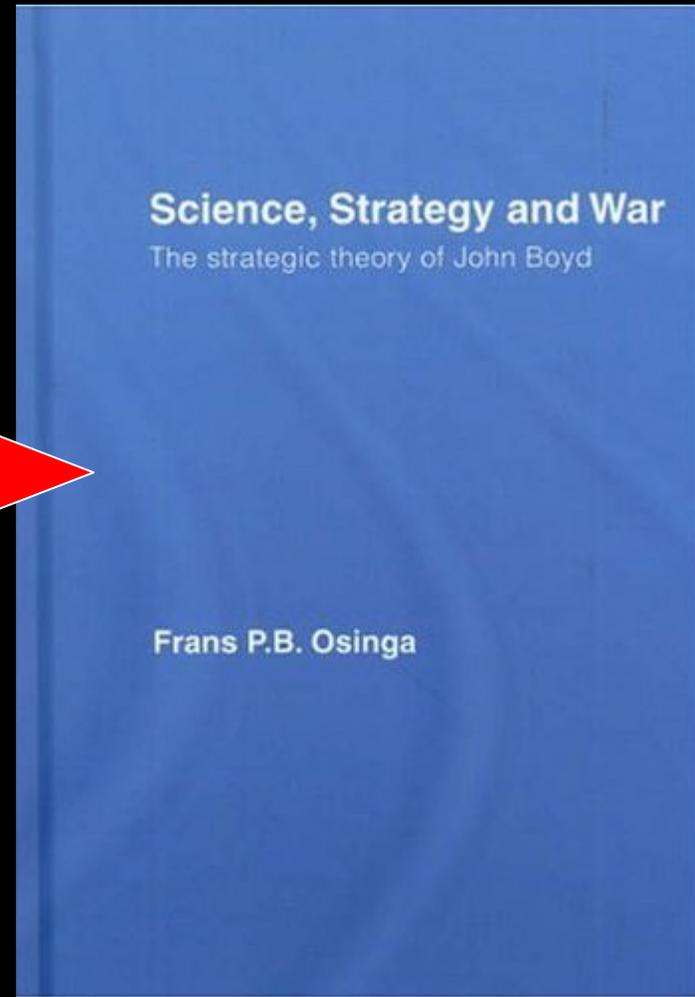
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- A redefinition of strategy
- A search for the essence of strategic interaction
- A plea for organizational learning and adaptability
- An argument on strategic thinking

# Questions?

- Buy the book
- And read it!



- Or email:  
[fransosinga@yahoo.com](mailto:fransosinga@yahoo.com)