

ORGANIC DESIGN

for

COMMAND AND CONTROL

10 Feb 82

John Byrd

IMPLICATIONS

- Need insight and vision, to unveil adversary plans and actions as well as "foresee" own goals and appropriate plans and actions.
- Need focus and direction, to achieve some goal or aim.
- Need adaptability, to cope with uncertain and everchanging circumstances.
- Need security, to remain unpredictable.

ELABORATION

- Why insight and vision? Without insight and vision there can be no orientation to deal with both present and future.
- Why focus and direction? Without focus and direction, implied or explicit, there can be neither harmony of effort nor initiative for vigorous effort.
- Why adaptability? Adaptability implies variety and rapidity. Without variety and rapidity one can neither be unpredictable nor cope with changing and unforeseen circumstances.
- Why security? Without security one becomes predictable, hence one loses the benefits of the above.

COMMENT

With these thoughts in mind let's take a look at some appropriate samples from the historical environment that will, as we shall see, prove useful before trying to evolve any operational philosophy or command and control concept.

SAMPLES FROM HISTORICAL ENVIRONMENT

- Sun Tzu (around 400 BC)

Shape enemy's perception of world to manipulate/undermine his plans and actions. Employ Cheng/Ch'i maneuvers to quickly and unexpectedly hurl strength against weaknesses.

- Bourcet (1764-71)

"A plan ought to have several branches. ... One should...mislead the enemy and make him imagine that the main effort is coming at some other part. And...one must be ready to profit by a second or third branch of the plan without giving one's enemy time to consider it."

- Napoleon (early 1800's)

"Strategy is the art of making use of time and space. I am less chary of the latter than the former. Space we can recover, time never. "...I may lose a battle, but I shall never lose a minute." "The whole art of war consists in a well reasoned and circumspect defense, followed by rapid and audacious attack."

- Clausewitz (1832)

Friction (which includes the interaction of many factors, such as uncertainty, psychological moral forces and effects, etc.) impedes activity. "Friction is the only concept that more or less corresponds to those factors that distinguish real war from war on paper." In this sense, friction represents the climate or atmosphere of war.

- Jomini (1836)

By free and rapid movements carry bulk of the forces (successively) against fractions of the enemy.

SAMPLES FROM HISTORICAL ENVIRONMENT (CONT'D)

- N.B. Forrest (1860's)

"Git thar the fustest with the mostest."

- Blumentritt (1947)

"The entire operational and tactical leadership method hinged upon...rapid, concise assessment of situations,...quick decisions and quick execution, on the principle: 'each minute ahead of the enemy is an advantage.' "

- Balck (1980)

Emphasis upon creation of implicit connections or bonds based upon trust, not mistrust, that permit wide freedom for subordinates to exercise initiative and imagination--yet harmonize within intent of superior commanders. Benefit: internal simplicity that permits rapid adaptability.

- Yours truly

Operate inside adversary's observation-orientation-decision-action loops as basis to destroy his cohesion or harmony, thereby deprive him of the opportunity to cope with events/efforts as they unfold.

KEY POINTS

- The atmosphere of war is friction.
- Friction is generated by menace, ambiguity, deception, mobility, uncertainty, mistrust, etc.
- Friction is diminished by implicit understanding, trust, cooperation, etc.
- In this sense, variety and rapidity tend to magnify friction, while harmony and initiative tend to diminish friction.

IN OTHER WORDS

- Variety/rapidity without harmony/initiative lead to confusion, disorder and ultimately to chaos.

on the other hand

- Harmony/initiative without variety/rapidity lead to (rigid) uniformity, predictability and ultimately to non-adaptability.

? - RAISES QUESTION - ?

- How do we generate harmony/initiative so that we can exploit variety/rapidity?

COMMENT

- We must look at those interactions that foster harmony and initiative--yet do not destroy variety and rapidity.

INTERACTIONS

Positive

Activities

- Radio transmission/reception
- Conversation/writing
- Operational Intelligence Center
- Teamwork
- Tradeoffs
- Hans Rudel

Linkages

- Common frequencies
- Common language
- Correlation among multiple sources
- Harmony of different efforts
- Inversely related characteristics
- Image of activities and changes thereto

Negative

- Compartmentation
- Non-cooperative centers of gravity
- Alienation
- Non-adaption
- Fixed recipe

- Disconnected bits and pieces
- Islands of disconnect
- Disconnected from other humans
- Disconnected from environment
- Disconnected from environment, but connected to some formality

INSIGHT

Interactions, as shown, represent a many-sided implicit cross-referencing projection, correlation, and rejection process.

SUSPICION

Seems as though this insight is related in some way to orientation, hence it...

? - RAISES THE QUESTION - ?

What do we mean by orientation?

MESSAGE

Orientation, as a result, represents those images, views, or impressions of the world shaped by genetic heritage, cultural tradition, previous experiences and unfolding circumstances.

? - RAISES ANOTHER QUESTION - ?

How are these images, views, or impressions created?

MESSAGE

Referring back to our previous discussion, we can say: Orientation, as an interactive process, represents a many-sided implicit cross referencing projection, correlation, and rejection that is shaped by and shapes the interplay of genetic heritage, cultural tradition, previous experiences, and unfolding circumstances.

ILLUMINATION

- Orientation is the driver or schwerpunkt. It shapes the way we interact with the environment--hence orientation shapes the way we observe, the way we decide, the way we act.

In this sense

- Orientation shapes the character of present observation-orientation-decision-action loops--while these present loops shape the character of future orientation.

IMPLICATION

- We need to create mental images, views, or impressions, hence patterns that match with activity of world.
- We need to deny adversary the possibility of uncovering or discerning patterns that match our activity, or other aspects of reality in the world.

ESSENTIAL IDEA

Patterns (hence, orientation), right or wrong or lack thereof, suggest ability or inability to conduct many-sided implicit cross-references.

? - RAISES QUESTION - ?

How do we set-up and take advantage of the many-sided implicit cross-referencing projection, correlation, rejection process that make appropriate orientation possible?

MESSAGE

Expose individuals, with different skills and abilities, against a variety of situations-- whereby each individual can observe and orient himself simultaneously to the others and to the variety of changing situations.

? - WHY - ?

In such a varied environment, a harmony, or focus and direction, in operations is created by the bonds of implicit communication and trust developed by repeatedly sharing the same experiences in the same ways.

BENEFICIAL PAYOFF

A command and control system, whose secret lies in what's unstated (explicitly) or not communicated to one another in order to diminish friction, compress time, and exploit initiative at all levels, thereby gain both quickness and security.

? - RAISES QUESTION - ?

What happens if we cannot establish implicit connections or bonds as basis to cope with
a many-sided uncertain and everchanging environment?

ILLUMINATION

- The previous discussion assumes interaction with both the external and internal environment. Now, let us assume, for whatever reason or combination of circumstances, that we design a command and control system that hinders interaction with external environment. This implies a focus inward, rather than outward.
- Picking up on this idea, we observe from Darwin that:
 - The environment selects.
 - Ability or inability to interact and adapt to existencies of environment select one in or out.
- Furthermore, according to The Gödel Proof, The Heisenberg Uncertainty Principle, and The Second Law of Thermodynamics:
 - One cannot determine/ascertain the character or nature of a system via self reference (i.e., within itself).
 - Moreover, attempts to do so lead to confusion and disorder. Why? Because in the "real world" the environment intrudes (my view).
- Now, by applying the ideas of Darwin, the Second Law, Heisenberg, and Gödel to Clausewitz one can see that:

He who can generate many non-cooperative centers of gravity magnifies friction. Why? Many non-cooperative centers of gravity do not permit, or at least restrict, interaction and adaptability, thereby they lead to a form of self reference, which in turn generates confusion and disorder, which impedes vigorous or directed activity, hence, by definition, magnifies friction (or entropy).

POINT

- Any command and control system that forces adherents to look inward, leads to dissolution/disintegration (i.e., system comes unglued).

IN A MUCH LARGER SENSE

- Without implicit bonds or connections, there can be neither harmony nor individual initiative within a collective entity, therefore, no way that such an organic whole can stay together and cope with a many-sided uncertain and everchanging environment.

or equivalently

- Without implicit bonds or connections, we magnify friction, produce paralysis, and get system collapse.

INSIGHT

The key idea is to emphasize implicit over explicit in order to gain a favorable mismatch in friction and time (i.e., ours lower than any adversary), for superiority in shaping and adapting to circumstances.

? - RAISES QUESTION - ?

How do we do this?

MESSAGE

- Suppress tendency to build-up explicit internal arrangements that hinder interaction with external world.

Instead

- Arrange circumstances so that leaders and subordinates alike are given opportunity to interact with external world in order to increase their ability to quickly make many-sided implicit cross-referencing projections, correlations, and rejections (i.e., implicit orientation) as well as form implicit connections or bonds among members of an organic whole.

? Why ?

- Implicit orientation will permit commanders and subordinates alike to:
 - Diminish friction and reduce time, thereby permit them to:
 - Exploit variety/rapidity while maintaining harmony/initiative, thereby permit them to:
 - Get inside adversary's O-O-D-A loops, thereby:
 - Magnify adversary's friction and stretch-out his time for a favorable mismatch in friction and time, thereby:
 - Deny adversary the opportunity to cope with events/efforts as they unfold.

CIRCLING BACK

If we go back to the beginning we can see that implicit orientation shapes the character of:

- Insight and Vision
- Focus and Direction
- Adaptability
- Security