

ORGANIC DESIGN

for

COMMAND AND CONTROL

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THE TITLE CHART PROVOKES A COUPLE QUESTIONS:

- Why the focus on C&C?
- What do we mean by organic design?

FAILURES

The past few years have seen the fiascos associated with Nifty-Nugget and Proud Spirit C&C exercises together with the real world fiascos epitomized by the evacuation of Saigon, Desert I and others.

RESPONSE

The institutional response for overcoming these fiascos is: more communications, more and better computers, more and better display devices, more satellites, more and better fusion centers, etc.-- all tied into one giant fully informed, fully capable C&C system. This way of thinking emphasizes hardware as the solution.

ANOTHER WAY

I think there is a different way--a way that emphasizes the implicit nature of human beings. In this sense, the following discussion will uncover what we mean by both implicit nature and organic design.

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 defensive, 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 and magnified by menace, ambiguity, deception, rapidity, uncertainty, mistrust, etc.
- Friction is diminished by implicit understanding, trust, cooperation, simplicity, focus, 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 uncover 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 Rude1

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-adaptation
- Fixed recipe

- Disconnected bits and pieces
- Islands of disconnected effort
- 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 process of projection, correlation, and rejection.

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, seen as a result, represents 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 is an interactive process of many-sided implicit cross-referencing projections, correlations, and rejections that is shaped by and shapes the interplay of genetic heritage, cultural tradition, previous experiences, and unfolding circumstances.

ILLUMINATION

- Orientation is the 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 process of projection, correlation, rejection 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 an 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 variety of experiences in the same ways.

BENEFICIAL PAYOFF

A command and control system, whose secret lies in what's unstated or not communicated to one another (in an explicit sense) 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 exigencies 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 the character or nature of a system 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 within a system restrict interaction and adaptability of system with its surroundings, thereby leading to a focus inward (i.e., within itself), 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 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, correlations, and rejections (i.e., implicit orientation) as well as create the implicit connections or bonds necessary to form an organic whole.

? Why ?

- Implicit orientation will permit commanders and subordinates alike to:
 - Diminish their 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 TO THE BEGINNING

- We can see that implicit orientation shapes the character of:
 - Insight and Vision
 - Focus and Direction
 - Adaptability
 - Security

IMPLICATION

- Since a first rate command and control system should possess above qualities, any design or related operational methods should play to and expand, not play down and diminish, implicit orientation.

COMMENT

Up to this point we have shown orientation as being a critical element in command and control--implying that without orientation there is no command and control worthy of the name.

? - RAISES QUESTION - ?

What do we mean by command and control?

BACKGROUND

Before attempting to respond to this question let us take a look at some historical snapshots (provided by Martin Van Creveld as well as myself) that may help in this regard. They are:

- Napoleon's use of Intelligence/Reconnaissance and General Staff
- Moltke's message "directives" of few words
- British tight control at this Battle of the Somme in 1916
- Patton's "household cavalry"
- My use of "legal eagle" and comptroller at NKP.

? - RAISES QUESTION - ?

Where does this lead us?

EPITOME OF "COMMAND AND CONTROL"

Nature

- Command and control must permit one to direct and shape what is to be done as well as permit one to modify that direction and shaping by assessing what is being done.

What does this mean?

- Command must give direction in terms of what is to be done in a clear unambiguous way. In this sense, command must interact with system to shape character or nature of that system in order to realize what is to be done;

whereas

- Control must provide assessment of what is being done also in a clear unambiguous way. In this sense, control must not interact nor interfere with system but must determine (not shape) the character/nature of what is being done.

Implication

- Direction and shaping, hence "command", should be evident while assessment and determination, hence "control", should be invisible and should not interfere--otherwise "command and control" does not exist as an effective means to improve our fitness to shape and cope with unfolding circumstances.

ILLUMINATION

- Reflection upon the statements associated with the Epitome of "Command and Control" leave one unsettled as to the accuracy of these statements. Why? Command, by definition, means to direct, order, or compel while control means to regulate, restrain, or hold to a certain standard as well as to direct or command.
- Against these standards it seems that the command and control (C&C) we are speaking of is different than the kind that is being applied. In this sense, the C&C we are speaking of seems more closely aligned to leadership (rather than command) and to some kind of monitoring ability (rather than control) that permits leadership to be effective.
- In other words, leadership with monitoring, rather than C&C, seems to be a better way to cope with the multi-faceted aspects of uncertainty, change, and stress. On the other hand, monitoring, per se, does not appear to be an adequate substitute for control. Instead, after some sorting and reflection, the idea of appreciation seems better. Why? First of all, appreciation includes the recognition of worth or value and the idea of clear perception as well as the ability to monitor. Moreover, next, it is difficult to believe that leadership can even exist without appreciation.
- Pulling these threads together suggests that appreciation and leadership offer a more appropriate and richer means than C&C for shaping and adapting to circumstances.

? - RAISES QUESTION - ?

Where does this lead us?

APPRECIATION AND LEADERSHIP

Nature

- Appreciation and leadership must permit one to discern, direct and shape what is to be done as well as permit one to modify the direction and shaping by assessing what is being done or about to be done (by friendlies as well as adversaries.)

What does this mean?

- Appreciation, as part of leadership, must provide assessment of what is being done in a clear unambiguous way. In this sense, appreciation must not interact nor interfere with system but must discern (not shape) the character/nature of what is being done or about to be done;

whereas

- Leadership must give direction in terms of what is to be done also in a clear unambiguous way. In this sense, leadership must interact with system to shape character or nature of that system in order to realize what is to be done.

Implication

- Assessment and discernment should be invisible and should not interfere with operations while direction and shaping should be evident to system--otherwise appreciation and leadership do not exist as an effective means to improve our fitness to shape and cope with unfolding circumstances.

SUSPICION

The previous discussion suggests that the title "Organic Design for Command and Control" is not appropriate.

? - WHY - ?

C&C represents a top-down mentality applied in a rigid or mechanical (or electrical) way that ignores as well as stifles the implicit nature of human beings to deal with uncertainty, change, and stress. (Examples: The Battle of the Somme, Evacuation of Saigon, the Mayaguez Affair, Desert I, Nifty Nugget and Proud Spirit C&C exercises, etc.).

RESOLUTION

With these thoughts in mind, I suggest that the following title more clearly reflects the spirit and content of this presentation.

APPRECIATION AND LEADERSHIP