

ANNOUNCEMENT



Lecture and Discussion for
Faculty and Doctoral Students

*“New concepts from Military Doctrine
for Management Decision Making”*

Subtitle - Causing Chaos

Dr. Chet Richards, Lockheed Aeronautical
Systems Company

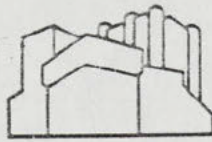
Thursday, June 30

3:00 - 4:00 pm

6th Floor Conference Room
10 Park Place South

Sponsored by: Decision Sciences

Join us for coffee afterwards in the
Department's Office, 5th floor,
10 Park Place South



Georgia State University

University Plaza • Atlanta, Georgia 30303

department of decision sciences

July 1, 1988

Dr. C. W. Richards
[REDACTED]

Dear Chet:

Your presentation to our departmental seminar, "War, Chaos, and Business" was an extremely stimulating experience for all of us. I appreciate your taking the time to visit with us and trust that we will have the opportunity to work with you in the future.

As I told you following your presentation, I feel that the concepts that you shared with us will help enrich our understanding of the managerial problem solving and decision making process. As you know, a university thrives on the exploration of new ideas. You have given us a wealth of new material to ponder and possibly incorporate into our discipline. On top of all of this, the entertainment^{value} of your presentation topped anything we have seen in our seminar series in recent years. We enjoyed it immensely.

Please call on me if I may return the favor.

Best Wishes,

C. Dwight Tabor, Jr., Chairman
Decision Sciences Department

CDT:sg

NOTES ON STRATEGY: PART 1 "THE WHAT"

WHERE DO ISSUES COME FROM?

ISSUES → PROCESS → VALUES

EXAMPLE: DIVAD ANTI-AIRCRAFT GUN

ISSUE: DIVAD → PROCESS: Buy, then test → VALUES:

BEST FOR OUR BOYS?
THE THREAT?
THE THREAT DRIVES
THE BUDGET?

RAISES THE QUESTION:

WHAT ARE THE UPPERMOST VALUES?

WHAT SHOULD THEY BE?

VALUES → PROCESS → ISSUES

EXAMPLE: DEVELOPMENT OF \$44 BILLION OVERRUN ISSUE

VALUE: →
NATIONAL SECURITY
IS IMPOSSIBLE IF
PROTECTING THE
BUREAUCRATIC MONEY
FLOW IS MORE
IMPORTANT THAN
PROTECTING THE
COUNTRY

PROCESS: →
NEED TO OVERHAUL
PENTAGON BUDGETING
AND PLANNING TO
HIGHLIGHT OUTPUT
OVER INPUT, NEEDS
OVER DESIRES

ISSUES:
EXPOSE THE MISSING
\$44 BILLION; POINT
OUT THE DISCONNECT
BETWEEN MONEY COMING
IN AND MONEY GOING
OUT.

WHAT THE STRATEGY IS NOT: ISSUES IN ISOLATION FROM PROCESS
OR VALUES, PROCESS IN ISOLATION FROM VALUES, "NUTS AND
BOLTS", SIMPLE MANAGEMENT REFORM.

WHAT THE STRATEGY IS: A WAY TO USE BENS' LIMITED STRENGTH
AND RESOURCES TO CHANGE THE CONTEXT OF PUBLIC UNDERSTANDING.
A WAY TO MAXIMIZE THE STRESS ON THE INADEQUATE CURRENT
NATIONAL SECURITY PARADIGM, AN APPROACH TO REDEFINING
NATIONAL SECURITY.

NOTES ON STRATEGY: PART 2, "THE HOW"

PRINCIPLE:

- FOR BENS TO DO, RATHER THAN TO SIMPLY SAY, THE "HOW" OF STRATEGY MUST ALWAYS BE LINKED WITH THE "WHAT" OF STRATEGY.
 - HOW CAN BENS PLACE STRESS ON THE NATIONAL SECURITY PARADIGM AND LEAD THE WAY TO THE REDEFINITION OF NATIONAL SECURITY?
1. CHALLENGE THE PARADIGM (CONTEXT OF UNDERSTANDING) FROM PERSPECTIVES OUTSIDE IT THAT ARE FACTUAL, POWERFUL, AND APPEALING (EG, WHY DO MORE \$ BRING LOWER OUTPUT AT DOD?)
 2. SHOW HOW WIDELY HELD VALUES CONFLICT WITH THE CURRENT SYSTEM: "MOTHERHOOD" ISSUES LIKE WARRANTIES, COMPETITION, I, Q, E.
 3. CONTRAST THE VALUES THE SYSTEM SAYS IT ESPOUSES WITH THOSE IT ESPOUSES IN PRACTICE, WHERE DIFFERENCES EXIST: "MISMATCH" ISSUES-"BUILD-UP" VS. "SPEND-UP", BUDGET CONSTRAINTS VS. MISSING \$44 BILLION.
 4. BE CRITICAL BUT CONCRETE IN CALLING FOR AN EFFECTIVE AFFORDABLE DEFENSE (EG, INDEPENDENT TESTING AND EVALUATION).
 5. EMPHASISE THE PARADIGM'S PROBLEMS IN ITS REAL WORLD PHYSICAL ENVIRONMENT. PUSH FOR PROOF OVER ASSERTION, PERFORMANCE OVER PROMISE, OUTPUT OVER INPUT.
 6. AVOID GETTING LABELLED INSIDE THE OLD CONTEXT. STAY OUT OF GRIDLOCKED ARGUMENTS, FIXED DEBATES.
 7. HIGHLIGHT AREAS OF BUSINESS EXPERTISE AND BENS INFORMATION.

WEIGH ISSUE POSITION FOR THEIR ACCESS TO THE PARADIGM'S VULNERABILITIES AND THEIR POTENTIAL FOR LEVERAGE BY BENS.

RAISES THE QUESTION:

HOW DO WE EXERT LEVERAGE?

EXERTING LEVERAGE

1. ISOLATE ADVERSARIES. THE POLITICAL TERRAIN IS "US", "THEM", AND "THE PEOPLE". WE WIN HEARTS AND MINDS BY ISOLATING "THEM" FROM "THE PEOPLE" THROUGH, FOR EXAMPLE, PUTTING "THEM" AT THE UNFAVORABLE END OF "MOTHERHOOD" AND "MISMATCH" ISSUES.
2. ATTRACT THE UNCOMMITTED. FOR EXAMPLE, BY PUTTING "US" AT THE FAVORABLE END OF "MOTHERHOOD" AND "MISMATCH" ISSUES.
3. CONSOLIDATE SUPPORT. FOR US, THIS IS THE BUSINESS COMMUNITY. WE STRESS ISSUE AREAS WHERE WE HAVE GENUINE AUTHORITY AND EXPERTISE TO MAINTAIN OUR SUPPORT AND GET OTHERS TO FOLLOW US.

OPERATIONAL CONSIDERATIONS

1. A VARIETY OF ISSUES CRYSTALLIZING MISMATCHES.
2. RAPID ACTION. IN AND OUT FASTER THAN ADVERSARIES.
3. HARMONY OF ISSUES. AVOID CREATING OWN MISMATCHES.
4. ALWAYS SPECIFIC INITIATIVES: LEGISLATION, ACTION BY THE PRESIDENT, COURT DECISIONS.

THEREFORE, HOW DO WE LOOK AT ISSUES?

1. IS THE ISSUE SUPPORTED BY OTHER ISSUES?
2. DOES IT SUPPORT THE STRATEGY IN GENERAL?
3. DOES IT HAVE A PAYOFF IN CHANGING THE PROCESS AND VALUES (PARADIGM) OF NATIONAL SECURITY?

NEW ISSUES?

1. HAVE AVAILABLE THE NECESSARY TECHNICAL & POLITICAL EXPERTISE (RESOURCES).
2. STRATEGIZE IN ADVANCE ON DESIRED PAYOFFS -- FOR POLICY AND FOR BENS ITSELF.
3. MAKE ANY NEW POSITIONS COHERENT WITH EXISTING POSITIONS (NO BENS MISMATCHES).
4. EXPRESS NEW POSITIONS IN COMPELLING, NON-DIVISIVE WAYS.

WAR, CHAOS, AND BUSINESS:

RESULTS FROM THE NEW
PHILOSOPHY OF WAR

WITH CONJECTURES CONCERNING
THE WORLD OF BUSINESS

DR. CHET RICHARDS

CHAOS

NOT SO MUCH AS A FACT OF NATURE BUT AS SOMETHING
DELIBERATELY GENERATED BY ONE SIDE IN THE MIND OF
THE OTHER.

NATURE OF WAR

IS IT: $\text{POWER} = (\text{WEAPONS}) \times (\text{EFFECTIVENESS})?$

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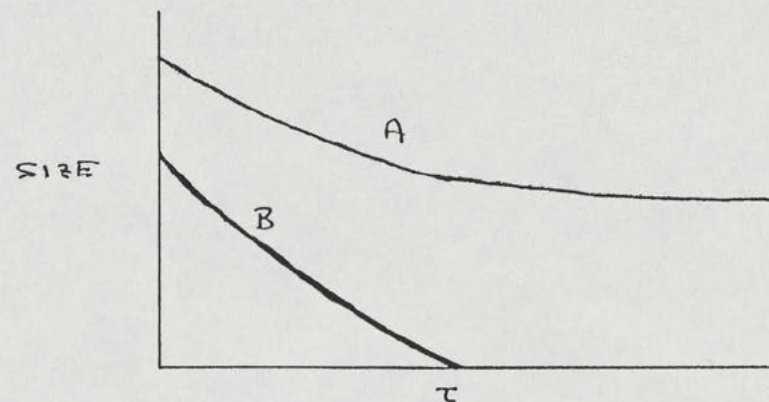
TRADITIONAL MODELS OF COMBAT

AT THE HEART OF PRACTICALLY EVERY "SIMULATION" OF
COMBAT LIES THE LANCHESTER SQUARE LAW:

$$dA/dt = -b * B(t)$$

$$dB/dt = -a * A(t)$$

WHICH LEADS TO:



QUESTION: WHY DOES THE LOSING FORCE JUST
SIT THERE AND TAKE IT?

QUITE OFTEN THE SMALLER
FORCE WINS

MONGOLS VS. RUSSIA, CHINA, ETC	1220 - 60
GERMANY VS. FRANCE & ENGLAND	1940
ISRAEL VS. ARAB STATES	1947 - 73
VIETNAM VS. UNITED STATES	1958 - 75
AFGHANISTAN VS. USSR	1980 - 88
CHAD VS. LIBYA	1987

QUESTION: COINCIDENCE OR ???

PERHAPS LANCHESTER DOES NOT
DESCRIBE REAL WAR?

"ALL WARFARE IS BASED UPON DECEPTION." -- SUN TZU, C. 500 BC

"FRICITION IS THE ONLY CONCEPT THAT ... DISTINGUISHES
REAL WAR FROM WAR ON PAPER. -- CLAUSEWETZ, 1830.

"FLOAT LIKE A BUTTERFLY, STING LIKE A BEE" -- MUHAMMED ALI,
C. 1965

SUCCESS IN WAR

APPEARS TO DEPEND MORE ON OUT-THINKING AN OPPONENT
THAN ON OVERPOWERING HIM.

QUESTION: HOW TO DO THIS, GIVEN

1. $IQ(\text{ours}) = IQ(\text{theirs})$
2. WE CANNOT (ACCURATELY) PREDICT THE FUTURE.

RESULTS FROM MILITARY PHILOSOPHY

TO WIN:

1. SIMULTANEOUSLY APPEAR MENACING AND AMBIGUOUS

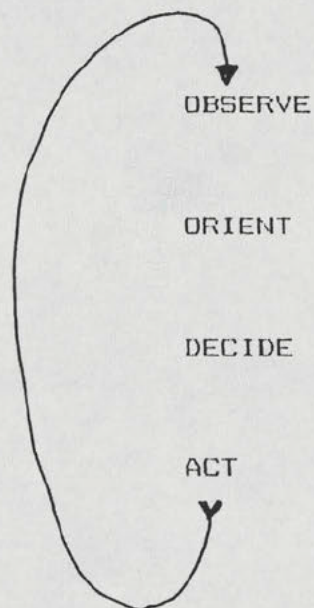
BY

2. STRESSING INTELLIGENCE AND SECURITY

WHILE

3. OPERATING AT A FASTER DECISION TEMPO THAN YOUR
OPPONENT.

DECISION TEMPO AND AGILITY



J.R. BOYD,
"PATTERNS"

FUNDAMENTAL OBSERVATIONS OF
AGILITY THEORY

1. GIVEN TWO SYSTEMS IN A ZERO-SUM SITUATION WITH SURVIVAL OR SURVIVAL-ON-OWN-TERMS AT STAKE, THEN THE SYSTEM THAT EXECUTES ITS OODA LOOP MORE RAPIDLY WILL BEGIN TO APPEAR AMBIGUOUS TO ITS OPPONENT.
2. IF THIS CONTINUES, THE RESULT WILL BE TO "GENERATE UNCERTAINTY, CONFUSION, DISORDER, PANIC, CHAOS, ... TO SHATTER COHESION, PRODUCE PARALYSIS, AND BRING ABOUT COLLAPSE" OF THE LESS AGILE SYSTEM.

BOYD, op. cit.

SECOND IMPRESSION

Transients

- Observe, Orient, Decide and Act more inconspicuously, more quickly, and with more irregularity...

or put another way

- Operate inside adversary's Observation-Orient-Decision-Action loops or get inside his Mind-Time-Space.

Permits
one to

Intentions

- Probe and test adversary to unmask strengths, weaknesses, maneuvers, and intentions.
- Employ a variety of measures that interweave menace-uncertainty-mistrust with tangles of ambiguity-deception-novelty as basis to sever adversary's moral ties and disorient...
- Select initiative (or response) that is least expected.
- Establish focus of main effort together with other effort and pursue directions that permit many happenings, offer many branches, and threaten alternative objectives.
- Move along paths of least resistance (to reinforce and exploit success).
- Exploit, rather than disrupt or destroy, those differences, frictions, and obsessions of adversary organism that interfere with his ability to cope...
- Subvert, disorient, disrupt, overload, or seize adversary's vulnerable, yet critical, connections, centers, and activities...in order to dismember organism and isolate remnants for mop-up or absorption.
- Generate uncertainty, confusion, disorder, panic, chaos,...to shatter cohesion, produce paralysis and bring about collapse.
- Become an extraordinary commander.

PATHOLOGY OF CLOSEDNESS

1. 2ND LAW OF THERMODYNAMICS

$$S = B * \ln(W)$$

2. HEISENBERG UNCERTAINTY PRINCIPLE

$$\Delta P * \Delta Q \geq h_v$$

3. GÖDEL'S THEOREM

BOYD OBSERVES THAT THE LESS AGILE SYSTEM BEGINS TO ACT "CLOSED" WITH RESPECT TO THE MORE AGILE, AND AN ANALOG OF ENTROPY -- THE FAMOUS FOG OF WAR -- BEGINS TO GROW WITHIN IT.



National Lampoon,
August 1988

INCORPORATION INTO MILITARY DOCTRINE

"AGILITY--THE ABILITY OF FRIENDLY FORCES TO ACT FASTER THAN THE ENEMY--IS THE FIRST PREREQUISITE FOR SEIZING AND HOLDING THE INITIATIVE."

US ARMY FIELD MANUAL 100-5,
OPERATIONS, MAY 1986, P. 16

THE PURPOSE OF TIMING AND TEMPO IS TO "DOMINATE THE ACTION, REMAIN UNPREDICTABLE, AND CREATE UNCERTAINTY IN THE MIND OF THE ENEMY."

US AIR FORCE MANUAL 1-1,
BASIC DOCTRINE, MARCH 1984,
P. 2-8.

HOW TO TELL IT'S WORKING--
WAR

1. VEHICLES OR COURIERS BLUNDERING INTO YOUR LINES
2. SHELLING OF YOUR LAST POSITION AFTER YOU LEFT
3. SURRENDER AFTER TOKEN RESISTENCE
4. RATIONS STILL BEING COOKED

--GENERAL JAMES H. POLK, "THE
CRITICALITY OF TIME IN
COMBAT," ARMOR, 5/6, 1988

IN OTHER WORDS, MURPHY'S LAW RUNS RAMPANT

HOW TO TELL IT'S WORKING--
BUSINESS

PROMISED PRODUCTS ARE CONSISTENTLY LATE

TURNOVER HIGH THROUGHOUT THE ORGANIZATION

CONTINUAL REORGANIZATIONS DECREED FROM ABOVE

DEMANDS FOR GOVERNMENT INTERVENTION

VIGOROUS DEFENSE OF PERQS

BLAMING THE CUSTOMER

SEARCH FOR OTHER EXTERNAL SCAPEGOATS

EMPHASIS ON THE INTERNAL, E.G., PROCEDURES, STYLE MANUALS

WITCH HUNTS--SEARCH FOR INTERNAL SCAPEGOATS

STEADY STREAM OF STATEMENTS DENYING THERE'S A PROBLEM

IN SUMMARY...

RECENT WORK BY THEORISTS IN THE DEFENSE DEPARTMENT SUGGESTS THAT AGILITY IS A FUNDAMENTAL DETERMINANT OF BEING ABLE TO OUT THINK AN OPPONENT OR COMPETITOR.

IN PARTICULAR, CHAOS, DISHARMONY, AND DYSFUNCTIONAL BEHAVIOURS WILL BEGIN TO OCCUR WITH INCREASING FREQUENCY IN THE LESS AGILE OPPONENT.

EXPERIENCE SUGGESTS THAT THESE RESULTS ARE EQUALLY APPLICABLE TO THE WORLD OF BUSINESS.

TOPICS FOR RESEARCH

1. CAN ANY OF THIS BE EXPERIMENTALLY VERIFIED?
2. CAN MATHEMATICAL RELATIONSHIPS BETWEEN SUCH VARIABLES AS RAPIDITY OF EXECUTION OF OODA LOOPS AND "QUALITY OF DECISION MAKING" BE DERIVED?
3. HOW WELL DOES THE ENTROPY ANALOGY HOLD UP? CAN ITS GROWTH IN AN ORGANIZATION BE SIMULATED?
4. ARE THERE QUANTIFIABLE WAYS TO MEASURE HOW "CLOSED" A BUSINESS, FOR EXAMPLE, IS WITH RESPECT TO A COMPETITOR? IN PARTICULAR, CAN WE LOOK AT AN ORGANIZATION AND PREDICT HOW IT WILL HOLD UP UNDER THE TYPE OF CHALLENGES DESCRIBED IN THIS SEMINAR?

MORE RESEARCH TOPICS

5. WHAT DOES ALL THIS SAY ABOUT RESOURCE ALLOCATION DECISIONS?