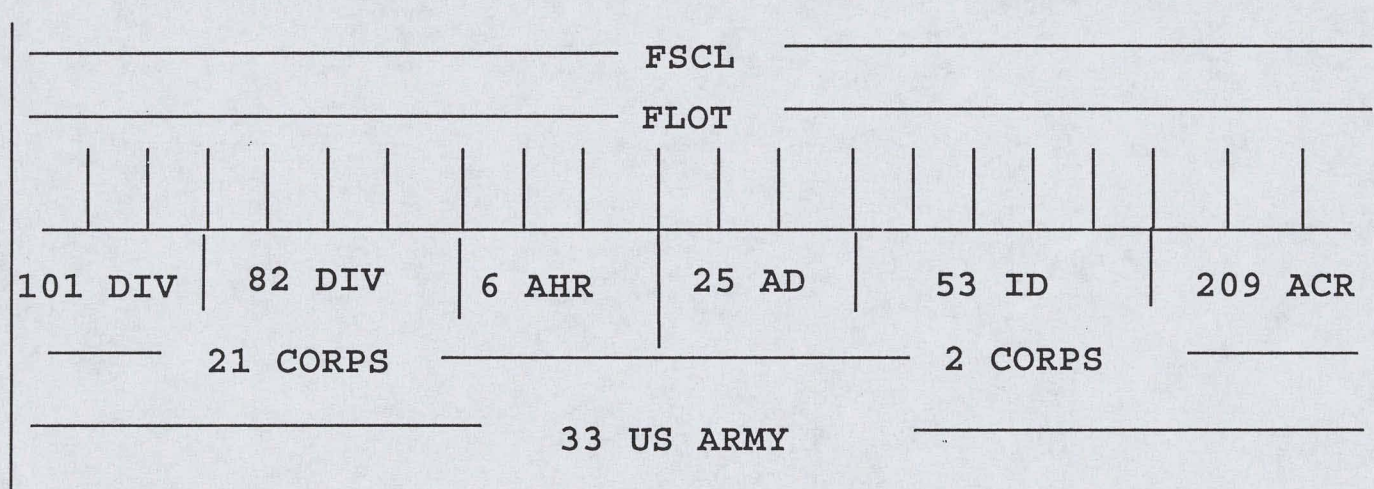


BATTLEFIELD PERSPECTIVES

Enclosure (2)

GROUND PERSPECTIVE OF THE BATTLEFIELD



JFACC PERSPECTIVE OF THE BATTLEFIELD



Figure 1

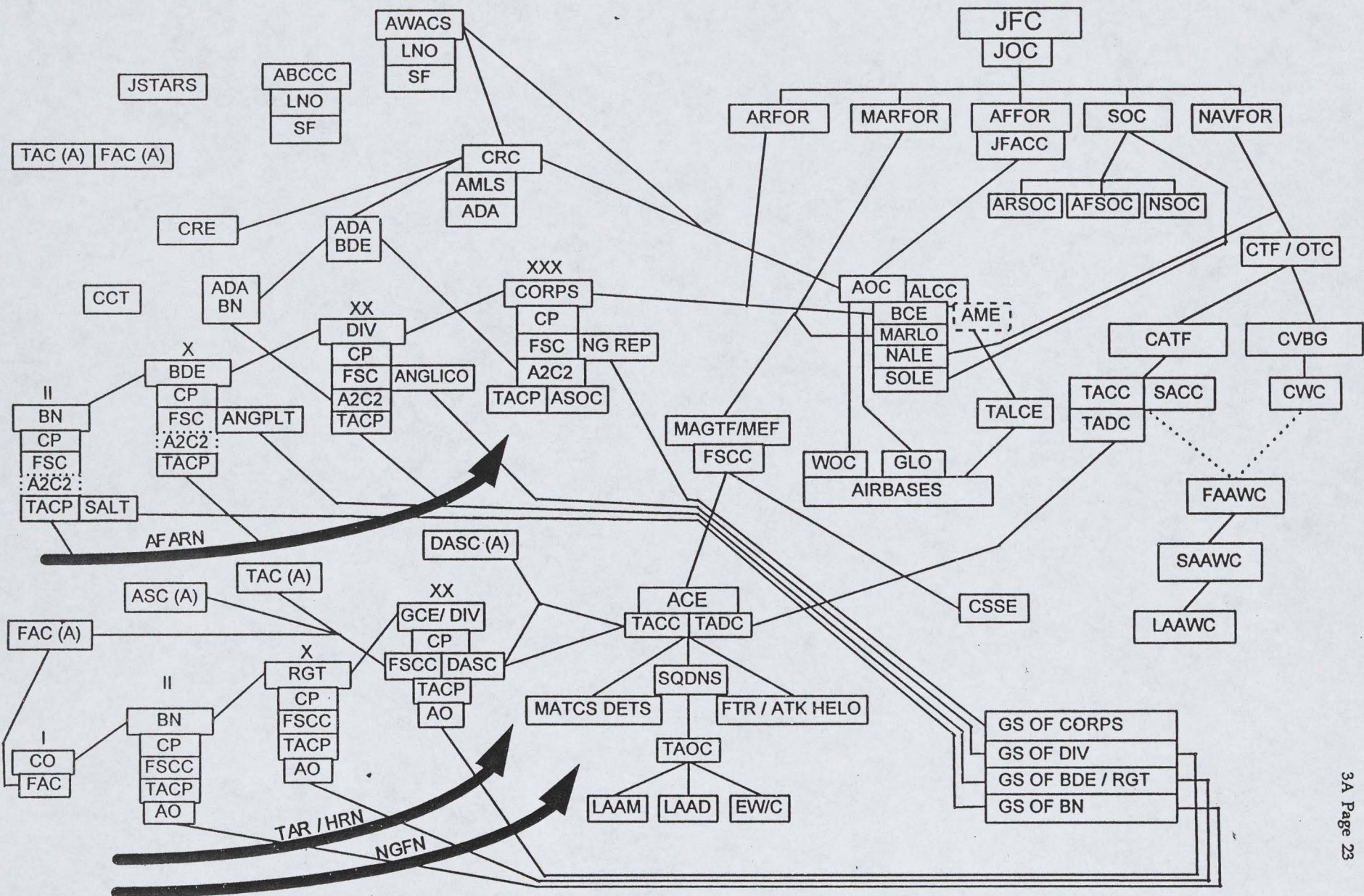


Figure (2)

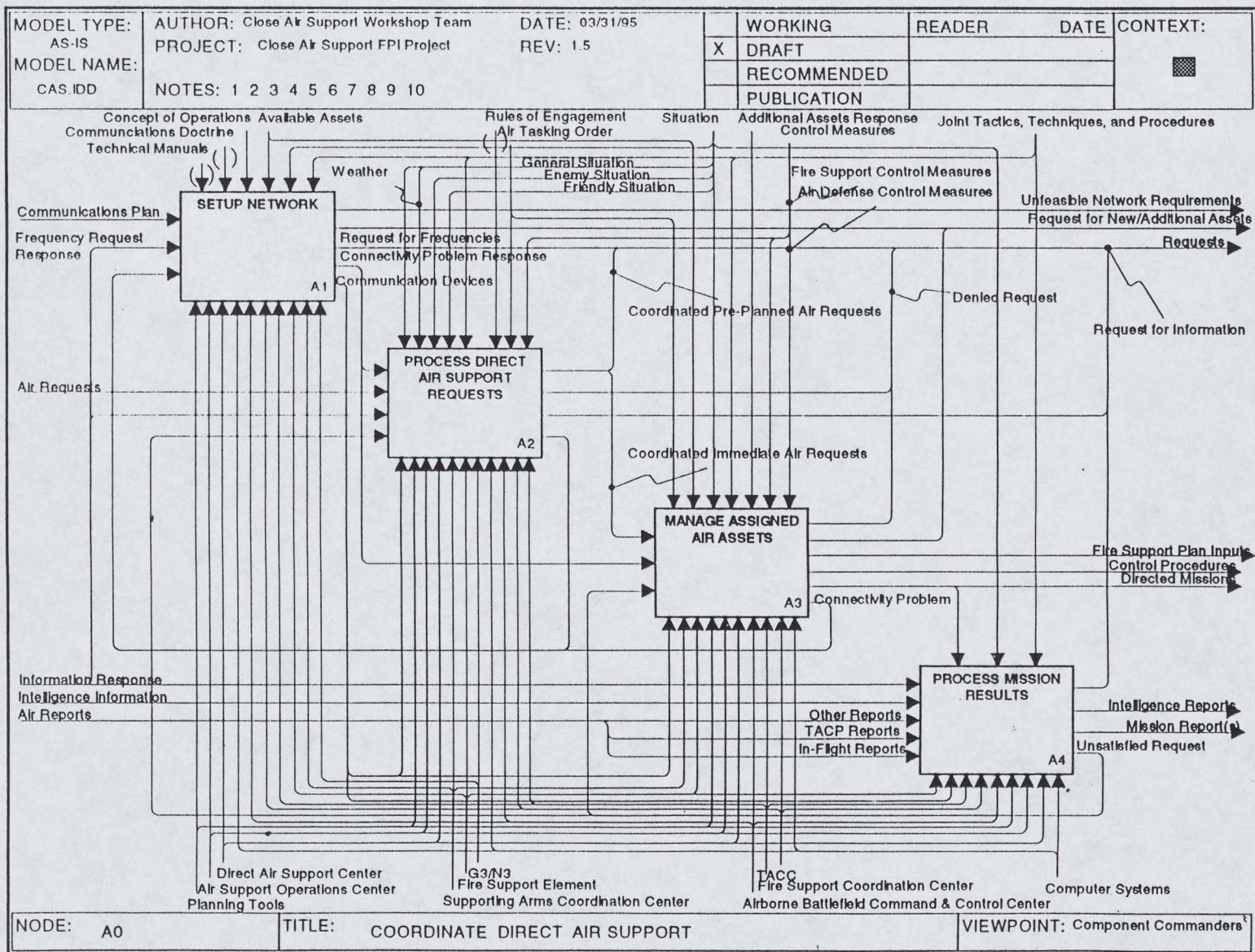
JOINT AIR OPERATIONS

Functional Process Improvement Direct Air Support Workshop AS-IS Activity Model Report

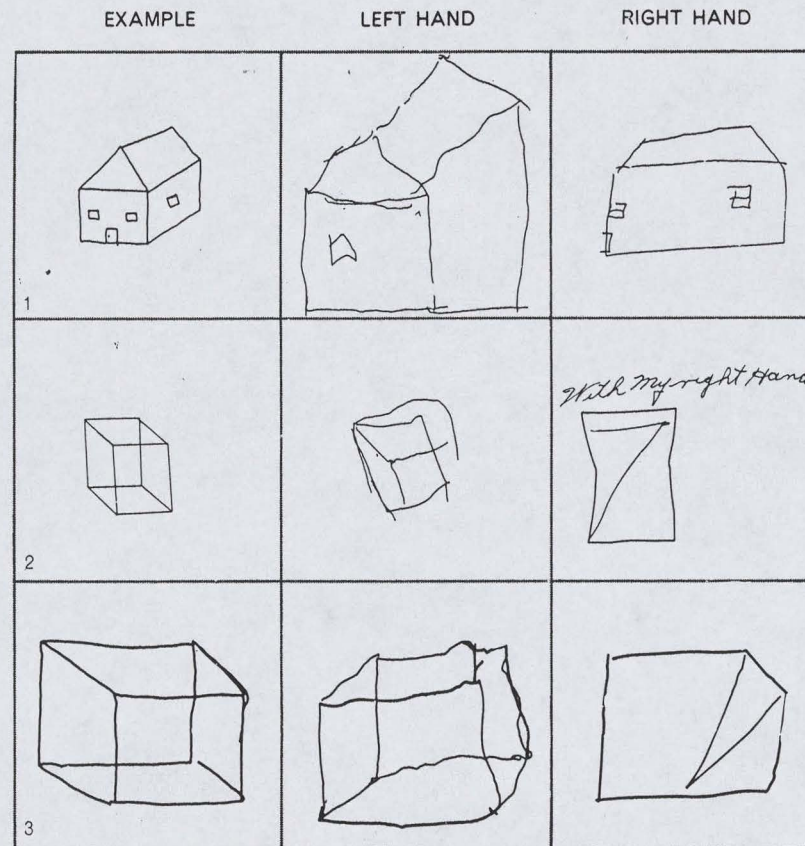


Sponsored by: OSD and Joint Staff

Figure set 3



411
1274



"Visual-constructional" tasks are handled better by the right hemisphere. This was seen most clearly in the first patient, who had poor ipsilateral control of his right hand. Although righthanded, he could copy the examples only with his left hand.

"I don't know . . . nothing . . . oh—that funny machine." Although the right hemisphere could not describe what it had seen, the sight nevertheless elicited an emotional response like the one evoked from the left hemisphere.

Taken together, our studies seem to demonstrate conclusively that in a split-brain situation we are really dealing with two brains, each separately capable of mental functions of a high order. This implies that the two brains should have twice as large a span of attention—that is, should be able to handle twice as much information—as a normal whole brain. We have not yet tested this precisely in human patients, but E. D. Young and I have found that a split-brain monkey can indeed deal with nearly

Figure (5)

Split-brain monkeys can handle more visual information than normal animals. When the monkey pulls a knob (1), eight of the 16 panels light momentarily. The monkey must then start at the bottom and punch the lights that were lit and no others (2). With the panels lit for 600 milliseconds normal monkeys get up to the third row from the bottom before forgetting which panels were lit (3). Split-brain monkeys complete the entire task with the panels lit only 200 milliseconds. The monkeys look at the panels through filters; since the optic chiasm is cut in these animals, the filters allow each hemisphere to see the panels on one side only.



Qualitative Levels of Decision Making

Wisdom

Understanding

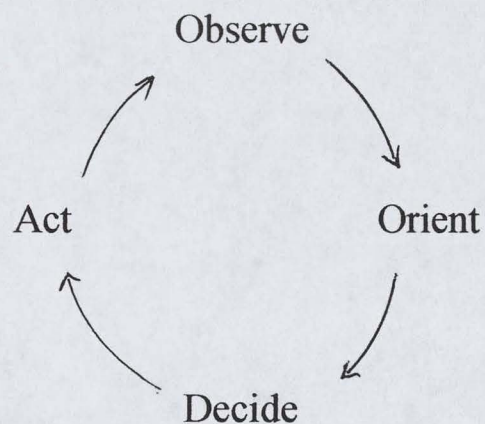
Knowledge

Information

Data

Figure (6)
~~Enclosure (4)~~

John R. Boyd's Proven Model for Combat Success



Source: *A Discourse on Winning and Losing*, 1987

Figure (7)
Enclosure (3)



MEMORANDUM

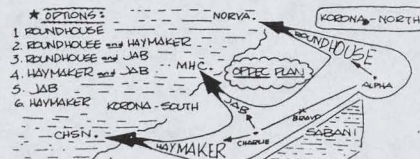
From: Dan Moore Date: 25 Sep
COMCRUDESGRU TWELVE
To: John Boyd
Subj: Battle Plan Execution.

Sir,

What do you think of
the enclosed matrix for
battle group warfare commander
decision making?

V/r
D

- * OPTIONS:
1. ROUNDHOUSE
 2. ROUNDHOUSE
 3. ROUNDHOUSE
 4. HAYMAKER
 5. JAB
 6. HAYMAKER



SURVEILLANCE PHASE

MISSION PRIORITIES	AAW	ASW	ASUW	C2W
SSN		2	3	1
CRUDES	2	1	3	4
CVW	2	3	4	2
AMPHIB				
NON-ORG	2	3	4	1

AIR SUPERIORITY/ STRIKE PHASE

MISSION PRIORITIES	AAW	ASW	ASUW	MIW	C2W	STW	AMW
SSN		1	3		4	2	
CRUDES	2	3	4		5	1	
CVW	2	3	4		5	1	
AMPHIB				3	2	1	
NON-ORG	1	3			4	2	

MARITIME SUPERIORITY PHASE

MISSION PRIORITIES	AAW	ASW	ASUW	MIW	C2W	STW	AMW
SSN		1	2		3	4	
CRUDES	2	1	3		4	5	
CVW	1	3	2		5	4	
AMPHIB				3	2	1	
NON-ORG	1	3	4			2	

AMPHIBIOUS ASSAULT PHASE

MISSION PRIORITIES	AAW	ASW	ASUW	MIW	C2W	STW	AMW
SSN			2				1
CRUDES	2	4	3 (1)				1
CVW	2		4		5	3	1
AMPHIB				3	2		1
NON-ORG	3					2	1

SUBMARINE ATTRITION PLAN

100%

75

50

25

0

THREAT ASSESSMENT

	AAW	ASW	ASUW	C2W
HIGH				
MED	X	X		X
LOW			X	

THREAT ASSESSMENT

	AAW	ASW	ASUW	MIW	C2W
HIGH	X	X			
MED			X		X
LOW				X	

THREAT ASSESSMENT

	AAW	ASW	ASUW	MIW	C2W
HIGH		X	X		
MED	X				
LOW				X	X

THREAT ASSESSMENT

	AAW	ASW	ASUW	MIW	C2W
HIGH					
MED					
LOW	X	X	X	X	X

SURFACE ATTRITION PLAN

100%

90

80

70

60

50

40

30

20

10

0

FORCE POSTURE

	AAW	ASW	ASUW	STW
HIGH	X	X		
MED			X	X
LOW				

PHASE GOALS

	AAW	ASW	ASUW	STW
HIGH	X	X		
MED			X	X
LOW				

FORCE POSTURE

	AAW	ASW	ASUW	MIW	C2W	STW	AMW
HIGH	X	X				X	
MED			X	X	X		X
LOW						X	

PHASE GOALS

	AAW	ASW	ASUW	MIW	C2W	STW	AMW
HIGH	X	X	X			X	
MED				X	X		X
LOW				X		X	

FORCE POSTURE

	AAW	ASW	ASUW	MIW	C2W	STW	AMW
HIGH	X	X	X			X	
MED				X	X		X
LOW				X		X	

PHASE GOALS

	AAW	ASW	ASUW	MIW	C2W	STW	AMW
HIGH	X	X	X			X	
MED				X	X		X
LOW				X		X	

FORCE POSTURE

	AAW	ASW	ASUW	MIW	C2W	STW	AMW
HIGH							X
MED	X	X	X		X	X	
LOW	X	X	X	X	X	X	

AIR ATTRITION PLAN

100%

80

70

60

50

40

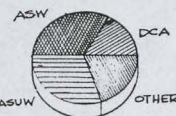
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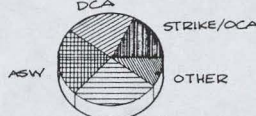
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ALLOCATION



AIRCRAFT ALLOCATION



AIRCRAFT ALLOCATION



AIRCRAFT ALLOCATION

NOTIONAL AIR PLAN

DCA: TWO CAP STATIONS
S3WC: 1P-3 24HRS/DAY,
1 P-3 0000-1200 EACH DAY,
S-3B 12 HRS/DAY
OTHER: ES-3 FOR ESM,
F-14 FOR TARPS,
LAND BASED INTELL(RJ/SS/RP)

STRIKE/OCA: THREE/FOUR MAJOR STRIKES PER DAY
DCA: TWO/THREE CAP STATIONS
S3WC: 1 P-3 24 HRS/DAY, 1 P-3 0000-1200,
S-3B 12 HRS/DAY, SUCAP ALERTS
OTHER: ES-3, F-14 TARPS, LAND BASED INTELL

STRIKE/OCA: TWO MAJOR STRIKES PER DAY
DCA: TWO/THREE CAP STATIONS
S3WC: 1 P-3 24 HRS/DAY, S-3B'S 12 HRS/DAY,
SUCAP AIRBORNE 12 HRS/DAY, SUCAP ALERTS
OTHER: ES-3 ESM, F-14 TARPS, LAND BASED INTELL

CAS: UP TO 50 SORTIES/DAY
STRIKE/OCA: ONE STRIKE PER DAY
DCA: TWO CAP STATIONS
S3WC: 1 P-3 24 HRS/DAY, 1 S-3 12 HRS/DAY,
SUCAP ALERTS
OTHER: ES-3(ESM, COMM RELAY), F-14 TARPS

PRE HOSTILITIES

- PREHOSTILITIES - SELF-DEFENSE ONLY
- MAINTAIN STATUS QUO - AVOID ESCALATION
- DO NOT VIOLATE TERRITORIAL LIMITS W/O AUTHORITY
- ESM/ECM/NONDESTRUCTIVE ECM AUTHORIZED
- IF THREATENED, WE MAY TRAIN WEPS OR RADIATE F/C RADAR
- IF THEY RADIATE OR TRAIN WEPS, WE MAY ENGAGE
- CAN ENGAGE JAMMER/RECCE AS WELL AS SHOOTER
- SPECIFIC MISSIONS NEED SPECIFIC ROE

LIMITED HOSTILITIES

- LIMITED HOSTILITIES - SHOW OF FORCE
- MAY ENTER TERRITORY FOR DESIGNATED STRIKES
- MAY ATTACK DESIGNATED TARGETS
- MAY ENGAGE KORONAN AIR/SURFACE UNITS APPROACHING FORCE
- MAY ENGAGE POSSIB LOW 2 W/IN 50NM
- MINIMIZE COLLATERAL DAMAGE/INCIDENTAL INJURY

GENERAL HOSTILITIES

- GENERAL HOSTILITIES
- KORONAN FORCES ARE HOSTILE, MAY BE ENGAGED
- OPS TO BE IN LAW OF ARMED CONFLICT
- ENTRY INTO KORONAN TERRITORY AUTHORIZED
- USE OF ALL CONVENTIONAL WEAPONS AUTHORIZED
- UNRESTRICTED EW PERMITTED
- UNOBSERVED, INDIRECT FIRE NOT PERMITTED

U
U U N C L A S S I F I E D U
U U

ZNR UUUUU

R 151805Z SEP 95 ZYB PSN 637397J35

TO ENTBATGRU

RUCOLCA/COMCARGRU FOUR

BT

MSGID/GENADMIN/CEBG//

REF/A/DOC/CLF/10SEP93//

NARR/REF A IS CLF OPORD 2000-92. REF B IS SURFACE FORCE TRAINING MANUAL.//

1. THE WCS, THE SECOND FORMAL MEETING OF ENTBATGRU WARFARE COMMANDERS, WAS CONDUCTED AS A MINI WARFARE COMMANDER COURSE WITH KEY C2 PERSONNEL OF ENTBATGRU. EMPLOYING LECTURES, SEMINARS, AND WARGAMING, THE WCS WAS STRUCTURED TO (1) INCLUDE WARFIGHTING

PAGE 02 RHFJEHA3499 UNCLAS

2. AS EXPECTED, ONE WEEK OF BATTLE GROUP INTERACTION AND DISCUSSIONS RAISED MANY ISSUES. GENERAL COMMENTS AND UNRESOLVED ISSUES ARE SUMMARIZED BELOW AND APPROPRIATE ACTION WITHIN ENTBATGRU ARE ASSIGNED.

PAGE 03 RHFJEHA3499 UNCLAS

1 OF 3

U
U U N C L A S S I F I E D U
U U

U U N C L A S S I F I E D U

CONS OF VARIOUS ACA ASSIGNMENTS. SUBMIT RESULTS TO CEBG NLT 23
OCT.

(K) THE TLAM PLANNING CELL SUGGESTED CHANGES TO THE ENWGS PROCEDURES FOR STRIKE PLANNING AND EXECUTION TO GENERATE MORE REALISM AND GREATER TRAINING VALUE. CONTINUE, IN ALL AREAS, TO LOOK FOR OPPORTUNITIES TO FINE TUNE AND IMPROVE OUR TRAINING PROCESS. AP MAKE RECOMMENDATIONS TO CEBG NLT 01 NOV.

3. WE CANNOT BE SUCCESSFUL WARFIGHTERS IF WE DO NOT UNDERSTAND STANDARDIZED WARFIGHTING GUIDANCE/PROCEDURES. WARFARE COMMANDERS MUST DISTILL THE MYRIAD OF REFERENCES WITHIN YOUR WARFARE AREAS INTO A SIMPLE, MANAGEABLE TOOL THAT EXTRACTS THE FUNDAMENTAL PROCEDURES ESSENTIAL TO STANDARD AND EFFECTIVE TACTICAL EXECUTION. THESE WILL BE COLLATED BY CEBG (AMPLIFICATION TO FOLLOW). PROVIDE NLT 15NOV95.

4. THE WCS HAS PROVEN TO BE A TIMELY MEETING OF ENTBATGRU ON THE ROAD TO DEPLOYMENT. THIS EARLY EXCHANGE HAS PROVIDED A START TO

PAGE 06 RHFJEHA3499 UNCLAS

GROUND TRUTH FROM WHICH EACH COMPONENT OF ENTBATGRU CAN DRAW ON TO CONTINUE TRAINING WITHIN THE LIFE LINES AS WE EVOLVE INTO A BATTLE GROUP. APPLY THE LESSONS LEARNED AS WE CONTINUE TO PLAN ASHORE AND INTEGRATE AFLOAT IN ORDER TO MAXIMIZE EVERY TRAINING OPPORTUNITY. YOUR CONTINUED PROFESSIONAL INPUTS ARE EAGERLY SOUGHT AND APPRECIATED. SAIL SAFE. RADM BILL.//

BT

£3499

NNNN

DLVR:COMCRUDESGRU TWELVE(002)...HOST/ACT(1)

DLVR:COMENTBATGRU(0)...TENANT/ORIG(1)

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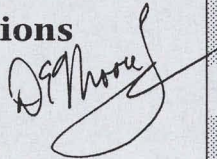
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3 OF 3

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**Fighting with Half a Brain:
Joint Air Operations**

27 Sep 95



Computer Centered Warfare

- "I believe we overcontrolled in Desert Storm. We did focus on the CINC's Intent ... But it took us 5000 pages and 72 hours to produce an ATO. We need to adjust our control to what is necessary... We could do a lot more stuff over the phone -- kill these targets -- and do it without tons of paperwork. A centralized, orchestrated air campaign is important; but I say a 5000 page ATO is not the way to accomplish that. "

Former USAF Chief of Staff

- General Larry Welch in his 31 January 1994 Address to the School of Advanced Air Power Studies, Maxwell AFB, ALA

Tired of playing catch-up?

- Naval Aviation's latest fad is to try and adapt ourselves over to the USAF JFACC and ATO.
- We are at least two years and several million dollars behind, playing catch up to a system a former USAF Chief of Staff says was not the way to go four years ago.

Can We Afford It?

How about Leap Frog?

- **The Jaegar Air Board offers Naval Aviation its first legitimate opportunity to Leap Frog the U.S. Air Force in a very long time.....**

An Orgy of Disorder

- **"Battle is an orgy of disorder. No level lawns or marker flags exist to aid us [as we] strut ourselves in vain display, but rather groups of weary wandering men seek gropingly for the means to kill their foe. The sudden change from accustomed order to disorder but emphasize the folly of schooling to precision and obedience where only fierceness and habitual disorder are useful. "**
- **Maj George S. Patton, 1927**

The Joint Air Operations Staff Course Perspective

- **From the USAF Air Ground Operations School -- August 1995.**
- Nearly 600 people each year are taught this perspective---**

Figure 1

An attempt to diagram the Joint Air Ground Support System

- **Figure (2)**
- **Notice how certain groups -- CCT, TAC(A), FAC(A), ABCCC -- are just left hanging, even in their own diagram which was drawn in the calm, air-conditioned comfort of an office building. Confronted with quiet computer driven reality, this system breaks down.**
- What happens when confronted with an orgy of disorder?**

The OSD and Joint Staff Perspective

■ Figure 3

From the "Functional Process Improvement Direct Air Support Workshop AS-IS Activity Model Report" (What does that mean?)

[One of the first warning signs to a Hunter is when the other side stops talking English]

"Coordinate Direct Air Support"

■ Figure 4

- This is an attempt to diagram just one component of the overall command and control system from figure 2.**
- Notice how critical variables -- Rules of Engagement, Unsatisfied Requests, Joint Tactics, are hard to find. What about mission success? Is this unimportant? Timing? Fierceness? Disorder? Initiative?**

"Authoritative Joint Doctrine"

- The same people who produced figures (1) - (4) are also writing authoritative joint doctrine.**
- The Joint Commander has the option to deviate but what is the probability he can overcome the inertia of nearly 600 students a year operating with these models in their brains.**

An Analytical Approach to Warfare

- A Fundamental Theme underpins the thinking behind Joint Air Operations:**
 - It proceeds from an exclusively linear and analytical approach to warfare.**
 - Its architecture and funding focus on buying the latest piece of equipment and computers integrated into a heavily centralized command and control system. Leadership, initiative, courage, fear, fierceness, disorder are overlooked.**

The Nature of Human Consciousness

- **Robert Ornstein -- Stanford University**

Right and Left Hemispheres

- **Figure 5**
 - **Michael S. Gazzaniga, *Scientific American*, Aug 1967 pp. 24-29**
 - **Should we be surprised that identification continues to elude our linear systems?**
 - **As the complexity of the environment increases what is the probability a predominately linear (left hemisphere) system will come up with the right answer?**

Both Hemispheres are Necessary for Survival

- **Human beings have highly developed right and left hemispheres for a reason. Evolution.**
- **We must not only analyze reality (left hemisphere) but also come up with new, imaginative ways of dealing with an ever changing, complex, diverse environment (right hemisphere). Those of us fighting with half a brain have little probability of success in warfare.**

Fighting with Half a Brain

- **Figures 1-4 are an effort to deal with combat -- an ambiguous, ever - changing, disordered, confusing, environment -- with linear systems.**
 - **Having developed computers which handle large amounts of linear data, we are constructing increasingly complex linear systems in the hopes of finally getting it right. One problem. Millions of years of evolution tell us this is a dead end!**

Jaegar Aviation: Fighting with a Brain

- **A Human-centered, High-Initiative, Mobile, Self-Adapating Force which makes decisions with knowledge and understanding. -- Figure (6)**
 - **Knowledge -- Build snow mobiles**
 - **Understanding -- How things really interact with reality and in combat**

[show me a computer that can do that]

JAEGAR Aviation's Blue Print for Success

- **A Winning and Proven Theory of Warfare the O-O-D-A loop, figure (7)**
 - **Observe -- Use technology -- highly reliable -- doesn't get in the way**
 - **Orientation -- The most important part of the loop. Here is where we introduce our filters: personal, cultural, everything. Here we develop and exploit both hemispheres.**
 - **Decide -- Mistakes will be made**
 - **Act -- Deeds, not Words.....**

Jaegar Aviation's Blueprint for Success

- **The O-O-D-A loop is central to every step we take.**
 - **What's the system's answer to these workshops?**
 - **How do we design an airplane and squadron to exploit human Observation- Orientation - Decision - Action?.**
 - **How many O-O-D-A loops were operating during the Easter Offensive?**