

Boyd

of Ohio — Ideas
& Shugs — also

LIC $\Rightarrow$ HIC

Shotgun vs Hammer (Pete D)

Expansion (more employees or those
who are doing it)

best initial input but not in
improved productivity & probably later
on (not shared risk)

input & judgments $\Rightarrow$ final product

[30 & (3) March OK]

10 Feb / preliminary meeting

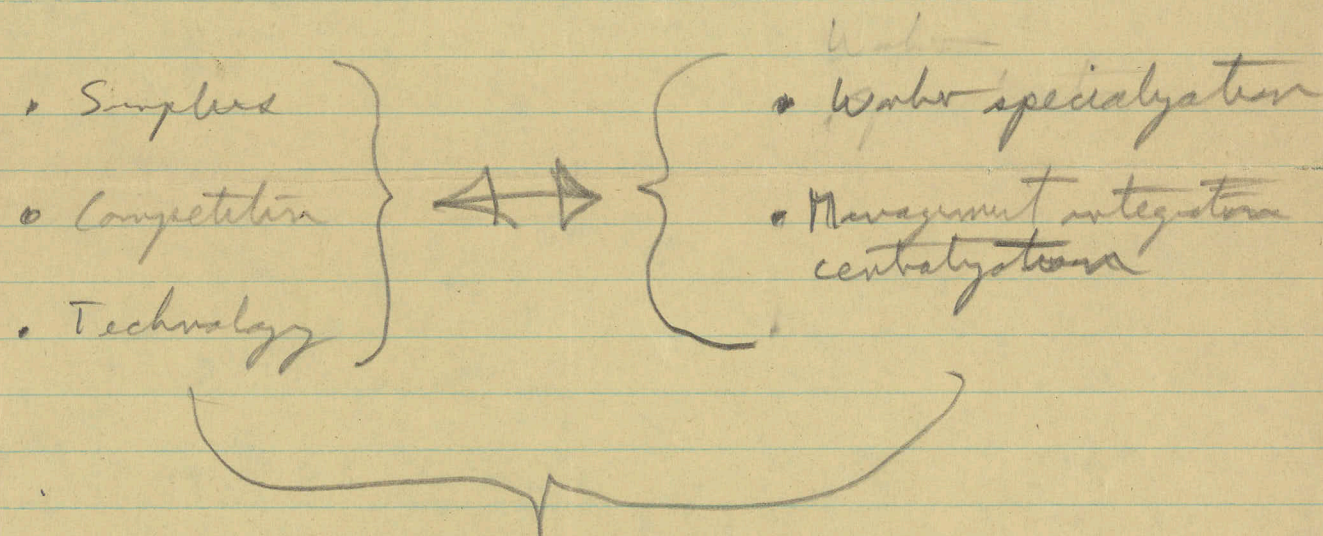
How to get there (2020) from here
— what variables, etc.

10 things that make a difference

Wrote down thoughts of what we should
send to Joan

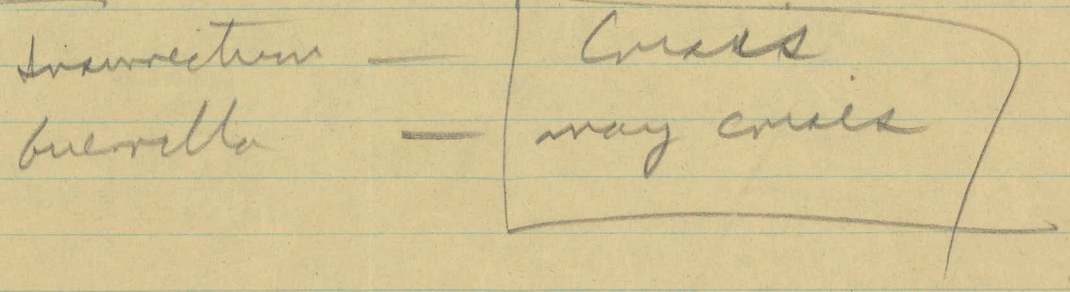
II-D

- If Marx's analysis and prognosis so correct how come ~~revolutions~~ and dictatorship of proletariat happened not in capitalist but feudalistic countries (ie Russia and China)
- Comintern / Vanguard $\Rightarrow$ sets up stage for ~~counter~~ ^{against} accumulation / concentration / centralization of political / economic power to exploit and oppress the masses



Result Crisis

Difference between insurrection (and) guerrilla War



Revolutions
Technology / Capitalism / Money and

Saw The Seeds for 20th Century
Revolution

correlation

- Left / Right Hemispheres
- Line / Staff
- Reader / Controller
- Line / Product Groups / Controllers
- Parallel / Independent sources of info.
- etc
- etc

Key Idea — referencing
~~Cross referencing information~~ (or better
yet multiple cross referencing / correlating
correlation of

Cross correlation or referencing of
information from many different
angles to uncover

- consistencies and inconsistencies
- coherencies and incoherencies
- harmonies and disharmonies

- ~~distinctions and indistinctions~~
- distinctions and indistinctions

~~$$\frac{1}{2} m v^2 = \frac{1}{2} m v_1^2 + \frac{1}{2} m v_2^2$$~~

~~$$\frac{1}{2} m (v_2 - v_1)^2 = \frac{1}{2} m (v_2 - v_1)(v_2 + v_1) \left[\frac{ds}{dw} - \frac{ds}{dw} \right]$$~~

~~$$\frac{ds}{dw} = \frac{ds/dt}{dw/dt} = \frac{v}{w} \text{ hence } ds = \frac{v}{w} dw$$~~

~~$$w = \text{SFC} \cdot T \text{ hence } ds = \frac{v}{(\text{SFC})T} dw$$~~

~~$$\text{or } \frac{ds}{dw} = \left(\frac{v}{\text{SFC}} \right) \left(\frac{w}{T} \right) \frac{dw}{w} \text{ Now If } v = w \text{ and } T = 1$$~~

~~$$\text{then } \frac{ds}{dw} = \left(\frac{v}{\text{SFC}} \right) \left(\frac{1}{1} \right) \left(\frac{dw}{w} \right)$$~~
~~proof~~

• Amblygeny —
under Petitioners / CTA

• Social Contract

↓
Goal — Destroy the S Contract
Bombing enforces S Contract

• Decision — need understanding
• alternatives
• understanding

• Analysis — provide understanding
(definition)

• Trade-offs — provide information
necessary for
understanding
Analysis

• Four crucial elements are
Planning

- 1) — Bring in alternatives
- 2) — Choose appropriate
alternatives

① Doing well on the first

② Not doing well on second

Dz Williamson
Billy RFB

D. Planning



- Purpose
- Central Elements
- Action Required

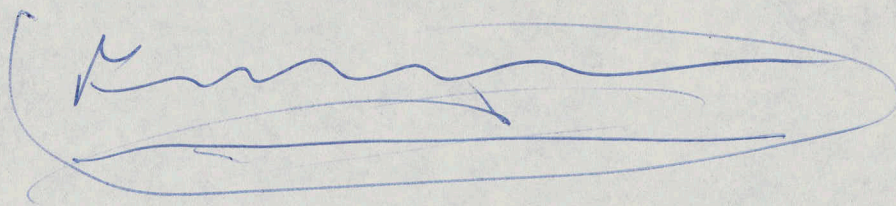
Intelligence $\Rightarrow$ capacity for understanding
world

Creativity $\Rightarrow$ capacity for changing
world

Need for Planning

Pragmatism - mismatch between
desires and budget

Idealism - to achieve National
Goals



Ban

Planning - Why

- Goal

- Miswatch Dates/Budget

• Invent The Threat

Try to invent the
budget - unsucessful

- miswatch

- need for plan

• Trade-offs - related to ability
to cope with reality

I

29 May 74

CRPP

e

* Why?

- Surface alternatives (available or ^{emerging} ~~conceptual~~) that can be used to counter threat -
- Select appropriate alternatives out of many that are available or emerging

Note: We are doing well on surfacing alternatives - we are not doing well on selecting alternatives.

If we are not doing well in surfacing alternatives how do we explain our superiority in many aspects of technology - propulsion, avionics, materials, -
Such a statement does not imply we should relay and accept today's alternatives and then means for getting there as the only way or one that cannot be improved upon
Thomas, Gredley, Poo and Hesseberg recently suggest we'll fall behind & f/

II

Our problem appears to be
in selecting ~~which~~ alternatives
to pursue. ~~No matter how~~ ~~we~~
Evidence historical and projections
suggest show what ~~we~~ ~~will~~ ~~buy~~
in the future has not happened
in the past and appears unlikely
in the future. ~~Is this bad?~~
No providing we do not
confuse what we advertise
with what we think ~~is going to happen~~
~~as a result~~

If we confuse one with
the other ~~than~~ (and they are
not the same) then our
decision processes

AFTI - Air Force Technology Integrator

3 ongoing contracts to generate ^{potential} AFTI designs

Fairchild

Rockwell

McDonnell

Final reports now being reviewed

Approximately \$2.0M spent to date (FY74-75)

FY76-77 will further explore one of above designs or look into options such as:

- reconfigured F-16

- J-101 powered AFTI

- stealthy ftr or other vehicle

also will study various technologies

Tentatively
Plan to build vehicles (probably 2) in
late FY77 or early FY78 (shaky)

Technologies being explored:

advanced materials and composites

jet flap and 2D nozzle

canard configs & various conventional plan forms

variable incidence wing

steerable fuselage

PREPARED 75 APR 21

HAF-ACB(M) 7106

AS OF DATE 75 MAR 31 RCS: HAF-C153

YR	OAC	ASN	TITLE-PROGRAM OR PROJECT							
			ISSUED	CONVERTED						
BPAC	MPC/TASK	PROG	ELEM	PROG	ELEM	DIRECTED PROGRAM	INITIATIONS	COMMITMENTS	OBLIGATIONS	EXPENDITURES
3	47	69	CONVENTIONAL WEAPONS							
66670A			63601F	63601F			865,248.41	865,248.41	865,248.41	865,248.41
4	47	69	CONVENTIONAL WEAPONS							
66670A			63601F	63601F	3,128,247.79		3,127,975.71	3,127,975.71	3,127,975.71	2,808,290.35
4	47	69	PROGRESS PAYMENT							
66670A	9940		63601F	63601F						35,814.00
5	47	EC	CONVENTIONAL WEAPONS							
66670A			63601F	63601F	1,206,000.00		863,048.38	863,048.38	863,048.38	126,332.48
5	47	69	CONVENTIONAL WEAPONS							
66670A			63601F	63601F	2,549,000.00		2,554,015.68	2,349,015.68	2,211,429.68	1,265,269.43
4	47	69	CLOSE AIR SUPPORT WPNS							
66670B			63601F	63601F	1,177,359.76		1,177,359.76	1,177,359.76	1,177,359.76	1,177,359.76
5	47	D1	CLOSE AIR SUPPORT							
66670B			63601F	63601F	4,900,000.00		4,889,640.29	4,889,640.29	4,859,640.29	1,463,197.82
5	47	EC	CLOSE AIR SPT WEAPONS							
66670B			63601F	63601F	280,000.00		230,000.00	230,000.00	200,000.00	48,946.25
5	47	69	AIR TO SURFACE WPN							
66670B			63601F	63601F	1,987,000.00		1,960,443.57	1,527,443.57	1,368,685.57	1,143,721.97
3	47	69	OPTICAL WPNS DELIVERY SYS							
66670C			63601F	63601F			100,288.45	100,288.45	100,288.45	100,288.45
4	47	69	OPTICAL WPNS DELIVERY SYS							
66670C			63601F	63601F	168,360.52		166,583.12	166,583.12	166,583.12	166,583.12
3	47	69	CONVENTIONAL WEAPONS							
66670D			63601F	63601F			2,012,549.32	2,012,549.32	2,012,549.32	1,983,838.27
4	47	69	CONVENTIONAL WEAPONS							
66670D			63601F	63601F	533,974.00		533,974.00	533,974.00	533,974.00	312,552.81
4	47	69	PROGRESS PAYMENT							
66670D	9940		63601F	63601F						150,000.00
3	47	69	HIGH ALT INTERCPT MISSILE							
66670E			63601F	63601F			2,299,821.75	2,299,821.75	2,299,821.75	2,290,983.75

digital flight controls

direct lift and side force

high levels of thrust & drag modulation

⑦ AFTI explores man-machine interface which is not addressed in simulator or RPV investigations

Ke7

PREPARED 75 APR 21

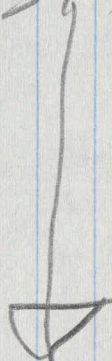
HAF-ACB(M) 7106

YR OAC ASN TITLE-PROGRAM OR PROJECT
ISSUED CONVERTED

BPAC	MPC/TASK	PROG	ELEM	PROG	ELEM	DIRECTED PROGRAM	INITIATIONS	COMMITMENTS	OBLIGATIONS	EXPENDITURES
5	47	50	PROGRESS PAYMENT							
632028	9940		63431F	63431F						11,707.60
4	47	30	SURVSAT CONCEPTS/TEC							
632029			63431F	63431F	8,846,344.71	8,847,329.56	8,846,324.56	8,846,324.56	8,700,410.85	
4	47	30	PROGRESS PAYMENT							
632029	9940		63431F	63431F						33,000.00
5	47	50	SURV SAT COMM TECH							
632029			63431F	63431F	13,806,000.00	13,940,772.00	11,197,107.00	9,230,233.09	4,168,811.93	
5	47	50	ADVANCE PAYMENT							
632029	9910		63431F	63431F						100,000.00
5	47	50	PROGRESS PAYMENT							
632029	9940		63431F	63431F						65,365.00
5	POSITION PE - YEAR 5				24,426,000.00	24,380,616.00	20,875,829.90	17,687,890.09	7,625,810.52	
	4				18,119,023.62	18,113,581.83	18,112,576.83	18,112,576.83	17,222,111.54	
	3					16,180,267.26	16,180,267.26	16,180,267.26	15,749,394.86	
5	47	30	ON BOARD SENSORS							
632131			63438F	63438F	1,600,000.00	1,559,945.00	1,278,610.00	1,278,610.00	380,248.34	
5	47	30	PROGRESS PAYMENT							
632131	9940		63438F	63438F						168,560.00
5	47	30	OBSERVABLE CONTROL							
632132			63438F	63438F	800,000.00	721,678.00	588,900.00	580,900.00	101,370.80	
5	POSITION PE - YEAR 5				2,400,000.00	2,281,623.00	1,867,510.00	1,859,510.00	650,179.14	
	4									
	3									
5	47	EL	INFRARED IRR GUID PROGRAM							
662161			63601F	63601F	600,000.00					
5	47	20	INFRARED GUIDANCE PROGRAM							
662161			63601F	63601F	4,688,750.00	4,601,815.39	4,599,815.39	4,448,842.39	3,196,173.52	
5	47	20	FDT							
662161	9950		63601F	63601F	11,250.00	11,250.00	11,250.00	11,250.00	11,250.00	
5	47	EL	MISSION SUPPORT EXP OTHER							
662161	9985		63601F	63601F		500,000.00	500,000.00	500,000.00	158,877.18	

RCS: HAF-ACB(M) 7106

PAGE 186

500/1	Quant	Radius	Combat T	<u>T/W</u> as
1	37.5	500	9.15	.82
		700	7.45	.80
		1000	4.65	.768
10	30K	500	7.4	.821
		700	5.67	.80
		1000	2.75	.765

Volume Flight

43.060

42.550

41.280

Not Flight
9000

Radius

500

200

1000

700

CT

4.96

4.43

3.64

3.23

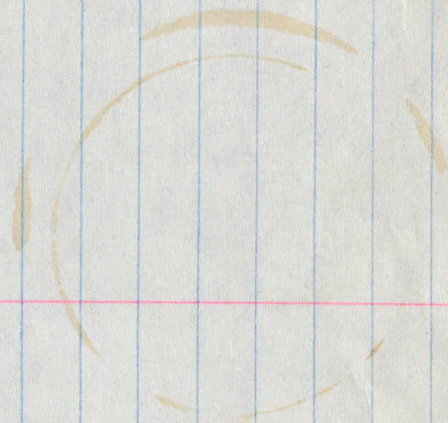
TLW

1.8

1

1.8

2



I

Analysis

Attack geometry / ECM or AIM / 3D opt.

• Identify

- best maneuver regions
 - superior maneuver strategies
 - superior terminal attack trajectories
 - superior aircraft (or cooperation with appropriate ~~and~~ T/W, w/s combinations)
-

Simulation / Flight Test

• Evaluate (or verify)

- selection of maneuver regions
- selection of maneuver strategies
- selection of attack trajectories
- selection of superior aircraft (or cooperation ^{with} ~~and~~ T/W / w/s combination)
appropriate T/W

- PM - both gun and missiles fired!
- SOW - states guns will be fired.
(missiles ??)

- Do we want full ship about capability for test (prototype)
 - Do we intend to grade the gunweight
- Reading on recovery of airplane
- Ship about yes or no!
- Carrier compatibility yes or no!

$$W = \frac{W_0 - (GF)(F_0)}{1 - (GF)(FF)}$$

$$\frac{16000 - 6000}{1 - (1.5)(29)}$$

$$\frac{10000}{1 - 40.5}$$

$$\frac{10000}{59.5}$$

My 1

- Requirements Process

- Management Initiatives

- Streamline

- Reduce manpower
 - ~~overlap~~ } — ~~force~~ again

- Don't recommend a good idea because it's a good idea (Hodnell)

- Don't think we can cut reduce manpower and retain effectiveness (Hodnell)

•

3

Weapons Systems Acquisition
Process

- Major
- Minor

④ Get Stu Bowen over here

⑤ Get PR for brief?

• What do the Chief and Sec
want

- How to get to 1/10 Systems
- PMS - bigger
- Reduce Cost of Systems

Last January requested
costed out options from
AFSC

• ~~999~~ # to Empty UT
on 320 /t

2 198 # to Empty UT
on 280

6D
320
15520
7988
23420
/

6D 21
280
15222
7725
22947
21578

500 NM

286

6.7

8.6

65

320

7.1

9.4

70

Ray Radius

280
(796)

6.3

8.1

69

320
(888)

6.6

807

75

Staff Meeting 2

1. ~~Staff Case~~

Is a hard copy
+ brief acceptable for
new ~~of~~ final report

Is hard copy of brief
as interim ~~interim~~
report in lieu of final
report by next Mgt date
Final report to follow
at later date. But
will be provided.

a. Beam and call Col
Hayashi back 185-5307

• Briefing Ben Stewart at
1500 on 8 May 75

• 13 May AFSC
 = Ben Phillips (PM)
 = Ben Dunn (AM)

Ben Lawson

#1

Asentian where
we are in our
current planning
process!

- 20x 'activities and
\$PP - How do
they play

- How do we all
play together

#

Audit Trail - where
did we go wrong.

Staff Meeting 22 Apr 75

• RD surprises went up
300% 4.0 to 12.0

• surprise not cleared
until it really leaves

• How does Alg force
get in?

• What budget level are
we talking about?
How developed?

low level represents ty DP
and EPA



Bananas are already
expensive - How to live
manage without going
below EPA ~~part~~
and POM (Leads)



- Internal
 - Staff - exp
 - * Simulator C2 or
 - * IRM " "
 - * Special Studies

= Need for Special Review before going Security etc.

• Output:

- Manpower/Manpower
- Responsiveness
- Individual construct his workload
 - External
 - Internal
 - Over time
- Things that don't get done

- Volunteer at Colonel level to pull all together

• Requirement to have to
call Cooper RDM
on Friday a week

- Recent workload
increases -
emphasize

• Check with Travis on
Ger Hodwell

28 Credits on four
week project

Design Implications

- Sgh VS Simple

- Possibility of many

- * SAB Brief

- * Radar component
Track by ASD)

Timing -

- = Monday a week

Evening 21 April 75

• Dick Lawler

Next meeting Tentative
1-13 May

• What homework needs
to be done?

• Glen Long in XOX
guys.

• Same ?'s for Mod
programs

• Briefing being prepared
containing this info

• ASD - present this inf
(per Stewart-present)
recommendation

• Assist on this item
(F-15/F-16 cost
comparisons
* * * *

• Get copy of Gen Phillips
letter

• * 2 security violations in
RD not in RD Q

D. Planning 28 Mar 75

• Chapter —

- # Lay out financial base for commitments
- # Lay out best estimates ~~where~~ R&D look for opportunities.

— Idea within Staff —

- Set up financial base
- Set up technical base

• Story —

- FS ↔ D. Planning
- Provenance / RDT&E
- Dollar baggies?

• PRE synt
— Panels

Package ~~supp~~
in coherent
pattern so
intellectuality and
perceived

• Arzer — programmed
planning activities

↓
Any program

• PPBS —
— Fast

Fuel

8W

6W

W/S

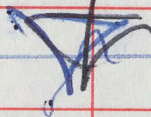
280/ 6552

21,906 (78)

320/ 6867

23,515 (70)

Induction / Intuition



Creativity and Intuition

yubawa

RDA Council

17 Jan 75

- Ben Dumm's philosophy
brief on Planning for
Development.

- Employed anticipated
F & F.P. to develop
a very limited array
of procurement and
related RDT&E
support for each
mission area

~~• Produced a fit.~~

- Did not address
how to select a mix
of systems in outyears
for reasonable budget
levels. ~~see~~ ~~Sp~~

~~Specifically Dumm and~~

(our approach
to address
this)

(as we now
understand it)

^{and}
Company trying to fit up
provement implications to
~~for~~ anticipated F&FP
(President Budget) which
is above the low wave
for budget estimate (Oct)
which in turn is above
the Poam (Oct) which
~~in turn~~ mortgaged our
future to 1980 or 1985
depending upon our
degree of optimism

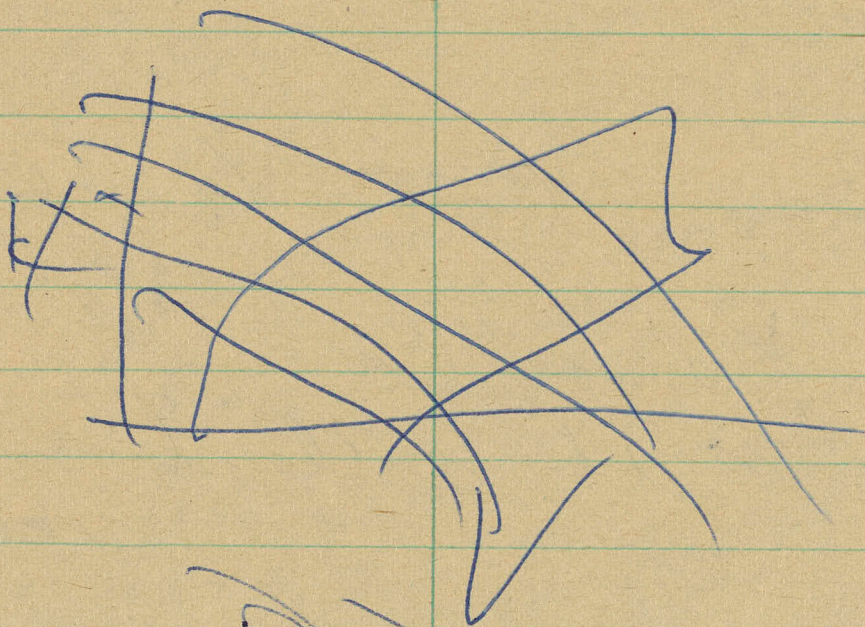
- They claim their system
provides the bones for
asking ? to make
decisions (If our
interpretation above is
true - all can expect
only irrelevant questions with no real
decisions)

all
Company trying to fit in
procurement implications to
~~for~~ anticipated F&EP
(President Budget) which
is above the low wave
for budget estimate (Oct)
which in turn is above
the Poam (Oct) which
~~in turn~~ mortgaged our
future to 1980 or 1985
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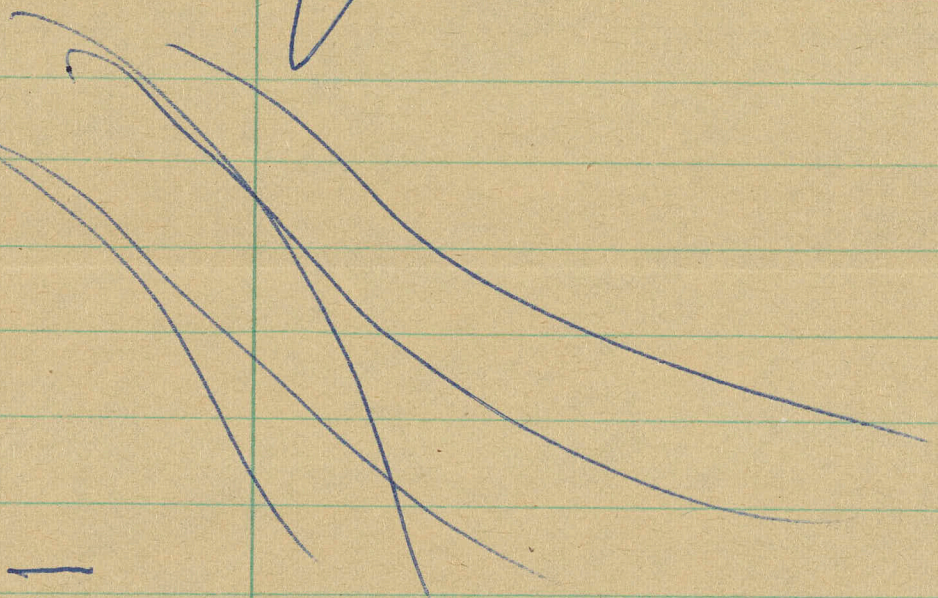
- They claim their system
provides the bones for
asking ? to make
decisions (If our
interpretation above is
true - all can expect
only irrelevant questions with no real
decisions)

~~Paradigms~~

- o Questions — Why
- o Paradigms — Why
 - Models, Concepts, Framework
 - Basis for making decisions
- o Process for creating Paradigms:
 - Why & how it works
 - How does it work
- o Why have we used industry/academic process (both together)?
- o How does it work work?



o PT -



o $\Delta ES = \overline{PSAT}$

o ~~Find (x) takes~~ Find the
set it takes to go from
one state to another

Dwight

(after some introspection) - see
Now it is not difficult to ~~note~~ that these Tactical and Strategic
statements are very distinctly destructive in nature. With this
thought in mind together with ~~some~~ ^{but won't} further reflection and scrutiny -
the idea occurs that the destructive ideas played out in the Categories
of Conflict aren't much different than the Tactical and Strategic
ideas that we have just discussed. ~~alternatively~~ ^(destructive) this suggests,
that a boiling-down and synthesis of all these ~~ideas~~ ^{ideas} can be
displayed as follows: - - -

By - - -

this suggests a: - - -

By rearrangement, boiling-down, ~~and synthesis~~ (of all these ideas) this
suggests:

Therefore, after some ~~say~~ ^{and} ~~and~~ ^{stopping}
~~alternatively~~ - ~~By~~ rearrangement, boiling-down, and ~~synthesis~~ of all these
~~interactive ideas~~ - this suggests ~~argued~~ ^{argued} a way of viewing these

interactive ~~ideas~~ ^{ideas}. Ergo: ~~as~~ ^{as} ~~have~~ ^{have} ~~to~~ ^{to} ~~do~~ ^{do}

interaction

Comment

Now, after some introspection, it is not difficult to see that these Tactical and Strategic statements are very definitely destructive in nature. With this thought in mind, together with a bit more reflection and sorting, the idea occurs that the destructive ideas played out in the Categories of Conflict are quite much different than the Tactical and Strategic interactive ideas that we have just discussed. ~~Alternatively~~ - after some boiling-down and rearrangement - ^{an alternative and more condensed} this suggests another way of viewing these ~~destructive interactions~~.

Therefore, - - after some boiling-down and rearrangement - - this suggests ~~another and a more condensed way of viewing these very same interactions~~ ^{viewed in alternative way, off}.

Therefore - - after some boiling-down and rearrangement - - this suggests another, ^{playing with these notions together with} ~~(and a more condensed way)~~ hence an alternative way for viewing these ~~very same interactions~~.

Briefing

64

28th

FL 803 D 8:15

Chicago 9:11

FL 959 D 10:05

KC 11:27

29th

FL 960 D 9:15

Chicago 10:27

FL 806 D 11:30

W 14:05

-
- Ghaheri, Jonnari, Campbell (Grammatical Mark)
 - Value system
 - Communication
 - Channels

T-T-D

- Memo for Record
- Possibility to leak info on rumor for getting rid of Ernie.
-

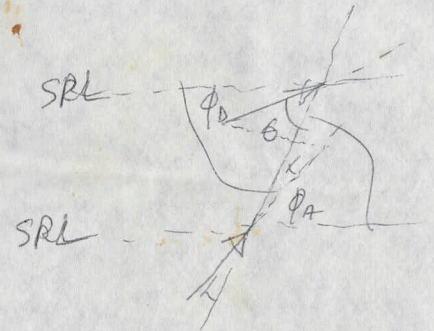
See Jomind — LOC 1

See Beaufre — Fit/del Transverse

Twenty 1330

ZE 465

- Linguistics
- Mathematics
- Physics
- Chemistry
- Biology
- Psychology
- Economics
- Politics
- Linguistics



$$\phi_{I,A} = \frac{V_0 \sin \theta}{S} [1 - AR] + \frac{A \sin \theta - A(t - \phi_0) \cos \theta}{\sqrt{1 - A^2 \sin^2 \theta}}$$

Let

$\dot{A} = 0, A = 0 \Rightarrow$	Pure P
$\dot{A} = 0, A > 0 \Rightarrow$	Lead P
$\dot{A} = 0, A < 0 \Rightarrow$	Lag P

Let

$\dot{A} < 0, A = 0 \Rightarrow$	Shifts to Lag
$\dot{A} < 0, A > 0 \Rightarrow$	Collapsing Lead
$\dot{A} < 0, A < 0 \Rightarrow$	Expanding Lag

Let

$\dot{A} > 0, A = 0 \Rightarrow$	Shifts to Lead
$\dot{A} > 0, A > 0 \Rightarrow$	Expanding Lead
$\dot{A} > 0, A < 0 \Rightarrow$	Collapsing Lag

- o BJR - ACM (FWS) 1957
- o BJR - AAS 1960/69
- o BJR - EM 1964/6
- o BJR - MMC 1972
- ~~o BJR - DEC 1976~~
- ~~o BJR~~
- o BJR M&CD 1974
- o BJR DEC 1976
- ~~o BJR~~