

UNITED STATES MARINE CORPS
V MARINE EXPEDITIONARY FORCE
CAMP PENDLETON, CALIFORNIA 92055-5400

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25 MAR 91

Epilogue From The Swimming Pool: Operational Art

G.I. Wilson

The Gulf War was fairly complex and took place in one of the world's most strategic locations. As such, geopolitical considerations were dominant. Hence, when the country decided to go to war (not just the Armed Forces) the right to intervene was quickly decided upfront. This action coupled with the early use of reserves and their eventual mobilization provided the political glue cementing the national will.

Iraq sought and briefly achieved a military solution to its border dispute with Kuwait. Iraq's short-term victory spawned an unanticipated international reaction; resulting in the ejection of Iraq from Kuwait in the world's longest conga line of POWs. Much of the war's success involved the operational art.

During the Gulf War operational art shaped the crisis by using tactical events (i.e. battles, engagements) and refusing to join battle, to strike directly at Iraq's strategic center of gravity. The idea was to win strategically without resorting to a prolonged ground war keeping casualties low. It was a matter of deciding where and when to fight, and where and when not to fight.

The heart and soul of the Gulf War's operational art was the correct identification of Iraq's center of gravity. It was

not Kuwait but Baghdad itself. The refusal to enter a ground war prematurely let military planners shape the battlefield and focus on winning the war at the highest possible level, the strategic level.

War-winning operational art centers on achieving a decisive outcome quickly without visiting the butcher shop of nasty a ground war. The application of the operational art and the correct identification of Iraq's strategic center of gravity proved central to the maneuver style success.

The strategic center of gravity, Baghdad, was much more than a geographic location on a map. It was the nerve network and infrastructure of Iraq's political-military organization. By throwing strenght against weakness, allied air against Iraq's weak air and air defense, Iraq's command, control, and communication capability was effectively erased. This helped the coalition forces to stay one step ahead of Iraqi forces. Deprived of the ability to communicate and exercise command and control at the highest levels precluded Iraq from coordinating the defense of the Hussein Line and undertaking counterattacks.

Early naval actions and blockade set the stage for developing the battlefield to our advantage. From the begining the UN sanctions and naval blockade quietly and insidiously tightened the vise on Iraqi's logistics system.

The overall effect of naval actions and air served us well in preparing for the ground war. As a consequence of cutting off all viable logistics to Iraqi troops, coalition forces rapidly flushed the Iraqis out of Kuwait without having to dig them out in a mutual bludgeoning contest.

Carrying the war directly to Baghdad and refusing to commit ground forces prematurely in Kuwait enabled the warfighters to shape the battlefield and decided where and when to undertake ground actions. Iraq had the initial advantage of choosing the ground over which to fight. This defense ultimately fixed the Iraqi forces in place limiting any other military options for them.

The fixing of a large Iraqi force in Kuwait was in part due to the presence of a formidable amphibious force in the Gulf and carefully conceived deception plan. In addition, CNN followed the preemptive artillery raids by Marines which kept the Iraqis off balance and guessing where the Marines were to come from ...land or sea ... or both !

Air was integrated and sequenced to throw strength against weakness. The technological strength of our air was leveraged against the technologically weak and relatively unsophisticated Iraqi air and air defense. Air swiftly eliminated most of the Iraqi command and control capability and continued to disrupted logistics that were already suffering from sanctions and the naval actions.

Disposing of Iraq's command and control and strangling its logistics provided the means to checkmate any Iraqi offensive actions. It nullified any Iraqi fire support coordination capability. With fire support in check the chemical threat from artillery was measurably reduced.

While air pounded away preparing the KTO for a ground offensive, Iraq tried unsuccessfully to draw Marines into a premature battle. Refusing battle may have been as dramatically important to the Marines ground success as actually joining battle. In refusing to enter into the fight too early it became apparent who was really in control of time and space in the KTO.

Iraq had selected the terrain to defend. This tactical advantage in the end worked against Iraqis. Iraq was overwhelmed by the day and night operations and precise application of violence. Defending the KTO literally tied the Iraqi Army to terrain thus fixing them in place. As a result the Army lost its mobility to offset a static defense in depth. The Iraqi Army could not maneuver. It had been robbed of time and space which in turn made it even more vulnerable.

The Iraqi Army was thrust upon horns of a dilemma: if it tried to move out of its static positions it was exposed to more allied air, artillery, and certain death. If the Iraqi Army stayed in its defensive positions it was vulnerable to attack by maneuvering forces from the west or the sea. This

dilemma exacerbated by little or no logistics set the Iraqi Army up for a decisive blow from a swift ground action.

The Iraqi nerve network in Baghdad had been massively damaged unable to see, sense, or coordinate its combatant arms. The Iraqi Army in the KTD was like a clenched fist amputated from the rest of the Iraqi body. A body that no longer had a central nervous system.

General Schwarzkopf commented, "We knew that he had very, very limited reconnaissance means. And therefore when we took out his air force we took out his ability to see what we were doing down here in Saudi Arabia. Once we had taken out his eyes...When we knew that he couldn't see us anymore, we did a massive movement..."

As a result of the Iraqi Army not being able to see the field of battle and communicate, Hussein could not exercise command and control his forces. The coalition out maneuvered Iraq by creating posed menacing dilemmas which happened unexpectedly and faster than Iraq could keep up with.

A threatened amphibious assault on Kuwait forced the Iraqis to concentrate troops along the coast. This tied up Iraqi forces allowing allies to shift to the west and collapse an exposed flank. At the same time the 1st and 2nd Divisions broke through the Hussein line at weak points as Saudi forces pushed up the coast.

msf mmm

The success of Marine forces breaching the barrier on 24 February 1991 stemmed partially from bold actions by 2nd LAI on 21 February 1991 when raiding deep into Kuwait. This action diverted the Iraqis' attention from the actual breaching points. The deception worked well in throwing the Iraqis off. The ground war started 3 days later and ended as abruptly as it began in 100-hour blitz crushing Saddam and freeing Kuwait.

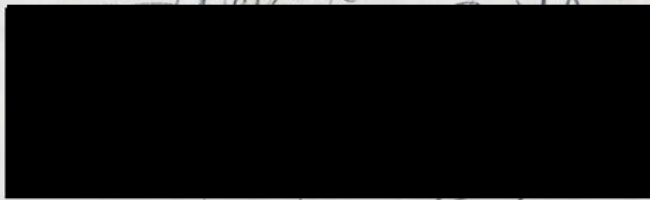
The Gulf War capitalized on the maneuver warfare philosophy of generating the greatest decisive effect against the enemy with the least possible cost to ourselves. The operational art as embodied in Operation Desert Shield/Storm represented the practical application of this philosophy. "While we should be proud of what we have done, I don't think it's wise to get a big head about this war," reflects LtGen. Walt Boomer.

To be sure there will be a next war and "Insight" writer Phil Gold cautions, "All that can be said of the next war _____ and there will be a next war _____ is that it is probably unimaginable today." Nevertheless, even in the next war let us not overlook the operational art.

LtCol. G.I. Wilson

msf

msf



United States Senate

MEMORANDUM

10/8/93

John,

Here is another kind of "reverse Pump" - right up Sam's Ass. You should have seen the expression ^{on} his face when Granley started reading the "defuse blank" speech. He looked like he felt sick.

"See you at the book burning" party. Always good to hear a kind word from our spiritual leader.

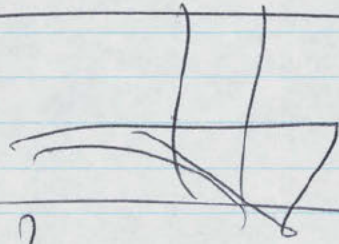
Charlie

The Parents Club & the Teachers Guild
E2 Reed

Diversity (or variety)

for

uncertainty



adaptability.

P C R

Dr Grant Hammond

(DFW)

Chairman of

Col Reg

AWC/DFW —

SAC Chair

Harwell DTB, Mr 36112 - 5522

• [OODA] →

What is it?
submarine benefits guess

• How did we see it in Kuwait / Iraq

• Air Side

• Ground Side

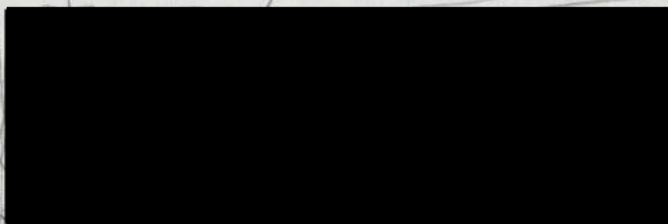
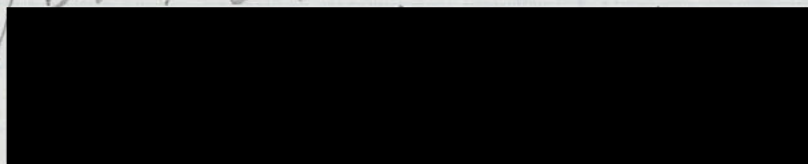
• Where does this lead us for future

• program

• research

• Computer

Bob Rath

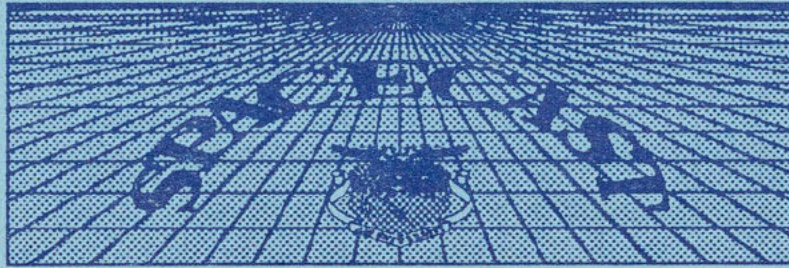


... one can ~~neither evolve~~ evolve neither the
hard and follow-on text nor the original
"Simple Handed Message" nor ~~this~~ presentation
itself.

owe Pd	552.05	(Pd) \$190
	190. —	
	<u>692.05</u>	

Charges ~~7655.96~~
22

692.05	692.05
1655.91	1656.19
<u>2348.01</u>	<u>2348.24</u>



Air University
Maxwell AFB, AL

* Blackhorse
* NWC → InfoWar
* USAF → InfoWar Summit

WM

FGIT

Copy 12

(A) (D) FGIT P

A D F G T P

(E)

(C) Write-up

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(CLQ)

(E)

Essential
Recommend

Arthur J. Bredehoeft

10/10/93

John

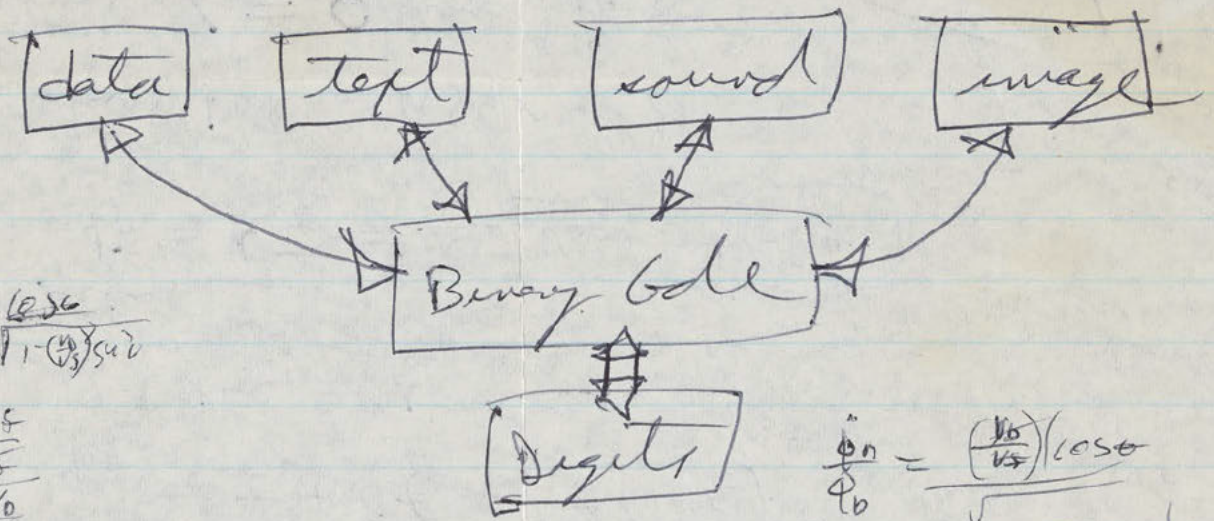
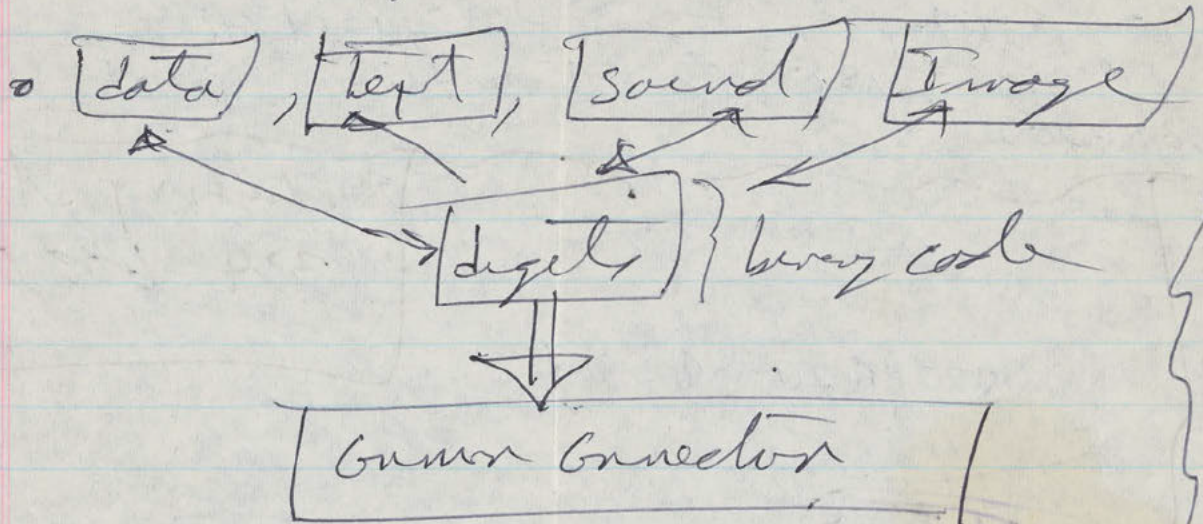
Enclosed find an article you
may find of interest. NASA
could use some of Boyd-
Ohno and Shingo's work thinking
to improve performance.

Thank you

Arthur

P.S. Have you read a book called
FINITE & INFINITE GAMES
BY JAMES P. CARSE?

Information



$$\frac{N_s}{N_0} = \frac{k \cos \theta}{1 - (k^2 \sin^2 \theta)}$$

$$\frac{N_s}{N_0} = \frac{k \cos \theta}{1 - k^2 \sin^2 \theta}$$

$$\frac{\dot{\phi}_n}{\dot{\phi}_0} = \frac{\left(\frac{V_0}{V_s}\right) \cos \theta}{\sqrt{1 - k^2 \sin^2 \theta}}$$

$$\dot{\phi}_A = \frac{V_0 \sin \theta}{s} \left[1 - k^2 \right] \left[1 - \frac{k \cos \theta}{\sqrt{1 - k^2 \sin^2 \theta}} \right] + \frac{k \dot{\phi}_0 \cos \theta}{\sqrt{1 - k^2 \sin^2 \theta}}$$

$k=0$, then PP
 $k \leq 0$ then lag P
 $k > 0$ then lead P

$$\dot{s} = V_s \sqrt{1 - k^2 \sin^2 \theta} - V_A \cos \theta$$

~~35.00~~

Lodging up
" bath

Friendship Inn = $35^{26} + 2^{45} = \$37.45$
Days Inn = = 32.10

Distance = 1298

Dodge Gas (3 April) = \$12.00 ✓
Toll = \$4.00 +
N Tane = 83.00

Waldwest Gas = 11.09 ✓
Toll = 7.50 +

Madison Dinner = \$7.41
Breakfast = \$5.13

Talleferro Gas = 7.80 ✓

~~Dutton~~
Compressor Manual = \$5.92

O Chl O Chl = \$5.95

Base Gas = \$10.00 ✓

O Chl Dinner = \$10.00
\$10.95

Dinner 6.75

Breakfast 5.35

Gas 6.13 ✓

Toll 11.00 +

Wed
Thur
Fri

\$5.00 ✓
gas @ Truck Stop

207.98

? - Why - ?

? - Question - ?

- With so much effort, over so long a period, by so many people to comprehend, shape & adapt to a world that we depend upon for vitality & growth: Why does such a world, although richer and more robust, continue to remain uncertain, ever-changing, & unpredictable?

Response

- Very simply, review of D&C, "Conceptual Spiral" and our own experiences reveal that the various theories, systems, processes, etc., that we employ to make sense of that world contain features that generate mismatches that keep such a world uncertain, ever-changing, & unpredictable. These features are:
-
-
-

Point

Point: No May out: We must continue the robust of Revolution, mismatches, Analysis/synthesis, over on our again as a basis
→ CS & A to ~~make~~ ^{unfolding} ~~words~~ ^{words} that remain
in E & von,

3 - Wg - ?

(new section) -

- With so much effort, over so long a period by so many people to comprehend, shape & adapt to our world; Why do ~~that~~ our world remain although different ~~remain uncertain, even~~ although richer and more robust, remain uncertain, unchanging & unpredictable?

? - Where do these mismatches come from? -

- Very simply, they arise out of how we related to the ~~world~~ ^{features} ~~various theories, systems, processes,~~ etc that we employ to CS to a to the ~~surrounding~~ to make sense of and cope with the reality that a world we depend upon for our vitality & growth.
- Review of D & C, and this presentation reveal that they are as follows:

could never be DE and C as an experience,

Very simply, the various theories, systems, processes, etc that we employ to make sense of that world contain features that keep it uncertain, unchanging & unpredictable. ~~Many features are~~

Point

There is no way out unless we can
elucidate the features just cited. Since
we don't know how ~~then~~ to do
this: We must continue the wheel
of recollection, measurement, analysis/synthesis
over and over again as a basis to
comprehend, grasp & adopt to an inflexible
world that remains a E U .

Where do these mismatches come from

- As already shown (in D&C and the presentation so far) these mismatches arise naturally out of our efforts to comprehend, shape, and adapt to a surrounding world that we are a part of live in and feed upon
- A deeper probe ^{is} reveals that these mismatches are generated by the following intellectual ~~artifices~~ ^{artifices} we create in our endeavors to comprehend, shape and adapt to that world: They are:

- So what does all this tell us? Paradoxically it tells us that these statements and the inevitable mismatches that arise out of them make our world ^{appear} uncertain, everchanging, unpredictable yet simultaneously permit us to re-comprehend, reshape, and readapt over and over again ~~ad infinitum~~ ^{ad infinitum} to ~~a~~ that world over and over again ^{ad infinitum}

In other words

- ~~So long as~~ we have ^{such} ~~these~~ statements there is no way out of ~~repeating~~ ^{our process} again, again, again

Very simply they arise out of ~~our~~ ^{our} ~~are~~ related to the very theories, systems, processes etc. that we ~~create & exploit~~ ^{use} ~~C S & H~~ to connect us with our universe as we are trying to (C S & H to

~~Very simply~~

{ — why — }

• With so much effort, over so long a period, by so many people to comprehend, shape, & adapt to a world that we depend upon for vitality and growth? Why have such a world, although richer and more robust, continue to remain uncertain, overcharging, & unpredictable?

• Very simply, review of D&C, Conceptual Speed, and our own experiences, reveal that ~~it~~ ~~simply to make sense of that world~~ reveal that the various theories, systems, processes, etc. ~~that we simply to introduce out that world~~ contain features that generate mismatches that keep such a world uncertain, overcharging, & unpredictable. — These features are:

—

—

—

✓

? — raises question — ?

• Where do these mismatches come from?

Message.

- A review of D & C and ~~other~~ ^{their} presentation ~~and our experiences~~ ^{thus far} suggest that these mismatches naturally arise out of our ~~intentions~~ ^{thoughts} and actions, & intention to ~~be~~ ^{become} ~~shape~~ ^{comprehend, shape, and adapt to} the ~~real~~ ^{real-world} we are a part of live in and feel in.
- A ~~deep~~ ^{profound} ~~probe~~ ^{direct} ~~that~~ ^{they are a natural} consequence of the concoctions we create, what a pity, or

In a sense the mismatches represent the ~~fully~~ ^{fully} concoctions we create that literally make that would be ~~un~~ ^{un} ~~replicable~~ ^{replicable} that ~~order~~ ^{it} ~~permits~~ ^{permits} us to comprehend, shape, and adapt to that world yet also make that world ~~un~~ ^{un} ~~replicable~~ ^{replicable} They are:

make that would be ~~un~~ ^{un} ~~replicable~~ ^{replicable} that ~~order~~ ^{it} ~~permits~~ ^{permits} us to ~~comprehend, shape, and adapt to~~ ^{comprehend, shape, and adapt to} that world

These ~~concoctions~~ ^{concoctions} that ~~order~~ ^{it} ~~permits~~ ^{permits} us to ~~comprehend, shape, and adapt to~~ ^{comprehend, shape, and adapt to} that world

as suggested by ~~our~~ ^{our} D & C ~~and~~ ^{and} ~~the~~ ^{the} ~~discovery~~ ^{discovery} and our own experience, these ~~concoctions~~ ^{concoctions} are:

Good

As already shown (in DEC and the presentation so far) these mismatches arise naturally out of our efforts to comprehend, shape, and adapt to a surrounding world that we are a part of, live in and feed upon.

Going further

A deeper probe reveals that ^{these} mismatches are generated by ^{the} intellectual constructions we create in our endeavors comprehend, shape, and adapt to that world. Why one?

—
—
—

~~Result~~

OK

Unless we can eliminate these constructions and (I don't see how) ~~these~~ mismatches arise out of them ~~simultaneously~~ make our world / U E U get ~~simultaneously~~ point us to C S & at that ~~same~~ world over and over again and inferential

In reality + an explanation

No Way Out

- ⑥ While the ^{anal}analytic/synthetic ^{method}process is valuable in addressing the mismatch and for ^{reorient}reorienting us toward our world it can also also surface those human concoctions that ~~make~~ ^{make} that world uncertain, evocative, and unpredictable. They are:

Water could wash us out ^{since they is no way out only fight}
it, but we are not explicit about

Now unless we can eliminate these troublesome concoctions or find some complexity work around, let's face it, ~~that~~ we will be forced to comprehend, shape, adapt, re-comprehend, reshape, re-adapt over and over again via the never ending process of orientation, mismatch, analysis/synthesis, reorientation, mismatch, analysis/synthesis
ooo In other words since ~~there is~~ ^{we can see} no way out only rat ~~and~~ ^{these} these

* uncertain, evocative, unpredictable, "they are:"

While the analytic/synthetic process described in D&C and the Conceptual Spiral permits us to address mismatch and reorient us toward our world it also surfaces ~~those~~ ^{some} human concoctions that make that world

• A of D & C

• A review of everything we^{1st} discussed so far, suggests that these innovations are to naturally arise out of the idea & actions we generate to comprehend, shape, and adapt to our surrounding world.

outgoing as an effort to C S & ad the real world that we are a part of here we and feed upon (the suggestion of D & E this presentation or other experience) In this sense ^{these innovations} ~~they~~ represent conclusions that make that word mean can & understand get ~~of~~ point ~~up~~ summarized point is to C S ad as we over that dynamic would over and over again as inference

No Way Out

- While the analytic/synthetic process, as described in O&C and CS, permits us to address mismatches and orient us toward ~~our~~ ^{the} world ~~in line with that world~~, the process also ~~exposes~~ ^{surfaces} some human concoctions that make ~~our~~ ^{that} world uncertain, everchanging, unpredictable. They are:
- _____
- _____
- _____
- _____

- ~~Now unless we can eliminate these concoctions or find some compensatory work around, we let's face it, we will be forced to comprehend shape, adapt, re-comprehend, reshape, readapt over and over again in order to deal with that uncertain, everchanging, unpredictable world.~~ ~~And the necessary process of~~ ~~whirl of Orientation, mismatches, analysis/synthesis, reorientation, mismatches, analysis/synthesis are~~ ~~the other ~~world~~ world, and we can see~~ ~~no way out we will embrace and exploit~~

Point: Since we can see no way out we will embrace and exploit this whirling spirit to continually comprehend, shape and adapt to that dynamic world.

As ~~suggested~~ ^{already} ~~implied~~ ^{shown} suggested,
by ~~everything we are surrounded by~~ ~~for~~,
these mismatches

(in D & C and their presentation in fact, these
mismatches arise naturally out of our
efforts to comprehend, define and adapt to ~~that~~ a
surrounding world that we are a part of, live in,
and feel upon.

A deeper probe of D & C ~~and~~ the contributions
of the S & E community ~~together~~ reveal that
in trying to C.S. & adapt to that world we
create ~~convex~~ ^{convex} intellectual cocoons
that ^{liberally} make that world uncertain, wobbling,
unpredictable which in turn forces us
to re-comprehend, re-define & re-adapt over and
over again to a ~~changing~~ world in a
new complex world of a E U
yet simultaneously permits to re-comprehend,
shape & adapt to that ~~dynamic~~ world over
and over again as impermanence.

all for
So what does this tell us? It tells us
that these cocoons and the ~~new~~
inevitable mismatches that arise out of
them make our world a E U yet
simultaneously point us to re-comprehend,
re-define and re-adapt to ^{the changing} that world
around us again as impermanence.
It is in our mind and our again as
impermanence.

My goal cannot lay out the path by which you will get there from here or put another way my model ~~can~~ can't help in this endeavor

- ① • Uncertainty associated with the incompleteness, undecidability, incompleteness theorems of mathematics & logic
- ② • Numerical imprecision associated with using the rational & irrational numbers in the measurement process.
- ③ • Quantum Uncertainty associated with Planck's constant and Heisenberg's Uncertainty Principle
- ④ • Entropy increase associated with the Second Law of Thermodynamics
- ⑥ • Mutations associated with replication errors inherent in evolutionary biology
- ⑦ • Incomprehensibility associated with inability to screen, filter, or otherwise consider spaghetti-like influences from ^{a variety of} ~~many~~ ever-changing, erratic, unknown outside events
- ⑧ • Ambiguity associated with natural languages as they are used and interact with one another
- ⑤ • Irregularity associated about behavior associated with far from equilibrium, open, nonlinear processes/systems with feedback

- Exploring Complexity
Gregoire Nicolis & Ilya Prigogine

- Time-symmetric processes are non-living processes; ~~time-asymmetric processes~~ living processes are time-asymmetric.

or

in other words

Living processes are irreversible processes, while reversible processes are non-living processes

Idea from

"The Arrow of Time"

- Check to Marion for \$2890²² 1/3 toward house improvements
- You gave me a check for \$425 for roof improvement = \$1275⁶⁹ 7/30/77
my check to George Schuch on July
- Dec 1985 sent check for \$550⁶⁶
my portion 275 for siding
- Check checkbook for 133/100
- 1980 attorney expenses

"
Conceptual Spiral," in expanding upon the
the ideas in "Destruction & Creation," unfaces
those ~~abstract~~ circular processes that
permit us to ^{a world} make evident as well as deal with
an unfolding, evolving reality that is uncertain,
everchanging, unpredictable

Upon reflection it is clear that - -
Together they represent a foundation for comprehending,
shaping, & adapting in an unfolding, evolving reality
that is uncertain, everchanging, unpredictable
-- hence a foundation for vitality and growth -