

DYADS

FUNDAMENTAL DYADS

BRAHMAN

The One and the Many

HERAKLEIDOS w PARMENIDES

Doing w Being, Change w Stasis

APOLLO w DIONYSUS

Order w Random Pure random w Polluted Random [from the 2nd Law]

* CONTINUOUS w DISCRETE

Aleph \geq 1 w Aleph 0

CONVERGENCE w DIVERGENCE

Closed w Open

PHILOSOPHY w SOPHISTRY

Searching w Eristics

PROTAGORAS w PLATO

Controlling w Belonging

CONTEXT w CONTENT

Set w Element

GENERALIZATION w ABSTRACTION

Sets w Macros

TOP DOWN w BOTTOM UP

General to specific (deduction) w Specific to general (induction)

GENERAL SYSTEMS THEORY w SYSTEMATICS

Common attributes into Sets w Pre-Frameworks

JUXTAPOSITION w DISCRIMINATION

Linking w Splitting

INCLUSION w RESOLVING POWER

Big picture w Details

MESSAGE w MESSENGER

Signal w Carrier Vehicle w Tenor

ESSENCE w REPRESENTATION

Facts w Symbols Experience w Language

REPETITIVE w RANDOM

[see Apollo w Dionysus, above] Repetitive is a special case of order

$\equiv \neq \neq \neq > C$

* NUMBER w MEASUREMENT

INFORMATION w ENERGY

CAUSALITY w MUTUALITY

NOTHINGNESS w EMPTYNESS
DOING BEING

MULTIPLICITY w DIVERSITY

INDIVISIBLE w FRAGMENTABLE

RECOGNITION w RECOLLECTION

C O D I C E S

THE CODICES ARE FOR ORGANIZING IDEAS AND CONCEPTS
(TOPICS FOR WHICH DEEPER DEVELOPMENT EXISTS ARE
MARKED WITH AN ASTERISK)

MARK II

2.1 THE SPECIES OF DYADS

- △ 2.1.1 Discrimination The creation of two classes
- δ 2.1.2 Dichotomy $A + \sim A = U$ (universe)
The two classes fill the universe
where the symbol \sim is negation
Dichotomies obey the law of the Excluded Middle,
"All propositions are either true or false".
- ⊆ 2.1.2.1 Binaries (two values compose the universe):
e.g. $\emptyset, 1$; T,F; (discrete)
- ∞ 2.1.2.2 Polars (two classes, but many values):
The boundary between the classes is pre-set
e.g. North, South (continuous)
- ω 2.1.2.3 Watersheds (two classes, many values):
but the boundary is arbitrary
- σ 2.1.3 Dyadic Symmetries
2.1.3.1 Opposites
A set of symmetries allowing but two classes
- ∞ 2.1.4 Dualisms: $A \leftrightarrow B$ and/or $B \leftrightarrow A$
These are dyads in which aspects may be
interchanged without altering the validity.
2.1.4.1 e.g. Projective Geomentry
Lines and points or lines and planes may be
interchanged.
2.1.4.2 e.g. Maxwell's Equations, a pair of duals.
- α 2.1.5 Bivalencies aspects, different ways of slicing
Two facets of an entity
2.1.5.1 e.g. Fourier Transforms
- h 2.1.6 Trade-offs
 $A \times B = \text{constant}$
Representable by hyperbolas or set of hyperbolas
- ∞ 2.1.7 Pendular
The manifestation of a temporal pattern
like a pendulum
2.1.7.1 e.g. Departure and Return
- π 2.1.8 Pairings (Place in juxtaposition, the opposite of a
discrimination in that the two classes are formed
by synthesis rather than analysis.
Meaningful (but not necessary) associations or pairs
2.1.8.1 e.g. Nodes and Links
- λ 2.1.9 Layers
Involving layers or levels
2.1.9.1 A contains B
e.g. Boxes and Balls
2.1.9.2 parts and wholes
2.1.9.3 Figure and Ground
2.1.9.4 Paradoxes and Double-binds
- χ 2.1.10 Choices, Branch Points, Alternate Paths
Branches available to choice.

See Codex 3

A / \bar{A}

Duals Fourier Transforms
Projective Geomtry
Maxwells Equations

Dichotomies
Contraries
Bivalencie

Trade-offs
Symmetries
Opposites

Binaries, Polars,

Are α and χ opposites?

- 2.6 THE SPECIES OF SILENCE
 - 2.6.1 The species of nothingness
- 2.7 THE SPECIES OF SPACE*
 - 2.7.1 Metric and Projective Geometries
 - 2.7.2 Metric spaces
 - 2.7.2.1 Euclidian
 - 2.7.2.2 Non-Euclidian
 - 2.7.2.3 Riemannian
 - 2.7.2.4 Banach and Hausdorf
 - 2.7.2.4.1 Similarity, Hamming
 - 2.7.3 Option Space
 - 2.7.4 Holograms
 - 2.7.5 Feng Shui
 - 2.7.6 Sacred Space
- 2.8 THE SPECIES OF TIME*
 - 2.8.1 Linear and Cyclical
 - 2.8.2 Objective and Subjective
 - 2.8.2.1 During and Until
 - 2.8.3 Time as 4th dimension, space/time
 - 2.8.4 Primordial Time
 - 2.8.5 Present, Decker, Determinator
 - 2.8.6 The Journey of the Year

- 2.9 THE SPECIES OF DYADS* *See CODEX 3*
 - 2.9.1 Discrimination A/~A
 - 2.9.2 Dualisms:
 - 2.9.2.1 Fourier Transforms
 - 2.9.2.2 Projective Geometry
 - 2.9.2.3 Maxwell's Equations
 - 2.9.3 Trade-offs
 - 2.9.4 Pendular (temporal pattern~pendulum)
 - 2.9.5 Symmetries
 - 2.9.5.1 Opposites
 - 2.9.6 Binaries and Polars
 - 2.9.7 Dichotomies
 - 2.9.8 Bivalencies

- 2.10 THE SPECIES OF TRIADS
 - * Figures, Ground, Interference pattern, Holography*
- 2.11 THE SPECIES OF TETRADS
 - 2.11.1 Jung's typology
 - 2.11.2 Cybernetics
 - 2.11.3 Signification
 - 2.11.4 Modes
 - 2.11.5 Conceivable, Possible, Probable, Preferable ** Renaissance, Humanism, Humanism*
- 2.12 THE SPECIES OF INTERACTIONS*
 - 2.12.1 Melting Pots
 - 2.12.1.1 Moctezuma/Cortez
- 2.13 THE SPECIES OF INFORMATION*
 - 2.13.1 Meta-information, Signification (a tetrad)
 - 2.13.1.1 Interesting
 - 2.13.1.2 Important
 - 2.13.1.3 Valid
 - 2.13.1.4 True
 - 2.13.2 Negentropy *Negentropy Engines*
- 2.14 THE SPECIES OF ENERGY
 - The Sabbath*
- 2.15 THE SPECIES OF WILL*
 - Terrence*
 - Hadiji*
 - Genotype/Phenotype*
 - Life*

(7)

dyad1.wp6

2.9

1. THE SPECIES OF DYADS*
 1. Discrimination $A/ \sim A$
 2. Dualisms:
 - (1) Fourier Transforms
 - (2) Projective Geometry
 - (3) Maxwell's Equations
 3. Trade-offs
 4. Pendular (temporal pattern~pendulum)
 5. Symmetries
 - (1) Opposites
 6. Binaries and Polars
 7. Dichotomies
 8. Bivalencies

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THE SPECIES OF DYADS

SYMMETRIES

COMPLEMENTARIES $A * B = \hbar$

DUALISMS

OPPOSITES

A/ NOT A

A/NO A

DIRACEAN CO-EMERGENCE +/-, $A + B = 0$

$A \supset B / B \supset A$

BINARIES

POLARS

DICHOTOMIES

BIVALENCIES

TRADE OFFS $A * B = 1$

МЫ БУДЕМ ЗАВТРА У ДОМЕ

PARAMETERIZATION

MARK II

7. DYADS CONTAINING LEVELS

ABSOLUTE/INVARIANT
 ANECDOTE/PROOF
 AUTHENTICITY/LEGITIMACY (KEN WILBER)
 BALL/BOX (AS IN STATISTICAL MECHANICS)
 COMMITMENT/DETACHMENT sand castles, ice sculptures
 CROSSING/NAMING
 DEFINITION/CHARACTERIZATION
 DESCRIPTIVE/INJUNCTIVE
 EGALITE/ELITE
 EMIC/ETIC
 FIGURE/GROUND
 HORIZONTAL/VERTICAL
 MODEL/PARADIGM
 NUCLEUS/CELL
 OBSERVER/OBSERVED
 ONTOLOGICAL/AXIOLOGICAL
 PHOTOGRAPH/HOLOGRAPH
 STATE/SOCIETY
 SYMBIOSES, ECOLOGIES
 SYMBOLIZING/DELINEATING

ADDRESS, CONTENTS (DATA)

Example of

I am a disciple of
G. S. Prasad (Nearing)

writing about

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α DYADS THAT ARE FACETS

ANALOG/DIGITAL
 CHALLENGE/NURTURE
 COSMOS/PSYCHE
 DIFFUSION/INDEPENDENT DISCOVERY OR INVENTION
 EDUCATION/ENTERTAINMENT
 ENVIRONMENT/HEREDITY
 MASCULINE/FEMININE
 META-STATES/ALTERED STATES
 PROCESS/STRUCTURE

May be

β DYADS WHICH ARE BINARIES

ARCHETYPAL/INTENTIONAL
 CLOSED/OPEN
 REVERSIBLE/IRREVERSIBLE
 SAME/DIFFERENT

γ DYADS WHICH ARE MEANINGFUL PAIRS

BEING/KNOWING
 CHURCH/STATE
 COMPASSION/WISDOM
 ITERATION/RECURSION operate on self/reference self
 JUXTAPOSITION/SUPERPOSITION cruise missiles and Hamming space
 KNOWLEDGE/BELIEF (FAITH)

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NODE/LINK
 PRIVACY/MOBILITY
 PRIVILEGE/ACCOUNTABILITY
 QUESTION/ANSWER
 REDUNDANCY/RELIABILITY
 RELATION/ENTITY
 SECURITY/MOBILITY
 SPACE/TIME

Center/Periphery

δ DYADS THAT ARE DUALISTIC

BOMBS AGAINST THE SHIPS/SHIPS AGAINST THE BOMB (BIKINI TEST)
 CASSANDRA/TOM GOLD always right, never believed/vv
 FORM/FORCE
 INVENTION, THE MOTHER OF NECESSITY (THE GODS MUST BE CRAZY) et vv
 IS/UGHT
 LEGALITY/LEGITIMACY

10 NODE/PATH
ONTOLOGY/EPISTEMOLOGY
PRODUCT/PROCESS CF. NODES, LINKS, PATHS, TRAFFIC
SUCCESS/FAILURE

7 DYADS OF CHOICE
ASSAULT/BY-PASS
DEVELOP/SPREAD (OR DIFFUSE)
6 HARMONY/GOOD-EVIL (BUDDHISM/ZARATHUSTRIANISM)
RESURRECT/REINCARNATE
RETRIEVE/REINVENT OR REDERIVE
SYNCRETISTS/MISSIONARIES (EVANGELISTS)

△ DISCRIMINATIONS
MARTIAL/MILITARIST
3 NOMAD/SETTLER
PLANT/ANIMAL

8 DICHOTOMY
1 TOP DOWN/BOTTOM UP

4 TRADE-OFFS
COMPLEXITY/MOBILITY
3 INDEPENDENCE/MOBILITY
POTENTIALITY/ACTUALITY

*Develop/Spread ~ research/teach
when one goes up, the other goes down
~ weaver see Parabola Fall 1995 p29
Foyenko, Foyenko*

2 POLARS
CERTAINTY/UNCERTAINTY
CONTINUOUS/DISCRETE
5 ORDER/CHAOS
PHENOMENAL/NOUMENAL
THOROUGHbred/HYBRID

5 OPPOSITES
CAUSALISM/FINALISM
COMPETITION/COOPERATION
DIFFUSE/CONCENTRATE
DISCRIMINATE/CLUSTER
DISCRIMINATIONS/PAIRINGS

4 MATTER/ANTI-MATTER
SAMENESS/RANDOMNESS
VERIFY/FALSIFY - yes and no, 2 a great asymmetry
YIN/YANG

2 TEMPORAL PATTERNS
DEPARTURE/RETURN
2 GENOTYPE/PHENOTYPE

6 WATERSHEDS
HIGH S/V / LOW S/V
INVENTION/DISCOVERY
LEARNING/CREATING
LEGATO/STOCCATO

10 MICRO/MACRO
SCIENCE/ART
SIGNAL/NOISE
STRUCTURE: IMPOSED/DISCOVERED
SUBSONIC/SUPERSONIC
SYMBIOSIS/EMERGENCE

Dyads that are complementarities

96 *Symmetries*

(S)
PHOTOGRAPH/HOLOGRAPH
STATE/SOCIETY
SYMBIOSES, ECOLOGIES
SYMBOLIZING/DELINEATING

DYADS THAT ARE FACETS

ANALOG/DIGITAL
CHALLENGE/NURTURE
COSMOS/PSYCHE
DIFFUSION/INDEPENDENT DISCOVERY OR INVENTION
EDUCATION/ENTERTAINMENT
ENVIRONMENT/HEREDITY
MASCULINE/FEMININE
META-STATES/ALTERED STATES
PROCESS/STRUCTURE

DYADS WHICH ARE BINARIES

ARCHETYPAL/INTENTIONAL
CLOSED/OPEN
REVERSIBLE/IRREVERSIBLE
SAME/DIFFERENT

DYADS WHICH ARE MEANINGFUL PAIRS

BEING/KNOWING
CHURCH/STATE
COMPASSION/WISDOM
ITERATION/RECURSION operate on self/reference self
JUXTAPOSITION/SUPERPOSTIION cruise missiles and Hamming space
KNOWLEDGE/BELIEF (FAITH)
NODE/LINK
PRIVACY/MOBILITY
PRIVILEGE/ACCOUNTABILITY
QUESTION/ANSWER
REDUNDANCY/RELIABILITY
RELATION/ENTITY
SECURITY/MOBILITY
SPACE/TIME

DYADS THAT ARE DUALISTIC

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IS/UGHT
LEGALITY/LEGITIMACY
NODE/PATH
ONTOLOGY/EPISTEMOLOGY
PRODUCT/PROCESS CF. NODES, LINKS, PATHS, TRAFFIC
SUCCESS/FAILURE

DYADS OF CHOICE

ASSAULT/BY-PASS
DEVELOP/SPREAD (OR DIFFUSE)
HARMONY/GOOD-EVIL (BUDDHISM/ZARATHUSTRIANISM)

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RESURRECT/REINCARNATE
RETRIEVE/REINVENT OR REDERIVE
SYNCRETISTS/MISSIONARIES (EVANGELISTS)

DISCRIMINATIONS
MARTIAL/MILITARIST
NOMAD/SETTLER
PLANT/ANIMAL

DICHOTOMY
TOP DOWN/BOTTOM UP

TRADE-OFFS
COMPLEXITY/MOBILITY
INDEPENDENCE/MOBILITY
POTENTIALITY/ACTUALITY

POLARS
CERTAINTY/UNCERTAINTY
CONTINUOUS/DISCRETE
ORDER/CHAOS
PHENOMENAL/NOUMENAL
THOROUGHbred/HYBRID

OPPOSITES
CAUSALISM/FINALISM
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DISCRIMINATE/CLUSTER
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TEMPORAL PATTERNS
DEPARTURE/RETURN
GENOTYPE/PHENOTYPE

WATERSHEDS
HIGH S/V / LOW S/V
INVENTION/DISCOVERY
LEARNING/CREATING
LEGATO/STOCCATO
MICRO/MACRO
SCIENCE/ART
SIGNAL/NOISE
STRUCTURE: IMPOSED/DISCOVERED
SUBSONIC/SUPERSONIC
SYMBIOSIS/EMERGENCE

A TYPOLOGY OF DYADS A PROJECT IN ^{RE}INVERSE EPISTEMOLOGY

Different authors label two-fold objects with such names as binaries, dualities, opposites, etc. These terms are used in general to mean the same thing. In the present project one of the tasks is to explore the various types of two-fold objects and in doing this such terms as listed above will be given specific meanings and assigned to various sub-classes of two-fold objects. Herewith is a 'shopping list' of some two-fold terms used in English:

- ADVERSARIALS
 - BIFURCATIONS
 - BINARIES
 - COMPLEMENTARITIES
 - DICHOTOMIES
 - DISCRIMINATIONS
 - DUALITIES ^{DUALS}
 - DYADS
 - OPPOSITES
 - PAIRS
 - POLARS
 - SYMMETRIES
- Annotations:*
 Anonymus VECTOR-DYADS
 CONTRARIES
 DUALS
 OSCILLATORIES [= DIALECTIC ?] Brautwong - Dialectics

In additions some special terms will be created, such as
BOHREANS
DIRACEANS
to signify special two-fold systems.

To begin with we shall select the term DYAD as the generic label for all two-fold systems. The other terms will refer to sub-classes of DYADS.

In this project we shall proceed using ^{oscillatory process} inverse epistemology. In direct epistemology we begin with a prior organizing schema or framework and assign elements to their proper places in the structure. In ^{re}inverse epistemology we begin with a list or pile of elements, (dyads in the present case), and create the schema from comparisons of the elements. Differences and similarities among the elements are noted and organizing parameters derived. The values assumed by the parameters lead to the definitions of the classes to which the elements can be assigned. The defined classes can then be given appropriate labels. The schema and the assignments are thus developed concurrently.

Next in order then is a 'shopping list' of specific dyads, our primary in the creation of the typology.

schema ↔ assignment

(F)

ABOUT REVERSE EPISTEMOLOGY

I have in front of me a pile of paper consisting of clippings, notes, essays, cartoons, and scraps on which sketches of ideas have been scribbled. I spread them out on the bed and see if I can come up with some way to organize them so that at least some degree of retrievability can be effected. How nice it would be to have a ready made filing system so refined that a glance at the scrap would immediately inform me into which slot it goes. But these scraps defy filing! No system exists that can order them. They survive in a one category file labeled **miscellaneous**, whose present retrievability value is next to nil.

This is not an unusual problem. We seem to have to live with outgrown filing systems whose miscellaneous category continually expands. We can of course throw out items that don't fit in the file in order to keep the miscellaneous folder thin. In fact we have three choices: 1) Throw away what doesn't fit and thus have a perfect but incomplete file, 2) Keep everything and when an item doesn't fit stuff it in the miscellaneous file and thus have a complete but imperfect file, or 3) Create a filing system that will be both perfect and complete. The last option would be an ongoing and will-o-the-wisp task. It should be noted here that the Austrian mathematician Kurt Gödel proved that a file could never be both complete and perfect*. So the best we can hope for is continual updating, iterating our latest file.

Updating is one task, but starting from scratch with a totally unstructured pile is another task. This is where reverse epistemology comes in. Ordinarily an epistemology contains two aspects or layers. First, an epistemology has an organizing schema, a sort of matrix into which various experiences or items can be placed. Second, an epistemology has a process which identifies where in the matrix each experience or item is to be placed. If we have a set of experiences or items, but no organizing schema, then we must employ 'reverse epistemology'-- create the schema and the process concurrently.

* Actually this is not what Gödel proved. He showed that in any postulatory system (at least as complex as arithmetic) that there exist true theorems that cannot be derived from the postulates. The application of this result to filing systems is valid because the file must include not only the analog of the derivable and non-derivable items but items coming from other completely different postulatory systems. If the Gödel case forbids both simultaneous perfection and completeness, then certainly the case of files does.

SOME BASIC DYADS

SOMETHING // NOTHING

I. EXISTENCE//NON-EXISTENCE; REALITY//NOTHINGNESS

II. KNOWN//UNKNOWN; AWARE//UNAWARE; PHENOMENA//NOUMENA

[Note: awareness is not the same as consciousness, which is not a dyad]

III. PHENOMENON//REPRESENTATION; PHENOTYPE//GENOTYPE;
MANIFESTATION//ARCHETYPE; MATERIAL//IMMATERIAL

IV. FIGURE//GROUND; CREATION//CREATOR; WORLD//BRAHMAN;
THE CHANGING//THE FIXED

V. SUBJECT//OBJECT; I//THOU; OBSERVER//OBSERVED

EMIC / ETIC

VI. LOCAL//GLOBAL; PARTICLE//WAVE; FINITE//INFINITE; NOW//ETERNAL;
MORTAL//IMMORTAL

FIELD / PATH

VII. PART//WHOLE; INDIVIDUAL//COLLECTIVE

VIII. BEING//DOING; ESSENCE//BEHAVIOR; THING//PROCESS; NOUN//VERB

IX. EXPLORE//CREATE; THE FIXED//THE ALTERABLE

*ORDINAL /
CARDINAL*

X. SEPARATION//EXTENSION; INTERVAL//DURATION; UNTIL//DURING

XI. DEPENDENT//INDEPENDENT; CONNECTED//DISCONNECTED
DEPARTURE//RETURN

*ABSTRACT /
GENERAL*

XII. PLANNED//SPONTANEOUS; INTENTION//SERENDIPITY; ACTIVE//PASSIVE;
DISPENSING//RECEIVING

synchronicity ? w. serendipity ?

BEYOND THE DYAD ~~IC~~ IS THE QUADRIAD

SCHRODINGER'S CAT IS NOT DYADIC.
THE CAT MAY BE DEAD OR ALIVE,
BOTH DEAD AND ALIVE,
NEITHER DEAD NOR ALIVE

DIACHRONIC // SYNCHRONIC

CONCERNING VECTOR DYADS [PART I]

Among the various species of dyads are those having a vector nature, that is dyads that may be considered as having a dynamic and a direction. [see scrap 2005 # 5] Some examples:

| Magnitude <i>verb</i> | Direction <i>noun</i> |
|------------------------------|------------------------------|
| Process | Products |
| Evolution | Species |
| Means | Ends |
| Belief | Beliefs ¹ |

Most of us have difficulty with the vector species of dyad, confusing it with the us/them opposition type of dyad. While the resolution of opposition dyads requires one side win and the other lose, vector dyads do not. But what is subtle about a vector dyad is that while both magnitude and direction are matters of choice, there exists a functional relation between them. That is, where you choose to go and how you choose to get there are not totally independent. Some choices of how will take you to a different where and some choices of where require an overlooked choice of how. And in some cases you just can't get there from here.

More basic to vector dyads, is the matter of emphasis, whether it is on the product or on the process, on the goal or on the route. For example, in science emphasis is almost exclusively put on process, on the so called scientific method, (the how). An hypothesis must be empirically tested and the tests be reproducible. But on occasion some hypothesis (a where) becomes so convincing that the basic scientific method of validation is replaced by validating through what is in accord with the product (a theory). This in effect closes off paths to possible alternate products and puts the focus on alternate affirmations of the specific product. And quite frequently in the building of knowledge around some specific product(s), important facts are ignored and others considered irrelevant. After the open ended scientific process has been taken over by its products, the end result is a set of unchallenged theories that remain until, as Max Planck said, "their adherents die off".

*E.g.
Technology
reflex
science*

But the compromise of process for the sake of a product is far more common in politics than in science. It is disturbing that this past week the majority in congress saw fit to ignore the Constitution in order to advance their standing with their political base. The democratic process subverted for a partisan product. The emphases of many politicians result in an ephemeral *where* taking priority over diachronic constitutional processes. This is certainly us/them thinking invading a vector dyad. It may be that approaching all problems as us/them issues is natural for those trained in certain branches of the law. The win/lose mentality of the court room becomes reflex thinking for many politicians. They reduce the world to a win/lose, us/them game. It is long past time that such simplistic thinking be exiled from the halls of legislators, the pulpits of clergy, and the councils of nations

¹ * Because of some semantic limitations in the English language, the same word, *belief*, is used both for a process, such as the power implicit in the act of believing, and for a product, the particular world view that is believed in.

PROCESS / PRODUCT

Terrorists lose sight of ^{product} goal
become obsessed with process

Justize
Killing

U.S. Senate loses sight of process
becomes obsessed with product

Debate
conservative justice

(F) and (T)

DYAD5.WP6
rev 11/07/89, 95/07/01

DISK:IDEACONTROL

03/26/87, 08/04/89

THE SPECIES OF DYADS MARK III

Among the most basic human cognitive processes are discrimination and identification, the detection of differences and detection of similarities. In its most elemental form discrimination results in the formation of a configuration containing two classes. Class I consists of those objects in which a specified parameter has certain values and class II consists of all other objects. After the discrimination has been made, i.e. after class I has been defined, the process of identification then consists of assigning objects that fit to class I and all others to class II. In the following we shall use the term **dyad** to represent any set consisting of two classes, and will seek to characterize some of the different types of such sets.

The particular dyad described in the first paragraph, one in which every object belongs to either class I or class II we shall term a **dichotomy**. A dichotomy exists whenever the totality of the members of the two classes fills the universe. Using the symbol \sim for "NOT" and representing the universe by the number 1, an example of a dichotomy is given by the two classes A and $\sim A$, which have the property:

$$A + \sim A = 1$$

The dichotomy is basic to our most common type of logic, that of Aristotle. Dichotomies obey the law of the Excluded Middle, *viz. eg* "All propositions are either true or false".

Another sub-class of dyads we shall call **binaries**. Some examples include: North Latitudes and South latitudes, (latitudes of value zero are not included); Watersheds, such as east slope and west slope, other drainages are not included. In general the classes composing a binary may contain many values. When each class takes on but one value, we call the binary a **polar**. An example of a polar is the coin toss: Heads and tails are polar binaries because the coin may stand on edge. [Binaries are continuous, polars are discrete.]

- i. Dyadic Symmetries
 - (1) Opposites
A set of symmetries allowing but two classes
- ii. Dualisms: $A \leftrightarrow B$ and/or $B \leftrightarrow A$
 - (1) e.g. Projective Geometry
Lines and points or lines and planes may be

- interchanged.
- iii. Bivalencies aspects, different ways of slicing
Two facets of an entity
 - (1) e.g. Fourier Transforms
 - iv. Trade-offs
A x B = constant
Representable by hyperbolas or set of hyperbolas
 - v. Pendular
The manifestation of a temporal pattern
like a pendulum
 - (1) e.g. Departure and Return
 - vi. Pairings (Place in juxtaposition, the opposite of
a discrimination in that the two classes are
formed
by synthesis rather than analysis.
Meaningful (but not necessary) associations or
pairs
 - vii. Layers
 - (1) e.g. Nodes and Links
 - Involving layers or levels
 - (1) A contains B
e.g. Boxes and Balls
 - (2) parts and wholes
 - (3) Figure and Ground
 - (4) Paradoxes and Double-binds
 - viii. Choices, Branch Points, Alternate Paths
Branches available to choice.

DYADS CONTAINING LEVELS

ABSOLUTE/INVARIANT
 ANECDOTE/PROOF
 AUTHENTICITY/LEGITIMACY (KEN WILBER)
 BALL/BOX (AS IN STATISTICAL MECHANICS)
 COMMITMENT/DETACHMENT sand castles, ice sculptures
 CROSSING/NAMING
 DEFINITION/CHARACTERIZATION
 DESCRIPTIVE/INJUNCTIVE
 EGALITE/ELITE
 EMIC/ETIC
 FIGURE/GROUND
 HORIZONTAL/VERTICAL
 MODEL/PARADIGM
 NUCLEUS/CELL
 OBSERVER/OBSERVED
 ONTOLOGICAL/AXIOLOGICAL

DIADS

CODEX3B.WP5

DISK:IDEACONTROL

11/06/89, 02/04/90

- 1 ABSOLUTE/INVARIANT *ABSTRACT/GENERAL*
- 2 ACTION/REST (BENTOV)
- 3 ANALOG/DIGITAL *AGREEMENT/COMPLIANCE*
- 4 ANECDOTE/PROOF
- 5 ARCHETYPAL/INTENTIONAL
- 6 ART/SCIENCE
- 7 *o* ASSAULT/BY-PASS
- 8 AUTHENTICITY/LEGITIMACY (KEN WILBER)
- 9 AUTHORITY/RESPONSIBILITY
- 10 BALL/BOX (AS IN STATISTICAL MECHANICS)
- 11 BEING/KNOWING *BEING/DOING*
- 12 BOMBS AGAINST THE SHIPS/SHIPS AGAINST THE BOMB (BIKINI TEST)
- 13 CASSANDRA/TOM GOLD *always right, never believed/vv*
- 14 CAUSALISM/FINALISM
- 15 CERTAINTY/UNCERTAINTY *Center/Periphery* *CARDINAL/ORDINAL*
- 16 CHALLENGE/NURTURE
- 17 CHURCH/STATE
- 18 CLOSED/OPEN
- 19 COMMITMENT/DETACHMENT *sand castles, ice sculptures*
- 20 COMPASSION/WISDOM
- 21 COMPETITION/COOPERATION
- 22 COMPLEXITY/MOBILITY
- 23 CONCEIVABLE/POSSIBLE
- 24 *o* CONTINUOUS/DISCRETE
- 25 COSMOS/PSYCHE
- 26 *o* CREATE/DISCOVER
- 27 CROSSING/NAMING
- 28 DEFINITION/CHARACTERIZATION
- 29 DEPARTURE/RETURN *- a dialectic*
- 30 DESCRIPTIVE/INJUNCTIVE *Deterministic/Random*
- 31 *o* DEVELOP/SPREAD (OR DIFFUSE) *Deterministic/Free*
- 32 DIFFUSE/CONCENTRATE
- 33 DIFFUSION/INDEPENDENT DISCOVERY OR INVENTION
- 34 *o* DISCRIMINATE/CLUSTER
- 35 DISCRIMINATIONS/PAIRINGS
- 36 EDUCATION/ENTERTAINMENT
- 37 EGALITE/ELITE
- 38 EMIC/ETIC
- 39 ENVIRONMENT/HEREDITY
- 40 *o* FIGURE/GROUND *FAITH/FACT* *FIELD/PATH*
- 41 FORM/FORCE *FAITH/REASON*
- 42 GENOTYPE/PHENOTYPE *FAITH/SIN*
- 43 HARMONY/GOOD-EVIL (BUDDHISM/ZARATHUSTRIANISM)
- 44 HELICOID/SCORPIOID
- 45 HIGH S/V / LOW S/V *Hierarchy/Gradient (Ground)*
- 46 *o* HORIZONTAL/VERTICAL
- 47 INDEPENDENCE/MOBILITY
- 48 INVENTION, THE MOTHER OF NECESSITY (THE GODS MUST BE CRAZY) et vv
- 49 INVENTION/DISCOVERY
- 50 IS/UGHT
- 51 *o* ITERATION/RECURSION *operate on self/reference self*

- 52 JUXTAPOSITION/SUPERPOSTIION cruise missiles and Hamming space
- 53 KNOWLEDGE/BELIEF (FAITH)
- 54 LEARNING/CREATING
- 55 LEGALITY/LEGITIMACY
- 56 LEGATO/STOCCATO
- 57 LOOPS/LETS
- 58 MARTIAL/MILITARIST
- 59 MASCULINE/FEMININE
- 60 MATTER/ANTI-MATTER
- 61 META-STATES/ALTERED STATES
- 62 MICRO/MACRO
- 63 MODEL/PARADIGM
- 64 MULTIPLEXING/TIME-SHARING CDMA/TOMA ADMA/FDMA
- 65 NODE/LINK
- 66 NODE/PATH
- 67 NOMAD/SETTLER
- 68 NUCLEUS/CELL
- 69 OBSERVER/OBSERVED
- 70 ODD/EVEN
- 71 ONTOLOGICAL/AXIOLOGICAL
- 72 ONTOLOGY/EPISTEMOLOGY
- 73 ORDER/CHAOS
- 74 *Particle/ Wave*
 ° PATTERN/PROOF
- 75 PHENOMENAL/NOUMENAL
- 76 PHOTOGRAPH/HOLOGRAPH
- 77 PLANT/ANIMAL
- 78 POTENTIALITY/ACTUALITY
- 79 PRIVACY/MOBILITY
- 80 PRIVILEGE/ACCOUNTABILITY
- 81 PROCESS/STRUCTURE
- 82 ° PRODUCT/PROCESS CF. NODES, LINKS, PATHS, TRAFFIC
- 83 ° QUANTITY/VARIETY (PRINCIPLE OF PLENITUDE, ORGANIC V ECOLOGICAL LEVELS)
- 84 QUESTION/ANSWER *dialectic* *multiplicity/diversity*
- 85 REDUNDANCY/RELIABILITY *efficiency*
- 86 RELATION/ENTITY
- 87 ° REPETITION/ITERATION
- 88 RESURRECT/REINCARNATE
- 89 RETRIEVE/REINVENT OR REDERIVE *(Hanson Brown)*
- 90 REVERSIBLE/IRREVERSIBLE
- 91 RIGHTS/RESPONSIBILITIES
- 92 SAME/DIFFERENT
- 93 SAMENESS/RANDOMNESS
- 94 SCIENCE/ART ~~SCIENCE~~
- 95 SECURITY/MOBILITY
- 96 ° SIGNAL/NOISE
- 97 SPACE/TIME *stability/stagnation (wolf)*
- 98 STATE/SOCIETY
- 99 ° STRUCTURE: IMPOSED/DISCOVERED
- 100 SUBSONIC/SUPERSONIC
- 101 SUCCESS/FAILURE *Subject/object*
- 102 SWITCHING/MACROING
- 103 SYMBIOSIS/EMERGENCE
- 104 SYMBOLIZING/DELINEATING
- 105 SYNCRETISTS/MISSIONARIES (EVANGELISTS)

106
107
108
109

THOROUGHbred/HYBRID
◦ TOP DOWN/BOTTOM UP
VERIFY/FALSIFY
◦ YIN/YANG

Winn / Sample 10

- Abstraction/Generalization
- Patterns/sets

PROJECT AREAS OCTOBER 1999

repeated
THE ULTIMATE TEST OF TRUTH IS ITS INDEPENDENT REDISCOVERY
and repeated

I. VERGES: THE INTERFACES

A verge is where a difference occurs

A verge is where dialectics meet

All existence occurs at a verge

All innovation occurs at a verge

There are four kinds of verge:

The meeting of two somethings

A something between two nothings

A nothing between two somethings

The meeting of two nothings

Life and humanity exist at the intersection of multiple verges.

Earth (solid) and Space (empty)

Heaven and Hell

Force and Matter

Some particular verges: *The Hopi verge (Manifest/Unmanifest)*

The Taoist verge (Represented/Unrepresented)

The Zarathustra verge (Ahura Mazda/Ahriman)

The Dionysus/Apollo verge (Heart/Intellect)

The Nagarjuna verge (Nothingness/Non-existence)

The Male/Female verge (Make rules/Make judgements; In command/Who belongs)

The "Eden" verge (Zarathustra/Harmony; Good and evil/Life)

The "Future and its Enemies" verge (Planning/iterated random)

The "Alphabet and the Goddess" verge (signs/images)

The Inner space/Outer space verge (recognition/experience)

External experience brings to awareness that which already exists internally
i.e. brings recognition. Our coherence with the outer world depends on
recognition

II. The Garden of Eden

Four Characters: God, Serpent, Adam, Eve

Four Choices:

1) Obey/Disobey

2) Which tree

a) Good and Evil, Zarathustra

b) Life, the Harmonious world

3) a) was selected, whom to serve Ahura Mazda or Ahriman

4) Is nature Ahura Mazda or Ahriman

If Ahura Mazda then we are back to 2) b), if Ahriman then Nature
is an enemy to be overcome, conquered, and controlled.

ON DYADS

Dyads arise from two processes: either from distinguishing or from simplifying. From splitting a previously considered unit into two varieties, or from grouping many different varieties into two sets.

DISTINGUISHING:

At first, coal is coal, then we discriminate two kinds of coal, anthracite and lignite. A dyad coming from analysis, from a making a discrimination. At first, all cepheid variable stars are cepheid variables, then a discrimination is made between RR Lyrae cepheids and normal *classical* cepheids, and knowledge of the scale of the universe is changed

SIMPLIFYING:

There are many religions, paganism, shamanism, Taoism, Hinduism, Judaism, Islam, Christianity, etc. We select a parameter, such as the number of gods that the religion recognizes, then create two sets, many god religions and one god religions. This dyad is a simplification. But after creating a dyad by simplifying and grouping, discrimination appears, a kind which is often the basis of prejudice and conflict.

English gives us one word, discrimination, for two concepts. So a discrimination must be made. We can do it on the basis of which occurs first, the discriminating or the dyad. If discrimination occurs first, the result is a dyad, often illuminating. If the dyad occurs first, the result is discrimination, often hostile.

More important is the direction of the process. Creation of dyads to increase diversity or creation of dyads to reduce diversity. Seeking divergence or seeking convergence. It appears that nature is ever seeking to increase diversity while humankind is ever seeking to increase uniformity. Brahma wants to hear many variations on the cosmic theme. Humans like uniformity because it enhances certainty and certainty in turn projects security. And uniformity makes it easier to have power and control. Humans represent a convergent process in a diverging and expanding universe. This leads to a dyad with origins in neither an analytic discrimination nor an intentional grouping. A basic cosmic dyad: Diversity vs Uniformity.

MONO-PROBLEMS

Many difficulties arise from inadequate or prohibited differentiations. These range from theological problems such as the question posed by the Book of Job: Why do bad things happen to good people? To legal problems as how to adjudicate cases involving abuse and harassment within the constitutional right of freedom of speech. Such problems have in common a parameter that has been homogenized. In the case of Job, the parameter is God, in the case of the first amendment the parameter is speech.

The God of the Old Testament has many facets: He is forgiving, He is punitive; He is protective, He is remote; He is loving, He is vengeful; He is just, He plays favorites. To package all of these qualities in a single deity leads to logical absurdities and consequential ineffectiveness of those systems of belief centered on such a deity. While the concept that there is but one God symbolizes recognition of ultimate cosmic harmony, **homogenization must not be confused with harmonization**. The multi-deities of Eastern and Pagan religions better represent the conflicts between those inner human attributes struggling for dominance within each of us than does any form of monotheism. Besides monotheistic theologies have always abandoned their core mono-dogma by postulating the existence of such as Satan, and Ahriman, and by deifying teachers and prophets along with their apostles and mothers. As long as we continue to worship a homogenized God, we will not recognize that both our security and survivability lie in diversity. The search for human harmony will not be found in some sought for unity of belief, but in glorifying variety of belief.

A caveat here is that not all beliefs are equal. Equalization is also a form of homogenization.

This brings us to the conflicts arising from the sanctification, if not deification, of the first amendment to the constitution: [insert copy] However, not all speech is equal and putting all kinds in the same package is not unlike lumping contradictory attributes within the same deity. Experience shows that according the same protection to all species of speech frequently results in events that are socially counterproductive. One jurist emphasized this when he admonished: "Free speech should not include the right to shout "FIRE" in a crowded theater." Inappropriate homogenization has occurred when it is maintained that all speech deserves equal sanctity of protection. As with monotheism, the answer is replacement with polytheism, meaning here the recognition of many forms of speech: political speech, business speech, adult speech, technical speech, inflammatory speech, dissenting speech, abusive speech, inspirational speech, obscene speech, divisive speech, derogatory speech, A higher god is to be recognized: The societal values of order, general welfare, and social justice. Protection is to be measured by such criteria as Speech is to be measured

The first Commandment Exodus 20:3
 Thou shalt have no other gods before me.
 The First Amendment.

also
 Fay burning

FIGURE AND GROUND

Figure is not perceptible by figure without both having the same ground.

Figure is continuous and mortal, ground is granular and immortal.

Ground is Parmedian, i.e. changeless. It lies outside time.

Figure is illusory in the sense that it changes depending on the ground that supports it.

Paradox: Figure cannot exist without ground for figure seeks to exist for itself. Only that which does not exist for itself can be self-existent. Such requires no ground for it is ground.

Figure has many names. Ground has many names. Urground is nameless.

A symbol is a figure that represents ground.

There exists a species of auto-grounds that interact to produce figure. e.g. white noise.

An auto-ground is Urground or SAT_{or} BRAHMAN

A Figure without the organization and information supplied by the ground is but noise.

The Figure/Ground concept is also useful in fractal dimension and in chain-command systems

Fractal Dimension as mediator of Figure and Ground

I, Figure/Ground a special case of intersect? (not + union)

1) Dual + Mutual

Man/ind/God - Great Dialectic

Other possible examples of FIGURE + GROUND

sensation

Stimulus

W-F Law

use of logo

related to fractal dimension?

Richter, Decibels, ...

FORM

NOISE

with regard to granularity

continuity becomes repetition as scale ↓

2 laws of Perception

1) The Weber-Fechner Law (or some power law)

2) The Eddington-Whitehead Zeno

The existence of eigenvalues in the Figure \Rightarrow { Finiteness or boundedness of the Ground

(A)

COMMUNICATION ∇ EXPERIENCE AN EXERCISE IN JUXTAPOSITION

In order to explore the idea that all experience is but a form of as communication, it is informative to place in juxtaposition the parameters in the Lake Powell cliff experience and some of the parameters emerging in modern communication technology:

| THE CLIFF | X DIVISION MULTIPLE ACCESS |
|-------------------------------|----------------------------|
| Cliff and rock irregularities | ? |
| Observers position | SDMA |
| Time of observation | TDMA |
| Recognition of the face | CDMA |
| ? | FDMA |

The Lake Powell parameters are described in JOYONT!.WPW, 93/04/04. The communication parameters are briefly: SDMA is Spatial Division Multiple Access which subdivides the system into areal regions. TDMA is Time DMA which involves time sharing of the system between the messages being transmitted. CDMA is Code DMA which differentiates the message components by an encoded signature. FDMA is Frequency DMA which allotts different frequencies or channels to each message.

At the outset we recognize that the cliff system is essentially static while the XDMA system is dynamic. More accurately, the rates in each system differ tremendously, but this does not demolish the possibility of counterparts. In three of the parameters, the spatial, the temporal, and the coding meaningful counterparts between the two systems readily emerge. The remaining two, the cliff in the cliff system and the frequency in the XDMA system have no immediate parallels. We can, however, readily imagine observing the cliff in light of different wavelengths, thereby establishing a possible counterpart for FDMA. The tough question remains, What is the counterpart of the cliff itself in the XDMA system? Is it the level of technology, the hardware, the messages themselves, what?

In the case of the cliff all items are required to be present and their intersect results in the experience of seeing the face on the cliff. In the communication example one or more items can be present. Their union results in a complex communication system. Can we infer that the relation of experience to communication is that of intersect to union?

COMMEXPI.WP6

96/04/10

(L) → (S)

| DYAD | PAR1 | PAR2 | PAR3 | REF |
|--|------|------|------|-----|
| ABSOLUTE/INVARIANT | | | | |
| ACTION/REST | | | | BEN |
| ANALOG/DIGITAL | | | | |
| ANECDOTE/PROOF | | | | |
| ARCHETYPAL /INTENTIONAL | | | | |
| ART/SCIENCE | | | | |
| ASSAULT/BY-PASS | | | | |
| AUTHENTICITY/LEGITIMACY | | | | KEN |
| AUTHORITY/RESPONSIBILITY | | | | |
| BALL/BOX | | | | STA |
| BEING/KNOWING | | | | |
| BOMBS AGAINST SHIPS/SHIPS AGAINST BOMB | | | | BIK |
| CASSANDRA/TOM GOLD | | | | ALW |
| CAUSALISM/FINALISM | | | | |
| CENTER/PERIPHERY | | | | |
| CERTAINTY/UNCERTAINTY | | | | |
| CHALLENGE/NUTURE | | | | |
| CHRONOS/KAIROS | | | | |
| CHURCH/STATE | | | | |
| CLOSED/OPEN | | | | |
| COMMITMENT/DETACHMENT | | | | SAN |
| COMPASSION/WISDOM | | | | BUD |
| COMPETITION/COOPERATION | | | | |
| COMPLEXITY/MOBILITY | | | | |
| CONCEIVABLE/POSSIBLE | | | | |
| CONTINUOUS/DISCRETE | | | | |
| COSMOS/PSYCHE | | | | |
| CREATE/DISCOVER | | | | |
| CROSSING/NAMING | | | | G S |
| DEFINE/CHARACTERIZE | | | | |

(L) → (S)

| | PAR1 | PAR2 | PAR3 | REF |
|---|------|------|------|-----|
| DYAD | | | | |
| DEPARTURE/RETURN | | | | |
| DESCRIPTIVE/INJUNCTIVE | | | | |
| DETERMINATIVE/RANDOM | | | | |
| DETERMINED/FREE | | | | |
| DEVELOP/DIFFUSE | | | | |
| DIFFUSE/CONCENTRATE | | | | |
| DIFFUSION/INDEPENDENT INVENTION | | | | |
| DISCRIMINATE/CLUSTER | | | | |
| DISCRIMINATIONS/PAIRINGS | | | | |
| EDUCATION/ENTERTAINMENT | | | | |
| EGALITE/ELITE | | | | |
| EMIC/ETIC | | | | UNI |
| ENVIRONMENT/HEREDITY | | | | |
| FAITH/FACT | | | | |
| FAITH/REASON | | | | |
| FIGURE/GROUND | | | | |
| FORM/FORCE | | | | FER |
| GENOTYPE/PHENOTYPE | | | | |
| HARMONY/GOOD-EVIL | | | | BUD |
| HELICOID/SCORPIOID | | | | |
| HIERARCHY/GRADIENT | | | | RAL |
| HIGH S/V / LOW S/V | | | | SUR |
| HORIZONTAL/VERTICAL | | | | |
| INDEPENDENCE/MOBILITY | | | | |
| INVENTION THE MOTHER OF NECESSITY et vv | | | | |
| INVENTION/DISCOVERY | | | | |
| IS/UGHT | | | | |
| INITIATION/RESPONSE | | | | |
| ITERATION/RECURSION | | | | OPE |
| JUXTAPOSITION/SUPERPOSITION | | | | CRU |

(L) → (S)

| DYAD | PAR1 | PAR2 | PAR3 | REF |
|----------------------------|------|------|------|-----|
| KNOWLEDGE/BELIEF | | | | |
| LEARNING/CREATING | | | | |
| LEGAL/LEGITIMATE | | | | |
| LEGATO/STOCCATO | | | | |
| LOOPS/LETS | | | | |
| MARTIAL/MILITARISTIC | | | | |
| MASCULINE/FEMININE | | | | |
| MATTER/ANTI-MATTER | | | | |
| META STATES/ALTERED STATES | | | | |
| MICRO/MACRO | | | | |
| MODEL/PARADIGM | | | | |
| MULTIPLEXING/TIME SHARING | | | | |
| NODE/LINK | | | | |
| NODE/PATH | | | | |
| NOMAD/SETTLER | | | | |
| NUCLEUS/CELL | | | | |
| OBSERVER/OBSERVED | | | | |
| ODD/EVEN | | | | |
| ONTOLOGICAL/AXIOLOGICAL | | | | |
| ONTOLOGY/EPISTEMOLOGY | | | | |
| ORDER/CHAOS | | | | |
| PATTERN/PROOF | | | | |
| PHENOMENAL/NOUMENAL | | | | |
| PARTICLE/WAVE | | | | |
| PHOTOGRAPH/HOLOGRAPH | | | | |
| PLANT/ANIMAL | | | | |
| POTENTIAL/ACTUAL | | | | |
| PRIVACY/MOBILITY | | | | |
| PRIVILEGE/ACCOUNTABILITY | | | | |
| PROCESS/STRUCTURE | | | | |

(L) → (S)

| DYAD | PAR1 | PAR2 | PAR3 | REF |
|--|------|------|------|-----|
| PRODUCT/PROCESS | | | | |
| QUANTITY/VARIETY | | | | ORG |
| QUESTION/ANSWER | | | | |
| RECOLLECTION/RECOGNITION | | | | |
| REDUNDANCY/RELIABILITY | | | | |
| RELATION/ENTITY | | | | |
| REPETITION/ITERATION | | | | |
| RESURRECT/REINCARNATE | | | | |
| RETRIEVE/REDERIVE | | | | HAR |
| REVERSIBLE/IRREVERSIBLE | | | | |
| RIGHTS/RESPONSIBILITIES | | | | |
| SAME/DIFFERENT | | | | |
| SAMENESS/RANDOMNESS | | | | |
| SECURITY/MOBILITY | | | | |
| SIGNAL/NOISE | | | | |
| SPACE/TIME | | | | |
| STABILITY/STAGNATION | | | | WOL |
| STATE/SOCIETY | | | | |
| IMPOSED STRUCTURE/DISCOVERED STRUCTURE | | | | |
| SUBSONIC/SUPERSONIC | | | | |
| SUCCESS/FAILURE | | | | |
| SWITCHING/MACROING | | | | ? |
| SYMBIOSIS/EMERGENCE | | | | |
| ADAPTATION/EMERGENCE | | | | |
| SYMBOLIZING/DELINEATING | | | | |
| SYNCRETISTS/EVANGELISTS | | | | |
| THOROUGHbred/HYBRED | | | | |
| TOP DOWN/BOTTOM UP | | | | |
| VERIFY/FALSIFY | | | | |
| YIN/YANG | | | | |

**DIACHRONIC/
SYNCHRONIC**

DIACHRONIC-SYNCHRONIC PART I

The Heisenberg Uncertainty Principle is usually presented in the familiar form:

$$p \times q > h$$

where p is position, q is momentum and h is Planck's constant. But the principle is also often presented in its equivalent form:

$$E \times T > h$$

where E is energy and T is time. This second form displays several implications beyond just uncertainty. For one, there is a basic **trade-off** between energy and time. For example, if T decreases, becomes small, then E must increase, become larger. Conversely, if E becomes small, T must increase. We may view this as a trade-off between time efficiency and energy efficiency. To perform a given operation, say to cross the Atlantic, to fly 100 people across in a brief time requires more energy than sailing them across in more extended time. Our present culture has become obsessed not only with movement but with rapid movement. The more we insist on our instant satisfactions, the more energy it costs. And a large portion of our present energy consumption goes not just for production but for time efficient production.

There may be several causes for our present obsession with time efficiency and its prime manifestation, speed. Perhaps our feelings about time derive from a technological imperative. The nature of technology itself forces the rate of the ticking of the clock to increase. Or perhaps there is a widespread feeling that the time remaining for us is short and we had better rush to get as much out of life as possible. Such feelings may have a religious source from certain interpretations of apocalyptic writings. Or they may have a non-religious source in a post-Darwinian world view that now is all there is. Or they may have a scientific source in climatic models of an impending ice age. Or maybe the clock is really ticking faster as some cosmologists have proposed.

Whatever the causes, ^{of the speeding of the clock} there are many consequences ^{in addition to} besides an impending energy crisis. To examine these consequences it is useful to introduce two terms: diachronic and synchronic. By diachronic will be meant those principles, ideas, and activities that have persisted over centuries and millennia. By synchronic will be meant those ideas, values, and activities that are the center of focus over some short interval of time. Both terms might be described by the interval of time they adopt as being of relevance, what could be called their "now". The width of diachronic *now* for western civilization extends from the beginning of written records, Egyptian hieroglyphs, Babylonian cuneiforms, through Greek and Roman times, up to the present. But the diachronic *now* also extends into the future, with speculations and visions of where we can or should be generations in the future. The synchronic *now* is usually the present decade (or less), or extending at most to the lifetime of a generation. The length of both diachronic *nows* and synchronic *nows* vary but are selected by forces, such as the media, operating in the synchronic *now*.

Although there are many mutual influences, activities and occupations emphasize either the diachronic or synchronic. A particular society at a particular time can be characterized by a D/S ratio, the emphasis placed on diachronic activities to synchronic activities.

DIACHRONIC ACTIVITIES

Education
Exploration
Religion
Research
Science

SYNCHRONIC ACTIVITIES

Economics
commerce
farming
finance
manufacturing *Metabolism*
Communication
transportation
Entertainment
Health
Litigation
Politics
military
WAR

DIACHRONIC OCCUPATIONS

Architect
Artist
Educator
Engineer
Environmentalist
Explorer
Philosopher
Scientist
Statesman
Theologian
Writer

SYNCHRONIC OCCUPATIONS

Accountant
Doctor
Farmer
Fireman
Lawyer
Merchant
Minister
Policeman
Politician
Soldier

CRITICS

CRITICS

deposits + with drawings

The synchronic is ultimately accountable to the diachronic

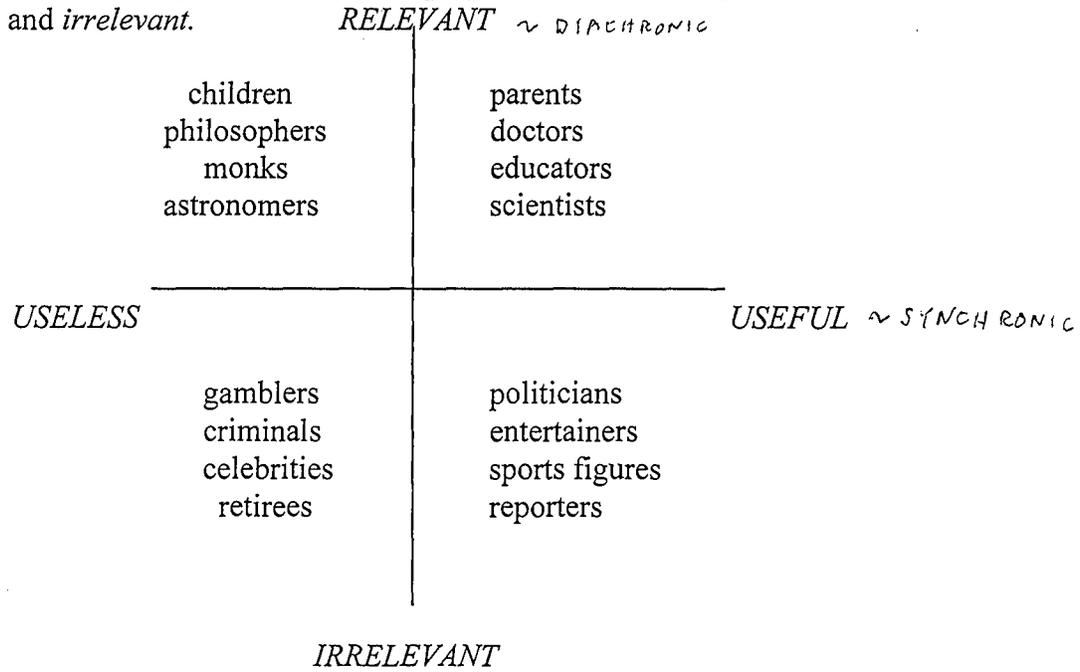
The synchronic bends the diachronic

The diachronic tells the synchronic where to move

FOUR COGNITIVE OPERATIONS

- 1) The first cognitive operation is the perception of difference. Indeed, without difference there would be no perception of existence. Difference is the sine qua non of existence.
"Uniform sameness is the perceptual equivalence of non-existence". [Eddington]
- 2) The second cognitive operation is the noting of similarities among the different things.
- 3) The third cognitive operation, (that of Structuralism), is to note the resemblances in the differences themselves.
"It is not the resemblances, but the differences which resemble each other"
—Claude Levi-Strauss
- 4) The fourth cognitive operation is to note the differences in the resemblances themselves.. *consciousness?*
"It is not the differences, but how the resemblances differ from each other."

The fourth operation inspects those concept and ideas that the second operation has tended to render equivalent. Linguistically, this requires the inspection of synonyms, such as freedom and liberty, true and valid, isomorphic and homeomorphic. Frequently an inspection of synonyms leads us to see that they refer to isomorphic states or levels whose merging because of resemblances obliterates important ontological properties. As an example, consider similar terms: *useless* and *irrelevant*.



Politicians strive to move from the fourth to the first quadrant. [what is called "legacy"] A few, Lincoln, the Roosevelts, achieve it. As we age we all become useless, but it is important that the aged seek ways to stay or become relevant.

SOME JUXTAPOSITIONS

HISTORIC w DIACHRONIC

History is the record of synchronic persons and events that have made a big splash. The diachronic is the trans-cultural knowledge and wisdom of the human species, including all its spatial and temporal contexts. How are these two records related? For the most part, the diachronic has not been built on the historic, but has been largely fed by invisible events and overlooked people. On occasion, however, a splash does become diachronic, as with Newton's discovery of the law of gravity. While the development of the diachronic is abetted from time to time by contributions from the synchronic, it has its own life and direction largely independent of the synchronic. This is not to say that the synchronic does not frequently attempt to "bend" the diachronic for synchronic purposes, but this always fails. For the diachronic in the course of time corrects the deviations that the synchronic seeks to impose. In this sense, the diachronic is not exclusively in the hands of humans, as is history, but is a record shared with some trans-human will. In short, human knowledge and wisdom transcend what is recorded as history.

It is consilience that make metaphor possible.
It is absilience that reveals parameters.

Our synchronic role is to serve.
Our diachronic role is to search.

In early life we learn to serve, to participate. In later life we learn to explore.
"Old men should explore" -T. S. Eliott

Martin Luther King deplored the **deadliness of gradualism**.
Herman Kahn said that **reality has outstripped experience**.

Are these statements contradictory, complementary, or orthogonal?

**DIACHRONIC
THINKTANK**

MONTEREY, W/P D

Thank you for your response and confirmation to meet on Labor Day, 5 September 1988 at the Asilomar Conference Center in Pacific Grove, CA. Our conference begins at 3 pm, Monday, 5 September and closes after lunch on Tuesday 6 September. We are housed in Forest Lodge and our official name is the Sage Conference, #B4424. Upon arriving you should go to the administration building to check in. Much pertinent information on house keeping is summarized on the enclosed flyer. If you need airport transportation, please contact Donna at 818/716-6332 or call Asilomar at 408/372-8016.

We would like to propose two areas of focus for our story swapping and personal exchanges: 1) The Thinktank Experience and 2) The Second Republic.

Why thinktanks? It has been forecast that thinktanks will become the institutions which will be the creators, custodians and inculcators of human culture in the future. They will inherit the role played by mystery religions in ancient times, by academies in classical times, by monasteries and guilds in medieval times, and by universities and museums in modern times. Are thinktanks plausible candidates for this role? Although all of us have not been directly involved with thinktanks, we would like to discuss the role that thinktanks and their progeny might play in the future. To do this we invite the reminiscences of those who have worked in or with thinktanks to give us some idea of what a thinktank is from an inside perspective. We would like those who have not been so close to an actual thinktank to give us their

impressions of what a thinktank is from an outside perspective. And finally we would like to assess the limitations, potentials, and implications of the thinktank format, and its possible offspring, for the role of torchbearer of learning in the future.

And what is this about a second republic? On the second day it is proposed that we look at our country from a five hundred year rather than a four year perspective. From the Iriquois Confederation to the Rainbow Coalition what themes of human community have been evolving in this hemisphere? To many it appears that we have reached a singular point in history, a moment of decision whether to repeat the past or to iterate into a new future. If we hold that the future is open ended and that the pinnacle of political wisdom was not reached 2500 years ago, 200 years ago or 70 years ago, what changes and strategies of change can we imagine for improving the body politic? What experience and new knowledge since the founding of our country can we call on to enhance our political and social institutions? What new modes of change can be designed to take us to a better society without inviting disorder or violence? What refinements can we make to the "American Dream"? Two hundred years ago a dialog was begun in the coffee houses and taverns of the colonies. This dialog spread to the town meetings and state houses and finally resulted in a new nation. Such dialogs themselves are an important part of what we are about on this continent. Perhaps it is time to take up this dialog anew.

SINGULAR POINTS: PART I

The nineteenth century physicist Clark Maxwell felt that one possible way to reconcile the deterministic world of the physicist with the ordinary world of human experience where free will and choice prevailed, was to postulate singular points in time during which deterministic chains were open and options were possible. Events causally followed events except during the open moments when selection among options became possible. Selections could be made randomly, teleologically, or by some contextual force.

Maxwell's approach has parallels in many traditions:

- ▶ The avatars of Vishnu: the world runs its course, but from time to time an avatar of Vishnu, such as Krishna, appears to make corrections.
- ▶ Dynasties of gods: Uranus reigns, then rebellion and the Titans take over, after a period again revolt and the Olympians seize power, their time ends and mankind comes to the fore.
- ▶ Paleontological extinctions and radiants: Since earth formed there appear to have been five major extinctions in which some catastrophic event temporarily or permanently altered the environment causing dominant species to become extinct and be replaced with a radiant of new organisms.
- ▶ Axial periods: Human history replicates paleontological history. From time to time there are "axial" periods when old patterns of thought and ways of viewing the world are replaced by a radiant of innovative concepts. For example, the period around 500-600 B.C.E. when Confucius, Lao Tzu, Mahavira, Buddha, Zoroaster, 2nd Isaiah, Thales and Pythagoras were all alive at the same time. And perhaps the present century, when Freud, Jung, Einstein, Schrodinger, Dirac, Turing, von Neumann, Watson, Krick, were all alive at the same time.
- ▶ Custodians of learning: Mystery religions in Egypt and Greece, The Academies of Pythagoras, Plato, Aristotle (from 500 B.C.E to 529 C.E.), The monastic orders (Benedictine from 529 C.E.) to the 15th Century. The universities from the 15th century to the present. Next the think tanks?

In an abstract way each period of development is representable by a sigmoidal function, an S-growth curve, in which there is a slow beginning, a period of great fruition, and a final diminishing period as the idea or institution's energy is depleted. When the curve reaches its upper asymptote, a singular point in time is reached. The torch is passed to a new curve. During the passage of the torch determinism is broken and choice, selection, innovation become possible. The envelope of all the S-curves displays the real picture of evolution.

THIS IS THE TORCH FILE.

THIS FILE IS TO BE USED FOR TOPICS RELATED TO THE 600 B.C. PROJECT AND THE TORCH BEARERS PROJECT.↔

TORNADO TORCH THE SYMBOLIC APHORISMS OF PYTHAGORAS
COMPILED AND INTERPRETED BY IAMBlichUS
from MANLY HALL: THE SECRET TEACHINGS

1. DECLINING FROM THE PUBLIC WAYS, WALK IN UNFREQUENTED PATHS
By this it is to be understood that those who desire wisdom must seek it in solitude.

2. GOVERN YOUR TONGUE BEFORE ALL OTHER THINGS, FOLLOWING THE GODS.

This aphorism warns man that his words, instead of representing him, misrepresent him, and that when in doubt as to what he should say, he should always be silent.

3. THE WIND BLOWING, ADORE THE SOUND

Pythagoras here reminds his disciples that the fiat of God is heard in the voice of the elements and that all things in Nature manifest through harmony, rhythm, order, or procedure, the attributes of the Deity.

4. ASSIST A MAN IN RAISING A BURDEN; BUT DO NOT ASSIST HIM IN LAYING IT DOWN.

The student is instructed to aid the diligent but never to assist those who seek to evade their responsibilities, for it is a great sin to encourage indolence.

5. SPEAK NOT ABOUT PYTHAGORIC CONCERNS WITHOUT LIGHT.

The world is herein warned that it should not attempt to interpret the mysteries of God and the secrets of the sciences without spiritual and intellectual illumination.

6. HAVING DEPARTED FROM YOUR HOUSE, TURN NOT BACK FOR THE FURIES WILL BE YOUR ATTENDANTS.

Pythagoras here warns his followers that any who begin the search for truth and, after having learned part of the mystery, become discouraged and attempt to return again to their former ways of vice and ignorance, will suffer exceedingly; for it is better to know nothing about Divinity than to learn a little and then stop without learning all.

7. NOURISH A COCK, BUT SACRIFICE IT NOT; FOR IT IS SACRED TO THE SUN AND MOON.

Two great lessons are concealed in this aphorism. The first is a warning against the sacrifice of living things to the gods, because life is sacred and man should not destroy it even as an offering to the Deity. The second warns man that the human body here referred to as a cock is sacred to the sun (God) and the moon (Nature), and should be guarded and preserved as man's most precious medium of expression. Pythagoras also warned his disciples against suicide.

8. RECEIVE NOT A SWALLOW INTO YOUR HOUSE.

This warns the seeker after truth not to allow drifting thoughts to come into his mind nor shiftless persons to enter into his life. He must ever surround himself with rationally inspired thinkers and with conscientious workers.

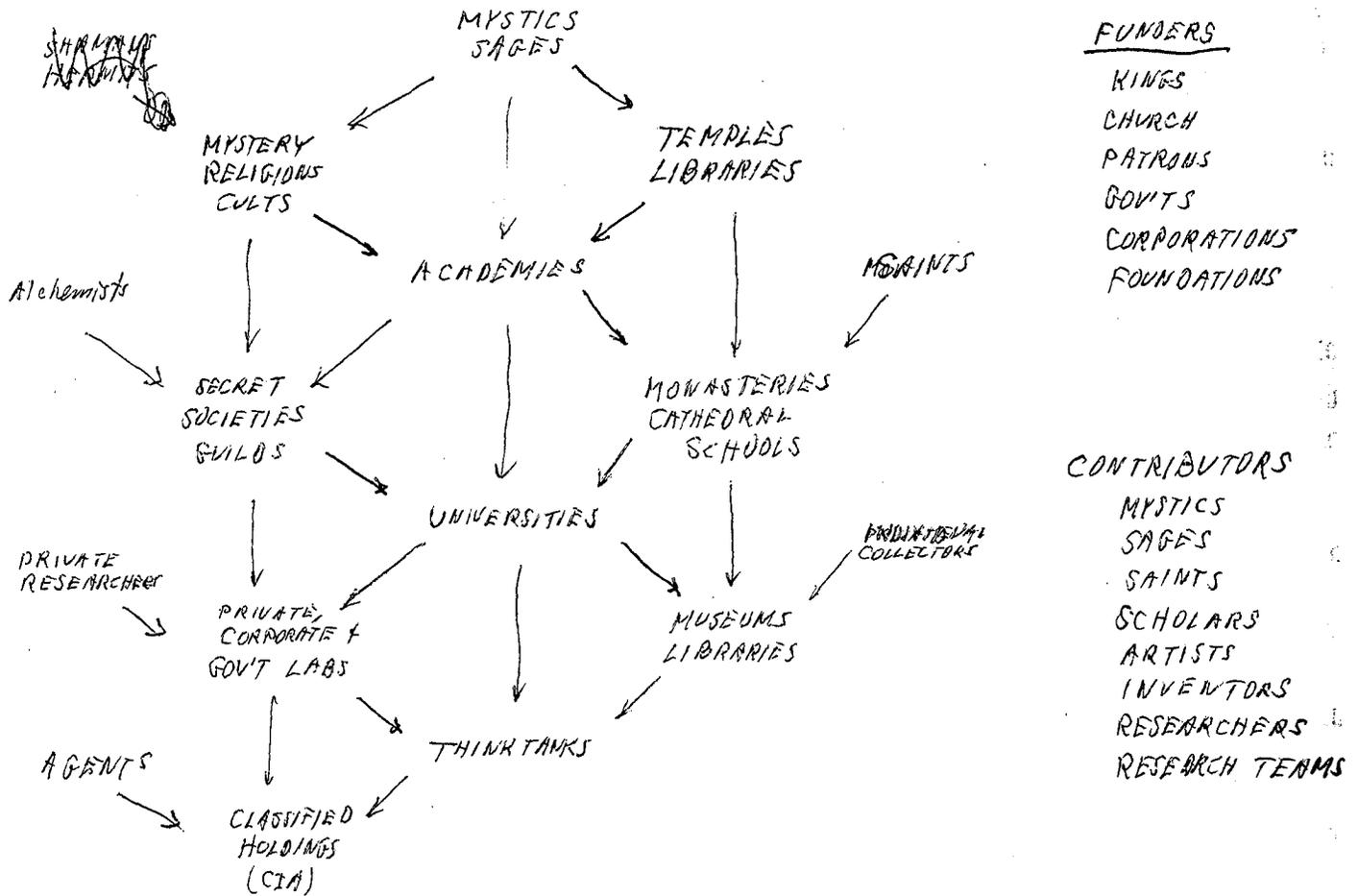
9. OFFER NOT YOUR RIGHT HAND EASILY TO ANYONE.

This warns the disciple to keep his own counsel and not offer wisdom and knowledge (his right hand) to such as are incapable of appreciating them. The hand here represents Truth, which raises those who have fallen because of ignorance; but as many of the unregenerate do not desire wisdom they will cut off the hand that is extended in kindness to them. Time alone can effect the redemption of the ignorant masses.

10. WHEN RISING FROM THE BEDCLOTHES, ROLL THEM TOGETHER, AND OBLITERATE THE IMPRESSION OF THE BODY.

Pythagoras directed his disciples who had awakened from the sleep of ignorance into the waking state of intelligence to eliminate from their recollection all memory of their former spiritual darkness; for a wise man in passing leaves no form behind him which others less intelligent, seeing, shall use as a mold for the casting of idols.*

THE TORCH BEARERS



There are two relay teams
 called OVERT and COVERT
 MUNDANE OCCULT
 HERMETIC

OCCULT INITIATION, CLEARANCE
 MAINSTREAM CERTIFICATION
 OVERT SELF-SUFFICIENCY

THE "MAINSTREAM"
 IS SEMI-OPEN
 "NOT FOR EVERYONE"
 It operates with credentials
 It interfaces overt + covert

OCCULT
 Knowledge as responsibility
 to the creator of the world

MUNDANE
 Knowledge as opportunity
 for personal advancement

discipline
 integrity
 patience
 vision

scientific
 intellectual
 ethical
 cultural

Knowledge
 Bestowed

Knowledge
 Acquired

A NOTE ON PYTHAGORAS FROM MANLY HALL'S SECRET TEACHINGS

Pythagoras declared that the eating of meat clouded the reasoning faculties. While he did not condemn its use or totally abstain therefrom himself, he declared that judges should refrain from eating meat before a trial, in order that those who appeared before them might receive the most honest and astute decisions. When Pythagoras decided (as he often did) to retire into the temple of God for an extended period of time to meditate and pray, he took with him a supply of specially prepared food and drink. The food consisted of equal parts of the seeds of poppy and sesame, the skin of the sea onion from which the juice had been thoroughly extracted, the flower of daffodil, the leaves of mallows, and a paste of barley and peas. These he compounded together with the addition of wild honey. For a beverage he took the seeds of cucumbers, seeds of mallows and purslane, scraped cheese, meal and cream, mixed together and sweetened with wild honey. Pythagoras claimed that this was the diet of Hercules while wandering in the Libyan desert and was according to the formula given to that hero by the goddess Ceres (Demeter) herself.

The favorite method of healing among the Pythagoreans was by the aid of poultices. Pythagoras highly esteemed the medicinal properties of the sea onion, and he is said to have written an entire volume on the subject. Pythagoras discovered that music had great therapeutic power and he prepared special harmonies for various diseases. He apparently experimented with color and attained considerable success. One of his unique curative processes resulted from his discovery of the healing value of certain verses from the Odyssey and the Iliad of Homer. He was opposed to surgery in all its forms and also objected to cauterizing. He would not permit the disfigurement of the human body, for such in his estimation was a sacrilege against the dwelling place of the gods.*

TORNADO TORCH

THE 600 B.C. RADIANT

| THE FOUNDERS LIFE SPAN | CONTRIBUTION | LOCATION |
|---|---|----------|
| LAO TZU 604-531 BC | TAO TE CHING | CHINA |
| KUNG FU TZU 551-479 | ANALECTS | CHINA |
| SIDDHARTHA GAUTAMA 563-483 | DAMAPADA | INDIA |
| MAHAVIRA, THE 24th TIRTHANKARA 599-527 | | INDIA |
| | [SAGES OF THE UPANISHADS] | INDIA |
| | [FOUNDERS OF THE SIX SCHOOLS OF BRAHMANICAL PHILOSOPHY] | |
| | WRITING OF THE RAMAYANA | |
| c 510 ZARATHUSTRA 630-553 | | PERSIA |
| [HEBREW PROPHETS] | | ISRAEL |
| | FIRST WRITING OF THE BIBLE | |
| | DEUTERO ISAIAH | ISRAEL |
| c 536 PYTHAGORAS 581-497 | | SAMOS |
| [IONIC PHILOSOPHERS] | | GREECE |
| | THALES 624-545 | MILETUS |
| | ANAXIMANDER 611-546 | MILETUS |
| | ANAXIMENES 586-526 | MILETUS |
| | HERAKLIDOS 544-483 | EPHESUS |
| | ANAXAGORAS 500-428 | |
| | PARMENIDES | ELEA |
| | EMPEDOCLES 490-430 | |
| | ZENO 490 | ELEA |
| RISE OF ZAPOTEC CULTURE AT MONTE ALBAN c 500 BCE | | MEXICO |

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TORCH.HST

DISK MEMORY MATE CONTROL 1

The metaphor for cultural heritage and its propagation is the relay team. As runners successively pass the torch to fresh runners, so the institutional custodians of learning and knowledge pass their heritage through successive institutions. History sees the ancient mystery schools passing their torch of hermetic learning to the Pythagorean School at Croton, which passed its learning to Plato's Academy and Aristotle's Lyceum. The great library and museum at Alexandria was the repository of Western learning until the coming of Islam. The torch did not go out in the so called Dark Ages, it burned brightly under the Caliphs from Baghdad to Samarkand to Grenada. The same year that the Emperor Justinian closed the Athenian Academy (529 A.D.), St Benedict founded his prototype monastery at Monte Cassino. The fire from the torch burned in the custody of various monastic orders during the Middle Ages, finally passing through the cathedral schools to the universities. Although the torch bearers run side by side for a time, when the flame has been passed the spent runner drops out. Modern universities began in Padova, Paris, Oxford in the 13th and 14th centuries. Henry the Eighth closed and confiscated the monasteries' lands in 1536.

Created: 4/10/88 Modified:

Reminder:

Notes from RELIGION AND CULTURE OF THE JAINS

Mahavira b March 30, 599 BC near Basarh. At the age of 30 he gave his possessions to charity took vows of asceticism. Twelve years later in 557 BC he attained Kaivalya. He was a senior contemporary of Gautama (who out of respect did not openly preach until after Mahavira's death in 527 BC).

Jainism is much older than Mahavira dating to pre-Aryan times. The Jain Trinity consists of Right Faith, Right Knowledge, and Right Conduct. There can be neither Right Knowledge or Right Conduct without Right Faith. Further, one's work, one's faith and one's joys must never be in conflict. Mahavira taught ahimsa, non-violence, and the reverence for all life, the forerunner of modern ecological thinking.←

TORNADO TORCH

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THE THINK TANK EXPERIENCE
Some Notes About RAND¹

● The Two Dimensional Organization:

| | |
|---------------------|-------------------|
| The Resource Staff | The Project Staff |
| Discipline of field | Task or project |
| Organization | Organization |

The resource staff must be on top of their specialties. This is best assured by their ability to make research contributions to it. Members of the resource staff may become ad hoc members of the project staff.

Projects, in general, are multi-disciplinary requiring the participation of several members of the resource staff. Projects may become disciplines and hence develop their own resource staffs. (e.g. nuclear deterrence)

The two staff organization has several advantages:

- o It is an anecdote to specialization, it creates generalists as against the current practice in universities. At RAND even the arrangement of offices led to cross fertilization of ideas.
- o It raises and considers non-pedigreed problems and creates non-pedigreed fields of knowledge.
- o It is readily adaptable to synthetic thinking, providing a format for ideas in juxtaposition

● Inter-Disciplinary Studies vs. Multi-Disciplinary Studies:

An inter-disciplinary project is one in which the project staff calls on the inputs of resource people from the various involved disciplines. A multi-disciplinary project is one in which the project staff invites the full participation of germane members of the resource staff. Each is given the whole problem, not just questions concerning their own expertise.

"Give me your problem. not your solution".

Each contributor, thus not only brings his expertise but also, of more importance, brings a different perspective .

● The Journeyman Staff:

The university is modelled on the guild, with students (apprentices), under faculty (journeymen), and professors (masters). Schools usually emphasize the apprentices, Universities, the masters. It is the unique aspect of the Thinktank that it emphasizes the journeymen, those who are trained and skilled, but are still open ended enough to move into new areas and develop new skills. (Masters may be hired as consultants, if needed.) Those who "haven't yet made it" are more dynamic and creative and more likely to find novel alternative solutions than those deeply specialized in their discipline.

¹Condensed from RAND publications

THE THINK TANK EXPERIENCE

The Five Areas of Operation:

- Research
 - Archiving--collection, cordination, retrieval
 - Dissemination--publications, presentations, briefings
 - Personnel--selection, support, termination
 - Funding
- o Research
 - The Thinktank as Significator
 - What research is to be done?
 - Who decides? Kodak's Meece
 - Authorized research vs. bootleg research
 - Funding people as well as projects
 - RAND sponsored research, MacArthur Foundation Grants
- o Archiving
 - The Thinktank as Torchbearer
 - Resource facilities and resource people
 - Compilations and organization of resources
 - access and retrieval
 - Signification: The What, also the How
- o Dissemination
 - The Thinktank as Center of Influence
 - Publications, Presentations, Briefings
 - contacts and channels, multi-level inputs
 - Instruction and training
- o Personnel
 - The Thinktank as Educator
 - The journeyman level, knowledgeable but not closed
 - Selection by field, initiative, openness
 - Support in resources, facilities, environment
 - Flow through policies
- o Funding
 - Patron--MacArthur Foundation Style, No specifications
 - Patron--Air Force Style, Specifications
 - Search for contracts, grants
 - Income from services, products, inventions
 - cf. *Vanevar Bush and The Carnegie Institution*
 - Systems Development Corporation*

THE THINKTANK EXPERIENCE

Some Notes About RAND

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The Resource Staff The Project Staff

Discipline or field Task or project

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than those who are fortified

A second feature of the journeyman staff is that it is fluid. Members come and go, primarily on their own choosing. This continual inflow and outflow of personnel not only serves to maintain a lively in-house environment, but develops a staff with a powerful network of nationwide and international contacts. However, there must be a permanent 'ground' of sufficient stability to enable a profit to be made from this dynamic.

o RAND Thinking

One of the most intriguing aspects of RAND was the kind of thinking that developed there. Most who spent time at RAND felt they had learned something important about how to think that they could never have learned elsewhere. The basis of this was operations research and the systems approach, but RAND thinking went far beyond this. One of the most useful exercises would be to characterize the RAND way of thinking. Part of what we call RAND thinking, of course, has to do with the RAND manner of organization, and with the critical mass factor in creating a stimulating environment, but a part of RAND thinking lies in the category of a particular epistemological approach, developed over the years and never exported. It was unique and was learned only by being there.

One characterization of "Randthink" is an extreme tilt toward objectivity. An example of this is found in John Williams' seminal article on traffic fatalities and the magnitude of energy being handled by drivers. Williams' view was that considering the amount of energy involved, the number of fatalities was understandable and therefore allowable. This is an example letting facts stand alone, as valueless descriptors of a situation. I personally take issue with this stance.

Another aspect of Randthink is its formidable set of logical (as against rhetorical) ploys for demolishing the arguments of an opponent. One item that comes to mind is Herman Kahn's device of listening to the arguments of the opposition, then stating his position by beginning with "Let us assume that everything you have said is right, ...", then to take the argument to another battle site where the opponent's arguments were irrelevant. Herman, like Napoleon, was a master of selecting advantageous terrain for doing battle. Few could equal Herman in the skill of saying "You are asking the wrong question".

Another ploy of Randthink was to take the presence of a wrong fact or ignorance of some fact in your position and demolish your entire structure. One flaw was enough to send one from the argument not only defeated but humiliated. I believe the expression "He didn't do his homework" must have originated at RAND.

- o Miscellaneous Factors:

The administration was largely hands off and invisible. Administration was a service function, not the purpose of the organization. The administration supported the staff, and for the most part did not compete with it. The RAND concept of sabbatical pay for taking vacations reflected the degree of interest staff members had in their work. You were paid extra for taking a vacation!

The Primary Mission:

Historically RAND's mission was to keep abreast developments in technology and study possible military applications. This inverted the adage "Necessity is the mother of invention" to "Invention is the mother of necessity"

The Secrecy Factor:

RAND operated within the government's obsession with classification, secrecy and need to know. What were the impacts of this on creativity, and ultimate usefulness have yet to be fully evaluated.

- o The Future

Whatever RAND's contributions to national defense and

welfare might have been, what in the long run may turn out to be its most important contribution could lie in its being a pilot experiment in the design of a new type of cultural custodial institution. An institution taking its place in the historical sequence of the ancient mystery schools, the classical academies, the medieval monasteries and guilds, and the later day universities, libraries and museums. One can visualize networks of thinktanks with para-teams engaged in para-research developing and displaying a rich option space by which future decision making can be enhanced.

June 14, 1980

THE THINKTANK EXPERIENCE

Some Reminiscences:

People

| | |
|--------------------------|--|
| John Williams | Mr. RAND |
| Herman Khan | Razzel dazzel logic |
| Richard Bellman | Dynamic programming |
| Frank Colbohm | Test pilot president |
| Brownlee Haydon | Significator of Who's Who |
| | Norman Thomas |
| | Dr. Spock |
| | Henry Kissinger |
| Harry Vestine | RAND's finest |
| Will Kellogg | The chairman's chairman |
| Walt Cunningham | RAND's astronaut |
| Bill Squires, Bob Webber | Piper Cubs, Mathias Rust and SDI |
| Am Katz | |
| Diran Dierminjian | |
| Oliver Gross | Joss |
| Dom Edelin | |
| George Kocher | The eclipse expedition of Russel Schweichert and Apollo 10 |

Alumni who went to Washington

| | |
|-----------------|----------------------|
| Stan Greenfield | EPA |
| Fred Ikle | Disarmament Agency |
| Schlesinger | Secretary of Defense |
| Bob Bucheim | Chief Scientist USAF |

...

Memories:

- The Kennedy Assassination
- The RAND-Quaker Seminars
- The Gulf of Tonkin Resolution