DIALECTICS

DIALECTICS

THE MIDDLE WAY

di•a•lec•tic *n.* **1.** The art or practice of arriving at the truth by the exchange of logical arguments. **2.a.** The process especially associated with Hegel of arriving at the truth by stating a thesis, developing a contradictory antithesis, and combining and resolving them into a coherent synthesis. **b.** Hegel's critical method for the investigation of this process. **3.a.** Often **dialectics**. (used with a sing. or pl. verb). The Marxian process of change through the conflict of opposing forces, whereby a given contradiction is characterized by a primary and a secondary aspect, the secondary succumbing to the primary, which is then transformed into an aspect of a new contradiction. **b.** The Marxian critique of this process. **4. dialectics**. (used with a sing. verb). A method of argument or exposition that systematically weighs contradictory facts or ideas with a view to the resolution of their real or apparent contradictions. **5.** The contradiction between two conflicting forces viewed as the determining factor in their continuing interaction.

From American Heritage Dictionary:

PULSE.WPD February 15, 2009

NO INCOMPATIBLE TENDENCIES ARE EVER TO WIN

competing

"Just how far from reality today's right-versus-left debates has strayed can be illustrated in a quick example: among those things that the new lessons from nature reveal is a love of contradiction—an ecological mandate for balancing paradoxical tendencies one against t other—so that cooperation and competition, community and individual, top-down and bottom-up, stability and change, are not either/or choices, but instead are closely linked elements in a larger mix. In that mix neither of these incompatible tendencies ever wins. What's more important, neither is meant to. Nurturing a dynamic tension between them is one of the keys to life's vitality. As that lesson filters into culture it may bring a measure of humility to rigid ideologues of every stripe. Given human nature, we can only hope."

From **PULSE** by ROBERT FRENAY p xxiv

Ormuzd vs Ahriman

Is Frenay telling us that Zarathustra's dyadic model of the world, Ahura Mazda vs Ahriman, is really the correct model of the natural order ? When we stopped believing that gods ruled the world, we nonetheless decided to retain their good vs evil model. Protagoras, "man is the measure of all things", held that now that humans have replaced the gods, then it's we good guys against them bad guys. We tend to explain all that happens in the world with various metaphorical versions of this cowboy model. [from eating of the fruit of the tree of Good and Evil]

No, I think what Frenay is trying to say is that Hegel's contraries, thesis and antithesis, are not to be resolved , i.e."synthesized", without bringing in other items from the "larger mix". And we must add that before there can be synthesis both the thesis and the antithesis must each be fragmented. Since there is no such thing as one of the contraries winning, synthesis must involve the search for all alternatives and the integration of as many these alternatives as possible. Success in effecting such an integration will be the new definition of "win".

Incomplete Thesis

beyond synthesis
symbiosis
emergence organism
complementarity [wave-particle]
cooperation

See Laws of Change

2 KINDS:
TENNIS and LOOPS

M⊖ M dialectic
⊖ dialectic

DIALENGS.WPD May 16, 2006

ON DIALECTICS

transforming
CREATIVE

- ❑ DIALECTICS ARE EXPLORATORY OR INVESTIGATIVE PROCESSES
  are basic Process effecting change

- ❑ DIALECTICS ALL POSSESS TWO (or more) PHASES OR CYCLES
  Series, Products, continued fractions
  AIR LOCKS

  Since Dialectics are cyclical they involve wave theory including Modulation of cycles → Signal | Noise

- ❑ DIALECTICS ARE ENGINE LIKE
  2 cycle, 4 cycle
  Breathing, L.I.C.

  Pumps
  Engines

  1 cycle: breathing
  Heart Beat? ≥2?
  Circadian Rythms
  Resonance, Harmony, Beats, Modulation

- ❑ HISTORICAL ASPECTS OF DIALECTICS
  Socrates
  Hegel - Marx
  Hegel never analyzed the process he called synthesis ∴ Marx's Struggle

- ❑ DIALECTICS VS. ERISTICS
  Protagoras

- ❑ DIALECTICS ARE THE MANAGERS OF CHANGE
  IMPLEMENTORS

- ❑ SPECIES AND EXAMPLES OF DIALECTICS
  GAMES BASEBALL: PITCH | BAT dialectic

  Zeno's Achilles | TORTOISE dialectic for a race
  Space - only
  time removed - ~~only~~
  continuum time replaced by turn-taking i.e. fixed frequency cycle

  but we do the same
  Zeno made it very low frequency

DIALINTR.WPD

January 28, 2006
cf 1997#28

9

DIALECTICS
INTRODUCTION

Dictionary definitions of dialectics define it as a process for ascertaining truth through logical arguments. This definition derives from the original meaning of dialectics, a question-answer dialogue used by Socrates to exposit the deeper meanings in verbal propositions. Centuries later the term dialectics was revived by Hegel [1770-1831] to describe a method of integrating "contraries" or opposing views through synthesis. That is, from parts of the thesis and parts of its antithesis we can integrate a synthesis which becomes a new thesis. Marx[1818-1883] picked up Hegel's concept of dialectics, but replaced the concept of synthesis with that of a struggle between the opposites, so called dialectical materialism, reducing dialectics from an on going synthetic process to a win/lose conflict. While many philosophers from Plato to the present have discussed dialectics, it appears that each has given it a somewhat different meaning, as did Hegel and Marx.

If we seek a generalized definition of dialectics that can include and go beyond ~~the~~ its several historical meanings, we note the following:

1) Dialectics is a process effecting change.

2) Dialectics is in essence a two fold or two phase process, as in question-answer or contraries-synthesis.

3) Dialectics is not only an epistemological process that effects change in the content of knowledge, but also an ontological process guiding evolution and effecting changes in the material world.

4) Dialectical processes may terminate in a single conclusion or result, converge to a stable oscillatory situation, repeatedly effect the emergence of novelty, or diverge to extensive diversity.

5) There are several possible *species* of dialectics. These include:
Concurrent dialectics in which the principles or forces act simultaneously.
Cyclical, or time sharing dialectics, in which the principles or forces take turns.
and these may be single cycle, two cycle or multiple cycle dialectics,
metaphorically engines or pumps, steam, diesel, otto cycle etc. .

We may now define dialectics in a more general way as follows:

DIALECTICS:
Pairs of propositions or principles that work with and/or against one another, whose interaction effects the emergence of epistemic or material novelty which may be open and on going or convergent and terminal. . ONTIC

DIP

A DIALECTICAL PROCESS MUST HAVE TWO STATES

BREATHING

FORM ⟷ FORCE

TYPEDIAL.WPD October 14, 2005

BASIC

LIST OF DIALECTICS MUST BE PROCESSES, NOT JUST DYADS

BREATHING IN HALE EXHALE

CHICKEN - EGG

THE SOCRATIC DIALECTIC: QUESTION-ANSWER TYPE: PM

THE TALMUDIC DIALECTIC ON THE OTHER HAND

THE HEGELIAN DIALECTIC THESIS-ANTITHESIS SYNTHESIS

Doing - Being

THE CHAMBELAIN-MOULTON DIALECTIC ISOLATION-COSMOPOLITANISM DEPARTURE | RETURN

THE ACTION-OPTION DIALECTIC MOVE - CHANGE DIRECTION

THE EXTINCTION-RADIANT DIALECTIC

THE INFORMATION-ENERGY DIALECTIC

THE HYPOTHESIS-TESTING DIALECTIC THE SCIENTIFIC METHOD

THE HACKER-PATCHER DIALECTIC THE ARMS RACE DIALECTIC

THE BEING-DOING DIALECTIC

THE COLLECTING- ORGANIZING DIALECTIC

THE HOMOGENIZE-DIVERSIFY DIALECTIC

THE PROCESS-PRODUCT DIALECTIC

THE FEYNMAN DIALECTIC

GENERALIZATION - ABSTRACTION

A "Quadalectic"

COMMONALITY - DISCRIMINATION LIKE - UNLIKE

FRAGMENT - RECOMBINE [Meta thesis in chemistry]

PROBLEM FORMULATION - SOLVING

ADD - RECOMBINE [FIBONACCI]

PRIORITY SWITCHING

SUFFERING PAIN - HEALING [cf. SACRIFICE] BASIS OF SACRIFICE

ZOOM IN - ZOOM OUT SPECIFIC - BIG PICTURE DETAILS

SHARP - FUZZY

BRAINSTORM - CRITIQUE

TRIAL - ERROR

CONVERGE - DIVERGE

called - organized new ground

MENUS

CREATION - SELECTION

INNOVATION - ASSIMILATION

MATERIALIZATION - ETHERIALIZATION

MUTATION - CORRECTION

COMMUNICATION: ENCODING - DECODING

EPISTEMOLOGY - ONTOLOGY

Abstraction - Generalization

Extending the Known ⇔ Exploring the Unknown

THE GREAT DIALECTIC DIVINE DIALECTIC

DEPARTURE & RETURN

GO - STOP PULSE - RANDOM

COMPLEX DIALECTAL PROCESSES

BREATHING ·

JUXTAPOSING

KARMA - FORGIVENESS

PULSING [of traffic] a Dialectic

WHAT DIALECTICS "ERASE HISTORY"

ZOOM DIALECTIC

SOCRATIC "

WISDOM - COMPASSION "

SEARCH -

ENERGY | INFORMATION DIALECTIC 3 2° LAW

FAUST'S DIALECTIC

Hectic Activism ⇔ Soggy Lethargy

See "Dimensions of Time" box

FEYNMAN DIALECTIC

SYNTHESIS - FRAGMENTATION - RESYNTHESIS DIALECTIC

LINS SALTATORY DIALECTIC 3° ORDER → 2° ORDER

LIN-LEAP DIALECTIC

$E \cdot T > \hbar$
$E \cdot T < \hbar$ } DIALECTIC

The longer you wait the lower the price, the higher the price

Goebles Dialectic

Fear - Relax - Fear - Relax
→ weaker will
helplessness ↑

Science Dialectic

Hypothesis - Test - Hypothesis - Test - ...
Theory - Experiment - Theory - Experiment - ...

The Poisson-Gauss Dialectic
on a pre-ontological level
⇒ the species of noise, of randomness

The Apollo-Dionysius Dialectic

Synchronic - Diachronic dialectic
←now→
→now←

HAPLOID - DIPLOID DIALECTIC Theory Dictionary p. 20

TRADE-OFFS

ACTION-OPTION MENU
DECISION ↑ ↓ CREATION

/ is a dialectic flow, halt, ...

REGULAR PULSING of RANDOM — Traffic Flow ↑
RANDOM Pulsing of Random
white noise modulating white noise
→ Gaussian

is modulation a species of mutual containment?

Roles of hooks and pawls

Are all dialectics ~ Mutual Containments?

MORE DIALECTICS

MATERIALIZATION | ETHERIALIZATION

COALESCE | FRAGMENT

CONTRACT | EXPAND

COMMENTED | COMMENTARY

[ITCH | SCRATCH

[MUTUALITY

Fractals?

DIALECTICS IN GAMES

BASE BALL	PITCH | BAT	Reverse positions
Foot Ball	DOING | BEING	" "
SOCCER	US | THEM	

ACHILLES | TORTOISE DIALECTIC

FOR KRACK

Vengeance | Violence Dialectic

WRITE | REFLECT Dialectic

Pauls and irreversability

прошлое не прошло

ACT | BE

The Dialectics of ↑ vs The Dialectics of ↓

e.g. interruptions

DOING | BEING

DOING | THINKING

FORMFORCE.WPD October 14, 2006

INFORMATION-ENERGY AS FORM AS FORCE ∃ a tipping point $E=I$, $E>I$, $I>E$ FORM FORCE (*)

THE FORM <----> FORCE DIALECTIC

The form-force dialectic is an inter-space dialectic, operating between H-SPACE and B-SPACE.

A shaman creates a schema, e.g. a sand painting, which is a complex form. This form generates a force, e.g. for healing. Not all forms are schemas. A schema is a form that generates a force, as for example, a form that is an organizing principle. And some special schemas are capable of generating self-organization.

psychological forces

Rituals, Icons, Idols, are all examples of schema or forms that generate force.
Languages are infrastructures or schema, in fact most semiotic creations are schema.
These schema generate forces that generate further schema that generate further force that....

The basic question is which schema are open ended and which are deterministic, and converge.

Einstein's general theory of relativity can be considered a schema in the sense that the geometrization of gravity was a form that explained the self-organizing force, gravity. physical forces

Form is a generic term ∋ patterns, infrastructures, schema
An infrastructure is a "table" (landscape) for organizing experiences, events, ...
A schema is a form that creates a force
in some cases a force that effect self-organization

The commandments do not create certain kinds of forms
they generate destructive forces

Infrastructures ≠ Schema
Grounds "Natural"
Imposed Self-Organizing
primarily for retrieval "Correct"

FORMS LIKE A STAR (*)
ALSO HAVE FORCE
eg-GRAVITY
and ℓ particle and $\frac{c^4}{G}$

$ML\mathcal{T}^{-2}$ = Force
$\frac{Mc^2}{L}$ over

$\left(\frac{hG}{c}\right)\rho_0 \to \frac{c^4}{G}$

$\left(\frac{L^2}{T}\right)^2\rho_0 \to \frac{c^4}{G}$

$\frac{c^5}{\hbar G^2} = \frac{m_0}{\ell_0^3} \overset{?}{\longleftrightarrow} \frac{c^4}{G}$

$\sqrt{\frac{G\varepsilon}{c^5}} = \gamma_0 \overset{or}{\longleftrightarrow} \frac{c^4}{G}$

$\frac{m_0 \ell_0}{\gamma_0^2} = \frac{c}{h}\cdot\frac{1}{\gamma_0^2} \to \frac{c^4}{G}$

Force $= ML\nu^2$

$\nu_1 = \frac{1}{t} = \frac{c}{L}$ $\quad F = \frac{Mc^2}{L}$ and $\frac{M}{L} \approx \frac{c^2}{G}$ on Schwarzschild Bound

$\nu_2 = \frac{1}{T} = \sqrt{\frac{GM}{L^3}}$ $\quad F = \frac{GM^2}{L^2}$ and again $\frac{M^2}{L} = \frac{c^2}{G} \rightarrow \frac{c^4}{G}$

$\nu_3 = \frac{1}{T} = \frac{c^3}{GM}$ $\quad F = \frac{L}{M}\frac{c^6}{G^2}$ and $\frac{G^4}{c^2}, \frac{c^6}{G^2} = \frac{c^4}{G}$

The intrinsic force for all frequencies $= \frac{c^4}{G}$

NO FILE

Subj: **It's Hegel's birthday!**
Date: 8/27/2005 5:44:43 AM Pacific Daylight Time
From: jsdemott@comcast.net
To: jimvball@comcast.net, NagaCoatl@aol.com
Sent from the Internet (Details)

Literary and Historical Notes:

It's the birthday of the philosopher **Georg Wilhelm Friedrich Hegel**, (*books by this author*) born in Stuuttgart (1770). He started out as a theologian, particularly interested in how Christianity is a religion based on opposites: sin and salvation, earth and heaven, finite and infinite. He believed that Jesus had emphasized love as the chief virtue because love can bring about the marriage of opposites.

Hegel eventually went beyond theology and began to argue that the subject of philosophy is reality, and he hoped to describe how and why human beings create communities and governments, make war, destroy each other's societies, and then build themselves up to do it all over again.

He came up with the concept of Dialectic, the idea that all human progress is driven by the conflict between opposites, that each political movement is imperfect and so gives rise to a counter movement which takes control—which is also imperfect—and gives rise to yet another counter movement, and so on to infinity.

This is the Marxian distortion

struggle replaces synthesis

John S. DeMott
jsdemott@comcast.net
703 496 3294

NO PILE

Subj: **Re: It's Hegel's birthday!**
Date: 8/27/2005 3:41:08 PM Pacific Daylight Time
From: NagaCoatl
To: jsdemott@comcast.net

No, That is the Marxist interpretation of Hegelian dialectics. Originally Hegel's dialectic was not the conflict of thesis and antithesis, but the synthesis of thesis and antithesis. Marx screwed up and Lenin made it worse, but Hegel's view of the dialectic as synthesis, symbiosis, and emergence is the dialectic we need today

ps the original dialectic was the Socratic dialetic: the dynamic of question and answer, leading to today's scientifiic dialectic of hypothesis and testing. But there are many other dialectical processes operating.

end of lecture

old professors do not die, they just lecture away

B.A..

DIALTYPE.WPD August 18, 2005

DRAFT

MORE ON DIALECTICS

Dialectics are processes effecting change. Some are processes that move from one stable configuration to another stable configuration. Some are processes like walking that are in a continual state of change, left foot ahead, right foot ahead, left foot ahead, and on and on. In a third type there is motion then pause, motion, pause, etc. We will label these three types, SS, LR, PM, respectively.

The following is a list of some dialectical processes with their types:

THE SOCRATIC DIALECTIC: QUESTION-ANSWER TYPE: PM
THE TALMUDIC DIALECTIC ON THE OTHER HAND
THE HEGELIAN DIALECTIC THESIS-ANTITHESIS SYNTHESIS
THE CHAMBELAIN-MOULTON DIALECTIC ISOLATION-COSMOPOLITANISM
THE ACTION-OPTION DIALECTIC
THE EXTINCTION-RADIANT DIALECTIC
THE INFORMATION-ENERGY DIALECTIC
THE HYPOTHESIS-TESTING DIALECTIC THE SCIENTIFIC METHOD
THE HACKER-PATCHER DIALECTIC THE ARMS RACE DIALECTIC
THE BEING-DOING DIALECTIC
THE COLLECTING- ORGANIZING DIALECTIC
THE PROCESS-PRODUCT DIALECTIC

Some dialectical processes effect convergence, others, diverge
Successive approximations converges
Successive frames of reference diverges [frame of reference as measure of level of consciousness]

Dialectical processes avoid loops, seek to be spirals, seek iteration

DIALOGUE AS DIALECTIC

EXERCISE IN CRITICAL THINKING

CATEGORIZE & PARAMETERIZE THE LIST OF DIALECTICS

Extending the known ≠ Exploring the Unknown
e.g. Science Search

Building on what is known
Theory

2 species of experiment
1) Confirm, test theory
2) explore

ON DIALECTICS

The terms 'dialectic' and 'dialectics' have been defined and redefined by various philosophers from Plato to the present. Aristotle, Kant, Hegel, and Marx each gave different meanings to the terms. Why 'dialectic(s)' should be repeatedly redefined instead of replaced by neologisms is either because its roots allow different emphases [The Greek, δια = right through or one against another; λεκτικος = good at speaking; διαλεκτικος = argument]. or because each philosopher is seeking to grasp and articulate some elusive fundamental essence that linguistically underlies the word. Plato held that dialectic referred to first principles; Aristotle to the level of ideas that required no hypotheses; Kant for the difficulties and errors that arise in conceptualizations beyond the world of phenomena; Hegel for an adversarial process consisting of principles or forces he called theses and antitheses, that resolved themselves through syntheses; Marx and Engels married Hegel's definition to an ontological materialism, elaborating with such attributes as all entities consist of opposing elements making their stability temporary.

With this antecedent of philosophical freedom in how one may use the term 'dialectic', I here propose to name by 'dialectic' any basic **pair** of forces or principles that operate with or against each other to effect emergence. Unlike Marx, I allow that certain dialectical forces cooperate instead of compete. I also allow that certain dialectical forces do 'time sharing', they multiplex in the TDMA mode. I also postulate with Plato certain primary dialectics that create the 'ground' for the 'figures' of other dialectics; that is, the primary dialectics form and sustain the stage that supports the changes, the dramas, that take place on that stage. Hence, the following definition:

DIALECTICS: *Forces, energies, or principles that work with and/or against one another, whose interaction effects emergence or obliterates existing order.*

At dialectical interfaces, 1) some form of emergence occurs either through synthesis or creation; or 2) some species of obliteration or extinction removes existing inhibitors, resulting in the release of energy and the renewal of potential. Dialectics are engines that generate complexity, manifest new levels, or even create new worlds.

DIALECTICAL PROCESSES

SOME EXAMPLES:

- YIN/YANG

The usual generic term for dialectics is Yin/Yang. However, many more specific dialectics have been subsumed in this term, such as Masculine/Feminine, Concentrated/Dispersed, etc.

- INDIVIDUALIZING/HOMOGENIZING

This is a dialectic that I have never seen mentioned but that seems very pervasive. I call it Uniqueness/Equalization. There is a great struggle in the world between the forces of homogenization and the forces seeking to generate and protect uniqueness. For brevity, I have labeled these GEP, a General Equalization Principle and GUP, a General Uniqueness Principle. In physics, the second law of thermodynamics is a special case of the former, and Pauli's exclusion principle is a special case of the latter. In theology, orthodoxies are homogenizations, heresies are pursuits of uniqueness.

References: GUP/GEP 1996#69; The Glory of Uniqueness 1994#30; Kinship and Uniqueness 1991#83

- CONTACT/SEPARATION

This dialectic, sometimes called Departure/Return or named Isolation/cosmopolitanism by Chamberlain and Moulton of the University of Chicago who first enunciated it early in the present century. It was used to explain much of what happens in bio evolution. Unlike some other dialectics, it is oscillatory or time multiplexed.

- FORMING/DISSOLVING

This is the dialectic expressed in mythology by the opposition of Apollo and Dionysus. Dionysus is always escaping the forms that Apollo would capture him in. The human spirit is always escaping the prisons that the human intellect would imprison it in. This is fittingly symbolized by the bread of intellect and the wine of spirit. We must have worldviews, but we must ever abandon and transcend them. We must go from Ptolemy to Copernicus to Digges to Wright to Shapley to Hubble to ... This is also a time multiplexed dialectic.

References: Bread and Wine 1996#59;

- EXTINCTION-RADIANT ~ forming/dissolving
- SPLITTING-BRIDGING ~ departure/return
- STANDARDIZING-COMPETING
- ORDER-FREEDOM
- ACTUALIZING-POTENTIALIZING
- ETHERIALIZATION-MATERIALIZATION

LAWS2.WPD May 24, 2004

SOME LAWS GOVERNING THE NATURAL ORDER

Traditional thinking, both Eastern and Western has been dyadic, based on such dichotomies as yin/yang, masculine/feminine, good-evil, ...us/them, with us/against us. While dyadic thinking arises properly from the fact that nature is basically structured around symmetries and their corresponding conservation laws, about two centuries ago we became aware of a second category of natural laws: Laws of Change, examples being bio-evolution and the second law of thermodynamics. Then, a third category of laws–dialectics, governing the interactions between contraries and conflicting principles. And a fourth category governing the interactions between the synchronic and diachronic, between the ephemeral and long range, between the temporal and eternal.

FIRST CATEGORY LAWS: THE SYMMETRY LAWS

- Conservation of energy
- Conservation of mass

SECOND CATEGORY LAWS: THE LAWS OF CHANGE

[Asymmetry]

- The Second Law of Thermodynamics
  - Homogenization aspect, Disordering aspect

entropy↑

- The Principle of Plenitude
  - Occupying aspect, Obstructing aspect
- The Law of Hardening
  - Actualization aspect, Convergence aspect
- Evolution
  - Diversity aspect, Complexity aspect

inf↑

- Growth
  - Multiplicity aspect, Size aspect

E↑

Invariants?

DIALECTICS

- Departure and Return [Chamberlain and Moulton]
- Thesis/ Antithesis | Synthesis [Hegel] [polarization]
- Action | Option
- Extinction | Radiant
- Fragmentation | Emergence

DIACHRONIC | SYNCHRONIC INTERACTIONS

- Packaging | Depackaging [revolution]
- Can demands DO [Ozbekian]
- Memes and Genes
- Archetypes | Games
- Power | Survival

DISK
ATHROISMATICS

2001 #53

FOURDIAL.WPD **June 9, 2001**

MORE ON DIALECTICS

Type 1. Dialectic The Hegelian Dialectic

Simultaneous operation of opposing forces or principles resulting in creation or innovation at the interface. The Hegelian dialectic is an example. Thesis, antithesis resulting in a synthesis.

Type 2. Dialectic The Antiphonal Dialectic

DNA?

The operation of opposing forces or principles acting alternately rather than simultaneously. All engines are examples of this form of dialectic. It is symbolized by the caduceus. [cf Wheeler's form of the game of 20 questions]

Type 3. Dialectic The Skew Dialectic

The operation of opposing forces or principles acting simultaneously but on two different levels or in two different SPACES, resulting in increase in one SPACE and simultaneously decrease in another SPACE.

Type 4. Dialectic The Inverse Dialectic – generation of "contraries"

The effect of reversal of the direction of operation of a Type 1 dialectic resulting in the creation or emergence of opposing forces or principles out of a null. An example is the emergence of matter and anti-matter from the null Planck particle.

A universe is a set of fixed boundaries within which certain rules obtain, but open to what may occur within the bounds and through the operation of the rules. All four types of dialectics operate in a universe. The sequence in which they operate on Brahman or the Sunyata determines the properties and contents of a universe. Furthermore, universes may be imbedded within one another in the manner of Russian matroshka dolls, that is in an hierarchical manner; or may be organized into strange loops, uroborus universes; or in a holographic manner.

Two force dialectics are analogous to Kepler's laws regarding the dynamics of two bodies. Trialectics, the involvement of three forces or principles, would result in complexities, chaos, and non predictability, as in three and multi-body problems in dynamics.

Placing centrifugal force (expansive) against the planck force, ==> the planck force is contractive: Equilibrium at the Schwarzschild limit: $Mc^2/R = c^4/G$ -> $M/R = c^2/G$
Placing gravitational force (contractive) against the planck force: $GM^2/R^2 = c^4/G$ gives $GM/c^2R = c^2R/GM$, or $M/R = \pm c^2/G$, not a conventional equilibrium, but an "inversion".
The question arises when is the planck force contractive and when expansive?
Is this a type 3 dialectic?

2000 #40a

ITERDIAL.WPD JUNE 22, 2000; JUNE 26, 2000 ✓

ON DIALECTICS

The original meaning of the term *dialectics* was an iterative exchange of questions and answers, the method used by Socrates to develop deeper insights and understanding. We are not quite sure whether Socrates already had in mind an answer he wanted to reach or he was using the method as an exploratory device to enhance his own enlightenment. Plato proposed a similar iterative process for the acquisition of more comprehensive hypotheses for explaining increasingly inclusive sets of phenomena. The basic ideas involved in dialectics were exchanges and iteration.

Several centuries after the Greeks, the idea of iterated exchanges was again taken up by G. W. F. Hegel (1770-1831). He used the term dialectics for the placing of two contrary propositions in juxtaposition to produce a more inclusive proposition. Hegel called these contrary or opposing positions *thesis* and *antithesis* and the resulting product, *synthesis*. Hegel also included the operation of iteration: the synthesis resulting from the preceding dialectic would become the thesis for the next dialectic. And if the process were iterated a sufficient number of times, Hegel felt that the final synthesis would be an *absolute idea*. While Hegel did not specify the source of the subsequent antitheses, he was careful to discriminate between contraries and contradictions. The dialectic process would only work with contrary ideas not with contradictory ideas. In other words the ideas had to face each other in the same arena, not walk past each other.

While Hegel's dialectics focused on contrary theses, Karl Marx extended dialectical interactions to struggles between general categories, such as the struggle of man against nature. He called the man vs. nature interaction *dialectical materialism*. Marx became fascinated with interpreting dialectical synthesis as resulting from a struggle between the components. With the help of Friedrich Engels, he focused dialectical materialism on the economic realm and the struggle between social classes. But a prize fight, a war, a class struggle is not a dialectic. There are winners and losers but rarely any synthesis or emergence, and except for revenge no iteration. Marx' ideas when put into practice resulted in dystopias not utopias. But unfortunately the term dialectics became largely associated with Marx and Communism and has been challenged and discredited. But if we return to the methodology described by Socrates, Plato, and Hegel, dialectics need to be reconsidered.

Zero Sum

The key to dialectics is in Hegel's term *contraries*. Warring nations, prize fighters, economic classes may be opponents, but they become contraries only when their interactions and exchanges result in a synthesis. Confusing opponents with contraries not only mislead Marx, it has been a trap for many. In addition to opponents another pair not to be confused with contraries is *opposites*, such as male/female, good/evil, yin/yang. That two opposites engage one another does not necessarily effect a synthesis nor constitute a dialectical process. Zarathustra's eternal struggle between Ahura Mazda (good) and Ahriman (evil) has had neither a winner nor loser, much less a synthesis. We have no reason to expect opposites entering an exchange to

CONTRARIES ≠ POLARIZATION

effect an emergence. Indeed, if the antithesis is the complete *opposite* of the thesis, then the resulting synthesis will turn out to be a null, that is,

$$T + (-T) = 0.$$

Of course zero or nothingness is an absolute idea, but when does the synthesis of opposites result in anything beyond a cipher?

Another discrimination that must be taken into account is that between repetition and iteration. The ball going back and forth from court to court is repetitive exchange. But for there to be iteration there must result a change in the overall situation as a consequence of the exchange. If one player faults, there is a change in the score. The court to court exchange resumes until again there is a change in the score. In this example, repetition is the court to court exchange, iteration is the step wise change in the score. Confusion between repetition and iteration also results from the fact that different dialectical process operate at different frequencies. [Even a single dialectic process may operate at several frequencies.] At low frequencies we can follow Socrates question and answer exchanges, and perceive the emerging syntheses. But at high frequencies, in Newton's third law, action and reaction appear to be acting simultaneously. Repetition and iteration merge and disappear. Recapitulating: For there to be a dialectic there must be a pair of contraries, they must engage by exchanging, there must result a synthesis or emergence from their engagement, and there must be iteration employing the synthesis in a new engagement.

INVERSE DIALECTICS

The iterated dialectical process is an homogenizing process, leading to some ultimate single absolute idea, be it symbolized by zero or one. [both are species of nothingness] Consequently, we ask, Is there an "*inverse* dialectical process" that leads to the creation of variety and diversity? [Something besides splitting a zero, creation ex nihilo.] In western culture the drive to a monistic world view (a theory of everything) has been so great as to preclude looking for processes leading to the creation of differences. [We have been so involved with the homogenizing cancer cell that we have neglected the wonders of the stem cell. Also, while a converging series, like iterated Hegelian dialectics, goes to single value, some diverging series take on multiple values. Divergence a possible metaphor for an inverse dialectic?] Stephen J. Gould has claimed that bio-evolution itself is a process that creates diversity. Granting that this is so, the king pin of the process is mutation, and mutation is swept under the rug of randomness, which is about as specific and illuminating an explanation as "God did it". But if the random, or iterated random, can generate diversity, then we have been ignoring something of basic importance. [1]

[1] It can be shown that white noise modulated by white noise results in a gaussian, and iteration reduces the dispersion, on and on to a dirac function. [cf, the central limit theorem]

THE TYPES OF CONVERGING DIALECTICS

Let us call Socrates' kind, "Type I "; and Newton's kind, "Type II ".

Type I has four kinds of synthesis or outcome:

- I-A Oscillatory equilibrium
- I-B Oscillatory exhaustion leading to extinction (of both contraries)
- I-C Oscillatory escalation leading to break down (of one or both contraries)
- I-D Emergence (This is the special case of Hegel's synthesis)

Type II has two kinds of synthesis or outcome:

- II-A Static equilibrium
- II-B One contrary wins the other loses. $\longrightarrow 0$, $\longrightarrow \pm \infty$

FRAGCONS.WPD October 22, 1995; August 30, 1999

FRAGMENTATION AND CONSOLIDATION

Dispersion

The breakup of the Soviet Union in 1991, was the result of contending forces of fragmentation and consolidation. The forces of fragmentation won. The unification of Germany in 1989 also involved both the forces of fragmentation and consolidation, the forces of consolidation won. Every week we read both of corporations splitting and of corporate mergers. Why at this time are we seeing diverse results from the simultaneous action of fragmenting and consolidating forces? The usual historical pattern of "departure and return" states that in a given period of time one type of force will dominate. Today, however, is an indecisive period when either force may dominate.

The economist, James O'Toole, who is vice president of the Aspen Institute, analyzes the ingredients of these opposing forces as follows:

Forces of Fragmentation:

- Human egos, urge to power.
- Imperatives of change
- Differences of vision in an era of large opportunity
- Difference of heritage, cultural differences
- Differences of psychological type
- Preservation of identity
- Facilitation of management and control

Forces of Consolidation:

- Human egos, urge to power.
- Imperatives of change
- Lack of vision in an era of small opportunity
- Economic forces, such as advantages of large scale
- Economic needs, such as requirements of large scale

"The basic forces directing fragmentation and consolidation are respectively egalitarianism and libertarianism. From the users' vantage point the desired economic end state for any product or service is abundance and cheapness. It will be a difficult traverse for American industry to reach these goals in the next few years having to operate between the Scylla of competition and the Charybdis of mounting costs. The American political focus on the egalitarian--libertarian issue (read level playing field--deregulation) not only contributes to iterated fragmentations and consolidations, it obscures from us the more significant efficiency and communitarian paths followed successfully by both our European and Asian competitors. We are playing the game with additional self imposed handicaps."

O'Toole includes "Human ego, the urge to power" in both the fragmentation and consolidation lists. The fragmentation ego is that of teen age rebellion, the less mature and experienced wishing their chance at power. The consolidation ego is that of a Napoleon seeking to grasp ever more control and power. The "Imperatives of Change" also included in both lists, depend on whether a single issue in involved, resolved by consolidation, or multiple issues, resolved by fragmentation. [cross dialectic]

1998#3

GUPGEP98.WP6 February 7, 1998

ASPECTS OF THE DIVERSIFICATION-HOMOGENIZATION DIALECTIC

The ancients, both Chinese and Greek, held that a great portion of the experiencable universe could be explained in terms of a few dialectical principles, such as Yin-Yang or Masculine-Feminine. However, over the years many dyads were lumped together under a single dialectic term such as Yin-Yang, which then became generic, causing the independence and dialectical significance of these dyadic opposites to become obscured. This practice diverted the quest for a set of fundamental dialectics by which the organization and evolution of the phenomenal world could be represented. It is now important to reexamine various dyadic couples to find which qualify as dialectics and among those, which may possibly be used as a fundamental generating set.

In the present approach to this task we shall begin with the expansion-contraction or E-C dialectic. In addition to the conventional meaning of expansion and contraction derived from our experience in physical or positional space, (hereafter referred to as P-space), we shall recognize the E-C dialectic as also operating in form or hamming space, (hereafter referred to as H-space).[1] In H-space expansion corresponds to the creation of diversity while contraction corresponds to homogenization. Thus the fundamental E-C dialectic may be considered to possess two components, one affecting the density of matter in P-space, the other affecting the degree of diversity H-Space.

This example of the E-C dialectic leads us to consider not only the dialectics themselves, but whether there exist spaces other than P-space in which a given dialectic may operate. The organization of the fundamental generating set will then consist of a two dimensional matrix having as columns the list of dialectics and as rows the spaces in which the dialectics are operative. While P-space is the phenomenological space of our physical experience, it is conceivable that there are basic dialectics underlying the structure of the universe that have no

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[1]H-Space stands for Hamming space, named for Richard Hamming who developed the idea for use in code theory. H-space is a multidimensional space in which each dimension represents a parameter that defines form. The more complex the form, the greater the number of hamming dimensions required for its description. Distance in H-space is a measure of difference in form. The more alike two objects, the smaller their separation in H-space. Two or more objects possessing the same coordinates in H-space would thus be identical in form.

component in P-space. These dialectics being unavailable to our senses or their instrumental extension, belonging to Kant's noumena, could only be detected indirectly by logical inference or pattern completion.

1998 #14a

SPACDIAL.WP6 April 10, 1998

Dialectics in Alternate Spaces

We recognize two kinds of dialectic:

The first type of dialectic consists of a dyad whose two components act simultaneously. The counter action of these opposing components continues until a state of equilibrium is reached.

In the second type of dialectic only one component acts at a time. The alternate action of the components results in growth, evolution, or emergence.

We tentatively postulate four spaces:

P-SPACE, the space of nodal positions; H-SPACE, the space of nodal forms and patterns, (information content of nodes); B-SPACE, the space of nodal interaction, internodal forces, traffic, and messages; S-SPACE, the space of selection, decision, choice.

The attraction/repulsion dialectic takes a different form in each space as in TABLE I.

SPACE\DIALECTIC	ATTRACTION/REPULSION	
P-SPACE	CONTRACTION/EXPANSION	Position
H-SPACE	HOMOGENIZATION/DIVERSIFICATION	Pattern
B-SPACE	CONSOLIDATION/FRAGMENTATION	Bonding
S-SPACE	SELECTION/OPTION	Selecting

TABLE I

In addition to **intra** linking within a space, there must be **inter** linking between spaces. The dialectic itself is one form of interspatial link.

P-SPACE:

Position or physical space, the space in which our sensory apparatus operates. This space can be viewed either as a three dimensional geometric space or as four dimensional space-time. Its properties are the basis of Aristotelian two valued logic and the law of the excluded middle. It is characterized by here and not here and now and not now. No two objects can occupy the same coordinates (place) at the same time and no single object can be at different places at the same time. [This is sort of a generalized Pauli exclusion principle]. These interconnections of space and time coordinates indicate that the space and time axes are not orthogonal in the sense of being completely independent, contrary to their usual mathematical formulation. There are two kinds of distance in P-SPACE: extension in zones of non-zero density and separation in zones of zero density. Localization in P-SPACE means an object has a unique set of space-time coordinates. Non-localization means that an object occupies an extended space-time volume.

H-SPACE:
Hamming or morphological space, the space of archetypes, blueprints, templates, and recipes. This is a multidimensional space, having as many dimensions as the number of parameters required to describe a form or pattern. Distance between two objects in H-SPACE is a measure of their difference in form. Identical objects will have the same coordinates in H-SPACE. Unlike in P-SPACE, there is no limit to the number of objects that can have the same coordinates. The volume occupied by a set of points in H-SPACE is a measure of their variety. The smaller the volume, the more homogeneous the set. Whereas in P-SPACE a volume represents non-localization of a node or entity, in H-SPACE there is no corresponding interpretation of volume for a single entity. [Unless that entity is Proteus himself].

B-SPACE:
Bonding or control space, the space whose coordinates measure the degree and nature of the interaction between nodes or entities. Distance in B-SPACE is a measure of the degree of bonding between nodes or entities. The smaller the distances the stronger the forces of attraction and the more intimate the bonding. Depending on the number of points and their density, volumes occupied by a set of points in B-SPACE, from smaller to larger, will represent organisms, societies, institutions, or ecologies. Density is a measure of dependence. Increasing density signifies increasing interdependence, decreasing density signifies increasing independence. Also B-SPACE includes the nature of the communication channels between nodes. A channel may be broad band or narrow band, may range from laser or pencil like to omnidirectional or 4π like. Small volumes indicate narrow bands and beams, large volumes the opposite.

S-SPACE
Decision or selection space. Volume in S-SPACE is a measure of the number of options or alternatives that are available. Decision processes reduce the volume. A second feature of S-SPACE is the mode of selection: Random, deterministic (causalistic), teleological (finalistic), or contextual.

06-10-14

[rituals as forms]
that create force

H-SPACE
FORM ⟷ FORCE
(velocity)

The shaman creates a schema, e.g. sand painting - which is a complex form
This form generates a force, e.g. for healing

A schema, infrastructure, is a form that effects organization
[There exist forms that effect self-organization.
Einsteins geometrization was studying the forms
that create the force of gravity, "an example
of self-organization

Semiotics: Images, Icons, ... language ~~are~~ are forms
that create forces that in turn create other forms

2

Form ⟷ Force is an inter-space dialectic. H SPACE ⟷ B SPACE

DISK-MIX

GUPSUB.WP6

PARAGRAPHS ON GUP, A GENERAL UNIQUENESS PRINCIPLE

Date[**02-02-97**] Number[10

Note[The basic Zarathustrian struggle in the universe is between variety and homogenization. The drive for Uniqueness is oftimes thought of as freedom.

Date[**02-02-97**] Number[13

Note[It is important that the preservation and drive for uniqueness be exercised within bounds. That is to say, "Don't be too unique". The metaphor of Toynbee's climbers on the cliff illustrates this. It is dangerous for the entire party when any get too separated.

Date[**02-02-97**] Number[14

Note[Homogenization forces appear to be of two general types.

1) Those that tend to bring all the values of a certain parameter to a single value. Gravity attempts to bring the positions of masses to a single point. The second law of thermodynamics attempts to bring temperature throughout the system to one value. Further, when a parameter contains only one value, then it ceases to be a parameter. Thus if type 1) homogenization succeeds in reducing all values to the same value it then effects the elimination of a parameter. 2) Decay, fragmentation, and the destruction of order are also forms of homogenization. ENTROPY ↑

Extinction is ultimate homogenization. and the ultimate homogenization results in extinction.

It seems paradoxical that the destruction of order and the ordering of, say, position are both forms of homogenization. The ultimate definition of homogenization is the destruction of uniqueness. Thus both --> order and --> disorder are both homogenization!

We may think of there being Yin homogenization, scattering to one condition and Yang homogenization, focusing or gathering to one condition. Gravity is a Yang homogenization, decay is a Yin homogenization.

Date[**02-02-97**] Number[15

\Note[Uniqueness begins after a certain level of complexity is reached.

Every particle of soil is unique, this is what allows life.

Compound things are subject to decay. ----the Buddha

Date[**02-03-97**] Number[16

Note["The fluidity of a liquid is a consequence of its molecular irregularity." --J.D.Bernal

This infers that homogenization moves from gas to liquid to solid. That is to lowering of temperature. Solids consist of identical regular molecules locked into crystalline regularity. The concepts of unique, irregular, irregular, identical, are steps in the scale of homogenization,.

The regular is semi-homogenized. and the irregular is partially homogenized

6 close packs, semi-regular

5 does not close pack, phi, ==> growth, complexity => odd is less homogenized than even.

The highly homogenized resorts to complexity rather than extinction, but in the example of the musical scale being built of odd harmonics, complexity comes from

the less homogenized.
Note[Uniqueness begins after a certain level of complexity is reached.

DISK - MIX

DIALSUB.WP6

PARAGRAPHS FROM SUBSCRAPS ON DIALECTICS

TDMA DIALECTICS NUMBER 18 02-03-97

Note[The species of departure and return:

The two levels of an epistemology, the infra structure and the experiences
that is, address and content
Vertical mitosis. Split to find union
Genotype, and Phenotype
Template and Manifestation or realization
Wave and Particle (this may not be a temporal dyad)
Crossing the determinator
Freezing
Exist and Non-exist
Sound and Silence in music
Isolation and Cosmopolitanism (The original Chamberlain departure and return)

Is there a basic pulse between some + and - that underlies all in the universe? Is there a fundamental metronome mother of all departure and return with a frequency of ten to the 42 power hertz?

DICTIONARY
DEFINITIONS
DISC - XXX

6dialect.wp6 February 27, 1997

di·a·lec·tic *n.* **1.** The art or practice of arriving at the truth by the exchange of logical arguments. **2.a.** The process especially associated with Hegel of arriving at the truth by stating a thesis, developing a contradictory antithesis, and combining and resolving them into a coherent synthesis. **b.** Hegel's critical method for the investigation of this process. **3.a.** Often **dialectics**. (used with a sing. or pl. verb). The Marxian process of change through the conflict of opposing forces, whereby a given contradiction is characterized by a primary and a secondary aspect, the secondary succumbing to the primary, which is then transformed into an aspect of a new contradiction. **b.** The Marxian critique of this process. **4. dialectics**. (used with a sing. verb). A method of argument or exposition that systematically weighs contradictory facts or ideas with a view to the resolution of their real or apparent contradictions. **5.** The contradiction between two conflicting forces viewed as the determining factor in their continuing interaction.

From American Heritage Dictionary:

No File

MAY 19, 2006

DIALECT1.WP6 APRIL 3, 1997; REV MAY 1, 1997 ✓

DIALECTICS:
Forces, energies, or principles that work with or against one another. The interaction of these 'opposites' effects emergence, i.e. creation, either at an interface or through synthesis. Or the result may be obliteration or extinction. Or inhibitors may be destroyed, releasing energy and increasing potential. A new level emerges, or a new world created. Dialectics are 'engines' that generate complexity.

Some references:

EXTINCTION/RADIANT, FORMING/DISOLVING
1996#63,1996#52,1997#21,1997#22

SPLITTING/BRIDGING, DEPARTURE/RETURN
1994#40,1993#26,1993#49,1991#13 also material in travel books

STANDARDIZING/COMPETITION
1996#66

ORDER/FREEDOM
1991#109

ETHERIALIZATION/MATERIALIZATION
1994#26,1991#63,1993#15,1993#49,1991#13

ACTUALIZING/POTENTIALIZING

NOTES:
STABILITY: MINIMIZATION OF TRAFFIC FLOW ACROSS BOUNDARIES
CURVATURE: K=0,FLAT;K>0, CLOSED ELLIPSOIDAL;
K<0 OPEN,HYPERBOLIC
FLAT SPACE HAS THE PROPERTY THAT SCALE AND FORM ARE INDEPENDENT. ALSO GEODESICS NEED NOT INTERSECT. ∴ Fractals are possible
MULTIPLEX: PARALLEL/SERIES FDMA~PARALLEL? TDMA~SERIES?
REPETITION: CYCLICAL, ITERATIVE, RECURSIVE, REGRESSIVE
CYCLES,ITERATION,RECURSION,REGRESSION
CIRCLES,SPIRALS,HOLOGRAMS,FRACTALS,
TWO SPECIES OF RECURSION: WHOLE --> PART ~ FRACTAL
PART --> WHOLE ~ EXTRACTION,DISTILLATION, CANCER

ELLIPSOIDAL SPACE HAS THE PROPERTY OF MUTUAL CONTAINMENT WITH THE SAME PARAMETER

NOT POSSIBLE IN OTHER SPACES

DISK-MIX

DIAL01.WP6 June 19, 1997 ✓

Dialectics are a sub-class of dyads. In particular those dyads that consist of forces or principles that operate to effect change. They manifest either as trends or sudden leaps. They may be classified according to the following parameters:

- Adversarial or cooperative
- Time multiplexed
- Driven or passive (McShea)

Among the most important dialectics are those effecting the increase of variation and uniqueness opposed by those effecting homogenization.

Templatonics deals with the parallels existing between informational structures and their material manifestations. It postulates the existence of purely informational structures that incarnate into matter/energy thereby governing both the forms of entities and the unfolding of processes. The concept of archetype, proposed by Plato, is the historical antecedent of temPLATOnics. However, in templatonics an archetype is discriminated from a template. An archetype is an a priori structure having trans-temporal existence. On the other hand, templates, derivable from archetypes, come into existence, evolve, and die. Templatonics postulates a two level universe, the world of mathematics, ideas, and theory, and the world of entities, forces, and dialectics.

Complexity of a system is a function of the diversity of its component parts and their level of order. Diversity is measured by the [hyper] volume occupied by the components in Hamming space. This volume depends in turn on the number of parts and on their intrinsic differences. Order is measured by the number of parameters, together with their ranges, required to give a complete description of the system. Order is also representable by a volume in Hamming space. The complete measure of complexity is thus given by two hyper-volumes in Hamming space. We may represent these by

$$\mathfrak{C} = \mathfrak{D} + i\mathfrak{R}$$

where $\mathfrak{C}$ is the complexity, $\mathfrak{D}$ is the diversity volume and $\mathfrak{R}$ is the order volume in Hamming space.

DISK - MIX

DIALECT2.WP6 June 29, 1997

DIALECTICS

These are the forces of change, oftimes being adversarial pairs obeying Newton's Third Law, "to every force there is an equal and opposite reaction". At other times dialectical forces may be mutually supportive in which case they are temporally multiplexed thus avoiding Newton's third law. In the case of opposing forces novelty occurs at the interface, in the case of supportive forces, the action is in effect an "engine" producing some form of change. (from Brahm01.wp6)

DIAL01.WP6 June 19, 1997

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DIALSUB.WP6

PARAGRAPHS FROM SUBSCRAPS ON DIALECTICS

TDMA DIALECTICS NUMBER 18 02-03-97

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JULYKOAN.WP6 August 28, 1997 ✓

THE KOANS OF JULY

The koans of July involve the contradictions implicit in the slogans or mottos of two governments. Both are products of the late Eighteenth Century.

▸ The Koan of July 4th

E Pluribus Unum

This motto of the United States of America combines the major dialectical pair: Diversity and Homogenization. These opposing dialectical principles are among the most basic dialectics operating in the universe. Very rarely, and then only briefly are they in balance. Although manifested in the particulars of Union, States Rights, Right of Secession, and the immediate question of Slavery, their interplay was at root the cause of the American Civil War, The dialectical principle of diversity, the **pluribus** of the motto, incarnated itself in the viewpoints of the South. The dialectical principle of homogenization, the **unum** of the motto, played its part through the armies of the North. The remarkable feature of the United States is that it has, through its system of federalism, preserved a near balance of these dialectical forces. However the forces of homogenization are gradually prevailing.

▸ The Koan of July 14th

Liberté, Egalité, Fraternité

This motto of the French revolution also puts into juxtaposition particular manifestations of the diversity-homogenization dialectic. Liberty and Equality are in opposition. Liberty is the sine qua non of individual uniqueness which in turn is the foundation of diversity and variety. Equality of one or more parameters is the end sought by the forces of homogenization. At what point is balance sought or at what point is balance obtainable? The French approach seems to be let liberty go as far as it will in some parameters and homogenization go as far as it will in other parameters. Support liberty in personal choices, support homogenization in preserving the Republic. We end with the paradox of compulsory military service in order to preserve individual liberty. In effect there is a time in life for liberty and another time in life for uniformity. No civil war needed if resort is to ADMA (across parameters) and TDMA (across time). But also there is liberty for some bought by the homogenization of others. Back in some sense to the issue of slavery, an unacceptable point of balance of the two dialectical principles.

DIALECT0.WP6 97/04/03; 97/05/01; 97/05/08; 97/05/12

ON DIALECTICS

The terms 'dialectic' and 'dialectics' have been defined and redefined by various philosophers from Plato to the present. Aristotle, Kant, Hegel, and Marx each gave different meanings to the terms. Why 'dialectic(s)' should be repeatedly redefined instead of replaced by neologisms is either because its roots allow different emphases [The Greek, δια = right through or one against another; λεκτικος = good at speaking; διαλεκτικος = argument]. or because each philosopher is seeking to grasp and articulate some elusive fundamental essence that linguistically underlies the word. Plato held that dialectic referred to first principles; Aristotle to the level of ideas that required no hypotheses; Kant for the difficulties and errors that arise in conceptualizations beyond the world of phenomena; Hegel for an adversarial process consisting of principles or forces he called theses and antitheses, that resolved themselves through syntheses; Marx and Engels married Hegel's definition to an ontological materialism, elaborating with such attributes as all entities consist of opposing elements making their stability temporary.

With this antecedent of philosophical freedom in how one may use the term 'dialectic', I here propose to name by 'dialectic' any basic **pair** of forces or principles that operate with or against each other to effect emergence. Unlike Marx, I allow that certain dialectical forces cooperate instead of compete. I also allow that certain dialectical forces do 'time sharing', (they multiplex in the TDMA mode.) I also postulate with Plato certain primary dialectics that create the 'ground' for the 'figures' of other dialectics; that is, the primary dialectics form and sustain the stage that supports the changes, the dramas, that take place on that stage. Hence, the following definition:

DIALECTICS: *Forces, energies, or principles that work with and/or against one another, whose interaction effects emergence or obliterates existing order.*

At dialectical interfaces, 1) some form of emergence occurs either through synthesis or creation; or 2) some species of obliteration or extinction removes existing inhibitors, resulting in the release of energy and the renewal of potential. Dialectics are engines that generate complexity, manifest new levels, or even create new worlds.

DIALECTICAL PROCESSES

SOME EXAMPLES:

- YIN/YANG

The usual generic term for dialectics is Yin/Yang. However, many more specific dialectics have been subsumed in this term, such as Masculine/Feminine, Concentrated/Dispersed, etc.

- INDIVIDUALIZING/HOMOGENIZING

This is a dialectic that I have never seen mentioned but that seems very pervasive. I call it Uniqueness/Equalization. There is a great struggle in the world between the forces of homogenization and the forces seeking to generate and protect uniqueness. For brevity, I have labeled these GEP, a General Equalization Principle and GUP, a General Uniqueness Principle. In physics, the second law of thermodynamics is a special case of the former, and Pauli's exclusion principle is a special case of the latter. In theology, orthodoxies are homogenizations, heresies are pursuits of uniqueness.

References: GUP/GEP 1996#69; The Glory of Uniqueness 1994#30; Kinship and Uniqueness 1991#83

- CONTACT/SEPARATION

This dialectic, sometimes called Departure/Return or named Isolation/cosmopolitanism by Chamberlain and Moulton of the University of Chicago who first enunciated it early in the present century. It was used to explain much of what happens in bio evolution. Unlike some other dialectics, it is oscillatory or time multiplexed.

- FORMING/DISSOLVING

This is the dialectic expressed in mythology by the opposition of Apollo and Dionysus. Dionysus is always escaping the forms that Apollo would capture him in. The human spirit is always escaping the prisons that the human intellect would imprison it in. This is fittingly symbolized by the bread of intellect and the wine of spirit. We must have worldviews, but we must ever abandon and transcend them. We must go from Ptolemy to Copernicus to Digges to Wright to Shapley to Hubble to ... This is also a time multiplexed dialectic.

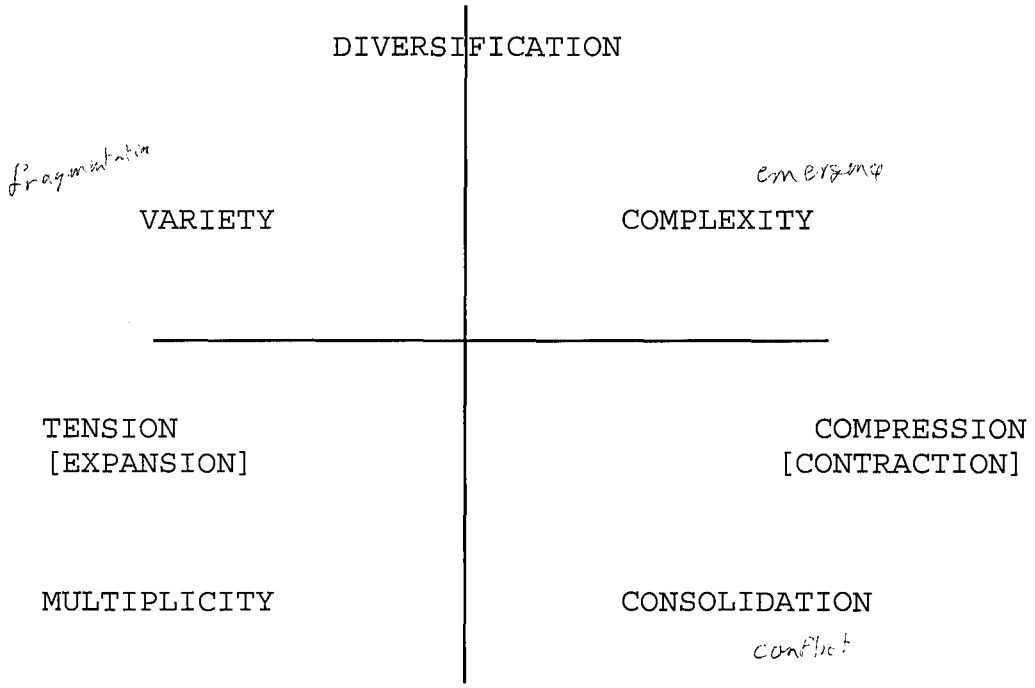
References: Bread and Wine 1996#59;

- EXTINCTION-RADIANT ~ forming/dissolving
- SPLITTING-BRIDGING ~ departure/return
- STANDARDIZING-COMPETING
- ORDER-FREEDOM
- ACTUALIZING-POTENTIALIZING
- ETHERIALIZATION-MATERIALIZATION

THE DIVERSITY-HOMOGENITY/TENSION-COMPRESSION QUADRAD

Traditionally it has been recognized that there exist opposing forces or principles whose interaction plays a basic role in structuring the world. These dyadic principles have been given such names as Yin-Yang, Feminine-Masculine, etc. Here we shall call such pairs, "dialectics". The interplay of dialectics results in existence. Entities are located where dialectical forces are in balance, things happen at the interface, in the 'cracks' between dialectical domains. But to focus on a single dialectic pair is to ignore the fundamental adversarial or complementary power of dialectics. To complete a dialectical structure, two dialectical pairs must be placed in juxtaposition, creating a quadrad.

An example of this arises from consideration of the following two dialectical pairs: The Tension-Compression dialectic, and the Diversification-Homogenization dialectic. A first question is, are these not the same dialectic, Tension-Compression being a special sub-set of Diversification-Homogenization, or vice versa. Unfortunately or fortunately we cannot decide, so we proceed to the creation of a dialectical quadrad.



THE LEFT HALF of the diagram may be labeled FRAGMENTATION, many separate unbound parts being either all the same or varied. In particular there is no center or coordination among the parts.

THE RIGHT HALF of the diagram may be labeled UNITY or BONDEDNESS, where there is a single system consisting either of varied parts such as an organism (complexity) or of several similar parts bound into a single whole (e.g. monopoly). In either case there is a center, central control, coordination, and coherence.

THE LOWER HALF of the diagram may be labeled UNIFORMITY or STANDARDIZATION. Whether the parts are bonded and coordinated or not, variety is minimized. This is the domain of the Principle of Plenitude, the action of the cancer cell, to render all in its own image.

THE UPPER HALF of the diagram may be labeled PLURALISM, whether of unbonded particles or of an organism, in the latter case pluralism refers primarily to function.

UPPER LEFT QUADRANT:

Diversification together with tension, is the environment for the creation of variety. The expansion resulting from tension promotes separation, minimizing interaction, and permiting variety to evolve.

LOWER LEFT QUADRANT:

Homogenization together with tension or expansion results in multiplicity, a plethora of separated identical monads, unbonded and minimally interacting.

LOWER RIGHT QUADRANT:

Homogenized compression, merging modules into a larger whole that resembles the modules. This represents growth in size but not in complexity or sophistication.

UPPER RIGHT QUADRANT:

Bonding of the diverse is the source of complexity, the origin of ecologies, societies, and organisms. Its evolution depends on being fed with fresh variety.

This quadrad has applications in many levels, in cosmology, in bio-organisms, in social structure, in cultural evolution. It must be placed in juxtaposition with other dyads and quadrads, particularly, the four fold structure:

CARTVAL1.WP6 May 3, 1995

A CARTOGRAPHY OF THE TRANS-RATIONAL

Concepts such as patience, generosity, and gratitude, based on feelings, emotions, and the subjective elements of human experience are so largely personal and individualistic that the conventional epistemologies of scientific and logical thinking, based on universality and repeatability are not applicable to their discussion. However, in spite of the difficulty and inappropriateness of subjecting feelings to rational operations, it is still possible to discern patterns and create schemata of order in this area of experience.

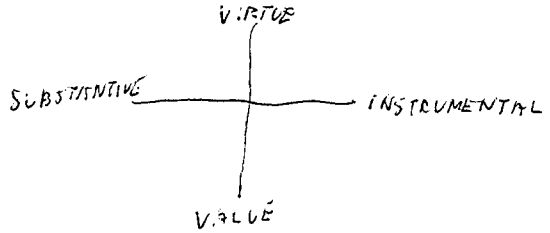
It is useful at the start to discriminate the term *values* from the term *virtues.* Values arise in situations where there exists choice, not in the deterministic imperatives common to that portion of the natural order amenable to scientific inquiry. Values are culturally and chronologically based. They change with the cultural context and with the times. Virtues, on the other hand, tend to be trans-cultural and independent of the changes wrought by time. They may not be absolutes nor totally equatable to 'truth', but they exist on a distinct level from values and can serve as criteria for the evaluation of values.

Here are some examples of both:

VALUES	VIRTUES Bodhicittas
Happiness	Allegiance
Health	Commitment, /
Honesty	Courage
Hospitality	Determination resolve
Human life	Duty
Knowledge	Generosity
Kindness	Gratitude
Non-violence	Integrity
Pleasure	Loyalty (Josiah Royce)
Profit	Persistence
Non-suffering	Patience
Thrift	

Beside the cultural and trans-cultural difference, virtues are things that are universally admired and respected, whatever their attachment is toward. There can be much disagreement on what should appear in the left hand list, but most would coopt all of the entrees in the right hand list to be emulated and practiced in their lives. So universal admiration and respect for a trait tends to render it a virtue.

Which values are instrumental, which substantive?
Which virtues are instrumental, which substantive?



general1.wp6 September 20, 1995

ON GENERALIZATION

When I was a graduate student at CalTech back in the 40's there was an important second order differential equation that no one had been able to solve over the past few years. A Chinese graduate student named Lin became interested in the equation. About two weeks later he astounded the faculty and everyone else by presenting the solution. I do not recall the details but the important aspect of the story is how he solved the equation. Lin took on a more difficult problem. He imbedded the second order equation in a generalized equation of the third order. He found a class of solutions for the third order equation then was able to select which member of the class would work satisfactorily for the original second order equation. Evidently what was not visible in the direct approaches to a solution of the second order equation became visible when the problem was viewed in a more general manner.

E.T. Bell, professor of mathematics and then head of the department, remarked that only someone brought up in a non-western background could have come up with that approach. Complicating the problem and thus perceiving more possibilities. Climbing past the specific obstacle then looking back down from above. Ordinarily we have only the viewpoints from below. Viewing from above, a totally different vantage point, discloses paths invisible from below.

Mathematicians have always tried to make their results as general as possible. Now, thanks to Lin, we have an additional practical application for generalizations.

GENRUNIQ.WP6 DISK - MAX
1996#69

11/26/1996 ✓

THE GENERAL UNIQUENESS PRINCIPLE

Once we talked about why Brahma created the world and asked what he had in mind in doing it. Of course, from where we stand, we cannot read Brahma's mind or ascertain his purposes. All we, who are imbedded in his world, can do is look at what is and what happens and try to figure it out. If it is true, as has been said, that we were created in his image, then we should be able to think it out the way he did. Anyway, keeping in mind it is always speculation, let's give it a try:

Since Brahma knew the algorithms he laid out and their consequences, what could he learn from running the program? Maybe he just enjoyed it as some sort of game, but then if all were determined, the outcome was known in advance, so why? It seems as though the answer to this may lie in Brahma was looking for something not known beforehand. He set up and knew the initial conditions and boundary conditions--the theme, so to speak, but he was interested in the details, the variations on the theme that might occur. The boundaries were fixed, but what could happen within those boundaries could take countless paths and forms. It was these possibilities that fascinated Brahma. And if variety was what Brahma sought, then in some way he had to include in his algorithms a way to protect it.

But as we look at the world, it seems that the algorithims threaten variety. We have observed a tendency toward homogenization, which we have labeled the second law of thermodynamics. Over time all seems to come to the same temperature, to reach a condition where no more exchanges take place. Exchanges can occur only between modules that are different, and every exchange reduces differences. So in time, when the modules become the same they have nothing to say to each other. Eddington has said that uniform sameness is the equivalent of non-existence. So a completely homogenized world would cease to exist.

But besides the second law of thermodynamics, other algorithms exist. One of these was noted by Wolfgang Pauli, and is called the Pauli Exclusion Principle. This says that no two atoms can be in exactly the same state. Their defining parameters must always assume different values.
This kind of exclusion reminds us of a very common exclusion observed on the macro level: No two material objects can occupy the same space at the same time. Here the parameters are space and time. Perhaps these two exclusion principles are part of a more general, more comprehensive exclusion principle: **No two entities in the universe are allowed to be exactly the same.** [We shall call this the General uniqueness Principle or GUP]

But here we seem to have algorithms in conflict. The second law tending toward homogenization and the general uniqueness principle [GUP] opposing it. What happens when these opposing principles interact? When two entities, after many exchanges are down to but a single difference, and when one additional exchange would make them the same, and thus come into violation of the GUP, then they could combine and the two become one, an unique entity that did not exist before. Thus the interaction of the second law and GUP effects morphogenesis. The refuge of entities about to suffer the fate of Eddington's principle is to build complexity !

But preservation of uniqueness alone would not assure Brahma of having his variety. It is also necessary that something new be created.

QUESTANS. WP6
1996

DIAL Socrates' Dialectics

ON QUESTIONS AND ANSWERS

There seem to be two distinct levels for the question-answer dialectic. The first of these is the 'school marm' or 'sheep' level. For each question asked there is one right answer. What is 2 + 2? The right answer, and only acceptable answer is 4. This is the level of those who have the answers and want them universally accepted. It is the level of those teaching young children, of those fearful of ambiguity and doubt, of those seeking to control others, and of fundamentalists of all descriptions, Eddington on "+"

what about 2^2, or 2 as vector

But there is a second level of question. The level of those doing research, those asking questions whose answer is not known, of those seeking truth. For these it is allowed that there may be a unique explicit answer to the question, or that there may be many valid answers, or that there be no answer at all. It may be the wrong question. As Pauli put it, "The answer may not even be wrong". As Zwicky put it, "Our task is not to find the answer but to find all the possible answers."

Here the distinction between mystery and mysteria comes in. (see scraps 1993#39 and #43) A mystery is an unexplored area which will yield one correct map. Mysteria is an unexplored region which will yield many correct maps, some of which may be consistent some non-consistent. It is not possible in advance to know whether we are dealing with a mystery or mysteria. To assume a mystery is to truncate the world, to deliver ourselves into the sheep pen. The full richness of the world and of ourselves can only be attained through the assumption at the outset that we are dealing with mysteria. What about 2+2 then? Eddington said we have learned a great deal about two, we have yet to explore plus.

Yet, few can move into the second level approach. Freud said that the ability to tolerate ambiguity and uncertainty is a measure of maturity. Philosophers of necessity must operate at the second level. Scientists must be able to operate at both levels. The great tragedy is that lawyers? theologians and clergy, who more than any others should operate at the second level, have chosen rigidly to remain at the first level.

In science the answer to a question often leads to more questions - a tree
Such a tree must not be garbarized with a set of facets of a mysterium
i.e. tree ≠ facets

Socrates and the defend-attack dialectic - as process
alternatives as product

CAUSDIAL.WP6 October 15, 1995

CAUSALITY and DIALECTICS

This is a look at some of the ways in which we interpret our encounters with diachronic sequences of events.

SINGLE STREAM SEQUENCES

Causality

The common interpretation of a diachronic sequence of events is causality. Each temporally preceding event is thought to *cause* the succeeding temporal event. This form of causality is past oriented.

Finality

The cause of the events in the sequence is some state yet to be realized. This is *goal* or *future oriented* causality.

DOUBLE STREAM SEQUENCES

Synchronicity

Two streams of events intersect in a meaningful manner without visible causal connections. Or, the interposition of an apparently extraneous or anomalous event meaningfully into a diachronic sequence. A special case is called 'serendipity'.

Dialectics

The repeated intersection and interaction of two streams of diachronic events which modify one another and create interpositioned causal chains. The Caduceus of Hermes symbolizes the dialectical process. One example is the Hegelian or Herakleitian dialectic: Thesis interacting with Antithesis resulting in a synthesis.

SPECIAL TYPES OF CAUSALITY

I. External formulae processes

A sequence is generated by a formula or recipe which produces the n^{th} event by substituting n into the formula.

II. Implicit processes

1) The n^{th} term of the sequence is generated from the properties of the $(n-1)^{st}$ term. That is the structure of the next event is defined completely by the structure of the last event.

2) Markovian process: The n^{th} term depends jointly on the structure of the $(n-1)^{st}$ and $(n-2)^{nd}$ events. An example is the Fibonacci sequence in which each term is equal to the sum of the two preceding terms.

3) The structure of the n^{th} term is determined by the structure of the preceding sub-sequence of m terms where $m > 2$ and less than the total number of preceding terms.

4) The structure of the n^{th} term depends on the entire *history* of the sequence, on all the preceding events.

diachronic

phenomena that change over a period of time

DIALECTICAL PROCESSES

- The H-Dialectic
  Thesis, Antithesis, Synthesis
  The basis of Dialectical Materialism
  Herakleidos, Hegel, Marx

- The N-Dialectic
  Departure and Return
  The dialectic of the natural order
  Isolation and Cosmopolitanism
  Genotype and Phenotype
  Moulton, Toynbee

- The G-Dialectic
  Recreation of God and Man
  The vertical dialectic of
  Materialization and Etherialization
  Incarnation and Transfiguration
  Fox, Wilbur

- The R-Dialectic
  Iteration and/or Recursion
  Om Mani Pahdme Hum
  Six hundred three score and six

- The 5-Dialectic
  The Dialectic of the Tibetan Book of the Dead
  The Five Tathagatas or Dhyani Buddhas
  The Dialectic of Creation and Innovation

- The E-Dialectic
  The Dialectic of the Eneagram
  Peri and Dia Sequences