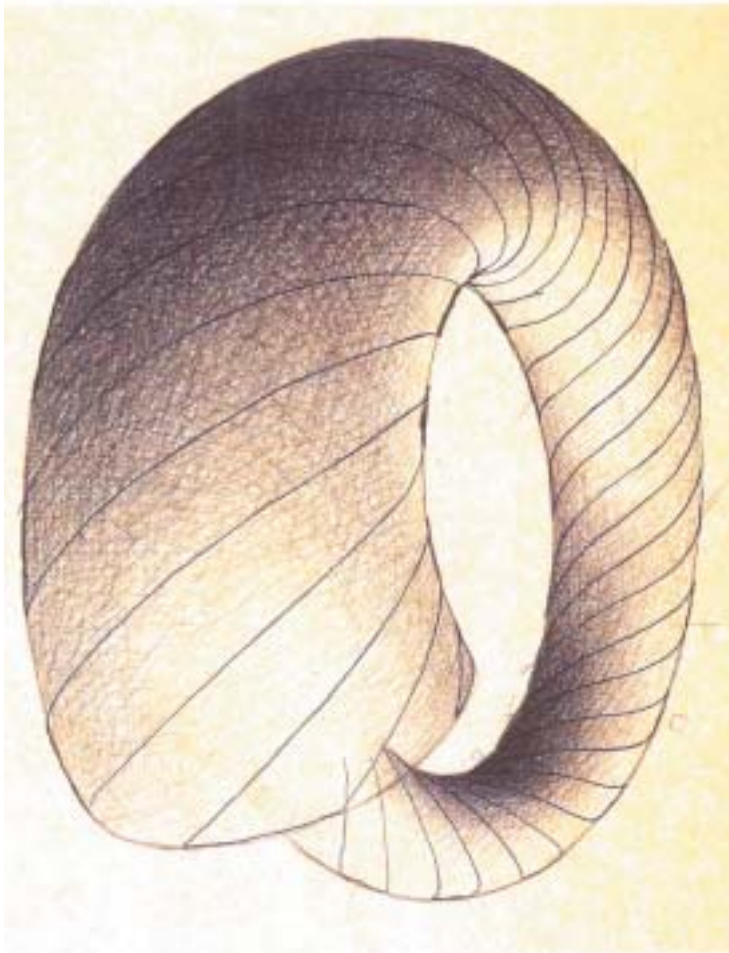


# Cosmic Law

PATTERNS IN THE UNIVERSE



BY

DEAN BROWN AND WENDEN WIEGAND



# CONTENTS

How This Book Came to Be

Introduction

I The Law of Nothingness

II The Law of Contraries

III The Law of Concealment

IV The Law of Revelation

V The Law of Emanation

VI The Law of Sustenance

VII The Law of Dissolution

VIII The Law of Return

Epistemology

Bibliography

# HOW THIS BOOK CAME TO BE

My passion is physics, τα φυσικά, the study of Nature. My earliest memories as a small child were being read to from the Bible and from an anthology of the traditional Persian, Greek, Indian, Arabic and Chinese literature. As my studies in physics developed, certain parallels in the wisdom canon and in mathematics and physics began to emerge. My graduate research in topology and quantum stability were much colored by my growing grasp of the Taoist and Vedic sutras. For instance, certain ancient Buddhist texts correlate directly with the principle of least action (Hamilton-Jacobi) and Newton's laws.

Later on, as my world view developed, I was profoundly influenced by the thinking of Wittgenstein, Schroedinger, and, above all, C.S. Peirce. My professional life in science and business carried me first hand to many parts of the world and to many cultures.

It gradually became clear to me that the fundamental structures of the world of matter, the world of the mind, and the world of the abstract were *identical* and *interwoven*. There are indeed patterns in the universe, patterns that are truly invariant. And they are surprisingly beautiful and simple!

In the 1990's, I began teaching a one-year course in consciousness and cosmology at the Philosophical Research Society in Los Angeles, and then later for the Holmes Institute. These courses are still continuing. This book, *Cosmic Law*, was extracted from the course material.

It was written for you, my friends and students. Let it help you uncover the underlying and often hidden axioms of your life. Let it help you see the invariants of reality and find your home, right here, where are just now, situated precisely at the Center of the Universe.

Dean Brown  
Alamo, California  
January 2002

# INTRODUCTION

A sign on the rim of the Grand Canyon warns, “The Law of Gravity is strictly enforced here. Six people fell in last year. Four somehow survived.”

Laws of the Universe express patterns of reality that are perceived to be invariant. When viewed from different perspectives they come out to be the same. Laws do not ‘govern.’ They describe.

Laws are the foundation and the bones of metaphysics. Metaphysics explains things. It provides descriptions of reality that satisfy. In formal philosophy, metaphysics is defined as the union of three fields of study:

ontology	+	epistemology	+	cosmology
be		do		have
models		tools		data

I was on the telephone with my friend. He asked me, “what is the use of metaphysics?” Twelve answers came cascading into my mind, from the taproot of intuition and human experience.

Answer: “All men by nature desire to know.” – Aristotle

Answer: Conception leads to perception leads to sensation. Meta-physics formats and enables experience, which molds scientific reality, social reality, and individual reality, which in turn leads to sanity, health, vitality and growth.

Answer: The process of finding organizing principles yields energy. “Energy is sweet delight.”

Answer: The purpose of life is to bring order out of chaos. Raw experience emanates patterns, laws, and metaphysics.

Answer: As in the Buddhist wisdom texts, that say to demonstrate the eternal within the context of the temporal.

Answer: “always the beautiful answer who asks a more beautiful question”

– e.e. cummings

Answer: “Wisdom is the supreme part of happiness.”– Sophocles

Answer: You become what you behold. Studying metaphysics makes you bigger and better.

Answer: Metaphysics unifies science, psychology and spirituality.

Answer: Certitude leads to peace of mind. Certitude can only be found in direct experience and in metaphysics. It’s addictive.

Answer: Metaphysics has always engaged the minds of mankind's finest thinkers – of all times and cultures.

Answer: Ideas change the world – much more dramatically than genetics.

Consider the joys of wisdom:

Happy the man who discovers wisdom,  
the man who gains discernment:  
gaining her is more rewarding than silver,  
more profitable than gold.  
She is beyond the price of pearls,  
nothing you could covet is her equal.  
In her right hand is length of days;  
in her left hand riches, and honor.  
Her ways are delightful ways,  
her paths all lead to contentment.  
She is a tree of life for those who hold her fast,  
those who cling to her lead happy lives.

– Proverbs 3:13-18

Wisdom shows how to live the good life. And we can define wisdom as a practical understanding of cosmic law (dynamic invariants) and skill in applying it (intention).

## WHAT IS LAW?

The great *trichiliocosm*, Sanskrit for the three-fold universe that we find ourselves in, is described in endless detail in the ancient tantras and sutras, the Vedas and the Buddhist wisdom literature. It consists of the universe of matter, the universe of the mind and ideas, and the even more vast universe of spirit, being, and unmanifest possibilities – potentialities. Notice that the concept of “power” derives from “potential,” the passive.

Law is pattern, order within chaos, the general (nomothetic) versus the particular (idiographic). Law is architecture – science, the fourth art, after music, painting, and poetry.

Law is the recognition of realities that are invariant under transformations of state. The Perennial Philosophy is the result of distilling the wisdom that remains after state-dependent, culture-dependent and time-dependent realities have been subtracted. This subtraction process is called in ancient Sanskrit “*niti-niti*,” meaning “not this, not this.” William Blake likened it to the process of etching where the vitriol bites out that which is not enduring. Kaballah says that the meaning of the ten commandments lies not in the letters of the Law burned into the granite, but rather in the free space remaining, outlining the letters.

Invariant means that which everyone can agree upon from different standpoints, and in inner space, that which is the same for you among your many different inner states. Invariance is contra-disposed to transience, that which is ephemeral, natural, and subject to the cycles of birth and death, ebb and flow.

The French, as always, have an elegant way of saying it – “*plus ça change, plus c’est la meme-chose.*” The more things change the more they are the same. Law seeks that which is the same among the myriad things that change.

Invariants are extracted from generalizations, finding patterns in lots of data, finding “habits” embedded in experience, re-cognizing form and color embedded in chaos. For the philosopher C.S. Peirce, a fundamental quality of mind is its tendency to take habits. Adopting habits is the foundation of the inexorable trend of technology.

Here is a rich game to play with yourself and with your friends. I call it “Who am I?” What in you never changes? *Niti-niti*, take away the ever-changing ephemera, traits that are not really you.. What remains at your core? You arrive at your nucleus, your essence, your temperamental Self, the point at which you bond to the permanent, the eternal.

Science is the systematic search for law, for invariants. In a like manner, art is also a reach for invariants, both in perception and in expression, that is, in experiential reality.

Science and art involve a search for things that might be understood as states, for things that might be candidates for invariants, and for events that might be understood as transformations. They are ever-continuing processes converging to an ultimate but never attaining it. Since laws are universal, the laws of psychology and of spirit can be “lifted” from the laws of physics – and vice-versa.

## EVOLUTION

Horace said, “The play starts *in media res*,” in the middle of things. We are ever at ground zero, precisely midway between minus infinity and plus infinity in every regard. You are exactly half way. We know exactly half of everything, and we always will! The concept of Middle Earth in Nordic cosmology conveys the idea of suspension between heaven and earth, the concept of “now-here” in contrast to “then-there.” There is no then. There is no there. There is only here and now.

Csikszentmihalyi, author of the popular book *Flow: The Psychology of the Optimal Experience*, tells us about a Hungarian village where the local church steeple is known to be the center of the universe. Blake says that the universe is all you can survey from standing on your housetop – all else is an abstraction. In Sanskrit, the word *loka* means, at the same time, your narrow

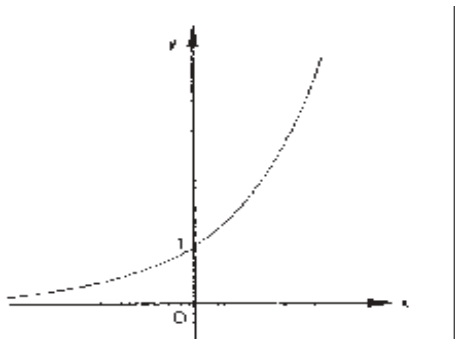
locale as well as your total universe. You are always in the precise exact center of your horizon.

Experience and evolution, the constructs of time, are symbolized in the ancient uroboros / Shofar / torus, the eye ever expanding its gaze and contemplating itself, reflexively –



This image seems to be quite contrary to the principle of *in media res*, that we are always precisely in the middle of things. From an evolutionary point of view, the universe is expanding at an exponential rate – we are not at all in the center of things. Rather, we are at the foot of a series of trends where very little has happened in the past as compared to the developments of the near future. More art, more science, more wisdom, more ideas, more of everything is to be found in our times than has accumulated in all of time up to this date! Imagine the future, say 10,000 years or 10 billion years from now, when this process has continuously expanded under the influence of networked multi-dimensional positive feedback. Just think, 99.99...% of everything has not yet been invented!

Every point on the curve of exponential growth has exactly the same quality as any other – the same slope, the same acceleration, the same derivatives,  $e[\exp(x)]$ . The landscape when viewed from any point is the same – *in media res*. Yet the future (as in the figure, the area beneath the curve for positive  $x$ ), is vastly larger than the entire accumulation of the past –



## PATTERN

Laws are the unchanging organizing principles of the universe. They are patterns that are observed to be invariant under all transformations. Einstein called his relativity “invariant theory.”



To abstract pattern from chaos requires consummate skill. Discernment, the ability to discriminate the essential from the inconsequential (by the process of *niti-niti*), is the faculty to make accurate distinctions. It is the highest attainment of thought.

William Blake said, “The great and golden rule of art, as well as of life, is this: that the more distinct, sharp, and wiry the bounding line, the more perfect the work of art; and the less keen and sharp, the greater is the evidence of weak imitation, plagiarism, and bungling. The want of this determinate and bounding form evidences the want of idea in the artists mind. Leave out this line, and you leave out life itself; all is chaos again ... contemptible, dis-arranged imitations, blundering, misapplied copies.”

## SHORT LAWS

Before we undertake a balanced treatment of the eight mega-laws of the cosmos, prepare yourself for thinking in a nomothetic way by practicing on a few well-known short laws, (Nomothetic means general truth, in contrast to idiographic, particular truth). Each one of these aphorisms will later be seen to be special (specific) cases of more general (generic) principles.

Sharing is a cosmic imperative.	(In physical form, the law of gravity)
No two alike. Not two.	(A physical analog is the Pauli Exclusion Principle) (Advaita Vedanta, mystical union)
Some good comes from bad.	
Some bad comes from good.	(As in the Tao Te Ching)
Primal urge.	(contains the big bang and the ever-expanding universe)
Things change. All things ebb and flow. Life and death. “This too will pass.”	(Nature, Tao)
Some things never change.	(True love, logic, mathematics, great art)
MUST PROCEED! – cummings	
Blood is thicker than water.	(Genetics is stronger than culture)
Order in Nature degrades with time.	(Entropy)
Order in life, culture, and consciousness increases with time.	(Negentropy)
Luxury is a necessity. Necessity is a luxury.	
<i>Plus ca change plus c’est la meme-chose.</i>	
Supply ~ Deprivation.	
Demand ~ Supply.	(In physics, conservation laws)
Beauty is in the eye of the beholder. The beholder is in the eye of beauty.	
Bloom where you are planted.	(Every point is the center of the universe)

It is never too late to start a beautiful  
childhood.

Invention is the mother of necessity.

Male ~ Female.

If it ain't broke don't fix it.

Challenge authority.

(As in Talmudic studies,  
Jacob wrestling with the angel)

“Seek and ye shall find. Knock and it will  
be opened unto you.”

And then there are those contrary “isn't” laws:

Fate isn't fatal. Fate is always fatal.

The last word isn't the last word.

Complete isn't complete.

Obvious isn't obvious.

Simple isn't simple.

Cheap isn't cheap.

Hold fast doesn't mean go fast.

Fix the paint so it doesn't run.  
Fix the bike so it runs.

The answer to the problem is there is no problem.

What you want is what you get. What you get is  
what you want.

What goes around comes around

(in physics the closed work  
integral is zero)

Guilt leads to self-defeating.

“Happiness makes up in height for what it lacks in  
breadth.” – Robert Frost

(and it comes again – the  
climax)

“Should have” is a sin.

Nothing is just, the unjust said.

Nor un- replied the just. – cummings

“Nothing is enough to the one for whom enough is  
too little.” – Epicurus

“The whole is less than the sum of its parts.” (thermodynamics)

After every ending there is a new beginning.

“Follow your bliss.” – Joseph Campbell

“Nourish the root, enjoy the fruit.” – Maharishi

“All lunches are free.” – Alan Guth (vacuum energy)

“It takes three to make a child.” – cummings

Take the high road.

God is Love (Sharing) / God is Zero-ing. (nothingness, Advaita Vedanta, Buddhism)

“Where there’s a will there’s a won’t.” (Newton’s law of action and reaction)

female precedes male (stasis)

learning is better than knowing (stasis)

becoming is better than being (stasis)

living is better than being perfect (stasis)

earth is better than heaven (stasis)

people are better than angels (stasis)

– William James,

Maslow

Nature abhors a vacuum.

(Le Chatlier’s Principle)

The Absolute loves a vacuum.

Knowledge accretes.

Wisdom does not.

Use it or lose it – sighted salamanders in a cave lose  
their sight in ten generations – embedded in their  
DNA!

Anything that can happen will happen, but some things are excluded. (Bohr, Schroedinger, Pauli)

Any possible event is more or less likely.

The future ain't what it used to be.

And here are some short laws from that ultimate lawyer, William Blake:

“Joy & woe are woven fine, a clothing for the soul divine”

“He who binds to himself a joy, doth the winged life destroy.  
He who kisses it as it flies, lives in Eternity's sunrise”

“What is it men in women do require?,  
the lineaments of gratified Desire.  
What is it women in men do require?,  
the lineaments of gratified Desire.”

“For every pleasure money is useless”

“To see a World in a Grain of Sand  
and a Heaven in a Wild Flower,  
Hold Infinity in the palm of your hand  
and Eternity in an hour.”

## THE EIGHT LAWS

From the time of the most ancient Tantra, eight mega-laws have been distilled from the folk wisdom expressed in these aphorisms. The first four Laws (I to IV) are laws of form, static, grounded in the timeless Absolute. The second four Laws (V to VIII) are laws of process, dynamic. They operate in Nature. There is an interesting parallel here, the laws of Nature, the second four, are isomorphic to the first four, the laws of the Absolute. As Hermes Trismegistes says, “As above, so below.”

**I. . The Law of *Nothingness*.** The beginning of everything and the end of everything is the void. The power of the void is accessed in meditation, in mystical timeless experience in flowing resonance with Nature. The whole universe emanated from the void and progresses to the void. Quantum mechanics shows that society may someday enjoy the boundless energy that can overflow from the fluctuations in the vacuum point. This Empty place is where we go for purification and rebirth, in meditation and in Life.

**II. The Law of the *Progression of Contraries*.** For everything there is a contrary: the interplay of Male and Female, Good and Evil, light and darkness, and the Hegelian process of thesis, antithesis, and synthesis, “Joy and Woe are woven fine, a clothing for the Soul Divine” – William Blake

**III. The Law of *Concealment*** Most of the universe is unknown to us. 99.99... % of things have not yet been invented. Life is a mystery. Our deepest thoughts have not yet been revealed.

**IV. The Law of *Revelation*.** In a flash we see it – the “aha” experience. The view from Mount Olympus comes into focus. What once was only hinted at darkly is suddenly, in this luminous moment, perceived in fine detail! Science, self-knowledge, learning are progressive revelations.

**V. . The Law of *Emanation*.** The acorn becomes an oak. Love becomes a baby. An invention becomes a technology, with the support of the Universe. Invention is the mother of necessity. Come forth with exuberance.

**VI. The Law of *Sustenance*.** Life, projects, manifestations, universes are supported through the multifarious things that they need. We are unaware of most of the things that we need, yet we are innocently sustained by providence. You get what you need, guaranteed. Live with vigor. Enjoy your birthright!

**VII. The Law of *Dissolution*.** That which comes forth will eventually withdraw. All things born will decay and die. Death is to be celebrated as is birth, they are symmetrical processes. “Die before you die.” Die with grace.

**VIII. The Law of *Recapitulation*.** Beyond the path from innocence to experience, we come back again innocence in rebirth, bringing with us only the essentials that we choose to carry forward from earlier manifestations.

The following eight chapters explore these principles in more depth.



This familiar symbol for Sunyata was made with a single brush stroke by the old zen master Shibayama. It represents a perfect circle, perfection, that is, within the limitations of the always imperfect material world. It conveys the sense of some-thing emanating from no-thing-ness. It represents the vagina, the gateway of birth into manifestation, and also the first moment of the creation of the universe, the big bang, when every thing emerged from the unformed vacuum point. Female precedes male in manifestation just as the x-chromosome precedes the formation of the male y-chromosome in genetic conception.

# I The Great Law Of Emptiness

A popular song a few years ago has the phrase, “Nothing comes from Nothing, Nothing ever will.” In fact, that sums up the history of the Universe, starting with the big bang from a vacuum point and ending in boundless timeless blackness. It also applies to your life and to my life, beginning with a blast in the murky depths of unformed darkness and ultimately ending in the same. In fact, it is not the vacuum that is mysterious. Rather the mystery of life is that there is *something*! Empires, galaxies, love affairs, languages, people come and go, leaving behind not a trace. There is a lot of comfort in this – whatever we mess up, is erased and forgotten. In the long run, nobody knows or cares. Time heals, then forgives and finally forgets, forgets all. Time gently eases away all pain and joy. And occasional epiphanies punctuate the journey along the way.

Notice that it is the successes in life that most of all need to be erased. Think of the burden of having to exceed your success every day. It is easier to overcome failure than to overcome the limiting forces of success. The way to clear yourself is to center yourself, meditate. Meditating is like washing a blackboard: do not continue writing over the old stale stuff, over and over. Clear the board. Make it new and fresh, a *tabula rasa*, ‘zen mind, beginner’s mind.’

Every night we go to sleep, we dream a little, and wake up to a new day, fresh and renewed. Earth returns to death and renewal on the winter solstice. Meditation returns us to the source of rejuvenation and creativity. Lifetimes cycle through realms of rebirth. All things begin in the womb of nothingness. Here we experience our greatest epiphanies, like Elijah on the craggy stormy mountain top, hearing the ‘still small voice’ murmuring like a sweet little girl in the heart of the tempest.

Religions are born in the desert where there are no distractions. Lives are permanently altered in periods of silence, moments of letting, listening in awe and reverence to the universe.

Robert Frost has a line, “Home is the place where they have to take you in.” Well, home is your inner quiet center. It is the source of strength, of joy, of health, of creativity, of wisdom, of self-knowledge. It is the place where we are face to face with the immanent, the greatest experience of life. The ancient Hebrews had a word for it, ‘*t’shuvah*,’ meaning the moment that you raise the thought of returning home. From that moment everything is different!

When we are centered in that quiet empty place, our perceptions are clearest, our hang-ups are diminished and true essences come into focus. Our expressions flow more smoothly. Our creations are most flawless. We experience actionless action, effortless effort. We become willing agents of the Universe in its infinite power and direction.

This empty place is called in the Sanskrit wisdom texts *Nirvana* and *Sunyata*. But this empty place is not so quiet after all. Quantum mechanics shows that every point in the vacuum possesses an infinite amount of energy, unmanifest, unformed energy. This universe exploded out of it, and will again, and has done so many times.

This quiet center (any quiet center is the quiet center) is the place of infinite potential. Our modern word ‘power’ comes from the concept of potential. In contrast, we have the concept of kinetic energy. *In potentia* everything is possible. In the state of maximum kinetic states nothing else is possible, at that moment. We must go back to *in potentia* to choose a different course. Free will operates *in potentia*. Determinism has a relentless grip *in kinesis*. As in cosmology, the parameters are set in a big bang and it is all clockwork, downhill after that. Thank goodness we can go back to that null place and make some other universe. A famous passage in the Bhagavad Gita says “*yoga-stah kuru karmani*” – established in yoga (union, emptiness), go forth and perform your work. Here is the place where we can achieve ‘effortless effort,’ ‘actionless action,’ and ‘purposeless purpose,’ protected and carried along like a trusting baby, asleep in the lap of its mother.

Emptiness is where we encounter the *ritam bhara pragyam*, the domain of eternal form. This is a Vedic concept, corresponding to Plato’s field of ideals, Jung’s archetypes, and DeChardin’s noosphere. Timeless forms of aesthetics, ethics, logic, mathematics, and humanity reside here. ‘This world,’ by contrast, is in a restless flux of ever-changing forms and polarities, recognized by Jung in his concept of *enantiodromia*, the tendency of things to abruptly reverse themselves.

The pinnacle of Vedic thought is the idea that your innermost self (*Atman*, ever more subtle, ever contracting) is the identical to the entire universe (*Brahman*, ever expanding, cosmic). We are one, one with everything. To approach the universe, understand it, play with it, produce effects through your pure center. Life becomes active and joyful. Just be centered, then you become nothing / everything. Erwin Schroedinger, the inventor of quantum mechanics, thought this equating of Atman and Brahman to be “the grandest of all thoughts.” It influenced his deepest thinking in his development of quantum mechanics, and even more so in his later work, *What is Life?*, which eventually lead to the discovery of DNA by Crick and Watson.

Zen epitomizes this power of emptiness by the koan, “Even a good thing is not as good as nothing.”







This traditional yin\yang symbol represents complementarity, male/female, in/out, joy/woe, ebb/flow,... When the formless void takes on form, it always does so by creating balanced contraries. These contraries are intertwined and some of each is embedded in its opposite, ad infinitum.

## II THE LAW OF CONTRARIES

This world progresses by the interplay of contraries. Without contraries is no progression. Male and female, interacting as equal but opposite, constitute the dynamics of life, intertwined strands of DNA. In the physics of cosmology, energy and matter flow and interplay.

When the universe began in a blast of energy, pure light from the vacuum, it eventually separated into particles, divided into precisely equal parts of matter and antimatter, 'congeners,' born together.

There is another 'world,' the world of abstractions, where things have no contraries, absolutes such as aesthetics, algorithms, archetypes, certainties, essences, ethics, experiences, humanity, ideals, laws, logic, love, mathematics, and proofs.

These absolutes have negations, but a negation is not a contrary. A negation is rather an absence of something. We need the dark along with the light to make a picture. Painting, photography and music are arts of light and shadow.

The universe is 99.999% dark, with only a few hundred billion galaxies twinkling here and there, mere points of light on a pure black velvet background. For every yin we need a yang. Nature must love the dark, she made so much of it!

The process of the philosopher Hegel is based on this principle – thesis, antithesis, and then synthesis – female, the male, then baby (synthesis). Biology is based on it. "It takes three to make a child." – cummings

An interesting set of contraries can be formed from Western and Eastern concepts of self:

## EGOANATTA

*The social self of Freud*

*'no self' of Buddha*

abstract	particular
accident	synchronicity
ambiance	events, scintillae
categories	not-two / advaita
charity	goodness
chaos	order
compete	synergy
competent	passionate
complex	simple
conditional	un-conditional
(as in healing)	(as in grace)
conforming	creating
consistent	paradoxical
continuous	episodic
diction	notion
document	myth
dogma	flow
drama	emblem
earthy colors (Blake)	clear (LaTour)
education	learning
ego	id
essence	actual
excluded middle	four logic
fact	truth
fancy	plain
finite	infinite
formulas	principles
fuzzy	crystalline
general	particular
glamour	beauty
ice	fire
indeterminacy	proof
karma(memory)	dharma (inspiration)
knowledge	wisdom
local	non-local
love	romance
material	spiritual
mercy	grace
metaphor	idea
moral	loving kindness
mundane world	Pure Land
muzak	toccata and fugue
nomothetic	idiographic

objective	subjective
observing	experiencing
orthodox	heterodox
people are equal	no two are alike
personal	entangled
photograph	snapshot
pornography	eros
professional	amateur / folk
prose	poetry
rational	intuitive
rational numbers	irrational (i, e, $\pi$ )
reactive	pro-active
reason	intuition
reflective	luminous
religious	gnostic
schedule	rhythm
smooth	grainy
social	individual
store bought	home made
survival	eternal
sympathy	empathy
trial and error	certainty

Each attribute is in harmony and in balance with its complement, each is in proportion to the other. [For developing my concept of *anatta*, thanks to my friend David Galin for many long, pleasant and fruitful conversations.]

Some of these dichotomies may seem to be reversed. One might ask several questions, such as:

***Isn't the ego mind more particular, rather than abstract or general, and so thinks in terms of my good rather than the good of all?***

I see it just the other way around. Ego is concerned with others. 'How will others see me?' 'How will I relate to others?' 'What is my self image?' Ego is self conscious. 'Anatta mind' is experiential, in the moment, Zen mind, without regard to any considerations of any sort. Ego self is a social overlay. Anatta is pure being, just awareness. Anatta is the most particular because it exists only in this moment!

Ego, as used by most folks, seems to have a bad connotation, but it actually has as much good in it as bad. Charity and loving kindness come from ego. Impulse comes from anatta.

***And certainly the ego mind does not see all people as equal. It is my ego mind that sees differences, that sees me as better than someone or allows me to have an inferiority complex or to have a lack of self esteem.***

I agree. The ego does make differentiations. You can (will) overestimate yourself and underestimate yourself, both at the same time. (Both cases will turn out to be wrong!) But it is a perception based on ‘other.’ Anatta has no sense of ‘other.’ At the anatta level, you and the world are one.

***‘Love’ and ‘romance’ should also be switched, shouldn’t they?***

No, romance is carefully in the anatta column, in the experiential side. Love is the substrate that holds the universe together. ‘Love thy neighbor,’ a feeling that applies to the whole world. Romance is in the moment, where you are caught up in the experience of cosmic beauty and ‘rightness.’

***And ‘essence’ and ‘actual?’***

I think they are in the right place. Essence is the integral of all experience – from you and others. Society knows the essential pine tree. Botanists write monographs about pine trees, as abstractions. You will never find one! Your anatta experiences the particular ‘actual’ pine tree, not the abstraction. You are facing this pine, just now, just here.

The synthesis of these two opposing columns is summarized in the ancient Vedic wisdom Advaita Vedanta, the perfection of wisdom by the principle of ‘not-two, and in the Sutra of the Third Patriarch, Seng Ts’an. Heaven and earth are not two. I and thou are not-two.

In the Gospel of Thomas –

“Jesus said to them ‘When you make the two into one, and when you make the inner like the outer and the outer like the inner, and the upper like the lower, and when you make male and female into a single one, so that the male will not be male nor the female be female, when you make eyes in place of an eye, a hand in place of a hand, a foot in place of a foot, an image in place of an image, then you will enter [the primordial state of perfection]. – Thomas 22:4-7

And perhaps e. e. cummings says it best in his sonnet –

one's not half two. It's two are halves of one:  
which halves reintegrating, shall occur  
no death and any quantity; but than  
all numerable mosts the actual more

minds ignorant of stern miraculous this every truth  
beware of heartless them  
(given the scalpel, they dissect a kiss;  
or, sold the reason, they undream a dream)

one is the song which fiends and angels sing;  
all murdering lies by mortals told make two.  
Let liars wilt, repaying life they're loaned;  
We (by a gift called dying born) must grow

deep in dark least ourselves remembering  
love only rides his year.  
All lose, whole find



Of the eight symbols represented in cosmic law, this is the only one that is out of balance. Notice how distorted the composition is – the arms pulling Persephone back into the earth are heavy and ominous. Progress is countered by entropy. Our flow is opposed by resistance and confinement, holding us back, in bondage and ignorance, in Plato's cavern.



### III THE LAW OF CONCEALMENT

Find the root of the radiant ten-thousand-petal lotus hidden in the dark dank ooze and muck, at the bottom of things.

Without concealment there would be no enlightenment, no learning, no process, no evolution. All would be known, static. Dead. It is at the heart of the life force to have a passion for the hidden, the occult, for all of us, children, story tellers and scientists alike. It is the business of art and science to tease truth from our mother, Nature – progressive revelation. It is her business to reveal herself *gradually*, so as not to overwhelm.

In its grace and mercy and playful spirit the universe tantalizes us with the game of hide and seek.

“Yet to this day the Lord has not given you a mind to understand nor eyes to see nor ears to hear” – *Deuteronomy 29:1-3*.

What is a mystery to me is perfectly clear to my neighbor lady next door. Our blind spots are perfectly tailored to each one of us – to each his own.

“A thing’s real constitution has a tendency to conceal itself” – *Herakleitos* #123

When you look carefully everything becomes fuzzy. In physics, Heisenburg indeterminacy, in mathematics, Godel’s incompleteness. Only in your mind’s eye can you achieve certainty. Proof never lies in your sensations. There is always more to learn, more surprises, more accidents ahead.

“To conceal a matter, this is the glory of God, to sift it thoroughly, the glory of kings” – *Proverbs 25:2*

“To become a shaman, one must learn to remove the invisible blindfold that keeps us from seeing these other worlds” – *Plotkin*

Re-examine Plato’s metaphor of the cavern in *The Republic, Book VII*. The prisoners in the cavern are bound and fettered, seeing only the flitting flickering shadows on the wall. When once they see reality they are dazzled by it and turn away. But then every thing is changed forever. Why was it so concealed?

Tell all the Truth but tell it slant –  
Success in Circuit lies  
Too bright for our infirm Delight  
The Truth's superb surprise  
As Lightning to the Children eased  
With explanation kind  
The Truth must dazzle gradually  
Or every man be blind.

– Emily Dickenson

Consider – photography is the art of fixing a shadow. When explaining to your friend, implicit is better. Let each discover on his own, enjoy the process. Learning is better than knowing.

Especially with our children, it can be arrogant to help them too much. In some ways they are more advanced than we are. King David and his crew were carrying the Covenant in its Ark in triumph to the new capital, Jerusalem. Uzzah was holding up the rear support when they lurched across a stream. In concern and reverence, he reached out to steady it and was instantly stricken dead by a blast of lightning – *I Chronicles* 13:10. Don't mess with things that are in better hands, beyond our ken.

In Eden, we enjoyed the fruit of the tree of the knowledge of good and evil. At that moment we became like the Gods, the Elohim; we became *responsible*. At that moment we were expelled from innocence into the real world where we each can discover (un-cover) everything for himself, process.

Don and I were learning to train our brain waves at the Langley Porter laboratory. He was in the shielded room, we were monitoring outside. Twenty minutes into the session we heard gales of laughter from Don. At the end of the session we asked what was so funny. Don said, "I caught myself turning it off every time I began to make it work!" Above all, we love to conceal from ourselves!

The ancient vedas emphasize the dynamics of the unknowable. The ultimate wisdom hides herself – "out of sight, for the devas love the cryptic, as it were." The goddess of wisdom, Idandra, conceals herself as Indra, and ultimately as India – *Aitareya Upanishad*. She is sometimes called Uma, goddess of the Himalayas. We find her in Kabbalah as the Shekinah, in the Dionysian mysteries as Sophia. The Hebrew term *temira d'temira* means the hidden of the hidden. Sod is the secret, mystery.

Notice that the great secret lies in the spirit of the feminine. The archetypal quality of the feminine is mystery. In Blake's *Vala* (for 'veil) we have the Gates of Paradise gracefully concealed in ringlets of pubic hair. The vagina, the point of entry for everyone into this life, is neatly tucked out of sight, physically as well as psychologically and socially.

A hidden treasure has a sense of adventure, of vitality. We love puzzles and mysteries because they lead to process, not stasis. The occult is a never-ending source of dynamic interest in literature and drama. From Hamlet and Macbeth to Star Wars the unknown is irresistible. The concealed generates energy and drive for the evolution/process, curiosity. 'Truth' in Greek is 'aletha', un-forgetting. An 'apocalypse,' a 'revelation' is 'a taking off of the lid.'

When Job experiences his mystical union with God he is shown "what the eagle knows" and "the riches of the mines of Ophir" hidden forever in our deep subconscious. The Hebrew word 'olam,' meaning 'universe,' world system, comes from a root meaning 'hidden.'

Consider the mystery and the romance in Arthur S. Sullivan's music *The Lost Chord*. Picture Jacob wrestling with the angel, poor Jacob who only wanted to know his name!

As the Sufi's say, "the secret keeps itself."

Every moment we are experiencing everything, just as in a hologram a tiny part of the picture contains the whole thing. But there is graininess. A bigger section of the hologram would give better resolution. We always know nothing – half – everything – depending on our purity of attention and state of mind at the moment.

Have you ever experienced what I call "the view from Mount Olympus," where everything appears clear to you, all at once? And then the fog closes in and everything becomes fuzzy once again. And even when it is so clear to you, it cannot be communicated to someone else if they don't already know!

Not to worry, "nothing of value is ever lost." – Blake

In our Western tradition, Moses was the greatest law-bringer of all time. But look again, in breaking the first set of tablets, Moses was the greatest law-breaker of all time – *Exodus* 32:19. The Law written on the first set of tablets is concealed to this day!

Concealment and revelation are complementary processes necessary for learning. Ultimately everyone has to discover for himself. Maria Montessori, in *The Formation Man*, tells of her hungry dog who is whining at her finger for food while she is trying to help by pointing to the dog's dish in the corner.

Kabbalah says that everything conceals a myriad of layers and contradictions, everything is a miracle with hidden meaning. In the beginning there was a shattering of the primeval vessels. We are trying to get it all back together again, to re-member, to re-form the shards.

There is always an unbridgeable gap, an irreducible concealment, between what we mean and what we say. Words and symbols never quite get it right. Metaphor tries with the 'four senses' that function at four different levels –

literal meaning	fact or history, things that actually occur
moral meaning	the lesson as applied to behavior, what people do
allegorical meaning	application to people generally, with emphasis on their beliefs as opposed to their actions
anagogical meaning	spiritual or mystical truth, its universal significance

A question is priceless, like a fine pearl.  
An answer would dissolve it.  
Rather, it should be admired and polished  
and given back.





This familiar symbol is attributed to Flammarion. It is the 'aha' experience representing the ever-curious youth, grounded in the world of Nature, penetrating through the boundaries of materiality into the larger domain of the Abstract. Here he sees the magnificent glories of geometry, the field of ideals, and Ezekiel's 'wheels within wheels' – the world of eternal realities.

## IV THE LAW OF REVELATION

### GRACE

That which was concealed will eventually be revealed.

Distinguish the following – look – see – watch – behold – witness – gaze – stare – contemplate – peruse – scan – glance. Do they mean the same thing? Perhaps, coarsely spoken. But they have different subtle connotations. They form a family connoting different depths of perception. They describe different degrees of intention and cognition.

Blake, in *The Marriage of Heaven and Hell* says “a fool sees not the same tree that a wise man sees.” Elsewhere he goes even more deeply into perception –

“To see a World in a Grain of Sand  
And a Heaven in a Wild Flower,  
Hold Infinity in the palm of your hand  
And Eternity in an hour”

Since the progression toward Truth is always incomplete, how can we know that we are on the right path? Assurance comes from the hallmark of *beauty* – we know that we are on the right track if the revelation is progressively more beautiful.

“Beauty is truth, truth beauty, that is all  
Ye know on earth, and all ye need to know”

– Keats’ Ode on a Grecian Urn

There is a useful concept from Greek – *metanoia* – that describes an experience that we have all had at one time or another. The feeling is both pleasant and profound.

A metanoia is a breakthrough in your perception where you flash on the deep meaning of a word or an event – an ‘*aha*’ experience. No amount of wishful thinking or logic or persuasion can bring you to this ‘aha.’ It just comes when it comes, and it brings with it certainty. Sometimes it comes after a heart attack or a moment of great crisis. Ludwig Wittgenstein, in his later years studied this phenomenon in detail in his book entitled *On Certainty*.

Moses had a revelation of this sort when he encountered the burning bush on Mount Horeb. Everything was different for him (and the rest of us for that matter!) after that.

An event equivalent to that in mathematics occurred to Leonard Euler in 1737 when he found the relationship  $e(\exp(i\pi)) = -1$ . This has sometimes been called the most beautiful expression in mathematics.

A similar revelation occurred to the genius Ramanujan in 1913 when he perceived that  $e(\exp(\pi(\exp(\sqrt[163]{163}))))$  is an integer. It was proven sixty-six years later by a mega-computer.

Many of the great masterpieces of art and literature were felt by the artist to have been 'dictated' by a higher agency. Thus, we 'woo the muse' when we feel that we are in need of inspiration.

These ideas carry over into science in an interesting way. How do we recognize an oak tree when we observe it? There are surely no two oaks alike. If they are all different then which one is the right one?

Go to the library and get a monograph on the oaks. Your oak in hand will not precisely correspond to any of those described or pictured. Perhaps it is of another species! Yet, without sufficient logical assurance, an expert can still, in fact, identify it as, say, *Quercus lobata*. Knowing categories is another kind of revelation. There is no other way to know a category.

Some kinds of facts will never be revealed. The testimony of several people who witness a car wreck will all be different – sometimes in very substantial ways. Who is right? There will never be complete agreement among them, no matter how much new data is collected.

The witnesses all experience the event from different standpoints and perspectives, different goals and temperaments. Which makes it all the more miraculous that we *can* agree on some things with certainty!

Blake said – "If the doors of perception were cleansed every thing would appear to man as it is, Infinite. For man has closed himself up, till he sees all things thro' narrow chinks of his cavern."



Revelation comes through grace and grace alone. Listen to the words of the ever-popular hymn –

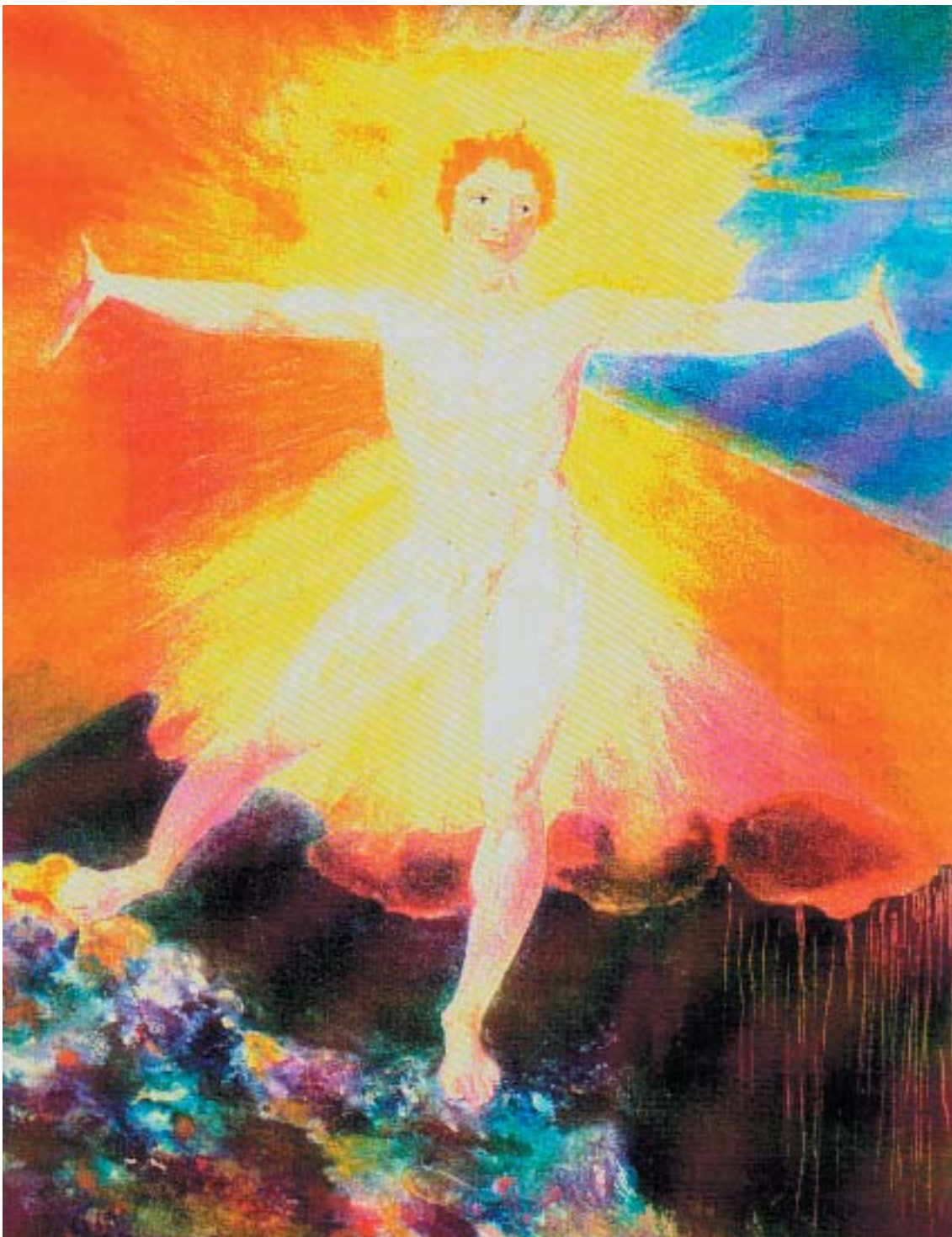
“Amazing grace, how sweet the sound,  
That sav’d a wretch like me!  
I once was lost, but now am found,  
Was blind, but now can see.

‘Twas grace that taught my heart to fear,  
And grace my fears reliev’d,  
How precious did that grace appear  
That hour I first believ’d!

Thro’ many dangers, toils and snares,  
I have already come,  
‘Tis grace has brought me safe thus far,  
And grace will lead me home.

When we’ve been here ten thousand years  
Bright shining as the sun,  
We’ve no less days to sing God’s praise  
Than when we’ve first begun.”

– John Newton



This symbol is 'Glad Day', a painting by William Blake. It shows you bursting forth into existence, radiant and full of life, from the ooze at the bottom of the sea. There are two sources of intensity – the head (the mind) and the genitals (the body). We have the sense of joy, of irrepressible life. God created the universe in an expression of exuberance. The posture is one of '*hineni*' – 'here am I!', that occurs so often in the Bible.

# V THE LAW OF EMANATION

## DAWN / EAST / SPRING / SATTWA

The Eight Laws fall into two very different categories – the first four – Sunyata, Paradox, Concealment, and Revelation – are of the Absolute, dealing with the eternal invariants, while the last four – Emanation, Sustenance, Dissolution, and Recapitulation – deal with flow, with Nature, with Life, in its most elemental essentials.

The four dynamic Laws can be thought of in the metaphor of the four stages of the sun during a day – DAWN, NOON, EVENING, and MIDNIGHT. Your lifetime can be seen to divide in the same way. We are conceived and born, we attain the crest of our careers, we descend into old age, we die and reform, preparing for rebirth. A day, a year, a lifetime, cosmic aeons, all are shaped of the same pattern.

Nature is a process of ever-flowing im-balance. The ancient sages understood Nature as consisting of the interplay of the three *gunas*. (Guna is the root of our modern term, gynecology.) The gunas, sattwa, rajas, and tamas, are dynamic principles, always interacting with each other and always out of proportion with each other. Sattwa is the principle of creating, evolution. Rajas is the principle of pure energy, exuberance. And tamas is the principle of destruction and decay. One person may have a dominance of sattwa and rajas, while another, say a terrorist, would be a mixture of tamas and rajas.

This fifth law, therefore, would be the essence of sattwa, birth, creating, causing, and emanation – the Law of Becoming. A popular synonym for emanation nowadays is *emergence*, meaning emerging from the complexities of Natural processes.

Moses was tending his father-in-law's flock of sheep on the slopes of Mount Horeb in the Sinai desert. He came across a burning bush – burning without being consumed! He was overwhelmed with the experience and took off his shoes and bowed down before it and put his forehead on the ground. After communing together for a while, it was time to go back to tending the sheep and Moses wanted to take back a little of this transcendental experience with him. "What shall I tell them that you are?" he asked. "*Ehyeh asher ehyeh*," answered the bush, meaning, in classical Hebrew, "I am becoming that which I am becoming." – using the present perfect tense of that ultimate verb, "to be." This is the first occurrence in the Bible of the exalted concept of God as being Yahweh. Earlier conceptions were more limited.

Notice the emphasis on the idea of bringing forth, emanating, manifesting, emerging. This is the idea of birthing something from the abstract Absolute realm into the tangible world of the relative.

It is useful to think of the appearance of life on Earth. Spontaneous generation of every thing – inanimate and living began about thirteen billion years ago in the big bang. From the vacuum emerged energy and spacetime. Some time later, through the cooling action of expansion, matter crystallized into quarks. [spontaneous generation]. A little while later electrons, protons [hydrogen] and neutrons occurred [spontaneously]. Then stars and neutron stars, through gravity. Then heavy elements. Then planetary systems. There was a time in this sequence when there was no life. A little later, say 3.5 billion years ago, there was life on earth. From nothing came something by a totally spontaneous process. Once there was not life then there was. No one says that life pre-existed the big bang. Hence it must have been generated at some point along the time line. It will be extinguished when the stars and planetary systems fall back into the swarm of black holes gathering everywhere around.

Consider the sense that you have, from time to time, of a ‘primal urge.’ We are born with these impulses and carry them throughout our lifetime. One has the impulse to be a lawyer, another a nurse, another a musician, another a scholar, another a mechanic. Each of us has an inborn instinct to be curious – an overwhelming motivation that Freud seems to have overlooked. The word ‘urge’ comes from the Greek ‘*erg*,’ meaning ‘energy.’ Other primal urges include sex, ego identity, altruism, survival, hunger and friendship. These are all sattwic energies that promote emergence, emanation, the bringing forth of Life in general, and of your personality, of your unique individuality in particular.

The expression of primal urge into an emanation is beautifully conveyed in James Russell Lowell’s poem, The Vision of Sir Launfall.

“And what is so rare as a day in June?  
Then, if ever, come perfect days;  
Then Heaven tries Earth if she be in tune,  
And over her softly her warm ear lays:  
Whether we look or whether we listen,  
Every clod feels a stir of might,  
An instinct within it that reaches and towers,  
And groping blindly above it for light,  
Climbs to a soul in grass and flowers.”

The gnostic Gospel of John opens with the phrase *egenito logos*, ‘in beginning is the word.’ In creating we begin with the idea, then the ‘word,’ then the material. Boulder Dam was once just an abstraction, then ultimately a gigantic mass of concrete and steel. Everything that now exists in manifestation was once just a fresh-formed idea, weightless and without energy. Words are the ultimate reality. God first spoke the world. The magic word ‘*abracadabra*’ means ‘I create as I speak’ in Aramaic. We cast a *spell* to invoke magic.

Created things are all different, like fingerprints. No two things are alike. [This is not so in the Absolute – all circles are the same in the abstract.] Twins may be alike in genetics and environment, but they will surely be different in temperament. Every face is the same in society, but every face is different in your personal reality.

In your own true personal reality, you are unique, always sixteen, and always experiencing pure reality, which is pure unalloyed truth. In society, you are a member of a class, as alike as ants swarming in a colony. There are times when you want to be treated as an element in society and other times when you want to be treated as an individual. Both have their value and their legitimacy.

Not only does Nature manifest itself from the Absolute, you and I create by the same process. My mentor taught – “I am cause.” We create at will, first by manipulating our own priorities. Then they are manifested by the support and the flow of the impulses of Nature.

## CAUSING

### THE SOLUTION TO ANY PROBLEM, A PROCESS

[work / creativity / art]

\* be moral = act for the welfare of all beings [a skill]

\* keep emotions out of the game [a skill]

\* define the goal [a skill]  
automatically produces action !

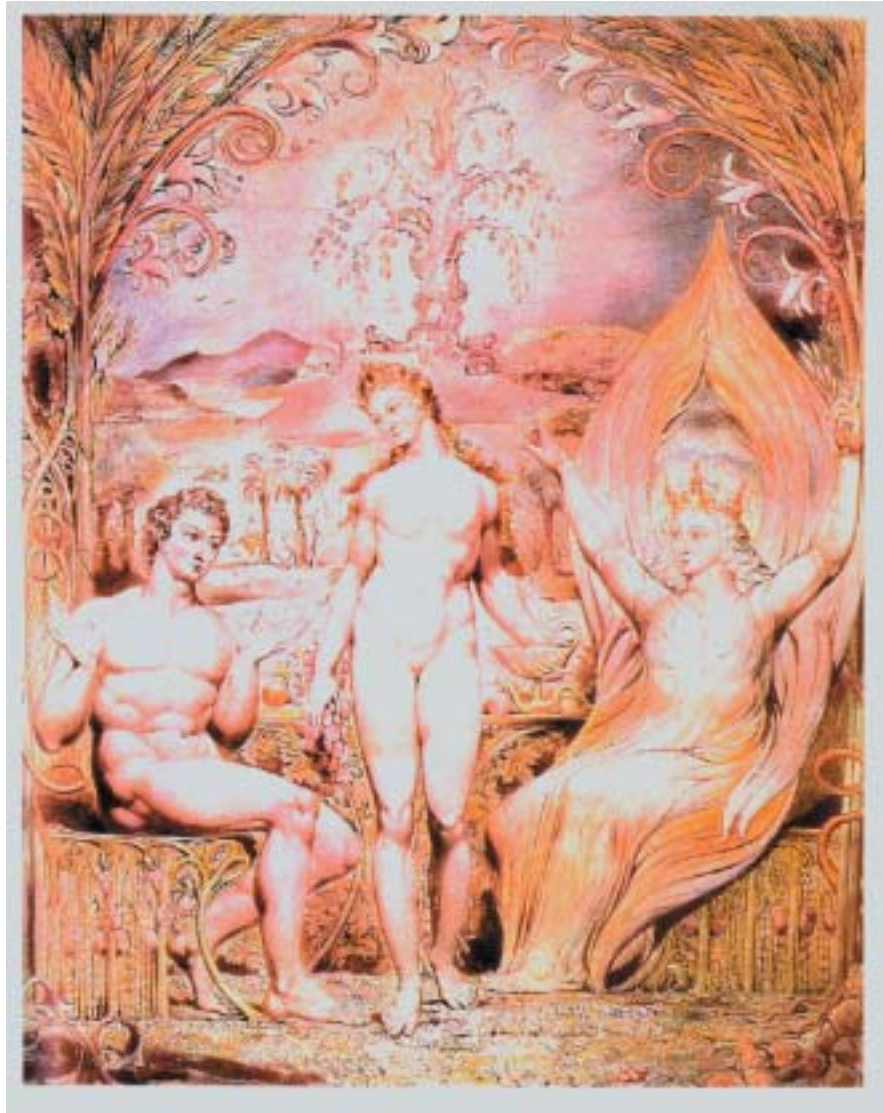
\* hold the goal steady in your mind [a skill]

\* take control, own what you create [a skill]  
accept the help of Nature – use events  
questions are answered and instructions are given  
in dreams, inspiration, and meditation  
drive it

\* turn over  
your creation  
to the weal of the world [a skill]

PRACTICE [a skill]





This symbol is an emblem of the Garden of Eden. Adam and Eve and Raphael are enjoying life and discussing philosophy – which is the whole purpose of existence. Raphael's wings are folded into a mudra, pointing heavenward. His hands are saying 'as above,' spiritual, and Eve's 'so below,' material. Adam's are saying 'so?' Eve is being the gracious hostess, seeing to the comfort of her friends.

The design is florid, with fancy chairs, vines, palms, and luxuries of every sort – the abundance of Nature, in a rich landscape. The composition of the picture is in a rotating motion pivoting around Eve's genitals, the gateway to manifestation, as the vortex. The phallus, the tree of life, is shown in balance above her vulva, pointing to heavenward and erupting in an abundance of fruit (sperm).

## VI THE LAW OF SUSTENANCE

NOON / SOUTH / SUMMER / RAJAS

When I lived in Switzerland they had a five-franc coin, a fine heavy substantial goldish piece that could really buy something. It was a thick coin and inscribed around the edge were the words *DOMINE PROVEDERUM* – God Provides. Every time I spent one of those coins I reflected on where it came from. Everything that is living at this moment is living by the grace and the nourishment of Providence! Our food, our air and water, our care and attention – all are undeserved gifts from an abundant and loving Nature. We are truly too poor and helpless to manage anything by ourselves. Why, no one even can guess today what vitamins and minerals are yet to be discovered that are essential for Life. But Life goes on anyway, in the capable hands of a higher Agent.

We are too ignorant and too innocent to take care of even our most humble affairs. We will learn a lot in the future, as we have in the past, but the future is an infinite path, unwinding slowly ahead of us, and we are only just beginning to creep along its way. In a state of such babyhood, the only sensible course is one of **absolute trust**, just as the newborn trusts its mother. This leads us to the great cosmic law, **Expect Nothing**. Much better is in store for us than we could possibly be aware of. Don't limit providence by our childish expectations.

How can we know that the future is benevolent? Why should we trust it? Look backward. Even your worst times were good for you. At Passover we celebrate the forty years of wandering in the desert with Moses. Hard times are good for us, says Toynbee, the historian. The Chinese philosopher Ummon gave a koan a thousand years ago,

“Every day is a good day.  
Every day is a bad day.  
Every day is medicine.  
Every day is a good day.  
Quick, tell me right now, which side are you on!”

Then he smacks you hard on the head to get your maximum attention. Providence is abundant. The Universe has an unlimited bank account reserved in your name, particularly to be used for your enjoyment. But to draw on it you must write the check! Supply goes up when demand increases. **Use it or lose it.**

Play the ancient game of philosophers, Summum Bonum – what is the highest good? Play it with yourself. Play it with your friends. The rules are very simple. There are no losers. Everyone is a winner. Young and old can play equally. Every move is a correct move. Here are some possibilities, just for a start.

## SUMMUM BONUM

sitting by a mountain brook

music / art

youthful exuberance

falling in love

making love

being in love

sharing

meditation

wisdom

balance

experiencing the immanent

flow

learning / curiosity

returning home

completion

the Peace of God that passeth all understanding

service

what is

Which brings us to the topic of love. Where, in a treatise on Cosmic Law, should love enter in? Why, of course, in this chapter on sustenance. Love sustains. “God is Love.” Love is unconditional. It cannot be defined. It can only be experienced. It is the ultimate nourishment.

Love is the demonstration of supply increasing demand and demand increasing supply. According to Wendy’s Law of Tantra – “if love for one increases, then love for all increases.” My bond to Joel increases my bond to Wendy, to be shared. The sustaining quality of love is epitomized in Frost’s impeccable sonnet–



## The Silken Tent

She is as in a field a silken tent  
At midday when a sunny summer breeze  
Has dried the dew and all its ropes relent,  
So that in guys it gently sways at ease,  
And its supporting central cedar pole,  
That is its pinnacle to heavenward  
And signifies the sureness of the soul,  
Seems to owe naught to any single cord  
But strictly held by none, is loosely bound  
By countless silken ties of love and thought  
To everything on earth the compass round,  
And only by one's going slightly taut  
In the capriciousness of summer air  
Is of the slightest bondage made aware.



This symbol by M.C. Escher, shows elegant leaves fallen from the exuberance of Summer back into cold water and decay – a September mood. It is entitled Three Worlds – the trees are dead, ready for winter and then re-birth in the Spring. The beautiful leaves are now in decomposition, and the fish represents eternal life.

## VII THE LAW OF DISSOLUTION

EVENING / WEST / FALL / TAMAS

Ashes to ashes, dust to dust. Everything that has a beginning has an end. The Universe began in a vacuum. It will end in a vacuum. That which has formed will return to the formless. In the metaphor of the four seasons, Spring, Summer, Fall, and Winter, this principle would be the Fall. This is the time belonging to Persephone, the Greek goddess, preparing to descend into the underworld.

This is the great Law of Return, going home. Eventually we all get homesick and want to return home regardless of where we have been and what we have accomplished. We have earned our rest and have the deepest yearning to return to the beginning, to friends and the old familiar. Graceful de-construction is a blessing. It is necessary to clear our 'history' and wash the slate clean for a fresh start. Successes as well as failures, equally, become limitations to further growth and evolution. When the right time has come, bulldoze them out of the way. Can you imagine what a mess this place would be if nothing ever rotted?

For Two Cents

... Thousands of things to do ... Ideas popping in and out  
... Love drifting off into the sea. Mind and storm ... Job and hate, lifting me next to the end, and so much that obligation, not responsibility, demands that I accomplish. Such a task ... Oh, you irregarded race – Why is it that you've made me a path of grass and stones to walk upon? Doesn't anyone out here earn the green and wood of softened turf, that joy of fresh live air in a place just a mile closer to peace? I've set my own trap and despise the house. Why doesn't some small portion of love's perfume drift my way? The words coat my tongue and rip into my heart only to wake me into a screaming sound of walled-in nightmares. Someday I'll travel far and away, for two cents, as one man put it, to a place of stone on a hill by the ocean and rest next to my eyes over the ageless waters. I'll be content, and more so, with her hand by mine. Perhaps I would for only one cent and be the richer.

It is a principle of Sufism to plan for the end of an enterprise, even before beginning it. The Sufi's say "die before you die." Compose a good life, then compose a good death. William Blake wrote in a guest book, "William Blake, born 27 November 1757, and has died several times since." And Cummings wrote –

“Let liars wilt, repaying life they’re loaned;  
we (by a gift called dying born) must grow

deep in dark least ourselves remembering  
love only rides his year.

All lose, whole find”

We might also call this law the Law of Completion. One of the most satisfying feelings is the sense of having attained full closure on a project or a lifetime, “the peace that passeth all understanding.” If we were completely deprived of the sense of completion, life would become pointless and sour.

We celebrate the Sabbath as the completion of a busy week, the suspension of all anxiety and of all stress and strain. It is a welcome ending to the week, punctuating our lives with a return to the center, for self-withdrawal, for rebirth, for rejuvenation. It closes the books on a lifetime where the assets finally balance out the liabilities, where the income precisely covers the expenses, where perfect symmetry is ultimately achieved. The time has come to **turn over** all the karma, good and bad alike, to the Universe. What a relief!

### The Lake Isle of Innisfree

“I will arise and go now, and go to Innisfree,  
And a small cabin build there, of clay and wattles made:  
Nine bean-rows will I have there, a hive for the honey bee,  
And live alone in the bee-loud glade.

And I shall have some peace there, for peace comes dropping  
slow,

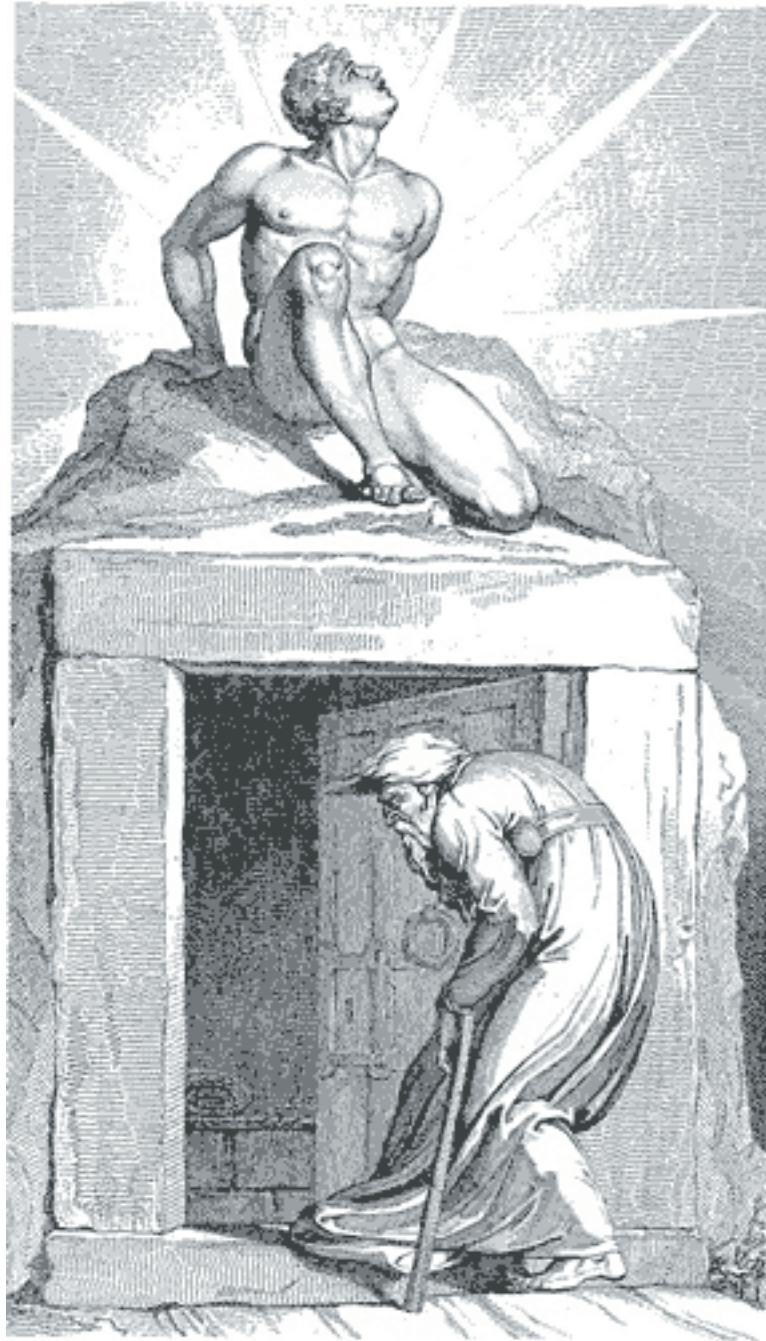
Dropping from the veils of the morning to where the cricket  
sings;

There midnight’s all a-glimmer, and noon a purple glow,  
And evening full of the linnet’s wings.

I will arise and go now, for always night and day  
I hear lake water lapping with low sounds by the shore;  
While I stand on the roadway, or on the pavements gray,  
I hear it in the deep heart’s core.”

– William Butler Yeats





This symbol for regeneration, by Blake, shows tottering old age, looking downward, being impelled into the Absolute, and rebirth emanating from it. The reborn man is radiant and looking forward and upward. Notice the cyclical motion of the composition, a dynamical yin/yang motion reflecting the figure for the Law of Contraries. It also makes a circular motion, the symbol for the Law of Sunyata.



## VIII THE LAW OF RECAPITULATION

### NIGHT / NORTH / WINTER

This is the most creative part of your spiritual journey, where you remember yourself back into another existence, another rebirth.

Since this is the domain of the Absolute, time does not exist here, only Spirit. This domain is in Eternity. Rebirth can be emanated into manifestation at any time and culture, past, present, or future, according to our choice. Here is where we choose our parents, our bodies, and our lifetime's mission. And here is where we fold our previous lifetimes' experience back into fresh new innocence, with the memories we choose to bring with us.

Some of these things are eternal and carry forth from lifetime to lifetime. The first of these is love – for sweethearts, for family, for friends. This transcendence of love over death is the subject of Elizabeth Barrett's sonnet –

How do I love thee? Let me count the ways.  
I love thee to the depth and breadth and height  
My soul can reach, when feeling out of sight  
For the ends of Being and ideal Grace.  
I love thee to the level of everyday's  
Most quiet need, by sun and candlelight.  
I love thee freely, as men strive for Right,  
I love thee purely, as they turn from Praise.  
I love thee with the passion put to use  
In my old griefs, and with my childhood's faith.  
I love with a love I seemed to lose  
With my lost saints!—I love thee with the breath,  
Smiles, tears, of all my life!—and, if God choose,  
I shall but love thee better after death.

## EPILOG

seeker of truth

follow no path  
all paths lead where

truth is here

e.e. cummings



# EPISTEMOLOGY

## HOW WE KNOW WHAT WE KNOW

We start with a few definitions –

*Philosophy* is the science comprising aesthetics, ethics and metaphysics.

Metaphysics consists of ontology, epistemology and cosmology.

Aristotle coined the term metaphysics to mean “beyond Nature.”

*Ontology* is the study of being. *Epistemology* is the division of philosophy that investigates the nature and origin of knowledge. And *cosmology* is the study of the experience of the universe.

Here are some of the attributes of philosophy that come up in references and textbooks –

The investigation of causes and laws underlying reality.

The synthesis of all learning.

The system of beliefs and values by which one lives.

The philosopher is characterized by calmness, equanimity and detachment.

*Reality* in common parlance is used in three different senses –

1. Direct experience, within the moment, ephemeral, ineffable subjective, personal, intimate, Zen, feeling. Philosophers C.S. Peirce and Karl Popper call it ‘firstness’ from the grammatical connotation of first- person. Your dream last night was a very real experience.
2. That which is agreed upon by others to be true at any moment. It is shared, consensual, social, ephemeral, objective. Fads and fashions are real enough in this sense, but they are a kind of collective hypnosis. This corresponds to second person in grammar. In this sense Elvis Presley was a great singer.
3. That which is absolutely and eternally true, without regard to opinions, culture, context or time. Examples are ideals, archetypes, and mathematical facts, such as the relationships between  $\pi$ ,  $i$  and  $e$ , Euclid and Pythagoras. Laws of aesthetics, ethics and logic are in this category of thirdness. Leibnitz’s law of identity is in this category, as are the famous laws of form of D’Arcy Thompson and G. Spencer Brown. Thirdnesses are frequently called Platonic because of Plato’s exhaustive treatment of form.

*Intuition* is “the power to distinguish at a glance the essence amid the Accidents.”  
– Schopenhauer.

*Thinking*, according to the Oxford English Dictionary (OED) and the American Heritage Dictionary is “forming in the mind.”  
Thinking includes symbol manipulation, and deduction.  
Mentation is a broader term that includes thinking as well as experiencing, feeling, acting, instincting, and intuiting.  
Reasoning is one of many kinds of thinking.

*Consciousness* is the continuum of states of sentience, and expression. It includes quales, dreams, knowing, reasoning and influencing.  
Most mentation is beneath the threshold of awareness, but it is all in the domain of consciousness. Interesting examples are driving your car, waking up at night when the clock stops, a musician flowing in her music idiot savants, and many optical illusions. The term sub-aware is meaningful but the term sub-conscious is a null set. We are always conscious as any anesthesiologist is well aware.

*Logos*. “A Greek word, of great breadth of meaning, signifying the intelligible principle structure, or order which pervades something, or the source of that order, or giving an account of that order. The cognate verb legein means ‘say’, ‘tell’, ‘account.’ Hence the ‘word’ which is ‘in beginning’ as recounted at the start of St John’s gospel is. logos. The root occurs in many English compounds such as biology, epistemology, geology, psychology, ... The idea of a generative intelligence (logos spermatikos) is a profound metaphysical notion in Neoplatonic discussion.  
– Oxford Encyclopedia of Philosophy

*Cosmic reason*, “affirmed in Greek philosophy as the source of worldorder and intelligibility, the self-revealed in the thought and will of God,” from the American Heritage Dictionary and the OED.

Cognates of logos are law, legal, religion, lecture, logo, logic, logical, logistic, lecturn, lecture, legible, legion, lesson, ligule, lignum, align, collect, diligent, elect, elegant, intelligent, neglect, sacrilege, select, lexicon, analects, catalog, dialect, dialog, dyslexia, eclectic, epilog, legislate, legitimate, loyal, privilege, legacy, allege, colleague, delegate, relegate, analogous, apology, decalogue, logarithm, prologue, syllogism, and log.

The domain of logic includes, but is not limited to, semiotic, linguistics, mathematics, grammar and rhetoric.

*Knowledge* is derived from the Sanskrit *jnana*, to know plus the Latin *ledge*, to bind

## METAPHOR

Metaphor, in Greek, means “to carry across.” In Athens a shopping cart in the supermarket is called a metaphor. Semiotic is a more precise and general term for what we usually call metaphor. Semiotic bridges diction to notion, the essence. The existence of semiotic proves the existence of essence.

Some of the technical types of semiotic are – allegory, allusion, ambiguity, anagogy, analogy, eponym, four senses of interpretation (hermeneutics), hebraic parallelism, hyperbole, icon, index, irony, map, metaphor, metonym, polysemous meaning, pun, sarcasm, sardony, sign, simile, synecdochy, symbol, token, trope.

Every word is a metaphor, a conveyor, for an idea or an experience. God (good) is a new word in the Bible, not occurring before about 1000 AD. The word is only a very inadequate metaphor pointing to the essence of all essences. In the Christian Trinity, the concept of GOD breaks down into 1) the community of Spirit, the “Holy Ghost,” the ancient Hindu concept of Idandra, 2) the organizing and motivating principle of the Universe, “the Father,” in Sanskrit, Brahman, and 3) your essence, the Messiah, the “Son,” in Sanskrit atman. The etymological meaning of the word “GOD” does not do justice to what is implied by the concept.

Art is metaphor, pointing to essence. Think of the message of Hildegard of Bingen, the romantic poets, the luminist painters, the impressionists, Schubert and Beethoven. As in poetry, their message to you is embedded between the words. Maria Montessori tells of feeding her hungry dog – “Don’t look at my finger pointing, look at the bone!”

All experience is ineffable. Therefore all communication is approximate, at best. Therefore the best education is one that cultivates the use and understanding of metaphor. Education is teaching poetry, as Robert Frost told the faculty at Amherst in 1931. Everything is metaphor. Essence exists, but it is not a thing. Experience is 100% essence.

Here is a neat little paradox – 1) experience is ineffable. 2) sharing is necessary (a cosmic law). 3) therefore metaphor, “to carry across,” is necessary, yet it is certainly in error. 4) therefore the nomothetic is always wrong, the idiographic is always right. All communication is intrinsically embedded in this process. A similar paradox holds for general (always wrong) versus particular (always right). Blake said – “all men are alike in outward form (and with the same infinite variety).” Our faces are all alike, yet never alike!

## DIRECT KNOWING

Definition of knowing – to perceive essence. Knowing is experiential, firstness, self-evident. Knowing is always direct. Great art is known by its experiential authority. Abraham “knew” Sara. He perceived her essence.

## SCIENTIFIC METHOD

1. Guess (hypothesize) a model (a pattern in the data) in the domain you want to understand.
2. Get data. Measure all you can. Optimize your precision.
3. Share the data and models with others. Attain reproducibility. Science is necessarily social, consensual. The philosopher C.S. Peirce calls the community of science a synechism where the shared belief is definitive, yet ever changing, evolving.
4. Triangulate the data from every possible aspect.
5. Guess a better model (metaphor), using formal criteria for the qualities of better models. [See the section, “WAYS TO EVALUATE ONTOLOGIES” at the end of the book.]
- 6) Go to 2).

## MEASUREMENT

The trouble with measurements is that they are always in error. There is no way to avoid them.

To begin with, *accuracy* is always with regard to some standard. Standards (models, ideals) are always abstractions, never actually observed. Models are always in flux, as new data comes in and more refined theories are contrived. Models evolve by trial and error, and good taste. Thereby accuracy drifts, and is never fully attained.

*Precision.* Any number of data points may seem to be orderly, but cusps, major discontinuities and craziness can occur between any two ‘normal’ points.

Quantum *Indeterminacy* (Heisenberg) is intrinsic. The act of measuring perturbs the object that is being measured, as any kindergarten teacher knows.

*Entropy.* Any measuring engine suffers from friction, as stated by the Second Law of Thermodynamics.

Consider: A grapefruit cannot be cut exactly in half, for these four independent reasons:

Accuracy. What is the standard for comparison? 1/2 by weight? 1/2 by volume? 1/2 by surface area? 1/2 by juice content? ... Whatever standard you choose, it cannot be exactly known just where the halfway plane (manifold) is, because any grapefruit and any physical sphere is irregular. And any standard from which to reference ‘accurate’ is arbitrary.

Precision. involves the measuring engine. The knife cannot be passed through the desired center plane because of the intrinsic error of positioning and controlling the knife.

Indeterminacy. The interface between the two halves is fuzzy and fundamentally unknowable in exact detail!

Entropy. Any cutting engine suffers from friction that will deflect the cut.

Error, as derived from these four sources, drives evolution. Sin (error) is the process by which God expresses the universe.

## PROOF

What constitutes proof? The materialist would 'prove' the theorem of Pythagoras by making as many experiments (measurements) on fuzzy right triangles, 'as many as he needs.' But this, at best, would only demonstrate or suggest the theorem. Proof can not exist in the domain of science because of the aforementioned limitations.

But we *can* prove abstractions such as the fact that an infinite sequence approaches a limit, such as  $e$ , and  $\pi$ .

\*) Proof may be gained through deduction. For example, the binary search theorem, Brouwer's theorem, Pythagoras' theorem, the laws of aesthetics, Euclid's theorems, and de Morgan's laws. Consider, most of these are not in the domain of mathematics. Mathematics is only a proper subset of the larger domain of the absolute, Logos.

\*) Proof can never be gained through measurements, nor through induction, interpolation, extrapolation, abstraction, nor inference. Because of the many contributors to indeterminacy in measurement, proof and certainty can never be attained in the material domain.

Proof does not apply in the domain of experience. But patterns in experience are shareable, e.g., birth, death, art. Logos is beyond experience, but is eminently shareable. Proof (certainty) always goes beyond experience, and that is the value of it. Proof permits us to extrapolate experience. Wittgenstein's penultimate book is titled *Certainty*. Jerome Bruner's masterpiece is entitled *On Knowing, Essays for the Left Hand*. Day to day examples of sharable ideals are maps. Directions given in terms of east and west are superior to those given in terms of right and left, which are relative to the observer's position, which is unknown if the observer needs directions!

I am a dualist in the sense that proof exists (abounds) in the absolute, never in Nature – the contrast between physics and psychics. I am a monist in the sense that the absolute and the manifest are not-two. As elaborated by e.e. cummings, Hermes Trismegistus, Advaita Vedanta and

Hui Neng, the Sixth Patriarch of Buddhism in China.

## LEIBNITZ'S LAW

Leibnitz's Law states that two individuals are identical if and only if they are alike in every attribute.

Here is an example of a law of the Absolute – not dealing in any way with manifest things, or numbers, not relating to other facts or data. Here is a law of logic, a fact without an object!

My friend came to visit us. Quoting William James, I said, "Saying 'no' is better than saying 'yes' " (niti-niti). Joining in the spirit of the game, he said, "proving 'same' is completely different and much more difficult than proving 'different'." Now this is a very elemental basic fundamental part of thinking, discriminating, distinguishing between "same" and "different." In Sanskrit the word is "Vijnana," categorizing.

It is easy to establish that two entities are different – simply compare corresponding attributes of each entity until we encounter the first one that does not match. Done. Admittedly, just to identify an attribute is a subjective categorization, an intuitive "clad" decision. And all categorizations are tentative.

But to prove same-ness is beyond the reach of rigor. To establish that two entities are the same requires that all attributes are compared, an indeterminate and infinite regress! Here even matching correspondences in the sense of Cantor fails, because, unlike numbers, a delineation of qualities cannot even be defined. To conclude that two entities are the same is a flight of fancy, a leap of faith, an abstraction. Comparing DNA in blood samples can establish innocence (different), but cannot establish guilt (same).

No one can even demonstrate (pattern match) that a pine tree in the forest is actually a pine tree, considering the infinite number of potential variations between an actual, phenomenal pine and the textbook ideal. Since there are no two alike, which one is the 'real' pine tree? But one can abstract it. And that abstraction is like no pine tree found in Nature, past, present, or future. Science has to proceed on that tenuous basis. In this regard, as well as in many others, science operates in blind faith, as a religion, guessing (believing) from hierarchies of known, suspected, unknown, and unknowable subjectivities.

Digest this, it is centrally important. The laws of falsifiability, so important in science, law and reason, as emphasized by Peirce, Bridgman, Ayer and Popper derive from Leibnitz.

## LOGOS

Logos takes its central place along with aesthetics, ethics, and metaphysics.

The universe is characterized by form and color (qualia). Logos is the domain of the laws of form. Logos deals with eternals, including, but not restricted to archetypes. Qualia deal with ephemerals, the phenomenal. Most of the domain of logos lies beyond the field of proof, but some of the principles, amazingly, can be proven. For example, the optimality of the binary search can be proven. Cantor's relationships of the transfinite numbers can be proven. Many mysterious relationships involving  $\pi$ ,  $e$  and  $i$  can be proven.

One of the most powerful tools in the logos, in the unmanifest universe, is the principle of niti-niti, (not-this, not-this), as expounded by the ancient Indians. This principle is the basis of all science (vijnana) and lies at the core of the scientific method. Sciences, (as well as many other domains, such as law, rationality, thinking, telephone books, and data bases), begin with and have their foundations in taxonomy, distinctions. The foundation of thinking, and of languages of all sorts, is categorization – something is in this category because it is not in the others! Someone else will come along and make entirely different categories, with just as much justification.

Niti-niti, for example, is the process by which you distinguish a rose from other plants in a garden. Say you have a list of plants in the city park. With a botanical key, you can demonstrate that the rose is not a tree, not a clover, not a raspberry, and so on. What remains as the only possibility on the list is a rose, all the other plants on the list having been excluded. You have proven that the plant is a rose by a process of successive negation. Every positive identification is a result of eliminating all other possibilities, niti-niti.

Michaelangelo sculpted his masterworks by chiseling away all of the granite that did not belong there. Bach said, "playing the organ is easy, just don't let your fingers play any of the wrong notes." Kabbalah says that God wrote the Laws of the tablets by taking away the irrelevant parts of the stone. William James said, saying "no" is better than saying "yes." Meditators advocate the "*via negativa*."

Two individuals in nature can easily be proven to be different, if in fact they are. But they can never be proven to be the same, even if they are, because that would require an infinite number of comparisons of pairs of attributes. DNA testing can prove innocence, but it can never prove guilt. To prove innocence, just compare characteristics of the blood samples, pair by pair, until you find a pair of that does not match. Done. Rigorous. Suspect innocent.

But to prove guilt, to prove that the samples are the same, requires an infinite regress – all characteristics up to the present point in the comparison match, but they always have an infinite way yet to go, more attributes yet to find (conceptualize), an unbounded number of matches to establish before the first mis-match.

You can prove that a rose is not a walnut, but you can never prove that a rose is a rose! We know that a rose is a rose only by an inferential leap! How



many attributes does a rose have? Answer – an infinite number. That is why the problem of “sameness” becomes a non-converging infinite regress.

It is impossible to prove that an entity X is a pine. Each pine has an infinite number of qualities, so they cannot be exhaustively compared, pair by pair. To assert that X is a pine is an abduction. The description in the pine manual is an idealization – another abduction. There can never be a pine in nature that is the same as the one in the manual. There can not even exist two pines in nature that are the same, let alone identical with the one in the manual!

This is the place where the problem of clads comes in. A cladistic tree is a diagram showing relationships (in biological evolution or in any other developmental situation). The problem is, the characteristics we choose to distinguish one taxon from another are arbitrary and subjective. Anyone else may draw a perfectly reasonable tree based on a completely different set of distinguishing features. And so ad infinitum.

Well, this whole line of thinking is rigorous and productive and commonplace. But it is not mathematics, nor is it linguistics. It is a reality that does not operate in the domain of time or space, materiality, history, culture, opinion, consensus, aesthetics or perception. It is logos, the mysterious core of all other reality.

Other exquisite examples of logos, form without objects, are the laws of the transfinite numbers formulated by Georg Cantor, and the domain of complex variable. DeMorgan’s Law, states that the truth of a logical paragraph is preserved when all elements are negated and all unions and intersections are inverted. It is the backbone of the fortunes of Silicon Valley. The syntax of a grammatical statement can be proven to be either rigorously correct or in error.

## REDUCED vs. EMERGENT

How do snowflakes turn into avalanches? How do neuron firings turn into moods? Reduction means breaking things down into component parts.

Everything is a reduction. Reduction can be carried on without limit. Atoms are built of nucleons, which are built of quarks, which are built of subquarks, and so on. On the other hand, and equally true – everything is an epiphenomenon. Laws at one level of organization aren’t related to laws at higher and lower levels. For example, the laws of meteorology that govern tornadoes cannot, in practice, be arrived at by studying the motion of the component molecules of gas. The psychology of mobs at soccer matches cannot be derived from the laws of individual psychology. Laws of behavior cannot be derived from an understanding of the action in the synapses.

Very different laws operate at different levels of organization, and even between different levels of organization. Beyond reduction lies complexity



and chaos. Without exception, everything at every level is complex and chaotic. And so ad infinitum. Reduction is a “will-o-the-wisp”!

## SOKOL’S HOAX

Sokol, a young Princeton physicist, published, tongue-in-cheek, an article seeming to be in support of postmodernist views. A few weeks later he published in a similar journal that the whole thing was a spoof, using silly postmodern jargon. The postmoderns were deeply offended and complained. Steven Weinberg, a distinguished Nobel physicist, came to Sokol’s defense in the New York Review of Books, August 1996, p11.

Sokol made a sarcastic “appeal to fashionable academics who question the claims of science to objectivity.” “Postmoderns in the humanities ... who see the laws of nature as social constructions.”

He attacks the ideologies of “postmodern intellectuals, social constructivists, relativists, new critics, and other trendy leftists in the humanities” following the oracle of deconstruction, Jacques Derrida.” They interpret modern catastrophe theory / chaos theory to support their ideas that all reality is a social construct depending upon consensual foundations.

Quite to the contrary, “Nature is strictly governed by impersonal mathematical laws. There exists an external world, whose properties are independent of any individual human being and indeed of humanity as a whole.” And there are many external worlds, other than Nature, such as the world of logos and the world of epistemology.

“Most postmodernists deny that they have any doubt about the existence of an external world,” they believe in an objective reality ...

On relativism – “If objective reality exists, then what scientists say is either true or false. If true, then how can it depend on the social environment of the scientist?” (e.g. sexist, racist, classicist, culturally coercive.) “Physics and chemistry, mathematics and logic, bear the fingerprints of their distinctive cultural creators no less than do anthropology and history.”

“We did not create the Laws of physics.”

“.. if we ever discover intelligent creatures on some distant planet and translate their scientific works, we will find that we and they have discovered the same laws.”

“The objective nature of scientific knowledge is taken for granted by most natural scientists.” (secondness)

On entrenched authority – “the direction of physics (science) today is overwhelmingly set by young physicists, who are not yet weighed down with honors or authority, and whose influence – the excitement they stir up – derives from the objective progress that they are able to make.

“Science is cumulative, and permits definite judgments of success or failure.” It is evolving in the accumulative, Lamarckian sense. Lamarckian evolution operates much faster than Darwinian evolution, which is genetic. Salamanders that fall into caves without light lose their functional eyes within ten generations. Mankind has not changed significantly as a genetic, Darwinian entity in 200,000 years. Yet we have changed immensely in the mere flash of time of the last 50,000 years, since Neanderthal, by the accretion of ideas!

“Our civilization has been powerfully affected by the discovery that Nature is strictly governed by impersonal laws.”

Truth is discovered, not derived, nor merely agreed upon. In the *Prajnaparamita*, truth “turns up.” The novelist, Bill Agee said, “Fiction is fact elevated to truth.”

Yes, there are Laws (invariant patterns) in epistemology too. Laws are ontology, but there is also an ontology of epistemology! The whole domain of epistemology lies beyond Homo sapiens, and any species, and any culture, and beyond mass, and energy, and space, and time, and synapses. It is not observer- dependent.

By contrast, ontology and cosmology are intrinsically and unavoidably observer-dependent.

## WAYS TO EVALUATE ONTOLOGIES

Definition – *explanation* – a description that satisfies. How do we explain things? Here are some of the criteria to distinguish between alternative explanations.

Ockham's razor – non sunt multiplicanda entia praeter necessitatem – do not add unnecessary assumptions.

explanatory / elaborating / amplifying / extending

completeness / comprehensiveness / universality

falsifiability / testing / eliminative

manipulative efficacy

ontological simplicity

theoretical economy

predictive efficacy

familiarity

heuristics

meaning

beauty

Science stumbles through time toward an entelechy, an omega, guided and directed, moment by moment, by these criteria. There is a purpose and a goal in science, in Nature, in the Universe, and in You. "Keep your eyes on the goal. Let your feet find the way."

# BIBLIOGRAPHY

- Aczel, Amir D. *The Mystery of the Aleph: Mathematics, the Kabbalah, and the Human Mind*. Four Walls Eight Windows 2000
- Adams, Fred and Greg Laughlin. *The Five Ages of the Universe: Inside the Physics of Eternity*. Free Press, 1999
- Ayer, Alfred. *Language Truth and Logic*. New York: Dover Publications, 1946.
- Barks, Coleman. *The Hand of Poetry: Five Mystic Poets of Persia: Translations from the Poems of Sanai, Attar, Rumi, Saadi and Hafiz: Lectures on Persian Poetry*. Omega P Publications, 1993 *The Essential Rumi*. Edison, NJ: Castle Books, 1997 *The Illuminated Rumi*. New York: Broadway Books, 1997
- Beauchamp, Gary K., ed. *Tasting and Smelling. (Handbook of Perception and Cognition)*. New York: Academic Press, 1997
- Beowulf*. New York: Heritage Press, 1939
- Berlin, B. and P. Kay. *Basic Color Terms: Their Universality and Evolution*. Berkeley: University of California Press, 1969
- Bhagavad Gita. see Rhadakrishnan
- Blake, William. *Complete Writings*. ed. Geoffrey Keynes. Oxford: 1969 *God Writing Upon the Tables of the Law*. Watercolor 1805. Yale University Press, 1981
- Bloom, Harold. *Omens of Millenium*. New York: Riverhead Books, 1996
- Boek, Kees. *The Universe in 40 Jumps*. New York: The John Day Company, 1957
- Bohm, David and Basil J. Hiley. *Wholeness and the Implicate Order*. London: Routledge & Kegan Paul, 1980 *The Undivided Universe: an Ontological Interpretation of Quantum Theory*. London: Routledge, 1993
- Brent, Joseph. *Charles Sanders Peirce: A Life*. Indiana University Press, 1993
- Brown, Dean. *Learning and Teaching*. Los Gatos, CA: Lamplighters Roadway Press, 1974 *Direct from Sanskrit: New Translations of Seven Upanishads, The Aphorisms of Patanjali, and Other Microcosmic Texts of Ancient India*. Los Angeles: Philosophical Research Society, 1996
- Bruner, Jerome. *On Knowing, Essays for the Left Hand, Acts of Meaning*. Cambridge: Harvard, 1990
- Buber, Martin. *I and Thou*. trans. W. Kaufmann. New York: Charles Scribner's Sons, 1970
- Buchanon, Emerson. *Aristotle's Theory of Being*. University Press, MIT Cambridge, MA., 1962
- Burkhardt, Titus. *Alchemy*. New York: Penguin, 1963

- Cahill, Thomas. *The Gift of the Jews: How a Tribe of Desert Nomads Changed the Way Everyone Thinks and Feels*. New York: Doubleday, 1998
- Campbell, Joseph. *The Inner Reaches of Outer Space: Metaphor as Myth and as Religion*. New York: Alfred Van Der Marck Editions, 1986
- Charlot, Martin. *Sunnyside Up*. New York: Weatherhill, 1972
- Classen, Constance. *Aroma: The Cultural History of Smell*. London: Routledge, 1995
- Conze, Edward. *The Perfection of Wisdom in Eight Thousand Lines. (Prajnaparamita)*. Bolinas, Cal.: Four Seasons Foundation, 1973
- Csikszentmihali, Mihali. *Flow: The Psychology of the Optimal Experience*. New York: HarperCollins, 1991 *Self: The Evolving Psychology for the Third Millennium*. New York: Harperpersonal Library, 1993
- Dante Alighieri. *Divine Comedy*. 1300
- Deamer, David. W. and Gail R. Fleischaker. *Origins of Life*. New York: Jones & Bartlett, 1994
- de Chardin, Pierre Teilhard. *The Phenomenon of Man*. New York: HarperCollins, 1980
- de Duve, Christian. *Vital Dust: Life as a Cosmic Imperative*. New York: Basic Books, 1995
- Descartes, Rene. *Meditations and Passions of the Soul*. 1654
- Dewdney, A.K. *A Mathematical Mystery Tour: Discovering the Truth and Beauty of the Cosmos*. New York: John Wiley & Sons, 1999
- Diamond, Jared. *Guns, Germs, and Steel: The Fates of Human Societies*. New York: W.W. Norton & Company, 1997
- Diamond Sutra. see Nhat Hanh
- Diels, Hermann. *Die Fragmente der Vorsokratiker*. Berlin: 1906
- Dunham, William. *Journey Through Genius*. New York: John Wiley & Sons, 1993 *The Mathematical Universe*. New York: John Wiley and Sons, 1994
- Dyson, Freeman, et al. *Nature's Imagination*. Oxford: 1995
- Einstein, Albert. *Motiv des Forschens*. in Holton, 1918 *Ideas and Opinions*. New York: Bonanza Books, 1956 *Out of My Later Years*. Secaucus, NJ: The Citadel Press, 1956
- Erkelens, H. Van. *Wolfgang Pauli's Dialog With the Spirit of Matter*. Psychological Perspectives 24, 1, 1991 pp 34-53

- Frye, Northrup. *Fearful Symmetry: A Study of William Blake*. Princeton University Press, 1947 *The Great Code: The Bible and Literature*. New York: Harcourt Brace Jovanovitch, 1982 *The Harper Handbook to Literature*. New York: HarperCollins, 1985 *Words with Power: The Bible and Literature*. New York: Harcourt Brace Jovanovitch, 1990
- Galin, David. *Separating First Personness from the Other Problems of Consciousness*. Journal of Consciousness Studies v.6 2-3 p222-229, 1999 *The Concept of "Self" and "Person" in Buddhism and in Western Psychology in Meeting at the Roots: Western Science and Buddhist Thought*. ed. Alan Wallace. University of California, San Francisco, 1999
- Godel, Kurt. Scientific American, May 1999
- Gozdz, Kazimierz. *A Transpersonal Heuristic Inquiry Into a Learning Organization Undergoing Transformation*. Palo Alto: Institute of Transpersonal Psychology, 1999
- Greenough et. al. *On the Art of Fixing a Shadow: One Hundred and Fifty Years of Photography*. National Gallery of Art / The Art Institute of Chicago. New York: Little Brown, 1989
- Hardin, C. *Color for Philosophers*. Cambridge: Hackett 1993
- Hastings, Arthur. *With the Tongues of Men and Angels: A Study of Channeling*. New York: Holt, Reinhart & Winston, 1991
- Hauser, Nathan. *The Essential Peirce* (two volumes). Indiana University Press, 1992, 1998
- Heart Sutra. see Nhat Hanh
- Hebb, Donald O. *Essay on Mind*. Hillsdale, NJ: Lawrence Erlbaum, 1980
- Hegel, Georg Wilhelm Friedrich. *The Philosophy of Mind*. Oxford University Press, 1874
- Heil, John and Alfred Mele, editors. *Mental Causation*. Oxford University Press, 1993
- Heisenberg, Werner. *Physics and Beyond*. 1971 [see Dewdney]
- Heraclitus Fragments* trans. T.M. Robinson. Toronto: University of Toronto Press, 1987
- Hermes Trismegistus. *The Emerald Tablet*. Nature 6 October 1923
- Hesse, Hermann. *Magister Ludi*. New York: Henry Holt, 1990 *Siddhartha*. trans. Hilda Rosner. New York: New Directions, 1951
- Hilbert, D. *Color and Color Perception*. Stanford: CSLI, 1987
- Holy Bible. *The Torah*. ed. W. Gunther Plaut. New York: Union of American Hebrew Congregations, 1981 *Tanakh: A New Translation of the Holy Scriptures According to the Traditional Hebrew Text*. New York: Jewish Publication Society, 1985 *The Greek English Interlinear Bible*. ed. J.D. Douglas, Wheaton, IL: Tyndal, 1990 *The Gospel of Thomas in Q Thomas Reader*. John S. Kloppenborg et. al. Sonoma, CA: Polebridge Press, 1990 *The Jerusalem Bible*. ed Alexander Jones. New York: Doubleday, 1966

- Hui Neng. *The Sutra of the Sixth Patriarch on the Pristine Orthodox Dharma (Platform Sutra)*. trans. Fung & Fung. San Francisco: Buddha's Universal Church, 1964
- Humana, Charles. *World Human Rights Guide*. Oxford: Oxford University Press, 1992
- Hume. Robert Ernest. *The Thirteen Principle Upanishads*. Oxford, 1877
- Huxley, Aldous. *The Perennial Philosophy*. New York: HarperCollins, 1990 *Doors of Perception and Heaven and Hell*. New York: HarperCollins, 1990
- James, William. *The Energies of Men and How Two People Can Think One Thought*, in *Writings of William James*. New York: Library of America, 1992
- Jung, C.G. & Wolfgang Pauli. *The Interpretations of Nature and the Psyche*. New York: Pantheon, Bollingen Series LI, 1955
- Kane, Beverley, Jean Millay, and Dean Brown editors. *Silver Threads: 25 years of Psychic Research*. New York: Greenwood, Parapsychology Research Group, 1993
- Kanigel, Robert. *The Man Who Knew Infinity: A Life of the Genius Ramanujan*. New York: Charles Scribner's Sons, 1991
- Kant Immanuel. *Critique of the Pure Reason*. 1781 *Universal Natural History and Theory of the Heavens*. 1755
- Kornerup, A & Wanscher, J.H. *Methuen Handbook of Colour*. London: Eyre Methuen, 1978
- Kushner, Lawrence. *Book of Letters*. Woodstock, VT Jewish Lights, 1980 *Honey From the Rock*. New York: Harper & Row, 1977 *Book of Words*. Woodstock, VT: Jewish Lights, 1993 *God Was in this Place and I, i did not Know*. Woodstock, VT: Jewish Lights, 1991 *The River of Light*. Woodstock, VT: Jewish Lights, 1981 *Invisible Lines of Connection*. Woodstock, VT: Jewish Lights, 1996
- Lanczos, Cornelius. *Albert Einstein and the Cosmic World Order*. New York: 1962
- Lao Tsu. *Tao Te Ching*, trans. Gia-Fu Feng and Jane English. New York: Knopf, 1974
- Le Guerier, Annick. *Scent: The Mysterious and Essential Powers of Smell*. New York: Kodansha International, 1994
- Mann, Thomas. *The Transposed Heads: a Legend of India*. New York: Alfred A. Knopf, 1941
- Margulis, Lynn and Karlene V. Schwartz. *Five Kingdoms: An Illustrated Guide to the Phyla of Life on Earth*. New York; W.H. Freeman, 1988
- Matt, Daniel. *Essential Kabbalah*. San Francisco: HarperSanFrancisco, 1994
- Millay, Jean. *Multi-Dimensional Mind: Remote Viewing in Hyperspace*. Novato, CA: North Atlantic Books, 1999



- Mishlove, Jeffrey, ed. *Essays on Intuition*. New York: Dutton, 1997  
*The Roots of Consciousness: The Classic Encyclopedia of Consciousness Studies*. New York: Council Oak, 1993
- Moar, Eli. *e, The Story of a Number*. Princeton University Press, 1994
- Monk, Ray. *Ludwig Wittgenstein: the Duty of Genius*. London: Penguin Books, 1989
- Montessori, Maria. *The Formation of Man*. Adyar: The Theosophical Publishing House, 1955
- Moore, Walter John. *Schroedinger: Life and Thought*. Cambridge University Press, 1989
- Murchie, Guy. *The Seven Mysteries of Life: an Exploration in Science and Philosophy*. Boston: Houghton Mifflin, 1978
- Nagarjuna. *The Fundamental Wisdom of the Middle Way: Nagarjuna's Mulamadhyamakakarika* tr. Jay L. Garfield. Oxford University Press, 1995
- Neihardt, John G. *Patterns and Coincidences: Dynamic Cosmic Patterns*. Columbia, Missouri: University of Missouri Press, 1978. *Black Elk Speaks*. Lincoln, Nebraska: Bison Press, 1971  
*When the Tree Flowered*. Lincoln, Nebraska: Bison Press, 1951
- Nhat Hanh. *The Heart of Understanding: Commentaries on the Prajnaparamita Heart Sutra*. New York: Parallax Press, 1988  
*The Diamond that Cuts Through Illusion: Commentaries on the Prajnaparamita Diamond Sutra*. New York: Parallax Press, 1992
- Nisargadatta. Maharaj, Sri. *I Am That: Talks with Sri Nisargadatta Maharaj*. ed. Sudhakar Dikshit. Durham, NC.: The Acorn Press, 1977.
- Pagels, Elaine. *The Gnostic Gospels*. New York: Vintage Books/Random House, 1979
- The Panchatantra*. Translated Arthur W. Ryder. University of Chicago Press, 1925
- Patanjali. see Taimni, Brown
- Pauli, Wolfgang. *The World of Life*. New York: Dutton, 1972
- Peirce, Charles Sanders. *Collected Papers* (eight volumes). Cambridge, Massachussets: Harvard University Press, 1931-5, 1958
- Poincare, Henri. *Science and Hypothesis*. New York: Dover, 1952 *The Foundations of Science*. Science and Method. New York: Thoemmes Press, 1997
- Popper, Karl Raimund and Sir John C. Eccles. *The Self and its Brain*. New York: Springer Verlag, 1977 *Of Clouds and Clocks*. St. Louis: Washington University Press, 1966
- Prajnaparamita*. see Conze, Nhat Hanh



- Radhakrishnan, S. *The Bhagavadgita*. New York: HarperCollins, 1994  
*The Principle Upanishads*. London: George Allen & Unwin, 1953
- Ramakrishna. *The Gospel of Ramakrishna* trans. Nikhilananda. New York: Ramakrishna-Vivekananda Center, 1942
- Rothstein, Edward. *Emblems of the Mind: the Inner Life of Music and Mathematics*. New York: Times Books, 1995
- Rumi, Jalaluddin. *Mathnavi*. trans. Reynold A. Nicholson. New York: White Orchard Press, 1990 *Fihi ma Fihi*. New York: Alif Publishing Co., 1999
- Schoenewolf, Gerald. *The Way: According to Lao Tzu, Chuang Tzu & Seng T'san*. New York: Jain., 1999
- Schopenhauer, Arthur. *The World as Will and Idea*. trans. E.F.J. Payne. Indian Hills, Colorado: Falcon's Wing Press, 1958
- Schroedinger, Erwin. *What is Life?* Cambridge University Press, 1958  
*Mind and Matter*. Cambridge University Press, 1959  
*Expanding Universes*. Cambridge University Press, 1956  
*Space-Time Structure*. Cambridge University Press, 1950  
*Vedanta Notebook*. Wein: Schroedinger Archiv, Zentralbibliothek fur Physik, 1918  
*Gedichte*. Godesberg: Helmut Kupper, 1949  
*My View of the World*. Woodbridge CN Ox Bow Press 1985  
*Science and Humanism*  
*Nature and the Greeks*. Cambridge University Press, 1954  
*Statistical Thermodynamics*. Cambridge University Press, 1946  
*The Future of Understanding*. BBC, 1950
- Searle, John. *Intentionality*. Cambridge University Press, 1983
- Sen, Amartya. *Development as Freedom: Human Capability and Global Need*. New York: Knopf, 1999
- Seng T'san. see Schoenewolf
- Shankara. *Crest Jewel of Discrimination*. trans. Prabhavananda & Isherwood. Hollywood, California: Vedanta Press, 1947
- Shaw, R.D.M. *The Blue Cliff Records: Hekigan Roku*. London: Michael Joseph, 1961
- Sheriff, John K. *Charles Peirce's Guess at the Riddle*. Indiana University Press, 1994
- Shibayama, Zenkei. *Zen Comments on the Mumonkan*. New York: Harper & Row, 1974 *A Flower Does Not Talk*. Kyoto: Nanzenji Monestary, 1966
- Sorokin, Pitrim. *Social and Cultural Dynamics*. New York: Porter Sargent, 1970
- Spencer-Brown, G. *Laws of Form*. New York: Cognizer Compamy, 1994
- Suzuki, Shunryu. *Zen Mind, Beginner's Mind*. Tokyo: Weatherhill, 1972

- Taimni, I.K. *The Science of Yoga: A Commentary on the Yoga Sutras of Patanjali in the Light of Modern Thought*. New York: Theosophical Publishing House, 1994
- Tart, Charles. *States of Consciousness*. New York: E.P. Dutton, 1975
- Thompson, D'Arcy W. *On Growth and Form*. Cambridge University Press, 1942
- Toynbee, Arnold. *Mankind and Mother Earth*. Oxford University Press, 1976 *A Study of History*. Oxford University Press, 1972
- Treffert, Darold A. *Extraordinary People: Understanding 'Idiot Savants.'* New York: Holt, Reinhart & Winston, 1989
- Upanishads – see Hume, Rhadakrishnan, Brown
- Weil, Simone. *The Need for Roots: Prelude for a Declaration of Duties Toward Mankind*. New York: Routledge, 1996 *Spirit, Nature, and Community: Issues in the Thought of Simone Weil*. State University of New York Press, 1994
- Wells, David G.. *Curious and Interesting Numbers*. New York: Penguin USA, 1998
- Westphal, J. *Colour: Some Philosophical Problems from Wittgenstein*. Oxford: Blackwell, 1987
- Whitehead, Alfred North. *Process & Reality*. New York: Macmillan, 1929 *Modes of Thought*. New York: Free Press, 1938
- Wigner, Eugene. *Symmetries and Reflections*. New York: Ox Bow Press, 1979
- Williams, Edgar W, Jr. *Harmony and Voice Leading*. New York: HarperCollins, 1992
- Wittgenstein, Ludwig. *Tractatus Logico-Philosophicus*. London: Routledge Kegan & Paul, 1995 *The Blue and Brown Books*. New York: Harper Colophon, 1958 *Some Remarks on Color*. Oxford: Blackwell, 1978 *On Certainty*. New York: HarperCollins, 1986
- Woodroffe, Sir John. *Shakti and Shakta*. Madras: Ganesh & Co., London: Luzac & Co., 1929

