

The Noetic Journal

ISSN 1094-0359

An International Forum on the Cosmology of Consciousness

Volume 2 Number 2

April 1999

The Noetic Journal: Statement of Purpose	Editor	ii
Style Sheet for prospective authors		iii
Subscription Information		iv

REFEREED PAPERS

A Possible Basis for Eye-Movement Desensitization (EMD)	George Christos	133
The Meaning of Qualia	Andrew Lohrey	136
The Quantum Physical Communication Between the Self and the Soul	Fred Alan Wolf	149
The Theory of Enformed Systems: A Paradigm of Organizational and Holistic Systems	Donald Watson	159
Transcendence in Mathematics	Suhrit Dey	173
Chance, Choice and Consciousness: The Role of Mind in the Quantum Brain	Henry Stapp	179
The God of Abraham, A Mathematicians View: Is there a Mathematical Argument for the Existence of God?	Stan Tenen	192
Holographic Mind - A Non-Local Mind Fluctuation Sensor Part II	Edmond Chouinard	205
An Integration of Information, Energy, and Memory: A Frame for Consciousness	Daniel W. Miller	219
A Theoretical Alzheimer's Etiology Predicting Psychogenic Initiation	Richard Amoroso	234

REVIEWS

<i>Statistical Geometry and Applications to Microphysics And Cosmology</i> by Sisir Roy, 1998	Menas Kafatos	242
---	---------------	-----

Call for Papers:		243
Publication Notice:	Science and the Primacy of Consciousness,	243
Announcements:	Conference: Vigier III, August, 2000	158
	Workshop: George Mason University, September, 1999	245
Next Issue Highlights	Volume 2 No. 3, July, 1999	246
Advertisement:	Noesis	cover 3

This issue of The Noetic Journal also includes a second, supplementary essay by Stan Tenen, *Man Bites Dog* (p.203). You can find it, as an appendix highlighted in yellow, after the notes and before the references for *The God of Abraham*.
— Cynthia Tenen, Meru Foundation

The God of Abraham, A Mathematician's View: Is there a Mathematical Argument for the Existence of God?

Stan Tenen

Director of Research, Meru Foundation, POB 503 Sharon, MA 02067 USA

Email: meru1@well.com <http://www.meru.org>

Abstract

Research into the origin and nature of the Hebrew alphabet, and the mathematical structure underlying the sequence of letters of the Hebrew text of Genesis has led to an extraordinary and unexpected discovery of a geometric metaphor in the letter-sequence of the Hebrew text of Genesis that underlies and is held in common by the spiritual traditions of the ancient world. This metaphor models embryonic growth and self-organization. It applies to all whole systems, including those as seemingly diverse as meditation practices and the mathematics fundamental to physics and cosmology. Findings demonstrate that the relationship between physical theory and consciousness, expressed in explicit geometric metaphor, was understood and developed several thousand years ago.

Keywords: Consciousness; Genesis; Geometry; Hebrew Alphabet.

1 Introduction

The Talmud, expanding on the Biblical account, tells us that Abraham discovered the One-God while he lived in the house of his father Terach. Terach, we are also told, was an educated professional knowledgeable in the skills, philosophies and spiritual practices known in his homeland in "Ur of the Chaldees," a civilized and sophisticated city-state in "Babylonia."

The Talmud is the "oral" Torah given to Moses with the written Torah – The Five Books of Moses – at Mt. Horeb-Sinai. [1]

"It was into this pagan atmosphere that a most unique individual was born. From his earliest childhood,³² Abraham transcended his pagan environment³³ and recognized that the world was governed by one Supreme Being.^{34,35} As one of the greatest geniuses of his time,³⁵ Abraham was able to use his keen mind to see through the sham and falsehood of the values of his generation, and understand the true purpose of creation."

Abraham is at home. He is reflecting on the many idols of metal and stone and wood that his father makes and sells. He has a realization that these idols are dead and inert and he "discovers" the One-God. This is a paraphrase of the traditional story. How are we to understand it?

If we, as our scholars, assume that this story is to be taken literally, then Abraham realizes that the idols his

father makes and sells are not alive, and thus not able to have any effect in the world no matter what or how they are prayed to and no matter what sacrifice is offered to them. We are assuming that a man whom we are told is educated and sophisticated would make and sell inert effigies as deities. If we met an educated and sophisticated person today we would not find it plausible that they would be in the business of selling idols. Why should we make that presumption about Terach?

Consider instead the following scenario. Terach, as an educated and worldly man, would know and appreciate the arts, sciences and spiritual beliefs of as many different peoples and cultures as were known in his world. We assume this of educated persons today. If this is so, then the "idols of metal and stone and wood" referred to in the traditional story are really the particular cultural embodiments of the arts, the sciences, and the sacred as they are known in various different cultures.

The "idols" of a sophisticated person are not, literally, stone effigies and statuettes. These "idols" are the cultural, political, social, and scientific paradigms comprising the world-views of the societies in which they (and we) live.

When we examine the spiritual beliefs and cosmologies of many ancient and modern cultures we find that they all include excellent models of certain essential qualities of life – albeit each in its own cultural context with its own particular perspective, emphasis and physical

analogs.

- The ancient Chinese developed a cosmology and an original ideographic alphabet based on the 28-mansions of the lunar zodiac. [2]
- The Greeks and the Persians modeled the cyclicity of life by a pantheon of gods, goddesses and their familial relationships based on the 12-houses of the solar zodiac.
- The Druids of northern Europe modeled the self-propagation of life on the life cycles of trees and other growing things.

Each and every culture has made accurate and effective models of the cyclic, self-propagating and self-referential nature of all life in terms appropriate to its needs and experience. These different cultural embodiments of the same universal principles underlying all life are referred to as "idols of metal and stone and wood." These "godlet" cultural paradigms are honored (and, literally, stone statues of these "idols" are worshipped) by the society that makes use of them.

- All cultures model the same processes of the same overall unity of the natural world and each uses a different physical example to do it.

Abraham, seeing through each example to a Singular archetype, **DEFINED** the **One-God** as the **Unity underlying all of them**.

Abraham, in this view, acts as a mathematician: he postulates a meaningful and functional *definition* of Unity. The mathematician's model makes use of none of the "garments" of the many different cultural embodiments. Even though it is a mathematical model that must make use of geometry and form (or formalism) to be expressed, it (the model, not the sacred) **MUST** be understood as a complete abstraction without physical embodiment. A good mathematician tolerates no unneeded embellishments.

This perspective suggests why the Abrahamic faiths absolutely prohibit "graven images" of God. Any "graven image" would be a physical representation of only one culture's iconography during one historical period – it could never be a timeless model of a universal underlying Unity.

Once we understand this mathematician's idea of God as a **DEFINITION** necessary for universality we can, perhaps for the first time, see how and why it is possible that the Abrahamic faiths' insistence that God is the **ONLY-GOD** could be literally true, and not just the chauvinistic religious puffery of these faiths – and in a way that does not impugn the validity of other religions. The definition of

Unity is in no way prejudicial to any other view.

Even before Moses was given the Torah, it is possible that Abraham realized that this ultimate, Singular, definition of the universal One-God is also identical with the personal meditational experience of God. That the Immanence of All-There-Is and the Transcendent Singularity in our experience of meditation are one and the same may be the basis of Abraham's understanding of and belief in the One-God.

This suggests the truly extraordinary possibility that our ancient sages also realized that there is one particular mathematical definition of Unity that is also a model of the sequence of feelings, the "Yoga" and the "Hero's Journey", that leads to the meditational experience of Unity. The meditational experience may be the gnosis that personally validates and empowers these spiritual tradition(s).

Further, although the particular details and depth of understanding of the idea of an explicit definition of the Unity of God may have been most fully developed by the Abrahamic faiths, the principle was known and considered fundamental in other cultures as well. Terach and Abraham did not live in a cultural vacuum.

This is from Anne Macaulay in *Lindesfarne Letter* No. 14, p. 109 (emphasis added):

"And finally let us return to **Apollo**. It came as a shock to me to find that this god was **derived from a geometric figure**. This is no deified hero nor an archetypal godlet, but a synthesis of observed facts about the relation of the stars, the moon and sun to earth; it is a timepiece and a calendar; it is a statement of the laws of the heavens in terms of geometrical and mathematical elements which themselves exhibit absolute laws; and these laws also apply to music: this must surely be the music of the spheres. **The concept is total** and the harmonic nature of the music demonstrates the **great harmony of creation**. **Apollo can thus be seen as the logos or in another sense as the definition of the absolute god.**" [3]

From *The Egyptian Miracle* by R.A. Schwaller de Lubicz, p.147 (emphasis added):

"In Pharaonic **Egypt** (as also in **India**, incidentally, although with dangerous complications), Neter Netru, the **one and only God** who is unknowable, **is an idea derived by logical conclusion.**" [4]

It is evidence of considerable philosophical sophistication on their part that the sages of the ancient world were apparently aware of the necessity of identifying

the One-God with an abstract definition of Unity.

2.0 Singularity and the One-God

As many musicians and electronics enthusiasts know, "...the harmonic nature of...music demonstrates the great harmony of creation." (See Macaulay quotation, above.) Every musical pulse is made up of the sum of many pure sine-wave tones; an ordinary "square wave" is made up of many odd harmonics, and, by extrapolation, a truly infinite pulse would consist of a sum of ALL possible pure tones.

The way musicians examine the spectrum of musical harmonics is exactly the same as the procedure

mathematicians call a *Fourier Transform*: a sharp loud pulse consists of a broad spectrum of pure tones. Likewise an *infinitely* loud, short, sharp pulse – which we could compare to a musical Singularity – would produce the harmonic spectrum of ALL tones – which we could liken to ALL-THERE-IS.

The *Fourier Transform* of ALL-THERE-IS, is a **single** pulse of infinite intensity and infinitesimal duration at the start of time – at creation. This suggests that the Big Bang unfolds the modern physicist's model of creation from an exquisitely singular and intense pulse that may be mathematically equivalent to Abraham's DEFINITION of the One-God.

The Fourier Transform between Unity and Wholeness

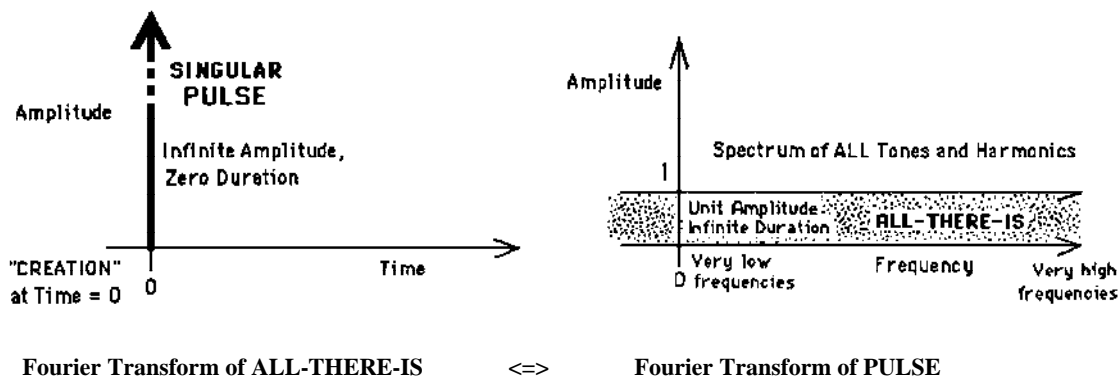


Figure 1. The Singular Pulse at "Creation" is the Fourier Transform of an eternity of ALL-THERE-IS; The Spectrum of ALL Tones and Harmonics, representing ALL-THERE-IS is the Fourier Transform of the "Creation" Pulse.

If the universe is limited in extent and duration, then its ultimate source must be less than omnipotent. Thus the presumption of ONE exquisitely Infinite source demands that the universe be infinite, open and eternal. The Singular Pulse may be the Kabbalist's "line" (Qav) that extends from the "creation-contraction" (ZimZum) into All-There-Is. Abraham's definition of the One-God and our modern understanding of this universe may well be based on the same fundamental principles.

Here is another view that extends the idea of **our closest logical singularity** – the sun, the ostensible god of many ancient peoples – into a suitable definition of the Exquisite, Transcendental Unity of the One-God.

From the physicist Roger Penrose [5]:

"Where indeed *does* our own low entropy come from? The organization in our bodies comes from the food that we eat

and the oxygen that we breathe.

"The question is how we keep ourselves *alive* throughout out normal (mainly adult) lives. For that, we do *not* need to add to our energy content.

"...To keep ourselves alive, we need to keep lowering the entropy that is within ourselves.

"Where does this supply of low entropy come from?

"... green plants ... [provide] it by making use of *sunlight*. The light from the sun brings energy to the earth in a comparatively *low*-entropy form, namely in the photons of visible light. The earth, including its inhabitants, does not *retain* this energy, but (after some while) re-radiates it all back into space. However, the re-radiated energy is in a *high*-entropy form, namely what is called 'radiant heat' – which means infra-red photons.

"Contrary to a common impression, the earth does *not* gain [net] energy from the sun! What the earth does is to take energy in low-entropy form, and then spew it *all* back again into space, but in a high-entropy form. **What the sun has done for us is to supply us with a huge source of low entropy. We (via the plant's cleverness), make use of this, ultimately extracting some tiny part of this low entropy and converting it into the remarkable and intricately organized structures that are ourselves.**

"The energy the earth spews back into space is spread over many more degrees of freedom than is the energy that it receives from the sun. Since there are so many more degrees of freedom involved when the energy is sent back out again, ... the *entropy* has gone up enormously. The green plants, by taking in energy in a low-entropy form (comparatively *few* visible-light photons) and re-radiating it a high-entropy form (comparatively *many* infra-red photons) have been able to feed on this low entropy and provide us with this oxygen-carbon **separation** that we need.

"All this is made possible by the fact that the sun is a hot-spot in the sky." [5]

Penrose is telling us that the "raw" information needed to sustain the self-organization of life on earth is due to the "**separation**" – the **distinction** – between oxygen and carbon and this, in turn, is due to the **distinction** – the **contrast** – between the hot, bright sun and the cool, dark sky.



Figure 2. Penrose's Twister

This model suggests why in traditional societies (as well as today) those who believe that life is entirely physical and that consciousness is an epiphenomenon of complex physical organization alone believe that the source of life is the Sun. Exclusive materialism is the equivalent of solar

worship. In effect, materialists are not atheists. In this context, materialists can truly be said to worship the hot "metal and stone" idol the Greeks called Apollo.

We can take Penrose's observations one step further. After all, life on Earth reaches one further step of organization. Human beings (and perhaps a few other creatures such as some primates, elephants and the cetacea) are not only living animals – whose living neg-entropic organization comes from the contrast of the bright physical sun in the dark sky – but we are also conscious and aware of ourselves. Humans have a special hand with an opposable thumb marking our self-reflexive awareness and – some say consequently – we form and use language.

Following Penrose's argument, where does our "hyper" self-aware consciousness get its organizing information? What "hand" "informs" our special, "higher" human consciousness?

Does there exist or can we hypothesize a "higher" "hyper" contrast than between our star and the sky? Conceptually, at least, we can. The contrast between our physical sun and the sky can be idealized and extended by considering, at least in principle, an even higher, brighter source – a source of ALL-THERE-IS.

If the sun is a very bright, yet finite source, very far away, but not infinitely far away, then we could investigate the consequences of an **infinite source at an infinite distance** from us. **We can define a model of an exquisitely singular and omnipotent source.**

As with the Fourier Transform – musical harmonics ("music of the spheres") model, our extension of Professor Penrose's **High Contrast** leads us to an infinite pulse. (It is interesting to note that Kabbalists understand this principle of highest contrast as the paradox of God withdrawing or contracting (*tzimtzum*) and then projecting.) In this case the pulse is an infinitely energetic Singularity infinitely far away.

This then could be the "hyper" source of our human self-aware consciousness. This conceptually farthest, brightest source is also the conceptually highest information, lowest entropy source. It is the "hyper-neg-entropic" source of universal consciousness that corresponds to the One-God. **By (Abraham's) definition** this is the most "high-contrast" source.

3.0 Models of Wholeness, Singularity & Highest Contrast

How are we to model this ultimate, exquisite, unknowable UNITY representing our unique definition of the Singularity of the One-Living-God? Is there an **entirely abstract** – non-idolatrous – mathematical model that incorporates Singularity, Uniqueness, Self-organization, Universality, Infinitude,

Elegance and Simplicity?

- What is the most elegant and exquisite model of "highest contrast"?
- Could this same model also represent the meditational process or the path and goal of the "Hero's Journey"?

Mathematician G. Spencer-Brown [6] proposes the "**mark of distinction**" archetypally distinguishing **INSIDE** from **OUTSIDE** as a definition of maximal contrast. Mathematicians have shown that **all of formal logic** can be derived from this "mark of distinction." (emphasis added):

"The theme of this book is that **a universe comes into being when a space is severed** or taken apart. The skin of a living organism cuts off an **outside** from an **inside**. So does the circumference of a circle in a plane. By tracing the way we represent such a severance, we can begin to reconstruct, with an accuracy and coverage that appear almost uncanny, the basic forms underlying linguistic, mathematical, physical, and biological science, and can begin to see how **the familiar laws of our own experience follow inexorably from the original act of severance.**

"Although all forms, and thus all universes, are possible, and any particular form is mutable, it becomes evident that **the laws relating such forms are the same in any universe.** It is this sameness, the idea that we can find a reality which is independent of how the universe actually appears, that lends such fascination to the study of mathematics." [6]

In Hebrew the letter that most represents this "mark of

distinction" between inside and outside is Bet, the first letter of the Hebrew text of Genesis. It appropriately establishes, by definition, the first logical distinction possible.



Figure 3. Bet - "house"

The distinction between archetypal **Symmetry** and **Asymmetry** is also primary and of absolute contrast. Each co-defines the other. Without a representative standard of asymmetry how could we unambiguously define symmetry?

Archetypal symmetry can be represented by the most compact structural forms (in any given dimension). The five Platonic solids (Tetrahedron, Cube, Octahedron, Icosahedron, and Dodecahedron) and the Archimedian semi-regular solids can define fundamental symmetries in 3-dimensions. (Mathematicians and physicists derive the formal symmetry groups that they use from these polyhedral archetypes.)

Archetypal asymmetry can be represented by a dynamic form that continuously breaks symmetries as it unfurls. Meru Foundation research suggests that this form is a particular, explicit vortex, which we call "*Naked Recursion*" ("naked" in the mathematical sense – unadorned, without any other quality) and which has been traditionally associated with "the flame of consciousness", the archetypal living process of a "*fruit tree yielding fruit whose seed is inside itself*" (Genesis I.11.), and with its highest human embodiment – our hands.

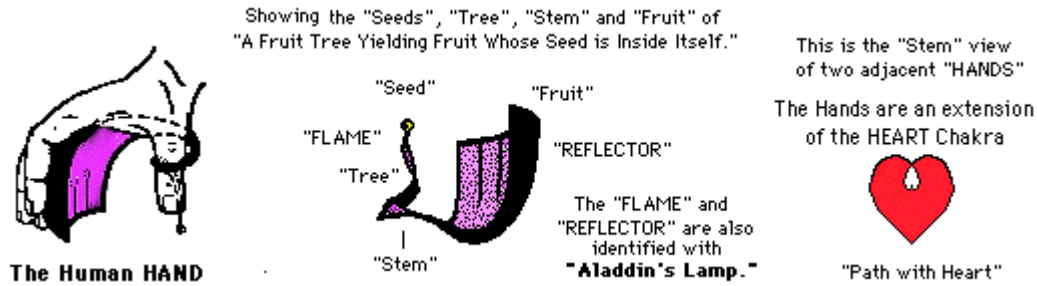
As we will see later, besides its traditional association with the heart Chakra, what is most astonishing about the vortex-shaped model HAND is its direct relationship to both our personal consciousness and to our cosmological model of Unity, Singularity and Wholeness.



TETRAHEDRON OCTAHEDRON CUBE ICOSAHEDRON DODECAHEDRON

Figure 4. Sample Platonic polyhedra based on drawings from Keith Critchlow's *Order in Space* [7].

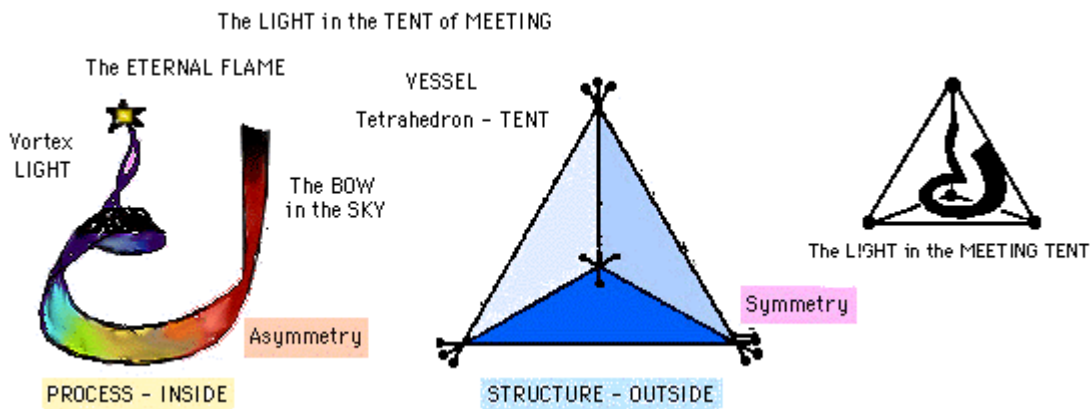
The HAND of NAKED RECURSION as the Flame of Consciousness



Traditionally mystics and Kabbalists have referred to the asymmetry vs. symmetry model of highest contrast as "Flame and Coal" (Absolute Unity can only exist when the "flame" is wedded to the "coal"),¹ the "Light in the

Meeting Tent," or, perhaps, in Plato as the "same (symmetric) and the different (asymmetric)" (although many other interpretations have been given for this phrase).

The vortex is the **FLAME**; the tetrahedron represents the **COAL**; together they are **UNITY**



- In Taoism "hyper-contrast" is modeled by the Yin-Yang symbol:



Figure 7

Many representations of ultimate contrast are variations of the Inside and Outside model. These include the hypercube and hypersphere which are

modeled by placing a small cube (or sphere) inside of a larger one. The In-Out direction models the fourth dimension.

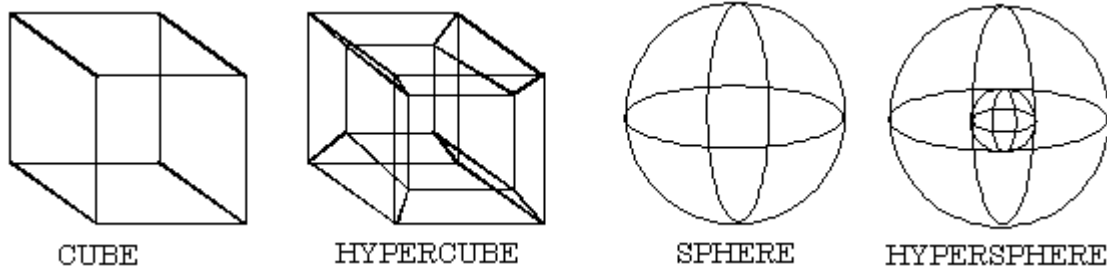


Figure 8. Following Eddington, mathematical philosopher Arthur M. Young points out that the *surface* of a 4-dimensional Hypersphere is the same as the *volume* of a solid Torus in 3-dimensions [9].

In living things the **Seed** is **INSIDE** and the **Fruit** is **OUTSIDE**, the **Sperm** is **INSIDE** and the **Ovum** is **OUTSIDE**:

- | | |
|-------------------|-----------------------------|
| Flame and Coal | Female and Male |
| Light and Vessel | Spirit and Matter |
| Seed and Fruit | Mind and Body |
| Wave and Particle | Transcendence and Immanence |

In these embodiments the asymmetrical dynamic element is conceptually **INSIDE** (Seed, Mind, Spirit) with its symmetrical projective complement **OUTSIDE** (Fruit, Body, Matter). See Note #2. There are very many other examples.

The modern physical concept of the complementarity of Wave and Particle as two mutually exclusive (highest contrast) aspects of all fundamental entities also models the **Inside / Outside** relationship.

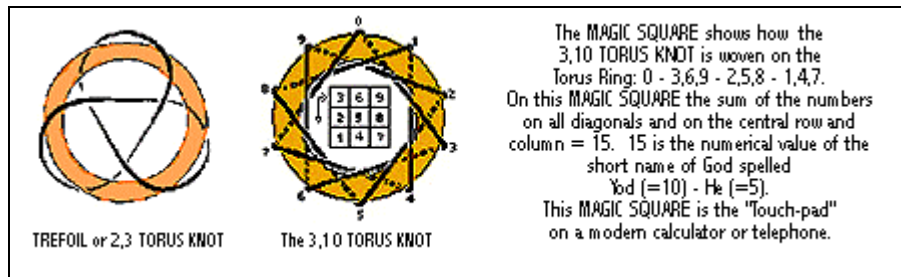
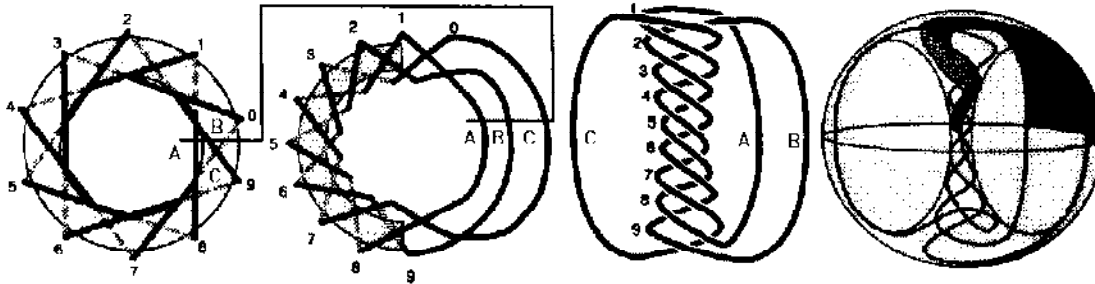


Figure 9

Mathematicians suggest that Singularities – formal mathematical definitions of Unity – can be modeled by Torus knots. Torus knots are simple "basket-weaving" or wreathes wound on rings. (See illustrations.) The simplest knot is also the simplest

Torus Knot. There are explicit vortex models based on particular Torus knots. The torus itself also defines the primary distinction between **Inside** and **Outside**.

Figure 11. Transition of the 3,10 TORUS KNOT from a ring onto a DIMPLED-SPHERE
 Break TORUS Ring and pull apart A, B, and C
 Showing 1 of 6 Human Hands
 (Darkest area, between windings)



The illustration of **Continuous Creation** on page 199 is an attempt to show how a range of spiritual metaphors from different traditions can be reconciled in one geometric model of the **High Contrast of Wholeness and Singularity**. It shows some of the names by which the DIMPLED SPHERE Torus is known in different cultures and spiritual traditions. In this model, Continuous Creation refers to the unbroken chain of life: ...Seed-Tree-Fruit / Seed-Tree-Fruit / Seed-Tree... It represents the reflexive self-organizing process that is the natural transformation and unfoldment of every "SEED" (Singularity, Tao, Sun) via its "TREE" (Unfoldment, Flame, World Mountain) into new "FRUIT" (Wholeness, Hand,

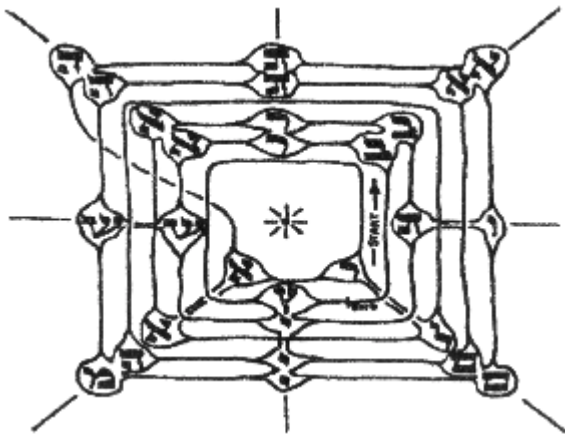
World) of its kind. It represents the general principle of the projection of life from life, endlessly. It is a model of one cycle of Singularity, Unfoldment, and Wholeness.

Continuous Creation represents the verse from Genesis (I,11) that is quoted in the introduction to the Sefer Zohar: "*Fruit tree yielding fruit whose seed is inside itself.*"

The IDEALIZED meditational "*Fruit tree yielding fruit whose seed is inside itself,*" in the form of a DIMPLED-SPHERE Torus, is defined by pairing off the letters in the first verse of the Hebrew text of Genesis.

It is the minimal, most compact and most elegant representation of the sequence of letters in the first verse.

Figure 12. Letter - pairing of Genesis 1.1 showing vortex form



The first verse of the Hebrew text of Genesis represents Naked (mathematically unadorned) Recursion (...acorn-oak-acorn-oak-acorn-oak....) in the form of a Human Hand.

- Perhaps the most startling quality of this HAND form of NAKED RECURSION is that when it is placed on our hand like a glove different gestures display all of the letters of the Hebrew Alphabet. The Arabic and Greek sacred alphabets are produced by a similar form.

The historical samples of the Hebrew Letters below are adapted from Reuben Leaf. [11] The column (next to the letter name) shows the form of the letter from the Elephantine Papyrus, circa 300 BCE. The other four samples are Merubah ("square-form") rabbinic script (often referred to as "Rashi" script) from Islamic Spain, circa. 1000-1300 CE. [11]

Photocopy reductions of actual photographs of various views (shadowgrams) of the same physical model hand are shown.



HEBREW ALPHABET HAND GESTURES

The Letter Blocks in this chart are arranged in AT-BaSh (traditional front-back) pairs.

 A	א א א א א "Ox;" "Master" ALL ALEF	 T	ת ת ת ת ת "Sign" ITSELF TOV
 B	ב ב ב ב ב "House" BREAK OUT BET	 S	ש ש ש ש ש "Tooth" SHINE SHIN
 C	ג ג ג ג ג "Camel!" COME and GO GIMEL	 R	ר ר ר ר ר "Head" REACHING RESH
 D	ד ד ד ד ד "Door" DIVIDE DALET	 Q	ק ק ק ק ק "Monkey" COPY QOF
 E	ה ה ה ה ה "Window" "THE" (GOD) HE	 Z	ז ז ז ז ז "Righteous" RIGHTEOUS ZADI
 F	ו ו ו ו ו "Pin" MULTIPLY VOV	 P	פ פ פ פ פ "Mouth" FULLNESS PE
 G	ז ז ז ז ז "Spear" GO OUT ZAYIN	 O	ע ע ע ע ע "Eye" GO IN AYIN
 H	ח ח ח ח ח "Fenced Field" SURROUND CHET	 S	ס ס ס ס ס "Support" SUPPORT SAMEK
 J	ט ט ט ט ט "Snake" COMPLETE TET	 N	נ נ נ נ נ "Fish" CONNECT NUN
 I	י י י י י "Hand" HAND YOD	 M	מ מ מ מ מ "Water" SOURCE MEM
 K	כ כ כ כ כ "Palm" HOLD KAF	 L	ל ל ל ל ל "Learn" LEARN LAMED

Body sketches courtesy of Karen Corty.
This is work-in-progress; continuing research
may suggest different gestures in some cases.

4-Historical Samples on left are Rashi-Nachmanides,
Sample on right is from Elephantine, ca. 300 B.C.E.

SHADOWGRAM
of MERU
MODEL HAND
Hebrew Name

HISTORICAL SAMPLES
"Name Meaning"
Operational Meaning

RIGHT HAND
CLOSE-UP
GESTURE
English
Operational
Equivalent



FIRST HAND
Right
Used to make
this chart:

ATBASH CHART 4 15jun9, © 1999 S. Tenen / MERU Foundation, POB 503, Sharon, MA 02067
Voice: 781 784-8902 FAX: 781 784-2955 Email: menu1@well.com Internet: http://www.meru.org



FIRST HAND
Left

Figure 13

Because we can feel the model HAND on our hand and because we can always "see" our own hands in our mind's eye, we can also see the model HAND in our mind's eye. Close your eyes and point to the ceiling. You will find that you can tell how your hand is oriented and where your fingers are pointing even with your eyes closed. Now open your eyes and confirm that your inner vision of your hand was correct. This means that each gesture that displays a particular letter in our hand also displays that letter in our minds.

Since letters generated by hand gestures can represent directions of conscious focus in our minds, a sequence of these letters can be used to specify and reconstruct a meditation. This may explain why certain Scriptural texts were canonized and why these letters are rightly called "sacred." Thus the same letter-signs are elements of both cosmology and consciousness at the same time.

Meru Foundation research has also shown that because the natural meaning of hand gestures is universal for all humans, [12] each letter displayed (and seen in the mind's eye) by each gesture has explicit meaning. For example, the name of the Hebrew letter Pe (Greek Pi, Arabic Fe, English "P") traditionally means "mouth" (or swallow, puff, or engulf). It can *only* be seen in the model hand when it is worn on our hand – *within the limits of motion of our arms and wrists* – when our hand points to our mouth, thumbs in, fingers flared, in a puffing gesture. Every other letter is similarly explicitly defined by the gesture that displays it to us. It is usually possible to "decipher" the operational meaning (not the idiomatic meaning) of root words in all languages (that can be phonetically related to Hebrew, Greek and Arabic) by examining the sequence of letters alone. (For further information, please see references to Meru Foundation presentations, below.)

There are many other examples we could suggest from every culture and field of study.

Finally, there is the Hebrew word for Unity ("one"): E-cHoD. It means "archetypal acuteness or sharpness." (Aleph – "archetype of"; cHet – "encompassing"; Dalet – "dividing.") By its exquisite singularity, E-cHoD represents the essence of "highest contrast." The so-called "credo of Judaism," the Sh'Ma (in the daily prayer book) states that "..., God is E-cHoD (One, exquisitely Singular)."

This ancient model of the Unity of physics and consciousness is also compelling and potent in a modern

sense. As physicist Nick Herbert notes in his discussion at the end of his book:

"One of the greatest scientific achievements imaginable would be the discovery of an explicit relationship between the waveform alphabets of quantum physics and certain human states of consciousness." [13]

- It appears that Abraham's model of the One-God and the Hebrew (Greek and Arabic) alphabet(s) that flow from it satisfy Professor Herbert's quest.

The perspective presented above suggests that we should not lightly dismiss the spiritual claims of our traditional religions. If we dismiss these teachings because they appear to be self-serving apologia presented by interested partisans, as has been suggested to me by friendly scholars, **then we are explicitly excluding the possibility that they have real meaning.** Whether or not spiritual discussions are often "damned by the faint praise" of faith, they must still be explored honestly. Those who have preserved and protected these traditions may not be the same persons who can make use of their content.

Although it is bound to be considered insulting (and thus to have no validity) by those who do not understand geometry and who therefore adhere to *exclusively* literal literary understandings of traditional spiritual traditions, there may in fact be no possible way to describe Exquisite Singularity without mathematics.

Although some sources insist that it is anecdotal, it is generally believed that over the entrance to the Platonic Academy it was written that:

“ 'Agewmetrhtoj mhdeij eisitw”

"Only he who is familiar with geometry shall be admitted here."

Our spiritual traditions are the vessels of our faiths. The function of these vessels, like nut-shells or seed-husks, is to protect the kernel with its germ of life, the flame, the hand of the transcendent, inside. If these vessels had not survived, there would be no hope for rebirth of the germ – the "light" – they carry.

Perhaps our presumption that our sages of the past were not really knowledgeable or wise has blinded us from seeing their knowledge and wisdom. The Abrahamic claim

of an exclusive, Singular and Unique One-God only appears to be prideful puffery when our sight is overly narrow and literal. We misinterpret our partial view of the "vessel." Once we are aware of the distinction between Inside and Outside, between "vessel" and "light," we can appreciate the true significance of the use of a real model of Singularity for the definition of the Oneness of God. [2]

Notes

Note #1

Kaplan's footnotes, from page 42 of *The Handbook of Jewish Thought* (Brooklyn, N.Y, Maznaim Publishing Co., ©1979):

32. Some say from the age of three; Nedarim 32a; Bereshith Rabbah 30:8, 64:4, 95:2; BaMidbar Rabbah 18:17; Shir HaShirim Rabbah 6:1; Esther Rabbah 6:5; Tanchuma, Lekh Lekha 3; Zohar 3:302a; Raavad. Avodath Kokhavim 1:3; Kesef Mishneh; Migdal Oz; Hagahoth Maimonith 1, ibid.

33. Such as by ridiculing and destroying his father's idols: Bereshith Rabbah 38:19; Tanna DeBei Eliahu Zuta 25 (57a).

34. Bereshith Rabbah 39:1; BaMidbar Rabbah 14:7; Yad Avodath Kokhavim 1:3; Beth Elokim, Shaar HaYesodoth 48.

35. Abraham was thus the world's greatest astronomer; Bava Bathra 15a. He is also the leading personage of his time; Kiddushim 32b; Rambam on Genesis 26:29, 40:14.

Note #2:

It is interesting to note that in most of these examples the positions of the complements could be reversed. For example, in our models the geometric structure (Coal, Vessel, Particle, Tetrahedron, etc.) is considered to be "male" because these structural elements, represented by polyhedra, are rigid, discrete, and logically precise, while the complementary process (Flame, Light, Wave, Spirit, etc.) is considered to be female because the vortex forms which represent the process are cyclic, continuous, and dynamic (or "emotional"). But it could be the other way around: The polyhedra could be seen as vessels and outside (like a womb) and thus "female" and the vortex forms could be seen as penetrating and inside (like a penis)

and thus "male." This is similar to how Yin and Yang continuously flow into and mutually define each other as each becomes the other.

4.0 Final Note

The ideas presented above are work-in-progress. There is much ancillary work that is not presented here and there is much work yet to be done; but hopefully this introduction has revealed an interesting relationship between the Hebrew alphabet and the cosmology of consciousness.

Appendix

Man Bites Dog

We are naturally curious about the unusual. The more unusual, the more interesting. Perhaps this is a product of our evolution where surprises - events that stand out in sharp contrast to the ordinary - are often threatening. We need to notice the wolf among the sheep because while the sheep are not threatening, the wolf may be.

Things and events that are unusual stand-out against a background formed of the ordinary and the usual. They attract our attention. Anomaly is thus an attractor, perhaps the attractor, for consciousness. The greater the anomaly the greater the attraction. Thus the greatest anomaly in the world having the *highest contrast* with the ordinary will be the most effective attractor of our consciousness.

As Prof. Roger Penrose points out [5], the source of highest contrast in our physical world is our hot, small sun in the cold, dark sky. Not only are all of the heavy elements needed for life produced in the nuclear furnaces of the stars, not only is our sun the source of the nuclear energy which warms our planet, not only is our sun the source of heat and electro-magnetism needed to drive physical processes in the solar system, but the hot, small sun against the cold, dark sky also provides us with the neg-entropic gradient - the information - needed for the self-organization of life.

While we receive energy as heat, light and electromagnetic radiation from the sun, neither we nor the Earth are net users of energy. We reradiate the energy we receive so as to maintain ourselves in energy equilibrium. If we did not, we would either heat up or cool down.

Professor Penrose has given us examples of the effects of high contrast at different levels of energy and information, and he has pointed out that it is not the energy, per se, but rather the neg-entropy, the information, we get from this high contrast, that enables life to self-organize and evolve. However, for our purposes Prof. Penrose does not go far enough. Since, as we are told, the neg-entropic gradient needed for the self-organization of life *is due to the difference* in entropy between

the relatively organized visible photons coming from the hot, small sun and the relatively disorganized infra-red photons our plants (and planet) re-radiate into the cold, dark sky, we might then speculate about the effects of an even higher source of contrast.

We know that contrast attracts our attention. And we know further that what catches our attention also engages our awareness and self-awareness. Our awareness and our self-awareness enable us to decide how we will act in response to what has attracted our attention. Thus awareness and self-awareness are also driven by high contrast.

But what high contrast are we discussing? The physical sun provides the highest possible contrast against the sky. The sun attracts the plants' attention because it nourishes the plants. At every level the principle of high contrast becomes more explicit. Instead of the nuclear furnace of any star, instead of even the energetic and neg-entropic gradient of our star against the sky, we need an even higher light to account for our self-awareness. We could account for the attractor that draws out and engages our attention, and our awareness, and entices our self-awareness to grow, by the discovery of an infinitely compact, infinitely distant, infinitely energetic and neg-entropic source - against a perfectly cold, dark sky. *By definition*, this ultimate, abstract idealization would provide infinite contrast.

If there were such an extreme contrast between exquisite singularity and all-encompassing wholeness, it alone would be the ultimate source and highest attractor of our awareness, our self-awareness, and our conscious will. What less infinite light could compete for our attention? We would look to this infinite-sun against the background of its infinite-sky for our spiritual growth from the physical plane just as a plant looks to the finite physical sun in its physical sky for its growth from the physical earth.

In the *Five Books of Moses*, there are two names for God. HaShem ("*The Name*" in Hebrew), also known as the Tetragrammaton (the "*Name-Of-Four-Letters*" in Greek), and often translated as "Lord", represents the *most compact* and Exquisitely **Singular** aspect of God, while Elokim, sometimes called the Five-Letter-Name (properly spelled with an *h* instead of a *k*), "God", represents the most expansive All-There-Is **Whole** aspect of God. The relationship between the complementary aspects of *Exquisite Singularity* and *All-There-Is Wholeness* is *defined* as infinite contrast. This highest contrast is also represented by the first letter, Bet (Bet = *house*, the distinction between inside and outside), of the Hebrew text of Genesis, from which the cosmos is said to unfold. In Kabbalah, the contrast of Absolute Unity in the context of Complete Wholeness is known as *Tzim-tzum*, "self-constriction," or compactness. In Kabbalah it is taught that creation *continuously* unfolds from the *Tzim-tzum* process. In

this philosophical context, the undeniable existence of our personal awareness, our self-awareness and our conscious will directly infers (but, of course, cannot prove) the existence of a *One-Whole* Lord-God.

References:

1. R. Aryeh Kaplan, *The Handbook of Jewish Thought* (Brooklyn, N.Y., Maznaim Publishing Co., ©1979, page 42.
2. Hugh A. Moran & David H. Kelley, *The Alphabet and the Ancient Calendar Signs*, (Palo Alto, CA, Daily Press, 1953,1969), pp. 13-31.
3. Anne Macaulay, *APOLLO: The Pythagorean Definition of God*, (West Stockbridge, MA, Lindesfarne Letter #14: Homage to Pythagoras, 1982), pp. 85-110, quote p. 108-9.
4. R.A. Schwaller de Lubicz, *The Egyptian Miracle*, (New York, Inner Traditions International, Ltd., 1985), p. 147
5. Roger Penrose, *The Emperor's New Mind*, (Oxford, Oxford University Press, 1989), chapter 7: The Arrow of Time, pp. 302-347, especially Fig. 7.7; pp. 317-322.
6. G. Spencer-Brown, *Laws of Form*, (New York, E.P. Dutton, 1979), from the Introduction: A Note on the Mathematical Approach, pp. xxix-xxx; chapters 1; 2, pp. 1-7.
7. Keith Critchlow, *Order in Space*, (New York, The Viking Press, 1970). This book catalogs and illustrates the regular and semiregular polyhedra and their relationships to each other.
8. David R. Blumenthal, *Understanding Jewish Mysticism*, (New York, Ktav Publishing House, 1978), from Sefer Yetzirah, Chapter 1, Mishna 7, translation, p. 17.
9. Arthur M. Young, *The Reflexive Universe, Evolution of Consciousness*, (Lake Oswego, OR, Robert Briggs Assoc., 1988), pp. 265-7. Highly recommended for understanding of the process of self-reference and its relationship to the torus. For more information on the work of Arthur Young, see the Arthur Young Website at www.arthuryoung.com
10. Ivars Peterson, *The Mathematical Tourist*, (New York, W.H. Freeman, 1988), Fig. 4.9, p. 96.
11. Reuben Leaf, *Hebrew Alphabets, 400 B.C.E. to Our Days*, (New York, Bloch Publishing Co., 1950, 1976). This book gives historical samples of the Hebrew Alphabet.
12. David McNeill, *Hand and Mind, What Gestures Reveal about Thought*, (University of Chicago Press, 1992).
13. Nick Herbert, *Quantum Reality, Beyond the New Physics*, (New York, Anchor Press/Doubleday, 1987), p. 249.
14. Meru Foundation materials - including a free introductory packet - are available directly from: Meru Foundation, P.O. Box 503, Sharon, MA 02067. Voice: 781-784-8902, FAX: (781) 784-2955, email: meru1@well.com, website at <http://www.meru.org>