



BORDERLANDS

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Tzolkin:

Visionary Perspectives & Calendar Studies

by John Major Jenkins



This article summarizes my recent book which will be published with Borderland Sciences Research Foundation this year. The word *tzolkin* refers to the sacred cycle of 260 days which is the centerpiece of a sophisticated calendar system developed almost 3000 years ago by the indigenous people of Mesoamerica. The Classic Maya civilization (200 A.D. to 900 A.D.) brought this system to its highest and most profound expression. They utilized the tzolkin cycle and the solar year cycle to predict eclipses, planetary motion, and to schedule agricultural activities. Overall, I feel that this subject, which I call "Mayan Time Philosophy", has been treated much too carelessly in the previous literature. The incredible properties of "Mayan Calendrics" could engender entire schools of thought. We read a lot of popular books these days about breakthroughs in glyph decipherment and the latest archeological excavation (Michael Coe's *Breaking the Maya Code*; Schele and Freidel's *Forest of Kings* and the recent *Maya Cosmos*), but many controversial and intriguing aspects of the tzolkin have simply been glossed over. My book, *Tzolkin: Visionary Perspectives and Calendar Studies*, attempts to fill this vacuum.

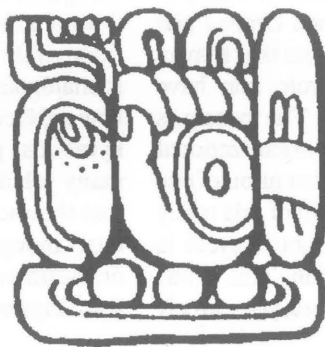
Tzolkin is divided into two sections, indicative of my dual approach to the Mayan Calendar: "Visionary Perspectives" and "Calendar Studies". The reasons behind the writing of *Tzolkin* are threefold. First, I feel a need to set the record straight concerning the correct correlation between the Mayan Sacred Calendar system and our own. In academic circles, there is a continuing debate between two proposed correlations. In the free-lance realm, independent researchers such as José Argüelles (*The Mayan Factor*) and Richard Balthazar (*Celebrate Native America*) have unaccountably gone ahead and contrived their own correlations. This is contestable because the Sacred Calendar is still being followed in the villages of Guatemala, by the descendants of the Classic Maya civilization which flourished some 1200 years ago. One of the characteristics of the tzolkin calendar — evidenced in the archeological record — is that it has been followed unbroken for over 2700 years (see Munro Edmonson's *Book of the Year*). In other words, the same sequence of 260 days, consisting of a combination of 20 day-names with 13 numbers, has been preserved throughout the entire range of Mayan history, up to the present day. Furthermore, this same count was shared by many different groups,

the Aztecs among them. This continuity is analogous to the preservation of the 7 weekday names in our Gregorian Calendar. In this system, the unbroken sequence of the 7 day-names, named after gods and goddesses and corresponding to the seven known planets, was always considered critical to the maintenance of time. The true sequence could never be broken for fear of upsetting the balance of planetary forces. Even at the Gregorian reform in 1582, in which 10 days were skipped, the weekday sequence was prudently left unscathed.

So the count still being followed in the Highlands of Guatemala, the last surviving flicker of an unbroken Sacred Calendar tradition almost 3000 years old, allows us to say that today, April 16th, 1994 is 5 Owl (5 Ajmac) in the ancient tzolkin calendar. The Quiché Maya daykeepers in Guatemala would agree. This corresponds with one of the proposed academic correlations mentioned above. The Argüelles and Balthazar counts are greatly different from this, and hardly deserve to be called Mayan or Aztec. I don't have any problem with independent researchers (I'm one of them) or even visionary speculations (my forté), as long as ideas are properly acknowledged for what they are. Disinformation about the true tzolkin (i.e., promoting the wrong count) is not exactly laudable. This is an important point if we are to act in solidarity with the present day Maya, whose traditions and, indeed, lives, are constantly being threatened by the dubious agenda of dominator culture.

So the debate between the two academically reconstructed correlations continues in some circles, even though one of them is directly supported by the Guatemalan Maya of today. I deal with this question, among others, in the Calendar Studies chapter of my book. This chapter provides a well researched and documented

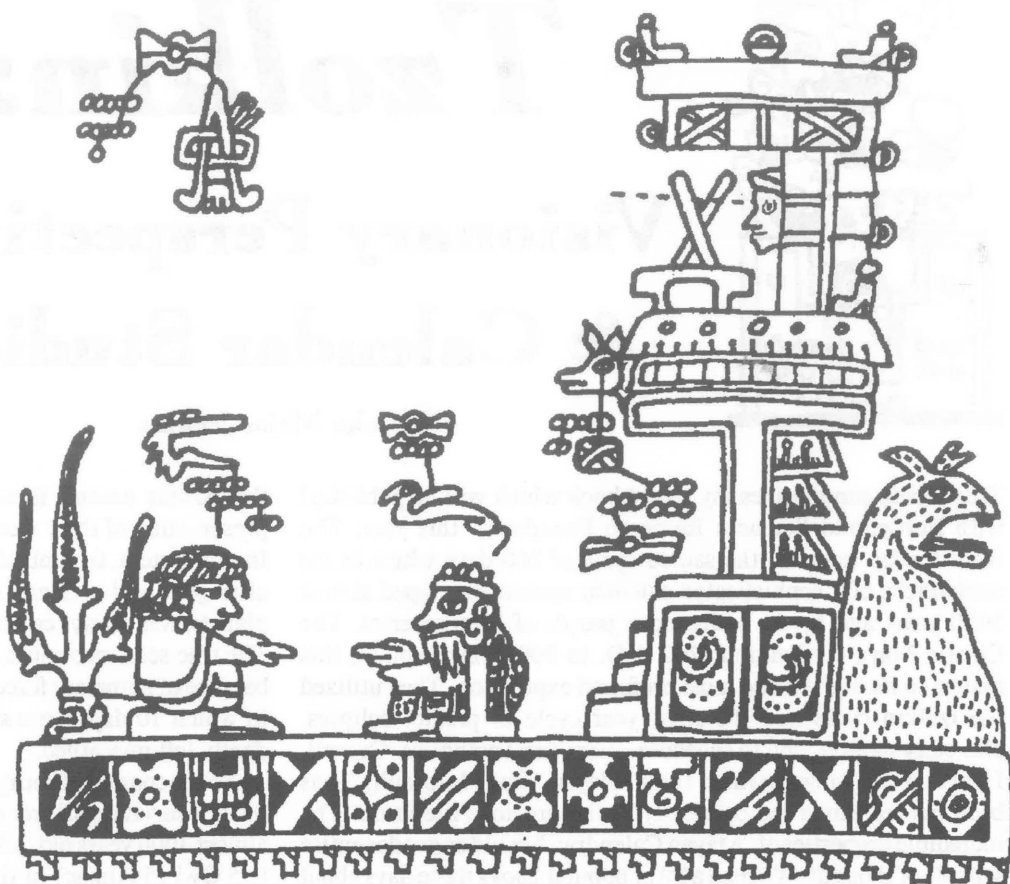
survey of the academic work done up to this time. As just mentioned, the correlation question is addressed. In addition, a "Calendar Basics" section is included here for the newcomer to the Mayan Calendar. The major offering in this part of the book is my reconstruction of the Mayan Venus Calendar. This is the second reason I wrote *Tzolkin*: to reconstruct and *reinaugurate* the ancient Venus Calendar of the Maya. Scholars have, in fact, reconstructed the Venus Calendar of the Maya, but haven't bothered to start it up again; to do this is considered irrelevant. But



I don't feel that it is irrelevant for the millions of Maya who still live in Mexico and Central America, nor for the myriads of knowledge seekers who are interested in what ancient civilizations can teach us. The problem is that the details of the Venus Calendar are complex and hidden in obscure journals, written in discipline-specific jargon. As a result the meaning and value of the Venus Calendar is shrouded. Since I have immersed myself in this field of inquiry for some years now, and yet am really just a regular guy, I have made a point to "distill" these academic studies into an accessible form.

The "key" to the Venus Calendar of the Maya is the 260-day tzolkin cycle. The framework of days created by the tzolkin cycle allowed the ancient Maya to predict exactly when Venus would rise as morningstar. The full "Venus Round" period created by the combination of tzolkin, Venus cycle and solar year, amounts to just under 104 years. Evidence concerning the details of this system are contained in the Dresden Codex, one of the few remaining Mayan books. It is generally agreed that complicated correction schemes kept the predictions very accurate, but the Venus Calendar fell into disuse sometime before the Conquest. My hypothetical reconstruction of this predictive system suggests that the next Venus Round begins on the traditional Sacred Day of Venus (1 Ahau) in the year 2001 A.D., when Venus rises as morningstar on April 3rd. The system proposed is an important exercise, for it endeavors to not only reconstruct but *perfect* the Venus Calendar of old. This system, regardless of the new corrective mechanism that I propose, is still basically the same one presented in the Dresden Codex.

One of the interesting things that I noticed from my charts and tables was a connection between the larger Venus Calendar cycles and the cycles of Neptune and Uranus. In other words, I discovered that the conjunction cycles of Uranus and Neptune, each lasting about 172 years, could be predicted using the Mayan Venus Calendar (specifically, 12 Uranus/Neptune conjunctions equal 20 Venus Rounds). These large rhythms are observed to relate to historical events, especially in Mesoamerica. Since Uranus and Neptune are not visible to the naked eye, this suggests that Mayan cosmo-conception, rooted in the sacred tzolkin cycle, may have applications beyond the borders of Mesoamerica. The system is probably better understood as an insight into the organizational tendencies within nature rather than the arbitrary invention of one cultural group. The philosophical implications of all of this really deepen when you remember that the 260-day sacred cycle is modeled after the 9-month cycle of human gestation. This is one of the data-bits often mentioned in academic literature, yet scarcely



dealt with. Many aspects of Mayan thought such as this alert one's intuitions and beg to be explored more deeply. And so the deeper meanings of Mayan Time Philosophy are addressed in the second half of my book under the heading "Visionary Perspectives." This third reason for writing *Tzolkin* involves giving voice to the visionary and intuitive approach in Mayan Studies. This perspective allows us to 1) gain insight into a certifiably Mayan worldview and 2) experience gnosis in working with the universal principles upon which Mayan Time Philosophy is based. In other words, in working closely with this system, one often realizes something about the nature of time and the cosmic order which is not specifically "Mayan" in nature. Subsequently, my book is in part a testimony revealing the insight-bestowing nature of the Sacred Calendar. And how is this?

Because the Mayan Calendar is rooted in certain universal principles, manifesting in human biological processes as well as the cycles of the planets, we may study these things with an eye toward gaining an understanding of the cosmos which is not exclusively "Mayan". The situation in Mayan Studies right now is analogous to the state of Egyptology in the 1870's. At that time, new artifacts and studies of the dimensions and ratios in the Great Pyramids painted a picture of the ancient Egyptians for which many scholars were unprepared. Ultimately, scholars admitted that the ancient Egyptians were much more advanced than previously thought, and indeed utilized an entire Sacred Science based on the universal principles of Sacred Geometry. These are wisdom teachings which we are still struggling to appreciate and under-

stand. So too, with the state of Mayan Studies, and that is why a "Visionary Perspectives" approach is valuable: to give voice to the hidden foundations of Mayan philosophy; to invoke ancient wisdom longing to return to the light of consciousness; to dust off the shrouded artifacts — the universal principles — hidden within Mayan cosmo-conception. Because appreciating this ancient cosmology has a lot to do with learning to perceive the world from viewpoints alien to our own, sometimes it's just a matter of looking very closely at facts previously dismissed out of hand. Take, for example, the fact that the tzolkin cycle — the critical "key" to a larger calendric system which can predict eclipses and planetary cycles — corresponds to the human gestation period. This should immediately alert our visionary sensibilities. What can this possibly mean?

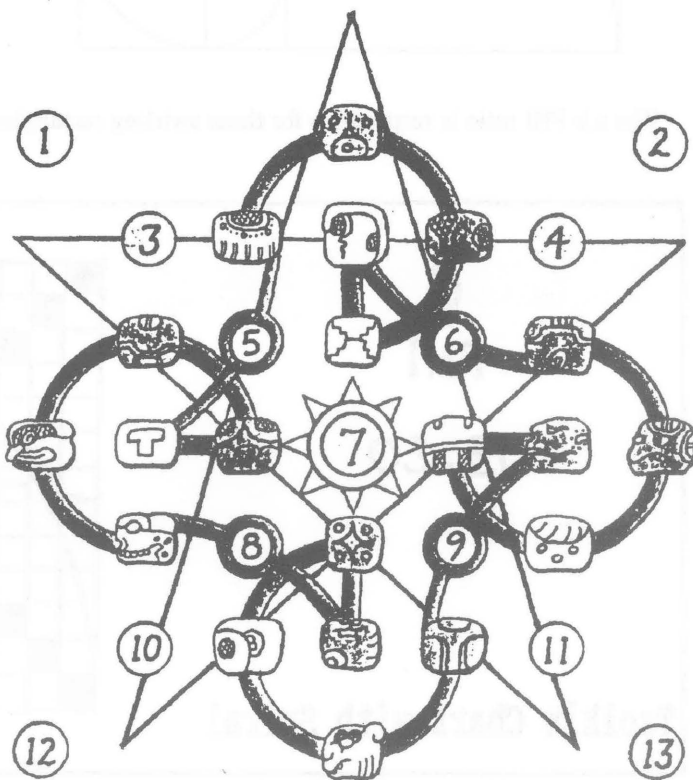
In general, the Maya recognized a connection between human cycles and planetary cycles. The easiest thing to do at this point might be to convince yourself that the Maya merely invented this system, in a somewhat arbitrary or haphazard way, thus dismissing closer inquiry. But at least we can say, if models must be made, that the Maya chose to create a very comprehensive and sophisticated system of timekeeping, being, and becoming. The scope of their "calendar" extends from the unfolding of flowers on earth to the conjunction of far-off celestial objects; from the microcosm to the macrocosm. And with human gestation as the prerequisite "key", humanity's place is to unite and mediate both realms. The calendar is, apparently, much more than a calendar.

To be more open to the deeper meanings of Mayan Time Philosophy, we can entertain the idea that perhaps the gestation-tzolkin-planet connection indicates that the Maya had discovered a principle within nature uniting the processes of heaven and earth. This would be a kind of "Mayan Unified Theory". The tzolkin cycle seems to be some kind of mytho-computer interface between external objective reality and the inner rhythms of human life. To observe that the first great cycle of human unfolding (embryogenesis) — and therefore a whole range of human rhythms from individual life transits to the ebb and flow of cultures — is intrinsically related to planetary cycles is to observe a very basic property of the cosmic order. Yet this kind of "as above, so below" statement, based upon observations of nature, is quite threatening to relativistic science. It points us right at astrology.

And now I need to backpedal a bit. Because the discussion of the tzolkin ultimately gets around to astrology, I begin the book with a treatment of this controversial topic. Due to common misconceptions, I thought it would be valuable to offer a more progressive explanation of astrology — something that goes beyond the standard "cause and effect" interpretation. This is nothing new, really, it just involves a more sophisticated terminology. "Causal thinking" simply can't account for the mysterious interconnections of astrology, and it also betrays our limited linear perceptions which require "cause and effect" postulates. To overcome this limitation, synchronicity is compared to the old god Causality. It becomes apparent that while causality certainly works for 3-dimensional physics, some kind of principle of affinity or correspondence is necessary to explain a whole range of human experiences in the realm of spirit or depth psychology. Synchronicity — an expanded definition of Jung's concept — is offered to explain affinities between apparently separate realms. For example: the

morphic similarity between trees and lungs, the correspondence between planets, metals, and parts of the human anatomy, and the correspondence between human biological cycles and planetary cycles. To paraphrase Ira Progoff's words in the book *Jung, Synchronicity and Human Destiny*, this all suggests a hidden ordering principle operative within nature; a mysterious principle of correspondence drawing together phenomena in acausal ways. What emerges is a dawning understanding of a very different world-view, a symbolic intelligence, one probably shared by many ancient civilizations, which directly perceives that sky and earth are really interwoven. A causal explanation of how they are related is only necessary to the culture that has lost the original vision of wholeness. To posit a causal base for astrology is missing the point. Thus, the elevation of the tzolkin to its central position in Mayan Time Philosophy is a testimony to the comprehensive vision of a people from which we can still learn much. And comprehensive vision — the wholistic perspective — may be much more important than the scrutinizing deconstructionism of our present world-view. Indeed, since the ruling paradigm of "separation of mind and nature" has joined with the politics of industrial capitalism to produce some startlingly foul fruits, to realize that mind is, in fact, inseparable from nature may be our only hope.

Let's get back to the specifics of this "mind-nature" link-up. My work proposes that the Maya discovered and incorporated universal principles into their calendric philosophy. Perhaps I should be a little less cryptic and explain exactly what I mean. The Golden Proportion is a unique ratio responsible for the generation of self-same similarity in nature. "Self-same similarity" refers to an organism or process which replicates itself based upon its previous form. For example, seashells or pine cones tend to grow by replicating the same pattern over and over; these forms are typically spiral shaped. But self-same similarity is not limited to

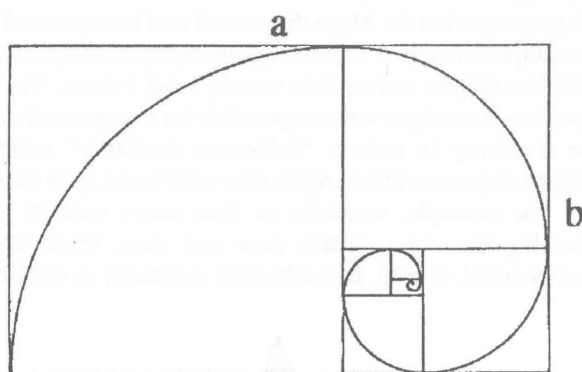


spirals. Tree branching, human reproduction and cell mitosis are processes ruled by self-same similarity. The specific mathematical growth pattern followed in these processes is governed by the Golden Proportion (symbolized by the Greek letter ϕ ; PHI). The Pythagorean school of thought believed that the celestial order was determined by the Golden Proportion. It is also one of the foundation principles of ancient Egyptian Sacred Science. Not surprisingly, this universal principle can be found everywhere. The navel bisects the human body into a PHI division; 89 clockwise and 55 counterclockwise seeds in the head of a sunflower approximate the PHI ratio, which is 1.618. Perhaps the simplest demonstration of the nature of the Golden Proportion is when you divide a line into mean and extreme PHI sections:

$\phi = 1.618$ or $.618$; the proportional relationship of both to 1 is the same



a is to b as a+b is to a
 $b \times 1.618 = a$; $a \times 1.618 = a + b$



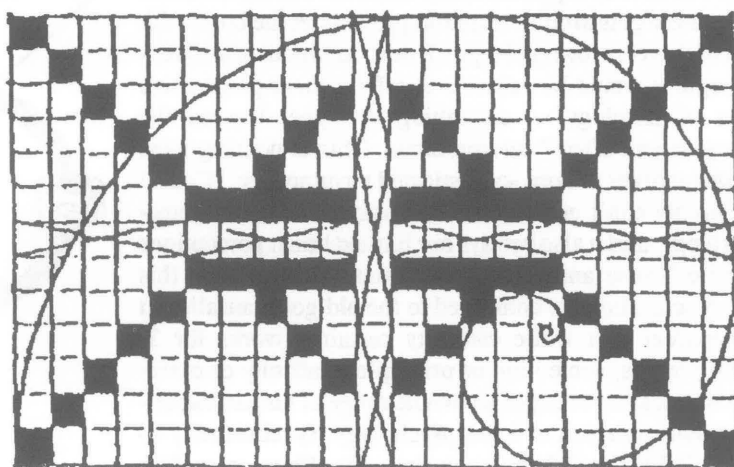
The a:b PHI ratio is responsible for those swirling rectangles

I argue in my book *Tzolkin* that the Golden Proportion is at the core of the tzolkin's mathematical and philosophical dynamics which connect human unfolding with the planets (the subject-object interface). This is primarily because 13:20 (the two core numbers of the tzolkin) approximates ϕ , and $100\phi^2 \approx 260$. The equation must also take into consideration the existence of functional similarities between gestation, ϕ and the tzolkin (namely, unfolding and replication via self-same similarity at successive generations). In this way the Golden Proportion, like the tzolkin, provides a connection between organic spirals in nature (including the "spiral-unfolding" of gestation), and planetary cycles such as the 5:8 Sun/Venus ratio. For readers unfamiliar with this amazing fact, this is just to say that Venus passes through exactly morningstar risings every 8 years. 5:8, like 13:20, is a PHI ratio. The actual movements of Sun and Venus, easily observed in the sky, mirror in principle the organic growth of life on earth. This describes the paradigm which many ancient cultures found self-evident, that the "microcosm reflects the macrocosm." It is a paradox that our otherwise highly advanced culture has such a hard time with this that it needs to be demonstrated via mathematical and philosophical arguments.

So the Golden Proportion is one of the "universal principles" which the Maya seem to have intuited and incorporated into the structure of the tzolkin calendar. This is the central insight opening the way to a more detailed discussion of the "core principles" of Mayan Time Philosophy. That these "core principles" are universal is, in itself, a breakthrough in our understanding of the Mayan calendar.

There are many, many topics covered in the "Visionary Perspectives" chapter. These include: Numerology, the 13 numbers and 20 day-signs, the Mayan 13-sign zodiac, the Golden Proportion and the tzolkin, natal horoscopes for Pacal, Shield Jaguar and other Classic Period rulers, the Popol Vuh creation book of the Quiché Maya, the hero twins Hunahpu and Xbalanque and the moon cycle, Argüelles' Harmonic Convergence and Dreamspell Mayan Goddesses and Uranus/Neptune conjunctions in Mesoamerican history. I also conceived *Tzolkin* as a kind of database for future students of the Sacred Calendar, and therefore

ϕ
 PHI
 13:20



Tzolkin Chart with Spiral

provide many useful tables. These include: Glossary of terms, dates for Venus emergences for over 600 years, day-sign concepts in 24 different Indian groups, a simple method for calculating tzolkin dates for some 8000 years, and practical day-to-day reference calendars up to the year 2013 with which you can track the tzolkin in solidarity with the present day Maya.

For readers interested in hardware applications of ancient science, it just may be that studies of Mayan mathematics and philosophy will lead to a new and progressive understanding of universal principles. For example, the entire revelation of the Golden Proportion within Mayan Calendrics. Despite its amazing qualities, the Golden Proportion seems to have played an overly marginal role in the development of technology. So in terms of hardware applications of the PHI principle, could experimental motors or engines constructed with PHI ratios in mind yield unusual results? And one might imagine nanotechnological devices or superconducting generators built according to the Root Principles of Egyptian Sacred Science. The field is open.

In summary, there are three major goals which inspired the writing of *Tzolkin*:

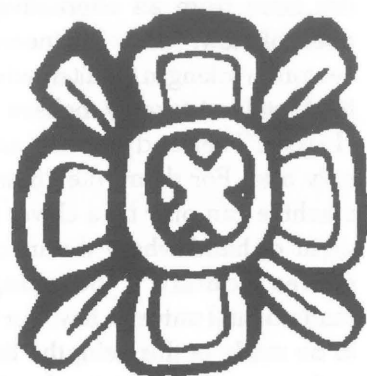
1) To clear up the disinformation concerning the correlation between the tzolkin calendar and the "western" Gregorian Calendar.

2) To reconstruct, perfect, and reinaugurate the ancient Venus Calendar of the Maya. The next Venus Round period of 104 years

is determined to begin on the Venus morningstar rising of April 3rd, 2001 A.D. This is on the traditional tzolkin date 1 Ahau according to the unbroken ancient count of days, still followed by the Maya of Guatemala.

3) To promote a "visionary" approach to give voice to the profound implications within Mayan Studies not usually addressed, suggesting as a result that Mayan Time Philosophy is a gnostic path to true understanding of universal principles.

This brief article can only provide glimpses of the ground covered in *Tzolkin*. Many original ideas are presented, some of which threaten to redefine how we are to approach studies of the Sacred Calendar. I am open to receiving criticisms, counter-arguments and feedback from readers of all backgrounds. Overall, I hope this book will open a new era in Mayan Calendar Studies; one that rests on thorough, accountable research yet highlights the universal core principles of Mayan Science which are capable of bestowing a profound understanding of the cosmos and humanity's place in it.



Mayan Calendrics Computer Software

Program: Mayan Calendrics, V3.3 Runs under: MS-DOS
What it does: Allows conversion among tzolkin-haab, long count, Gregorian and Julian dates and astronomical Julian day numbers. Permits specification of correlation number, year-bearer system and first day of the month (0 or 1). Author: Peter Meyer Publisher: Dolphin Software

"The program has already been of great help to me in checking the calculations on the texts from my site, Rio Azul... Congratulations on working out a very useful program." Professor R. E. W. Adams, Professor of Anthropology, The University of Texas at San Antonio

"Dolphin Software offers the best available computer software which correlates the tzolkin/haab and Long Count with Gregorian and Julian calendars. I highly recommend it to all students of calendars, time, the Maya, Aztecs and history in general. Using it has really been for me like using a crystal ball — one really can get a feel for the subtle rhythms of the Sacred Calendar." John M. Jenkins, *Tzolkin*

This software is indispensable for Maya scholars and for anyone interested in the Maya calendar. It converts dates in the Maya calendar to and from Western dates. Maya dates may be either dates in the sacred and civil calendars (the so-called tzolkin/haab dates, for example, 13 Imix 19 Kayab) or long count dates (for example, 9.9.16.0.0). Western dates may be expressed in either the Gregorian calendar or the Julian. A date

expressed in any calendrical system is automatically converted to dates in all the others (and to the astronomical Julian day number). Arithmetic operations with long count dates are supported.

Mayan Calendrics uses the correlation number (the Julian day number of 0.0.0.0.0 4 Ahau 8 Cumku, which determines the relation between the Maya and Western calendars) recommended by Sir J. Eric S. Thompson, but allows use of any desired correlation number. The software also allows use of different year-bearer systems (three different year-bearer systems were used by the Mayas at various times and places) and allows specification of the number (0 or 1) of the first day in the Maya haab month. It may thus be used with Maya dates from the Dresden, Paris and Madrid codices and with dates from other sources.

When a tzolkin/haab date is entered the software displays which year-bearer systems it is consistent with, and allows identification of all Western dates within a given range of years which correspond to that tzolkin/haab date.

Mayan Calendrics has detailed help and information screens, optional output to printer or disk file and comes with a 37-page explanation and commentary. A 110-item bibliography is included. The software runs on both color and monochrome PCs with DOS 3.00 or later. Price: \$69.00 (plus \$4.00 shipping) from Dolphin Software, 48 Shattuck Square #147, Berkeley, California 94704, phone 510-464-3009.

THERMODYNAMICS

The mainstream scientific community dismisses the idea of "Free Energy" or "Over-Unity" machines because they say that the behavior of such machines violates the "Second Law of Thermodynamics." The purpose of this article is to squarely face this issue from an alternative science point of view. Many engineers and inventors, working in the alternative energy field, still mistakenly believe that the "Laws of Thermodynamics" are universally true. For them, the "free energy" machine can only be a clever scientific slight of hand where the machine becomes "outlaw", breaking some fundamental universe law. For progress to be made in this field, the limitations and errors inherent in the "Laws of Thermodynamics" must be exposed. Only then will people realize that scientific experimentation is the only reliable tool for revealing the behavior of physical reality.

In order to bring this about, it will be helpful to quickly review some of the pivotal historical events which helped shape the modern scientific era with regards to thermodynamics. Before the year 1800, perpetual motion machines were considered possible and heat was not regarded as a form of energy. Both of these long standing assumptions, dating back thousands of years, were effectively toppled by the ideas of Hermann von Helmholtz in 1847 when he *postulated* that since no one had ever been able to build a working perpetual motion machine, that just probably, it was not possible. In order to deny the possibility of perpetual motion and hold the argument together, he had to assume that energy in the system was being **conserved**. It had long been observed that mechanical devices could not transfer energy perfectly. There was always some friction in the working parts. Friction was not only known to impede the transfer of energy in the machine, but it was known to produce heat. In order to simultaneously explain the work loss and the heat gain, so

that **conservation** could be satisfied, Helmholtz postulated that heat was a form of energy consisting of a small, random motion in the molecules of matter. He went on to speculate that the loss of work in the machine as large scale motion was still present as heat in the small scale motion of the molecules in the material the machine was made of. He suggested from this that both the heat and work must be considered energy, and that it was the total that was **conserved**, rather than the heat or work separately.

By 1850, Rudolf Clausius was able to synthesize the work of Helmholtz, James Joule, Sadi Carnot and others to express a generalized statement that has become known as the "First Law of Thermodynamics." It states that "energy can be changed from one form to another, but it is neither created nor destroyed." By the time this thought became universally believed, it had totally transformed the intellectual landscape of mechanics, physics and energy dynamics. This was a clean break from the set of thoughts and assumptions that had come forward from antiquity. A new era in science had begun.

In understanding these historical developments, it is important to realize that besides the new theoretical explanation about the

nature of heat, all of the other data that led to the new theoretical generalizations were derived experimentally. This can be illustrated by an observation made by Sadi Carnot in his extensive work regarding the behavior of heat in machines. He states that "in all cases in which work is produced by the agency of heat, a quantity of heat is consumed that is proportional to the work done; and conversely, by the expenditure of an equal quantity of work, an equal quantity of heat is produced." This statement by Carnot was based on hundreds of experimental measurements. After such convincing experimentation, it was not unreasonable for Clausius to conclude that heat could be converted into mechanical work. It was, however, a theoretical leap of logic to conclude that energy, in general, could be changed from one form to another.

Before we go on, it is important, for our purposes, to be reminded that this new idea expressed as the "First Law of Thermodynamics" consists of a number of overlapping ideas and assumptions that can be expressed as follows:

- 1) Perpetual motion machines are impossible
- 2) The nature of heat is reduced to the random motions of molecular matter
- 3) Energy can be changed from one form

& FREE ENERGY

by Peter A. Lindemann

to another without any explanation as to how this conversion is actually accomplished in any specific case

- 4) Energy is not created in or destroyed by its passage through a mechanism
- 5) All forms of energy behave the same way

All of these ideas are fundamentally inherent in "The First Law of Thermodynamics." From an alternative science point of view, the experimental work of Carnot and Joule will stand for all time. It is the *intellectual overlay* of Helmholtz and Clausius, on this experimental work, where the problems are introduced. The theory of **conversion** and the ideas about the nature of heat will be taken up again later in this article, after more ground work has been laid.

The "Second Law of Thermodynamics" evolved out of further studies of the behavior of heat in closed systems. Remarkably, there is no one statement that is universally recognized as the definitive expression of this so called "Law." Among the more popular statements which reflect the general understanding of the "Second Law of Thermodynamics" are the following: "In a closed system, entropy does not decrease", "The state of order in a closed system does not spontaneously increase without the application of work", "Among all the allowed states of a system with given values of energy, number of particles and constraints, one and only one is a stable equilibrium state", and "It is impossible to construct a device that operates in a cycle and produces no other effect than the production of work and exchange of heat with a single reservoir." For those who can fathom the language, these statements clearly do not all express the same idea. Some have broad ramifications while others are more narrowly defined. All of these statements grew out of the idea, expressed fairly well as the last statement in the series, that a perpetual motion machine could not be made that operated on the principle of a work/heat exchange when this process was limited to a known quantity of heat at the start. After that amount of heat was **converted** to work and the tempera-

ture of the reservoir was reduced to the ambient temperature outside, no further work could be expected to be produced. This is not only reasonable, but it is backed up by thousands of experiments. As long as the "Law" is clearly and narrowly defined as a statement that reflects upon the behavior of heat in closed systems, this author has no problem with agreeing completely.

Problems arise, however, with some of the more generalized interpretations of the "Law" such as "the state of order in a closed system does not spontaneously increase without the application of work." In order to

Researchers in the "free energy" field should not concern themselves with the outmoded ideas presented as the so-called "Laws of Thermodynamics". They embody an erroneous concept of mechanical universe that mysteriously burst forth as a fully wound spring that has been unwinding ever since. It is a lifeless, empty vision that ignores the Source of the energy it started with and closes the minds of its adherents to the solutions at hand.

understand why this statement is not universally true, it is important to clearly define our terms. We must understand what is meant by the "state of order" in a system, and we must define the boundaries of the "closure" of that system. In the first case, the "state of order" in the system is generally regarded as the temperature.

Understanding this, we can rephrase this statement to say, that in a thermally isolated enclosure, the temperature will not increase unless work or energy is added to the system. Here again, by clearly defining our terms, and limiting the discussion to heat and work, we have a universally true statement backed up by mountains of experimental data. If, however, we define the "state of order" as a generalized "quantity of energy", and we further define the "closed system" as the Universe, we are led to believe that under no circumstance is it

possible to create a condition where the concentration of energy will increase spontaneously. This is not true!

While it should be understood that most known chemical processes, standard electrical equipment and heat generally do behave this way, the Etheric Energy Field of the planet does not. The Etheric Energy Field behaves in direct opposition to the more generalized understandings of the "Second Law of Thermodynamics" and this fact is backed up by considerable experimental data. One of the best documented examples of this is the spontaneous temperature rise observed in the "orgone accumulator", invented by Dr. Wilhelm Reich in 1940. Here, a simple enclosure made of alternating layers of organic and inorganic material, allows the ambient density of the Etheric Energy Field to become more concentrated in the local area, *without* the application of work. This new and higher energy concentration is then reflected as a spontaneous rise in temperature. This situation does not break the "Second Law" in the narrow case, because we admit that new energy is entering the system. It does break the "Second Law" in the general case because this energy is entering without the appli-

cation of external work. Reich's accumulator was designed as an attempt to shield and isolate this energy from its presence in the environment. His data clearly showed, however, that he was not able to isolate the energy effects inside the accumulator because the Etheric Energy Field easily penetrated the walls of the enclosure. He eventually realized that with regard to Etheric Energy Fields, it was impossible to "close the system" in the local sense. This is important to understand because it directly refutes the assumption that the universe consists only of closed systems at all levels of activity.

Here then is a major problem with how the scientific community regards the "Laws of Thermodynamics." When the discussion is limited to the behavior of heat in closed systems, the "Second Law of Thermodynamics" is a well tested and accurate description of what happens under those

circumstances. It is when it is incorrectly assumed that all forms of energy behave this way and that enclosure of the system is possible at all levels, that grossly false conclusions can be drawn from what started out as experimentally derived observations. The scientific community-at-large obviates these problems simply by denying the existence of the Etheric Energy Field because it doesn't fit within their intellectual model. Unfortunately for them, the mounting experimental evidence is making this increasingly hard to do.

Certainly, the best evidence to date of the existence of the Etheric Energy Field and its capability of being drawn to high concentrations without the application of work is demonstrated by the Etheric Weather Engineering techniques developed by Trevor James Constable and his Atmos Engineering group. As a member of this group, I have personally seen how simple Etheric Energy projectors, that do no work in the classical sense, can cause the etheric potentials in the atmosphere to rise to such high concentrations that millions of gallons of water will precipitate from the air for hours at a time.

When these Etheric Energy projectors are motorized, they draw a few hundred watts of electric energy. If the rain produced is dropped behind a dam and then released through a hydroelectric turbine, the electrical energy gain in the system can be enormous, on the order of 100,000 to 1. This method of creating "free energy" is a practical reality today. While I know of no community using this method for supplying its energy needs, it is eminently practicable. This example is theoretical in the sense that it has never been done, but it is a good model of other "free energy" systems under development around the world today.

Because the input to motorize the Etheric Energy projectors is electric and the output from the hydroelectric generators is electric, many people might mistake this for a so-called "over-unity" system. There is nothing "over-unity" about this situation. Each and every component of the machinery used in this system has operational and frictional losses. The energy tapped by the system is the atmospheric ether and all of the energy gain in the system occurs outside of the equipment. The fact that a small electric input yields a huge electric output does not mean the system is operating "over-unity."

The problem with the "over-unity" concept goes back to the "First Law of Thermodynamics" and its inherent idea about the ability to **convert** one form of energy into another. This assumption includes the idea that these various **conversions** are accomplished at known and accepted rates of exchange. The idea of *efficiency* of conversion requires that the various rates of exchange are fixed and act as an upper limit for the calculation of a ratio that approaches one (100%) where the numerator of this fraction is the "output" and the denominator is the "input." Since it is generally agreed that every machine experiences so-called losses, the idea that this ratio could be greater than one is, of course, ridiculous. This, coupled with the assumption in the "Second Law" that all energy systems are closed, (meaning that no new energy can enter the system in-between the "input" and the "output") makes the idea of an "over-unity" system even more impossible than a mere perpetual motion machine. The line of logic embodied in the "Laws of Thermodynamics" is flawless. The problem doesn't exist in the logic, but it does illustrate that logic alone is not enough to reveal the truth. The problem exists in certain interpretations of these "Laws." Let's go back and look at the "First Law" again in light of our "over-unity" discussion. "Energy can be changed from one form to another, but it is neither created nor destroyed." This seems simple enough to understand. Underneath the surface, however, there is an assumption that this also means that energy will not spontaneously appear or disappear from the system. This is also a necessary condition if **conservation** of energy is to be satisfied **LOCALLY** as well as **UNIVERSALLY**.

This discussion becomes relevant, for instance, in describing the operation of the rotating magnet generator, the so called N-machine or Space Power Generator (SPG). Most of the important work in this field has been done by Bruce DePalma and Paramahansa Tewari. The following is a brief summary. The rotation of the magnet sets up two force fields that act at right angles to each other. These two force fields are the radially distributed inertial frame of space (centrifugal force) and the intersecting axially distributed magnetic field of the rotating magnet. The area of magnetized, polarized, inertial space appears to open up a region through which new energy can enter the

system. When careful measurements are taken of current flows in the generator and in the external circuit, evidence suggests that electric charges are appearing at the periphery of the generator and disappearing at the center of the generator that do not actually *pass through* the generator. This experimental finding may explain why this configuration of electric generator experiences less mechanical drag than standard generator designs for each unit of electrical output produced. While energy is probably not being created or destroyed in the universal context, it is apparently appearing and disappearing from the machine during operation in the local space. This extra energy can be used to produce useful work in external circuits. Tewari has shown that twice as much hydrogen can be generated from an electrolysis cell run from the output of a SPG than if the cell is run directly. It is impossible to rationalize the behavior of this style of electric generator with the ideas of simple **conversion** and local **conservation** as they are postulated in the "First Law of Thermodynamics."

In a standard generator, if all losses are ignored for the moment, conventional theory says if 550 Ft-Lbs of work are applied to the input shaft in one second, 746 Watts will be delivered at the output. If I blindly believe that the generator simply has the mysterious ability to **convert** the mechanical energy into electrical energy, I don't ask the following questions: what is the mechanism of this conversion?, where does the torque go?, and where does the electrical energy come from? The apparent observation that the generated current produces a motoring effect that opposes the input torque should not be interpreted as a vindication of the conservation rule, but as an admission that this is an inefficient way to generate electricity. The Space Power Generator experiences far less drag per unit of electrical output than a standard generator.

This opens up a much larger discussion about the validity of the **conversion** idea all together. Are there actual and universal equivalents between the various forms of heat, mechanical work, and electricity? At this point, all we know for sure are the various measurements that have been taken from the devices that demonstrate these energy translations. For instance, in 1845, James Joule found that if he placed a small paddle wheel in a bucket of water, he had to

apply 772.5 foot-pounds of mechanical work to spin the paddle wheel to raise the temperature of one pound of water, one degree Fahrenheit. This has led to very careful calculations that now set this "universal conversion" between mechanical work and heat at 778.26 FT-Lbs = 1 BTU. For paddle wheels in water, this is no doubt true. But what happens if paddle wheels are not used? Is there another method that does not use paddle wheels in water to **convert** mechanical work to heat that does the job better, with less expenditure of work for the same heat gained? The answer is yes. In fact, there are numerous patents on record to accomplish this. One uses rotating parallel disks, not unlike the design of Tesla's turbine, to heat water with less than half the mechanical expenditure.

Once again, we have entered a new scientific era where the exact equivalence between mechanical work as foot-pounds, electrical work as watt-hours, and heat work as BTU's **is not known!** A wide variety of physical experiments have demonstrated a broad range of differing energy translation effects. The intellectual edifice of Clausius' **conversion** idea is crumbling, and no one should allow their thinking to be constrained by it any longer. The results of physical experiments have all but disproved it. The "First Law of Thermodynamics" should be seen only as an outmoded, intellectual MODEL that is not supported by all of the experimental data. Likewise, the idea of "over-unity" should be abandoned by those working on "free energy" systems as it is an intellectual contradiction based both on the belief in **conversion** and the ability to circumvent it. 'Over-unity' is an oxymoron that should be removed from the vocabulary of the alternative science community.

This brings me back to the other problem presented earlier, namely, the nature of heat itself. Is heat, as Hermann von Helmholtz suggests, simply the random motion of molecular matter, or is it something completely different, whose presence causes molecular matter to exhibit random motion? This is a very long and involved exploration that has already been handled masterfully by Rudolf Steiner in March of 1920 and published as his *Warmth Course*. I will summarize some of these ideas briefly.

The ancient's believed that there were four "elements" that all physical reality was

composed of. These were Earth, Water, Air and Fire. In modern language, we can restate this as follows. There are four "states" that all matter appears as. These are solid, liquid, gas and heat. From an etheric science point of view, heat is the fourth state of matter and the transition state between matter and ether. Here is why. The only difference between the appearance of ice, water, or steam, for example, is its temperature or internal heat condition. Heat is absolutely fundamental in all considerations regarding matter because a change in heat

"Over-unity" is an oxymoron that should be removed from the vocabulary of the alternative science community.

is the only element required to bring about a change of state from solid to liquid or from liquid to gas. In solid matter, the "atoms" are very close together and they bind each other in a way that allows them to hold their shape without being in a container. Heat can be added to the solid and its temperature will rise, correspondingly, until the melting point is reached. At this point, adding more heat does not raise its temperature, but rather causes the material to change state as the solid melts into a liquid. Once all of the material is liquefied, adding more heat once again causes the temperature to rise. In liquid matter, the "atoms" are less close together and they bind each other in a way that allows the liquid to take the shape of whatever open topped container it is put in. As more heat is added to the liquid, the "atoms" move farther apart until the boiling

point is reached. At this point, once again, adding more heat does not raise its temperature, but rather causes the material to change state as the liquid boils into a gas. Once all of the material is gaseous, adding more heat once again causes the temperature to rise. In gaseous matter, the "atoms" are so far apart that they will hold no shape at all and can only be contained by a complete enclosure. As more heat is added to the gas, the "atoms" become so dispersed that eventually, all that is left is the heat. The relationships between heat, temperature, matter and state are quite complex and cannot easily be reduced to simple explanations. Steiner's explorations of these relationships go into great detail, forming a seamless line of logic, backed up by a great deal of experimental data. Anyone interested in the nature of heat should study Rudolf Steiner's *Warmth Course*.

While this may make no sense to people trained in mechanistic thought processes, it is much closer to the truth about heat than the ideas of Helmholtz, with which Steiner was completely familiar. Helmholtz's idea that the nature of heat can be fully described by the random motions of molecular matter is far too simplistic. It ignores many of the well known behaviors of heat and matter as well as the existence of the Etheric Energy Field. It should be considered an "interesting" historical attempt to describe heat that is not supported by all of the experimental data.

For those who are not familiar with etheric science, it might be useful to review some of the characteristics of the Etheric Energy Field at this time. The Etheric Energy Field is made up of an extremely fine, mass-free fluid. Its activity can be divided into four main levels. These different aspects of the Ether have been called: the Warmth Ether, the Light Ether, the Tone (or Chemical) Ether, and the Life Ether. The Etheric Energy Field, as a whole, penetrates all matter, flows around and through the planet in well defined ways, exhibits elastic characteristics, and spontaneously moves from low concentrations to high concentrations before discharging. Understanding all of these factors has made engineering the weather a practical reality today. Many other amazing technologies also become possible when the ether is fully understood. Likewise, many aspects of today's science that are still confusing eventually become clear.

One area of the greatest confusion lies in

the field of electrical science. The entire study of what has been called "static electricity" is just a confusing encounter with the Light Ether as it behaves under certain circumstances. When fully understood, so-called "static electricity" will be seen to be neither static nor electricity. Normal electricity always flows from high potential to low potential and usually requires metallic conductors to flow along. On the other hand, "static electricity" does not discharge in the same way, and readily moves and collects on both conductors and insulators. Because "static electricity" behaves more like ether than electricity, I am going coin a term for this form of energy when it is present in wires and circuits. I call it "ETHERICITY", to distinguish it from electricity all together.

In some ways, ethericity behaves like electricity and in some ways it behaves differently. This has been the source of confusion. Up until now, most people have thought that there was only one kind of energy moving in electrical style circuits. This can now change. Electric appliances are designed to run on the discharge of electric potential from high to low, as in the draining of a battery to power a load. Properly designed circuits employing ethericity run the appliance on the charging phase, as the energy spontaneously moves from low potential to high. Once the behaviors of ethericity are clearly understood, it will be just as easy to run motors and lights from this source as we now do on electricity. In the 1940's, Dr. Wilhelm Reich demonstrated both lighting and motoring effects running on the Etheric Energy Field that he tapped using his "orgone accumulators" and special circuitry. But many other ways have been discovered to harness ethericity. The patent office has many designs of so-called "electrostatic" motors on file that work quite well. They all run on ethericity, including some powered by circuits set up between the ground and a wire suspended high in the air. Many types of capacitors will spontaneously charge up on days with low relative humidity. This, too, is the classic appearance of ethericity. I have seen how an "electrostatic" generator failed to do anything, one humid morning, until the moment that sunlight fell on the metallic surfaces. It then jumped to life. This was one of the most convincing demonstrations I have ever seen that "static electricity" (ethericity) is related to light (the Light Ether).

Here then are some of the known characteristics of ethericity that engineers and inventors should understand

- 1) Ethericity can be accumulated from the ground or the air at almost any location
- 2) It can be "reflected" down wires (this is *not* conduction)
- 3) Flows of ethericity can be interrupted by diodes and Mosfet type devices
- 4) Its potential can be raised or lowered in air core transformers
- 5) It can be stored in capacitors
- 6) It will operate neon style lighting, when the potential is high enough
- 7) It can create fields of opposing forces in coils and motor windings

"Free energy" is here in the Etheric Energy Field. Etheric Energy can be accumulated without the expenditure of work, and then released in controlled ways to perform work, in properly engineered systems. Understanding this fact presents engineers and inventors the most direct and clear path to follow. Systems that precipitate heat directly from the ether have already been demonstrated in Dr. Reich's accumulator. Placing one of these accumulators over a moving body of water increases the precipitation of heat dramatically. This is a rich vane of truth waiting to reveal its secrets to the systematic researcher. Likewise, power circuits that run on ethericity for lighting and motive power are waiting to be perfected.

Researchers in the "free energy" field should not concern themselves with the ideas presented as the so-called "Laws of Thermodynamics". The "First Law", with its ideas of conversion and conservation, is essentially incorrect. There is no way to convert mechanical energy into etheric energy, actually make one into the other. This one example is enough to disprove the universal interpretation of the conversion idea all together. Beyond this, the energy forms that can be transmuted by the action of certain kinds of machines, apparently do so within a wide range of activity, depending on the geometry of the machine. This throws into question the idea of conservation, especially local conservation. These experimental findings render the "First Law" without any basis in fact. The real universe does not behave in accordance with these ideas.

In the narrow case, the "Second Law" is really only a statement which describes the behavior of heat under certain circumstances. This much is basically true, as it is founded

on experimental observation. In the general case, however, the "Second Law" is an intellectual extrapolation that does not accurately describe the behavior of physical reality under all circumstances. It embodies an erroneous concept of a mechanical universe which mysteriously burst forth (Big Bang) as a fully wound spring that has been unwinding ever since ("in a closed system, entropy does not decrease"). It is a lifeless, empty vision that ignores the Source of the energy it started with and closes the minds of its adherents to the solutions at hand.

Learning how to tap the non-thermodynamic forces in nature is the hope of the future. A modern society needs light, heat, and motive power, all of which can be derived directly from the Etheric Energy Field without consuming limited physical resources owned by monopoly interests.

In this society, theoretical science has been elevated to a very high level of prestige. Under this system of belief, the real needs of humanity have not been well served. It is time that these incorrect theories be carefully examined and discarded, so that experimental science can once again take the leading role in defining the nature of physical reality. Only then will Etheric Science be free to offer its bounty of solutions to a desperate and waiting world.

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COMMUNICATION & THE EIDO-DENDRITIC EXPERIENCE

BY

MICHAEL THEROUX



The science of Eidography may be defined as, "the study of the transference and interpretation of eidetic vision through the implementation of eido-sensitive apparatuses". That may be a lot to grasp and hopefully this definition will become clear by the time you finish reading this, as Eidography opens up many new possibilities for experimental research. Eidography, in the simplest of terms, is a new and unorthodox means of studying communication.

In order to understand Eidography, one must first comprehend the imagery of eidetics. Eidetic imagery is a part of our thoughts, our being — it holds the ultimate truth in the cosmology of our perception. The eidetic experience is a vision of the spiritual. Such visions are the basis and foundation for much of the content in the arts of language, sculpture, and musical composition. Composers have long held the keys to translating these visions into musical creations. Likewise, the poet, through the structure of his words, presents a direct view into the persistence of eidetic worlds. In order to fully conceive how the artforms rise to this occasion of communication, we must first go back to the beginnings of intelligent communion — speaking, singing, and writing.

DENDRITES — THE STRUCTURAL ARCHETYPE OF COMMUNICATION

The term *dendrite* refers to the branching figure resembling trees found on or in mineral substances, and for our purposes, it may be defined as anything possessing a branching pattern similar to trees, rivers, lightning, etc. Nearly all organic forms of natural energetic systems display this characteristic. The geometric configuration of such systems can be ascertained from not only the sections of branching, but from its "phyllotaxis" as well. The phyllotaxis of any given branching system is determined by the spiral arrangement of branching parts on its axis or stem, and in all cases it displays the living geometries of the Golden Mean.

From the complexity of the embraced dendritic forms of speaking and conversation arise the sigils and letters of writing. The very essence of the composition of spoken language, due to its basis in thought, possesses an eido-dendritic form. The details of the process of language from its conception to the actual written word may be summed up in the following explanation.

The first issuance of a language's composition will arise from the biological structure of our neurological system which has been determined to be dendritic in form. Next, the ordering process of the composition in conjunction with thought may be expressed vocally. This does not take on the familiar acoustic/two-dimensional transverse wave-shape that we have become accustomed to through the interpretations of conventional physics, but it reveals all the char-

acteristics of dendritic form, as it is a *quality of composition*. Finally, the written language is composed out of distinct and separate individual parts of the dendritic sounded form. The highly complex branching pattern of the eido-dendritic thought/sentence configuration has now been reduced to a system of simple symbols which derive their form from the segments of the dendritic caste. The meaning of each symbol and/or groups of these symbols carries the representation of the associated eidetic image in its dendritic matrix. To detail such symbols, including all forms of ancient inscriptions, written language, magical/religious glyphs, etc., and their eidetic similarity to one another is far beyond the scope of this article, but research is currently in progress.

Now we know that spoken language carries with it a quality of living energy. It is not a static, monotonicity of randomly grouped sounds, but a living composition of carefully selected intonations with high and low points of emotion. To objectify this, we will now look to the remarkable experiments of Margaret Watts Hughes.

THE EIDOPHONE VOICE FIGURES

In 1885, a woman by the name of Margaret Watts Hughes developed an instrument which, in combination with the human voice, was able to create the branching figures of flowers, ferns, trees and other organic forms into physical manifestation. She called this invention the *Eidophone*. The Eidophone was constructed of a hollow tube which opened up into a larger, bell-like chamber. The top of the bell chamber was covered with a thin membrane of indiarubber. Singing into the tube produced a variety of tone signatures on the surface of the membrane. In her earlier experiments, Hughes used differing qualities of lycopodium powder to sprinkle on the surface of the membrane which, when sung into, produced simple vibrational geometric patterns. She noted that it was not only the pitch and magnitude, but the *tonal quality* of the voice which induced varying characteristics in the shape of the figures. Not long after her initial experiments, she began using liquid substances to coat the membrane, and to her astonishment, the organic forms started to appear. These forms were not composed out of simple variation in vibrational structure, but were characteristic of the qualities inherent in the compositional arrangement of the tones themselves.

One need only examine the photographs of these figures to capture the essence of their organic eido-dendritic form. Her experiments justify the claims that information of this compositional nature is transmitted in eido-dendritic form.

The medium of transmission (as in the Eidophone's liquid forms) must naturally be dendrite-receptive in order for the correct formation to arrange itself. Thus, from the philosophical viewpoint

of Rudolf Steiner's four ethers, these eido-dendritic forms find their natural habitat in the chemical or tone ether. The four ethers — Warmth, Light, Chemical, and Life — are endowed with formative processes, and the chemical/tone ether possesses the requisite living, liquid substance of which all vocal and musical composition finds its medium. This chemical/tone ether is the living, breathing substance of the earth itself.

In the written works of Gerry Vassilatos, specifically the *Vril Compendium*, he defines the very essence of all forms arising not from the ætheric, but from *Vril* manifestation. *Vril* is the fundamental eidetic thread of the universe; the underlying and archetypal energetic quality of the living. "*Vril* is dendritic and generates dendritic structures throughout the natural world" (Vassilatos). In Volume 4, *Vril Archeforms*, Gerry reveals that *Vril* permeates everything dendritically, and "organizes and variegates itself through the ground ...extending through us and continues entwining itself throughout the universe" (Vassilatos).

So, it is without question that the telluric/ætheric medium of vocal and musical composition finds as its conveyance, a dependency to dendritic form.

DENDRITIC ANGULARITY IN MUSICAL COMPOSITION

Many composers have sought to convey the essence of their visions of the spiritual in their musical ideas. In the purer visions of eidetic realities, the translation into composition almost always displays the characteristics of angularity common to dendritic forms. We must remember again, that there exists none of what are referred to as dissonances in these angular intervals. The term dissonance, used to describe so-called unpleasing combinations in harmony, is strictly an uninitiated concept.

Many twentieth century composers such as Olivier Messiaen, György Ligeti, Krzysztof Penderecki, and others have most profoundly rendered their visions into this compositional form. Examples may be found in Messiaen's *Trois petites Liturgies de la Présence divine*, *Quatuor pour la Fin du Temps*, and *Visions de L'Amen*; Ligeti's *Atmosphères* and *Melodien*, and Penderecki's *Dimensions of Time and Silence*, to name but a few. This ability seems to have its roots centered around the latter part of the 19th century with impressionists like Debussy, who subscribed to the radical idea (at the time) that the composer's ear and taste were more important than governing composition by the rules of har-

mony and counterpoint.

Dendritic angularity also finds itself in highly inspired improvisation. The music and extemporization of John McLaughlin has often been described as "angular", and there is very little linearity in his compositions or improvisations. Other inspired jazz musicians such as John Coltrane have had their improvisations very simply, but most intuitively described as "scrambled eggs". While it is certain that this angularity is not prerequisite to "good music", it is merely an indication that much is conveyed by its presence. Even in the folk tunes of the British Isles, one finds a complexity of angularity to the music, and this may in fact be associated with the dendritic/telluric emanations of the land itself.



"Eidograph" from the Voice Figures of Margaret Watts Hughes. Note the striking dendritic pattern.

SACRED SITES, LEY LINES, AND THE CHANGING GRID

These dendritic/telluric emanations are not limited to, but find their most pronounced effect at and around what are referred to as sacred sites. In recent times, these sacred places (mounds, medicine wheels, cathedrals, megaliths, etc.) have been referred to as astronomical observatories, sites of ancient tribal ritual, worship, and burial, and other equally simplified presuppositions — all attributed to the doings of *primitive* man. Some have conjectured that these ancient sites were constructed and used for communication purposes, and it is this idea with which we will elaborate on.

It has been noted by several researchers that these sacred sites are connected by certain straight lines of power called *leys*. These ley lines in many cases can be seen, and are the connecting links between sites. Many have also developed elaborate grid systems which in most cases are artificially adapted to the global surface. These grid theories (there are many and most have no relation to one another) explain that

the earth's energy travels along the paths of these grid lines, and that this is a fixed or static condition arising from the grid's geometric structure. Viewing the earth as a living, breathing entity, one may find it difficult if not impossible to allow such an artificially imposed grid system to govern the flow of earth's energy. The common problem with all synthetic grid systems originates with those who find it necessary to order nature, and not perceive it from its natural chaotic order.

If we view this in relation to a *Vril* articulated system, we find that most ley and grid models follow the natural path of the dendritic veinic structure, or vascular system of the planet. The



Mounds of the Mississippi Valley. Dots represent mounds. Note how these sites follow the vascular river system.

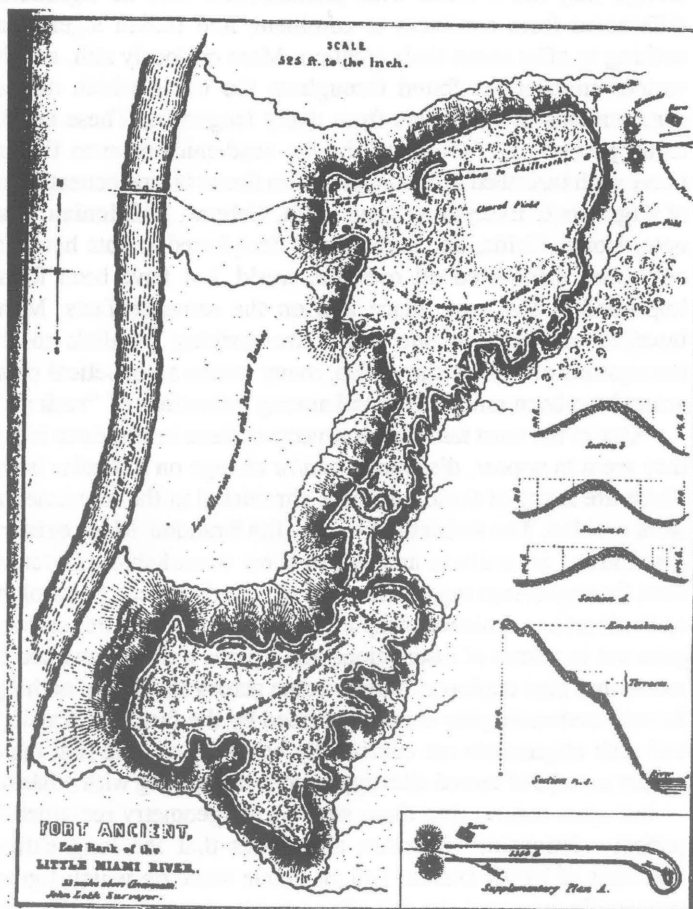
connection between all sacred sites and the existing or past presence of water systems found at these sites is common knowledge among researchers in the field. These range in diversity from underground wells and streams to river systems, and are connected via the earth's circulatory system. The straight leys do indeed seem to follow the direct path of these dendritic waterways. We must emphasize that in all dendritic systems, we are dealing specifically with the golden mean geometries of *growth*. This "growth" of course does not mean the simple enlargement of the living system, but moreover the *changing* and everpresent transformational aspects of the living structure. Therefore, this type of vascular grid cannot be fixed or static such as found in all theories of the earth grid — it is *always* in a state of transmutation.

That this dendritic structure presents to us a more valid network for communication between sites should be obvious, as it has a direct relationship to the Teslian notion of world-wide broadcast through the earth. The living dendritic discharge from the top of a properly entuned Tesla transformer is a positive example that the flow of communicative energy relies on this veinic structure. Actually, several Victorian pioneers of wireless communication realized this, and their inventions have been revitalized through the publication of the many volumes of Gerry Vassilatos' *Vril Compendium*. Although many of the early researchers utilized electric power in their inventions, most realized that it was not entirely necessary, and that when used, the quality of electricity was most important. In the very early systems of wireless, the quality of

electricity used emulated the type found in nature — that is static electricity. This is certainly not the case today, and with our vast electrical grid utilizing a manufactured transverse electromagnetic type of electricity, it is no wonder that the planet's natural energetic system has been rendered nearly unusable.

SCRYING, ANCIENT INSCRIPTIONS, AND COMMUNICATION

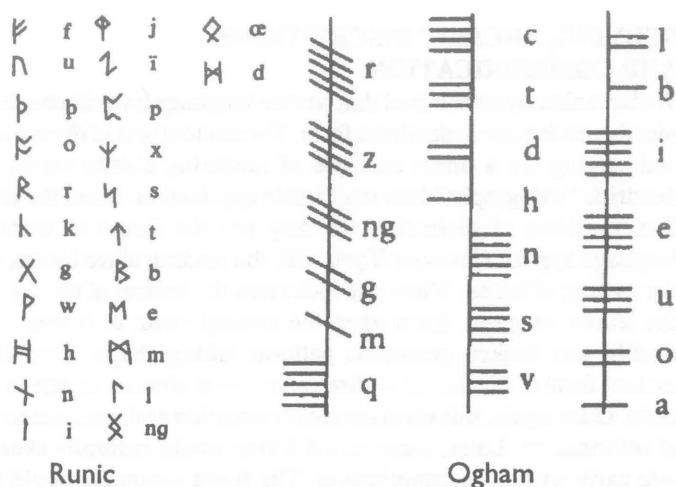
We have already established that written language finds its communicative archetype in dendritic form. The ancient arts of divination and scrying are a direct example of rendering eidetic vision or dendritic "eidographs" into intelligible application. From the earliest practises of divination we may see the forms of written language appear. Consider if you will, the reading of tea leaves, or the casting of bones. When one looks into the bottom of the cup at the leaves, or gazes down upon the entanglement of bones, one readily sees broken geometric patterns taking shape. Even the earliest form of divination — fire gazing — is obvious in dendritic caste. Once again, this involves communication and interpretation of information. Later, these scried forms would naturally evolve into early written communication. The finest examples would be that of Norse runes and Celtic Ogham inscriptions which have survived as oracles to the present day. Curiously enough, both have allusions to trees in the myths surrounding their birth, and what better dendritic parentage than a tree? Both languages are com-



Note the tributary network that this so-called "hilltop fort" seems to be constructed around.

posed of branching patterns, the Ogham, being the lesser evolved of the two, is more striking.

Ancient inscriptions of all types have been found, and continue to be discovered across the globe. These have been inscribed in



stone, on metal, and many other materials, and all are erroneously attributed to the early art of prehistoric man. For instance, archaeologists immediately label all rock art "Indian petroglyphs" even though they are a world-wide phenomenon with no significant differences from continent to continent, and Indian legend has nothing to offer about their creation. More curiously still, are the various inscriptions found throughout the world which display combinations of characters from many languages. These are directly pronounced "forgeries" by the academicians even though many such inscribed artifacts have been found buried beneath tons of virgin rock. Everything from Latin, Hebrew, Babylonian, Chinese, Norse, Celtic, and some never deciphered scripts have not only been discovered all over the world, but have been found imprinted at the same place and on the same artifacts. Many inscriptions found at one site, show striking parallels to the inscriptions of distant sites. Also, many roman alphabetical characters have been randomly found among collections of "rock art".

One of the most fascinating aspects of these inscriptions is that they seem to appear, disappear, and/or change on a regular basis. There are many of these instances chronicled in the monumental work entitled, *The Rebirth of Pan* by Jim Brandon. Many existing inscriptions on artifacts and stones show remarkable differences from the engravings made at the time of their discovery. Some of the open-air art has vanished completely. Many astute researchers have gone out in search of inscriptions and figures well documented by recent and past explorers only to come across absolutely nothing. Several archaeologists are also puzzled by the fact that drawings and rock alignments are continually being found, and that many earlier surveys of sacred sites appeared to be teeming with mistakes — but upon resurveying these sites — the geometry remained in perfect relationship. Brandon also states that the long extinct Mandans of North Dakota had an oracle stone on which figures supposedly appeared the day after a public feast. Tribal shamans then interpreted their meaning. Archaeologist T. H. Lewis recorded Indian traditions of the Upper Minnesota valley such as this:

In olden times there used to be an object that marked the bowlders a night. It could be seen, but its exact shape was indistinct. It would work making sounds like hammering and occasionally emit a light similar to that of a firefly. After finishing its work it would give one hearty laugh like a woman laughing and then disappear. The next morning the Indians would find another pictured bowlder in the vicinity where the object had been seen the night previous.

Also interesting is a blackish substance that accompanies many so-called petroglyphs. This substance, called "desert varnish" is composed of iron and manganese oxides, and oddly, it occurs only where large numbers of petroglyphs appear. It does not uniformly cover the rock panels, but appears to have been "splashed" on right over the inscriptions. Gerry Vassilatos, in his research, has found that compositions of iron and manganese oxides along with carbon, are highly eidetic-active and may have alchemical attributes. His amalgam (called the "N-Mixture") has been used in sundry coatings on radionic and experimental devices with excellent results.

What we are really aiming to reveal with this discussion is that it would appear that these forms of inscriptions are the actual eidetic transmissions of some lost form of communication. The interpretation of such communicative symbology may best be had by trying to recreate such eidographs by various experimental setups such as the Voice Figures of Margaret Watts Hughes. Work is currently in progress by myself and Mr. Vassilatos in this science of Eidography. These experiments involve eidetic communication, eidographic generation, interpretation of eidographs, eidetic substance analysis, eidetic transmutations, and many newly unfolding possibilities. Early experiments in communication over vast distances have proven quite promising. The results of all experiments will be presented in their entirety in upcoming journals.

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MONK DRYING SILK

An Ancient Chinese Qigong Exercise For The Immune System

Dr. G.K. Knowlton

The Chinese have always had a special interest in diseases that attack the immune system. As a matter of fact, of the over 3,300 schools of Qigong, the vast majority have devoted certain exercises to strengthen the immune system.

The present method of treating diseases with Qigong originates with a Ms. Guo Lin who was told in 1960 that she had uterine

cancer that had metastasized to the bladder. She was given less than six months to live.

She tried method after method and they all failed. Then, one day she remembered that her grandfather, a Taoist priest had taught her as a child to practice Qigong. She returned to his teachings and also studied ancient texts. At first, she was so weak she could only perform the Qigong movements a few minutes a day,

but she was able, as her strength grew, to practice for up to two hours a day. In a year's time, the cancer subsided. She was so strongly convinced that her health was the result of Qigong, that she spent the next ten years studying.

In 1970, she began teach what she called New Qigong Therapy. By 1977 she had achieved spectacular cures with many diseases. She was so swamped with requests that she was teaching over four hundred people a day.

Obviously not everybody was cured. However the majority improved. In most cases, the Qigong was able to relieve pain and prolong life.

With the blessing of the Chinese government, she next toured China teaching her methods to hospitals and medical departments. At the time of her death in 1984 (24 years after she was told she had only six months to live) she was a national celebrity, honored by all.

Now, there are thousands of exercises devoted to health and the immune. However, the one that is regarded as most valuable is known as Monk Drying Silk. This is a rare Qigong that has been closely guarded. I am now releasing it for the first time.

NOTE: This exercise is for investigational or experimental use only. No health claim is intended. If you have a health problem, please consult your physician.

To begin, stand as shown. Right hand is palm up and the left hand is palm down. Close your eyes, placing the tongue at the roof of your mouth. Take a deep breath let it all out. Take another deep breath and let 50% out. From that point inhale and let it all out. Take a deep breath and let 10% out. From this point, take another deep breath and let it all out.

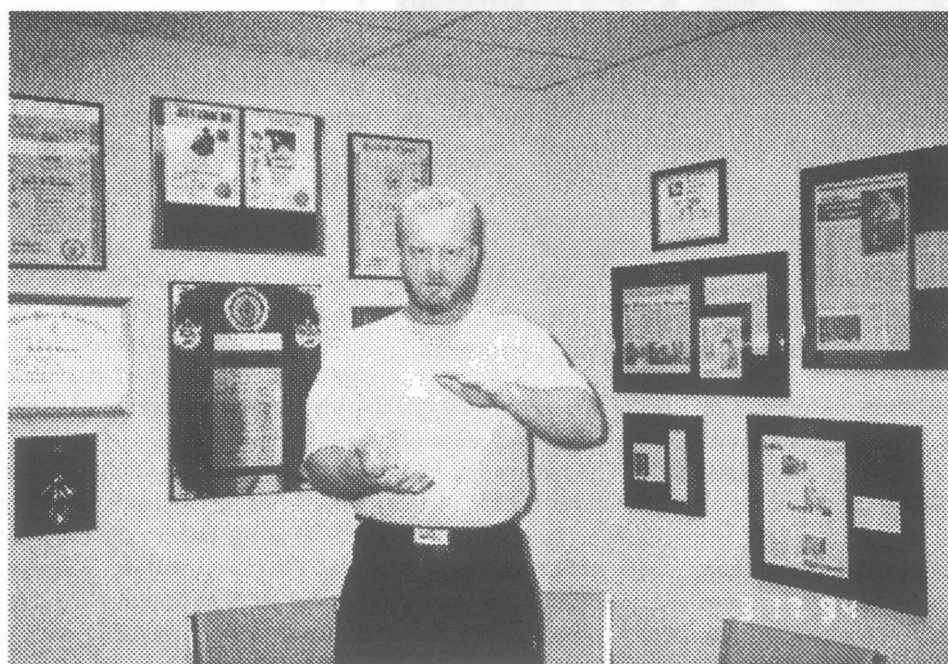
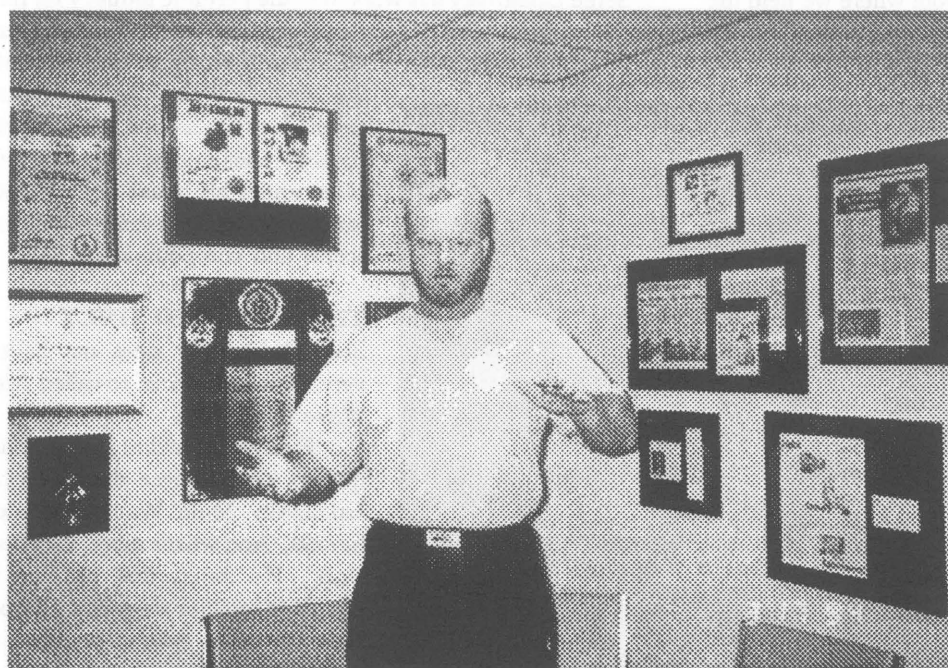
With the eyes closed, slowly bring the hands towards one another. They should be one under the other when they reach the midline of the body. From that point, slowly return to the starting position.

This exercise should be done as slow as possible. If performed correctly, a slight tingling may be felt in the hands and in some cases, the entire body. It should take up to a minute to bring your hands to Position B and another minute to return them to Position A.

The effect is enhanced by putting Dit Da Jow on your hands before you start and also by using Shaolin Tiger Elixir.

Exercise should be practiced from 5-10 minutes daily. It can be done either standing, seated or lying.

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My Meeting with Serge Lakhovsky

Paris, July 7, 1993
by Hessel Hoornveld

Serge Lakhovsky is the son of George Lakhovsky. Serge's father was a brilliant scientist, a man of genius. George Lakhovsky was the developer of the 'Radio Cellular Oscillator' and the 'Multiple Wave Oscillator'. Serge's father's discoveries are still the subject of great interest; in his time, the years between 1900 and 1940, he brought about a veritable revolution with his discoveries and theories. It is not easy to go through life as the son of a famous father, it has a great affect on you. In the room where we held the interview, his father's presence could be felt everywhere, in the form of paintings and the devices he developed.

The device that attracted my attention the most was the 'Multiple Wave Oscillator'. The MWO was specially developed to cure cancer. George Lakhovsky was not thanked for the fact that he was able to do this with his apparatus.

George Lakhovsky carried out a great deal of research at a university level, with truly astonishing results. In other words, both past and present scientific research has proved that his method works.

George Lakhovsky died under extremely suspicious circumstances. He was hit by a car during a stay in America and, despite his protests, was taken to a hospital from which he never returned alive. The death of Serge's father and the Second World War meant that his discoveries and developments subsequently fell into neglect.

What was a fact though, was that the discoveries of a genius, and an indispensable instrument in the fight against cancer and other degenerative diseases, had been temporarily eliminated from the scene.

Fortunately, information is now coming to light that allows us to benefit from these techniques of yesteryear. Some time ago, a respected newspaper reported research findings to the effect that one in three Germans, Americans or Dutchmen suffered from, or was developing, a form of cancer.

Nowadays, it is becoming virtually impossible to find sufficient funding to support the entire health-care system. And it is not inconceivable that the fossilized medical industry, along with its

many branches, will go completely or partially bankrupt.

Serge Lakhovsky was born in Paris in 1913, and, after finishing his studies, went to America in 1940. He worked there together with Doctor Kovac at the University of Chicago, where they carried out additional research into the effects of the MWO, research which confirmed his father's discovery time and time again.

Serge Lakhovsky has worked in the perfume industry for more than 30 years as a developer and producer of new scents. Serge also treated many of his scents with the Multiple Wave Oscillator, which resulted in exceptional energy-rich combinations and results. In a large room under his house in Paris, thousands of phials with the most unusual scents and compounds are kept.



"Bergstresser/Beck-style" MWO unit with single antenna and footplate, built by Hessel Hoornveld.

THE ONE AND ONLY

Serge Lakhovsky does not have a very high opinion of so-called Multi Wave Oscillators.

'Everyone making a high-frequency device these days calls it a Lakhovsky Multi Wave Oscillator,' he says, 'And what's more, they don't work'. He thinks that it's fine for people to look for ways that do work, 'But you must take their effect on people into account.'

By this he means that scientific research should be carried out, and that it should not just be allowed to run its course.

Serge told of the extensive scientific research his father had carried out at universities in Paris, Vienna and elsewhere, but added that he always took a great deal of care with his research data and results.

Serge Lakhovsky thinks that there are a lot of unjustified claims being

made these days, and that there is too much reference being made to the published research results of his father.

'The reason that I am sitting here talking to you is that before I leave this earthly plane, I want to set matters straight.' Serge is resolute. 'No-one makes the MWO as my father did, and none of them work as my father's did, so the claims that are being made in my father's name are unjust and far from true.'

During my visit with Serge Lakhovsky, I was able to see and

feel the original MWO in action.

We were able to carry out various water tests, using radiation from the MWO, and noticed a change in taste and an increased radiation of energy from the water (energetic or cosmic energy).

I have to agree with Serge that the original Lakhovsky MWO works as no other I know. Furthermore, its antenna is totally different to that used on other devices. Most use a Bergstresser or Beck antenna, this MWO works with hollow antenna rings, which are tuned.

I confirmed that they were really tuned when I checked them using my electronic tuning device. When I tapped the second ring, my tuning device clearly indicated a C Sharp. The outermost ring is a fixed ring directly attached to the coil and is a C. The next ring is a C Sharp, the next a D and so on until the innermost ring, which is a C. In other words, a full octave complete with semitones.

If we examine the tuned rings (sound therapy), they also correspond to the chakras (energy points on the body). C is the base chakra, D the sex chakra, E the solar plexus chakra and so on.

Each antenna ring is made from a different metal. What the metals are was not revealed to me. When I asked why different metals were used, I was told by Serge that they were chosen in connection with the different planetary positions. Although I would not guarantee that I am right, I have taken a studied guess. The outermost ring, the C, is made of brass, the second ring, a C Sharp, of a light rustproof metal, the third of copper, the fourth of brass, the fifth of a light rustproof metal, the sixth of copper, the seventh of brass, the eighth of a light rustproof metal, the ninth of copper, the tenth of brass, the eleventh of copper, the twelfth of a light rustproof metal, and the thirteenth of brass.

There are bracing wires running from the innermost to the outermost ring, which keep the antenna rings the correct distance apart.

However, existing photographs of the MWO show antennas with different numbers of rings. I saw one with twelve rings, while Serge's MWO had thirteen with the innermost ring for the bracing wires.

I do not know whether the thirteenth ring belongs to the antenna, but it seems very probable.

SECRECY

According to Serge, his father's MWO does not work when the moon is full, or when it is enclosed in a Faraday Cage.

The rings of the antenna are held together by means of a string, and energy does not flow between them by conduction but by

radiation. The antenna is thus capable of radiating gigantic quantities of energetic energy.

The higher and more powerful the energetic field, the faster illnesses and degenerative processes are positively affected. The outermost ring, the C ring, is directly connected to the coil on both sides.

The reply to my request for a peek into the sanctum of the MWO was a definite no. Nevertheless, I hope that Serge will eventually give his permission because the technology involved is naturally of great interest to us all, and because I feel that his father's work should be open to the view of everyone who is open to it.

It seems to me that Serge's fear that his father's techniques would be misused can be ruled out, for there are few people around today who are capable of dealing with this type of energy.

When Serge demonstrated the MWO, two spark gaps could be seen. There is a large coil behind each of the two antennas, which are brought into resonance with each other. The whole technique is based on oscillation and resonance!!

The sound of the two spark gaps is very stable and serene. No sparks jump from one antenna ring to another, as occurs with the Bergstresser and Beck antennas.

It is quite safe to come very close to the antenna rings with a car key, although sparks begin to jump continuously from a distance of about six centimeters. This does not cause an unpleasant sensation though. This indicates an extremely high voltage, high frequency and extremely rapid pulse behavior through the

spark gap, and I suspect that the MWO contains a rotating mechanical spark gap.

The electricity needed to operate the MWO is supplied from a wall socket, which causes a fair degree of interference in the public electricity supply. This is something which was permitted in the past, but which is actually no longer allowed. Due to such interference, alarm systems, computers, answering machines and telephone systems etc. could suffer damage, or start to lead a life of their own.

It was only possible to operate the MWO for a short period of time, about five minutes, or else it would overheat.

The device is grounded through the mains. It may be that this was done in order to enable the feed cable connected to the wall socket to be used as a (capacitor). This works even when an earth connection is not present.

Serge did not want to answer my question concerning the relationship between his father, George Lakhovsky, and Nikola Tesla; a brief silence followed. We know from available informa-



"Lakhovsky-style" MWO showing two antennas on stands.

tion that the two worked together, and that Tesla was also involved in the development of the MWO. Nikola Tesla had more than 1,000 patents to his name, and was the discoverer of alternating current, and induction motors.

A month after my visit to Serge, he sent me the Radio Cellular Oscillator, a device that George Lakhovsky developed before he started on the MWO. The RCO is a simple, subtle but effective instrument, which relaxes you rapidly and gives you a rosy feeling, especially in your head and body. The device is a boon for the relief of tension aches and it stimulates the circulation; for example, cold feet disappear like snow in the sun. Its effect is based on the same resonance principles as those of the MWO, only it is more subtle and the unit is driven by a vacuum tube.

CURRENT MWO RESULTS AND FINDINGS

The enormous interest that has arisen for MWO techniques and results is a clear indication that a new era has dawned. And I would like to share my knowledge of the current state of the MWO technique with you. A technique that is used both in alternative and regular health-care circles, and here and there in high-level scientific research. In the Netherlands, doctors, dentists, therapists, dermatologists, veterinarians, internists and private individuals etc. use the MWO.

Outside of the Netherlands, I know of therapists, doctors and private individuals in Belgium, Germany, Switzerland, Italy and Africa who are familiar with the device. I have also learned that MWO's are built in Italy and Belgium, albeit on a smaller scale than in the Netherlands.

When I received the design for the MWO from Ralph Bergstresser, I decided to carry out a thorough study of whether, with current technology, it was possible to achieve results similar to those achieved by George Lakhovsky during the first four decades of this century.

Of course, much has changed since then. There is more pollution than in Lakhovsky's time: electrostress, stress, different eating behavior, lower quality food, environmental pollution, lighting and double-glazing which distort the laws of nature, sufficient reason to leave well enough alone concerning Lakhovsky's research.

After a number of years of research and many technical improvements of the MWO, we are now able to state that we have achieved results comparable with those of Lakhovsky.

I do suspect however, that it takes more time for the positive effects to be felt nowadays due to increased pollution and different living conditions.

Lakhovsky's device was exceptionally powerful; I do not think anyone builds them as powerful as that anymore. From various sources, I was able to learn that if you operate a Lakhovsky MWO at full power, you could damage living tissue. And other experts have told me that a magnetic field stronger than 10 Gauss can also damage enzymes.

The old devices were rated at 220 V or 110 V and were capable of causing considerable interference on radios and television sets. The MWO's I am allowed to build use a small 12-volt battery, which provides sufficient power for approximately four hours of use. A second battery can be built in, which gives you eight hours of use. They are housed in a doubly insulated plastic suitcase and are portable. Another important feature is that they need far less power than older versions.

The battery-powered version is to be greatly preferred to the 220-V and 110-V versions; there is so much electrical pollution in the public electricity supply that I consider it absolutely essential to use the cleaner energy that a battery supplies. Furthermore, many of our clients take the MWO with them when they travel or on vacation.

New versions of the device have become more effective despite the fact that they use much less power. They do not cause interference and can be operated continuously without overheating.

I build two models, a Bergstresser/Beck system and a Lakhovsky system. The Bergstresser/Beck system has a single Tesla coil and an antenna, a mat to sit on, and a lamp. The Lakhovsky model has a double Tesla coil with a flat primary coil in the middle. This flat primary coil provides the MWO with enormous power and effectiveness, much more than the cylindrical coil.

To the secondary coils, I have connected two antennas, which obtain their power on the outermost ring. The resulting power is radiated

to the innermost rings, which in turn brings both antennas into resonance. The effectiveness of these resonant antennas is many times greater than a single sparking antenna. With this model, I deliver two mats to sit on, and a lamp.

I have positioned the spark gap in front of the primary coil; see the diagrams of Peter Lindemann and Lakhovsky. This costs the least amount of energy and provides the widest frequency spectrum as they are not damped by the capacitors

The MWO's I build are not grounded, and I have the feeling that they work better and generate more energy as a result. The person or animal being treated is already in contact with the earth, and, as far as I am concerned, provides the earth contact.



Closeup of MWO front panel.

Moreover, the middle of the coil, which is where the secondary coils begin, is not grounded either.

The coils *are* connected to each other, which means that they have a floating neutral point where the flat primary coil is positioned.

When someone takes up a position between both antennas, and does not sit exactly in the middle, or one side of the body requires more energy than the other, the energy supply stays in balance automatically and the resonance of the antennas is improved.

With a ground in the middle, at the beginning of both coils, the system is less flexible and more forced.

Another important consideration is that the area in which the MWO operates should be energetically well furnished, with crystals for example, or a large plate or tray filled with sand (sand has a crystal structure containing silicic acid and silicon; the chips of a computer contain silicon) and is a perfect conductor. The area should not form a Faraday Cage, and it should be possible to open a window.

It is not inconceivable that the glass of the windowpanes filter certain energies. Ultraviolet light is filtered out by glass (except quartz glass or plexiglass). It is very important to correct for the energy that ultraviolet light contains due to its frequency. In this regard, read 'Health and Light' by John N. Ott, and 'Into the Light' by W.C. Douglas.

The MWO needs optimal surroundings because it takes (cosmic) energy from the earth's environment. If this process is hindered, or prevented, the device will be less effective. In my opinion, the electrostatic and electromagnetic field developed by the MWO is a carrier of cosmic/energetic energy.

At Special Energy Products, so much data is coming in concerning the effects of the more than 120 devices we were able to build in 1992 and 1993, and concerning the many thousands of people who have been treated with them, that we cannot doubt the exceptional nature of this instrument.

We are receiving similar feedback from America, and think that we will soon be able to build devices that are even more effective.

The essence of the technique is neither a strong electromagnetic or electrostatic field, but a wide frequency spectrum, with all its harmonics and extremely high voltages. When correctly applied, this allows you to generate enormous quantities of energetic (cosmic) energy.

Energetic energy is the principal factor in restoring balance and harmony at a mental and physical level. This transmits the correct vibration and polarity to matter, which enables you to recover very quickly and even to regenerate damaged cells.

The ionization that takes place between the antennas, and the ozone (both very rich in oxygen) that is created by the antennas or antenna, and especially by the lamp, are absolutely indispensable positive energies.

The MWO enables you to create order out of chaos allowing energetic energy to flow again, and allowing you to function as an energetic antenna once more. For we are all energetic antennas; we only obtain a fraction of the energy we need from our food. The rest of the energy we need is obtained elsewhere.

You can also store this form of energy in pure matter. I have carried out extensive research with these energy methods. By means of electro-acupuncture (dermatron) measurements, you can clearly demonstrate its effect on people, visually too. The MWO method can be used in a great many ways, for example, to enhance the effect of homeopathic medicines by providing more energetic energy in equivalent volumes.

You can polarize water with it and thus detoxify dissolved contaminants (even though they can still be measured). If you add a drop of the energized water (preferably distilled water) to fluids with many additives for example, such as coloring agents and

preservatives, you can taste the difference in taste within a few seconds.

The taste of wine becomes fuller, that of coffee smoother. In general, you could say that it takes the rough edges off the taste. The addition of a few drops of water makes plants grow faster, produce more beautiful flowers, and bear fruit more quickly. They also suffer less from insect pests.

Treating a small quantity of sharp sand with the MWO also produces good results. Sprinkle this sand or mix it with the earth at the base of plants in the garden or flower pot. This

form of energy can thus be used to completely or partially polarize (neutralize) poisonous substances.

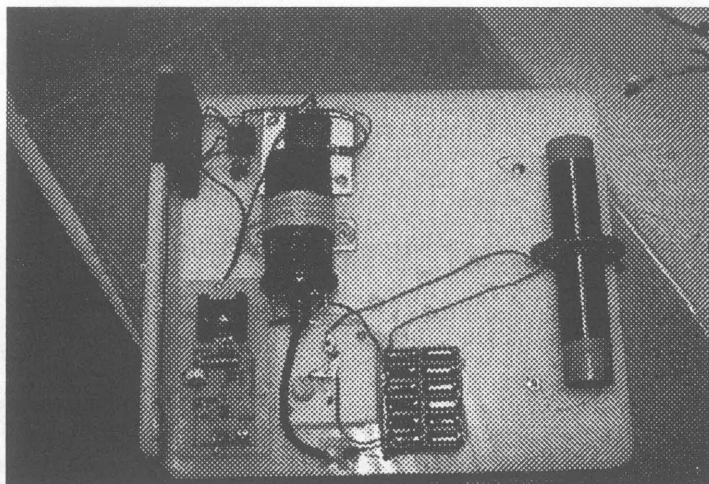
What else do people use the MWO for? They treat plants with it, as well as animals, with astonishingly good results. They purify water with it, and clean the energy of rooms and objects.

People treat vegetables and fluids in order to neutralize toxins. In addition, the taste of the products improves. A number of people treat their makeup or beauty products with the MWO in order to prevent allergic reactions, or to optimize their products.

People who have been treated with the MWO describe the experience as similar to that of being in an energy shower. They feel light and pleasant, as if a burden has dropped from their shoulders.

The MWO has been used to treat a large number of ailments and illnesses. Here are just a few:

*Arrhythmia has often disappeared after a few treatments. The intended amputation of limbs usually becomes unnecessary.



Interior circuitry of experimental "Lakhovsky-style" MWO.

*Rapid relief is often experienced from pain caused by arthritis, arthrosis and rheumatism, and in many cases the sicknesses disappear after a number of treatments.

*Bone fractures heal in a fraction of the normal time, as do wounds. And scars fade, often vanishing completely.

*Tension aches and facial neuralgia often disappear after a single treatment.

*Various people have been cured of leukemia and cancer partly as a result of treatment with the MWO. This has also been confirmed in the regular health-care circuit. Many people who have undergone chemotherapy and have been treated with the MWO at the same time have stated that they did not experience any side-effects from the chemotherapy, such as hair loss or hemoglobin decomposition (iron level).

*People who have been exposed to radiation and then treated with the MWO have suffered almost no tissue or cell-tissue damage, or other side-effects. Doctors call it a mystery.

*Migraine and tension headaches usually disappear after a few treatments and some people have even regained their memory. The memory of one person, who had a 15-minute recall, showed increasing improvement after a couple of treatments. One woman, who was treated for arthritis, also regained her memory.

*A woman who was to undergo an operation for a cyst, was completely free of the cyst after ten days of treatment with the MWO.

*Various people with tinnitus were relieved of their ailment after a single treatment.

*One man whose left hand had been virtually paralyzed after an operation, and which was swollen with fluid, was relieved of his paralysis after a single treatment, the arm returning to its normal size.

*The condition of a 13-year-old boy, whose blood-cell count had been too low since he was three, became critical when it fell below 10,000 — a count of 125,000 is considered normal. It was eventually decided to treat him with the MWO and within a week, his blood-cell count had climbed to 40,000. The youngster had an attack of influenza and it was not possible to measure the platelets because their shape was too irregular. Once the attack of influenza has passed, his blood-cell count was 125,000. From being a sickly boy, he grew to be a strong young man, without a problem in the world. He fell recently, seriously damaging his knee which bled profusely. His parents feared the worst. The bleeding stopped within a quarter of an hour.

*A few people have partially or completely regained the head of hair they once had. Their hair had not fallen out due to illness

or medicines.

*A man with incurable prostate cancer, was treated with the MWO by a doctor for a number of months. His cancer began to disappear and he is now completely cured. The doctor is of the opinion that the cure can be completely attributed to the MWO, because every other treatment had failed.

In the Netherlands alone, there are currently thousands of people who have been successfully treated with the MWO, by doctors, therapists, homeopaths, private individuals etc.

A high level of medical supervision is important of course, and minerals and vitamins in high doses are an absolute necessity. When undergoing treatment, the body's reserves are immediately mobilized by the MWO and sent to those locations where they are needed.

If we all, including members of the regular medical and scientific establishment, want to get to grips with degenerative illnesses, cancer, leukemia, aids etc., we would do well to realize that this device is probably the answer we have been looking for.

In my opinion, treatment would be even more effective were

it to be based on a combination of the MWO and Ultraviolet Blood Irradiation. In this regard, read 'Into the Light' by W.C. Douglas.

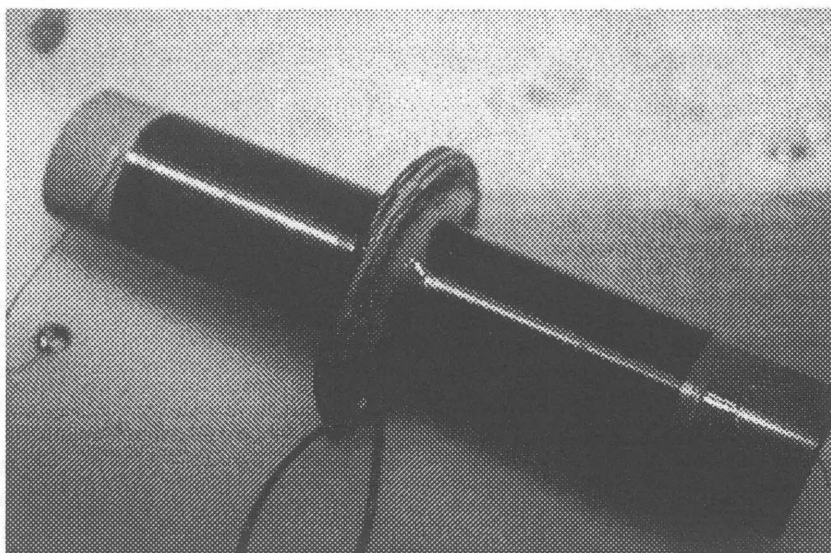
At the moment, there are various highly qualified doctors, therapists and other scientists working with and researching energetic methods of treatment in order to perfect them and to make the resulting data available for statistical analysis.

Practice has shown that not every practitioner succeeds with these methods. If a person does

not experience any reactions when treating him- or herself (something that occurs sporadically), the treatment does not have an effect when used on his or her patients.

However, when a person is sceptical, or is not open to the matter, but is treated by someone who is open to it, that person will definitely experience positive effects.

Dear friends, keep thinking positively, keep up the good work.



Double Tesla coil with a flat primary coil used "Lakhovsky-style."

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BOOK REVIEW by Tom Brown:

EXTRATERRESTRIAL ARCHAEOLOGY

Incredible Proof We Are Not Alone

by David Hatcher Childress

Adventures Unlimited Press, Stelle, Illinois

ISBN 0-932813-21-6, \$18.95

I love the title of this book — it conveys a concept of an ancient, active universe. Ten years ago in this magazine I authored a related article titled *The Possibility of Lunar Habitation*. I have always felt that there were vast secrets to our universe, secrets in front of our faces that we could not see due to our conditioning. The photo at the top right corner of this page came from a book titled **We Discovered Alien Bases on the Moon** by Fred Steckling (GAF International, Vista, California ISBN 0-942176-006). When I first saw this picture I thought "Gee, this is really fake, how can anyone get me to believe this?". I was no stranger to weird things showing up on lunar photos, but this was too much. I added the book to my collection of Lunar Mysteries, but not as a prime piece of evidence. However, my research continued and I found an amazing discovery in **National Geographic** which changed my entire view of the above mentioned photo. In the February 1969 issue, in the article *Awesome Views of the Forbidding Moonscape*, I was finely scrutinizing the photo below (figure 2) and

lo and behold, I found what is now enlarged into figure 3. I don't know what this looks like to you, but it looks like one of these cigar shaped white objects that appeared throughout Mr. Steckling's book.

Why am I telling you all this? To provide some background as to why I think that **Extraterrestrial Archaeology** is a very important book. Of course we've all seen the "Face on Mars" and have some opinion of it, but Childress gives a comprehensive overview of mysterious structures on the Moon, Mars, Mercury and Venus, thus showing us that there is more to outer space than we have been led to believe. You may be startled to find that there is serious evidence that our Moon is an artificial construction! In fact it appears as the most likely conclusion based on the physical evidence. Childress shows evidence of ancient megalithic structures, such as walls, pyramids, obelisks, etc., on the Moon and Mars similar to those found in South America, Egypt and elsewhere on this planet.

Rather go on about all the great evidence I

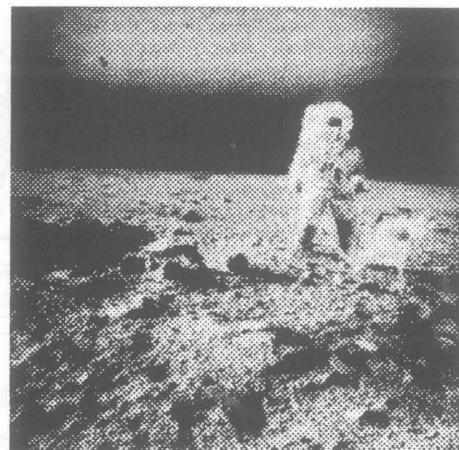
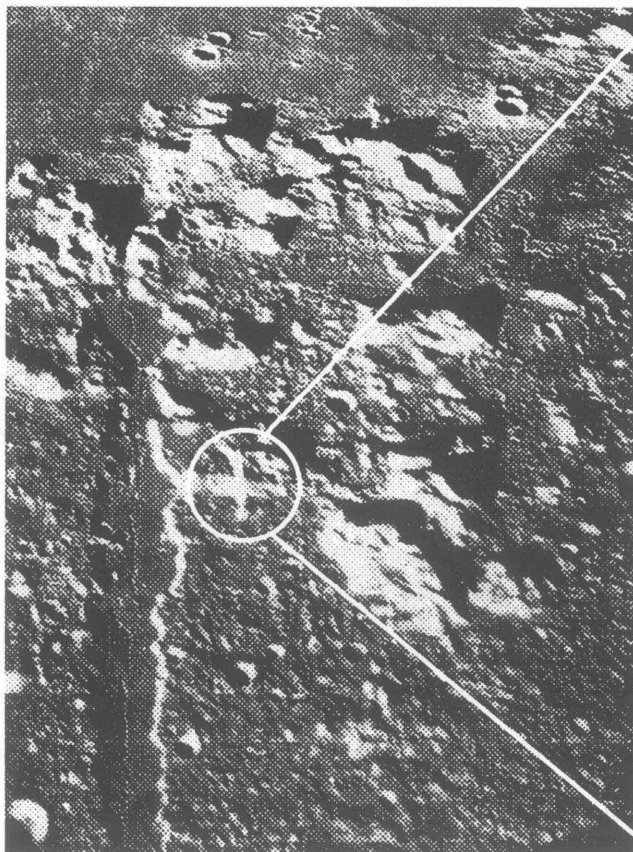


Figure 1: NASA photo No AS-12-497319 showing glowing object hovering over Apollo 12 Astronaut

suggest that you buy this book, study it, and start thinking thoughts beyond those allowed by our present world view. There are those who say that we should not worry about UFOs and such matters as we have important problems on earth to solve. Well, one of the reasons we have so many problems is because people are blinded to the incredible universe and instead have been trained to stare at the ground as they plod along their lives. This book will help break you out of that mold.

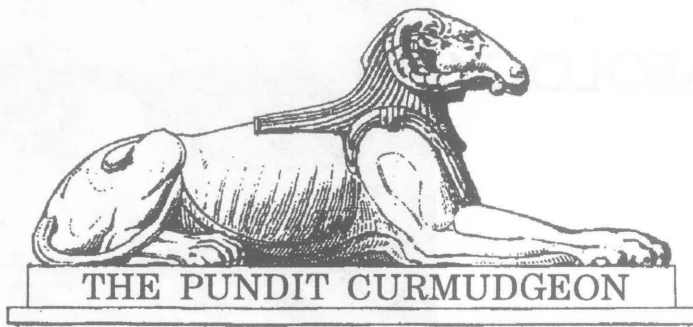
I highly recommend you read **Extraterrestrial Archaeology** which is available from Adventures Unlimited or BSRF.

Left, Figure 2. Lunar Orbiter 5 photo of 75 mile long Alpine Valley, which cuts through a mountain range called the Alps on the rim of Mare Imbrium. Circled area is enlarged in Figure 3.



Right, Figure 3: Enlargement of cigar shaped white spot on previous photo. Close inspection of this enlargement provides evidence that it is some sort of luminous craft flying above the lunar surface. Note apparent flame exhaust at bottom of "craft". A general estimate would be that this "craft" is well over a mile long! Procure yourself an original issue to see the finest details.





What is a Psychograph?

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MY COLUMN entitled "The Meaning Of The Word Psychograph" appearing on page 34 of the second quarterly 1994 issue of **Borderlands** is a good example of fancy language failing to really inform. This present effort is the result of my reading this earlier work and wondering if anyone would really know what a psychograph is on the basis of only the language used in it. Hopefully this discussion will make up for this deficiency.

The root of the problem can be traced to the definition of "psychograph" in this earlier document. In it such a device was defined as *"Any physical 'thing' which can be used as an aid in the achievement of an understandable expression or communication by the subconscious or relayed through the subconscious"*. To at least the author this is a nifty definition suggesting, but not emphasizing, that these are occult devices and covering a multiplicity of different items and structures on the basis of their intended uses. Unfortunately the earlier discussion as to this definition and what physically constitutes a psychograph is limited to only an incomplete disclosure of one form of psychograph — a psychograph using a pantograph linkage.

Such psychographs are essentially unknown at the present time. Most individuals immersed in the *Borderlands* of occult knowledge cannot be expected to recognize from this definition and this one reference to an uncommon physical structure that psychographs include common items such as pendulums, forked stick dowsing rods, pivotally held L shaped rods and many others. All of such structures are "psychographs". Any device or item capable of being used as a psychograph can be designated as a psychograph, regardless of how common it may be and regardless of the fact that it may have one or more conventional uses.

Because of the problem of what is the difference between a common or generic word and a trademark the preceding list does not include board and movable indicator combinations such as have been sold for slightly over a century using the designation "ouija" or "Ouija". In discussing psychographs it is considered reasonably necessary to use this word or trademark because of the lack of any other widely recognized subgeneric designation denoting the current commercial "Ouija" product and various other closely related structures.

If this coined word "ouija" is a common generic word it should be capitalized or otherwise set off as a mark; if it is a trademark it should not be so designated. Although the author fervently believes that it is not a trademark Ouija is capitalized herein so as

to set it off as a trademark "without prejudice" to his right to raise the issue as to whether or not it is a trademark at a future date.

This use of "Ouija" instead of "ouija" is intended to acknowledge that, at least in the USA, the firm widely selling "Ouija" sets as toys or games apparently claims rights to Ouija and/or one or more stylized or composite versions of it as a trademark or trademarks to avoid the possibility of litigation. As you can surmise from this discussion the status of "Ouija" in at least the USA is rather complex. Probably it will form the subject matter of a separate column at a future date.

It is interesting to note that the question issue of whether or not Ouija is or is not a trademark is based on a series of historical events probably commencing prior to July 1, 1890 when it was allegedly first used *"...in commerce with Indian tribes, particularly with the Sioux tribe;..."* as recited in the 1891 trademark registration No. 18,919. It is thought that the Sioux in 1890 must have other pressing complications than the purchase of Ouija sets and that these goods must have been sold to others prior to being sold to them. This registration indicates that at the time the goods covered by the registered mark were *"...known in the trade as 'ouijas';...!"* and that the mark (as shown by a facsimile presumably showing how it was used at the time) was *"...composed of script letters;..."*

A subsequent document which should be concurrently considered is the Bond US patent 445,054 in which the Patentee indicates that

TRADE-MARK.

KENNARD NOVELTY COMPANY.
TOYS KNOWN AS TALKING BOARDS.

No. 18,919.

Registered Feb. 3, 1891.

Ouija

Witnesses:

1. *Robert L. Brotha*
2. *William Thomas*

Proprietor:
Kennard Novelty Co.
By
J. Stewart Reed
Atty

he designated the "parent" of today's commercial Ouija set as a "Ouija or Egyptian luck-board;...". Copies of the drawings of this patent and of this registration are helpful in an effort to clarify the type of structure designated in this column by "Ouija". Any such structure is a combination consisting of a board and a freely movable indicator which is associated with the board in such a manner that one or more individuals can move or cause the movement of the latter to at least one relative position of or between the two having a predetermined meaning.

Almost, if not all, psychographs are of such a character that the relative position of a movable item such as the indicator relative to anything else such as the board has such a meaning. This does not mean that the latter has to be a board. Although in practically all instances it is something tangible it can even be an intangible such as a direction. Often the non-indicator part of a psychograph is something being "investigated" such as a plot of ground or a living body or its surrogate located on a board or table as in most map dowsing.

Many who have been only concerned with traditional dowsing seem to believe that a psychographs designated as a "dowsing rod" can only be used in seeking water or perhaps water and various minerals. Not so. These and other types of psychographs can be used for these purposes and also for such things as directing an individual to a moving objective, giving answers to questions, spelling out communications, indicating whether seeds will germinate, locating defects or problems (especially in veterinary and human diagnosis), specifying reactions to various remedies, and so on.

This does not mean that all psychographs are equally desirable for all purposes. Normally a specific type of psychograph is primarily used in specifying information which is of such a type as to be capable of being easily identified by or disclosed using that type of psychograph. Thus, although it is possible to use a Ouija set in map dowsing or in identifying malfunctioning regions of a body and other related matters falling within the range of "real" magic seldom is this type; of psychograph for any such purpose. The same results or information as can be achieved by any of these uses of a Ouija set can more easily be obtained with other types of psychographs which are better adapted than a Ouija combination for such purposes. This type of thing applies with virtually all types of psychographs.

Nearly all of these devices can be regarded as essentially means for amplifying small amounts of physical movement or change so as to make the latter easily apparent. With a few exceptions the movement normally involved or detected with a psychograph is mechanical in character. This is confirmed by a review of the various psychographs described in patent and other literature. Probably because it is not a common the term "psychograph" is seldom used in these materials.

A study of the literature relative to common psychographs indicates that they can be considered as belonging in the following classifications:

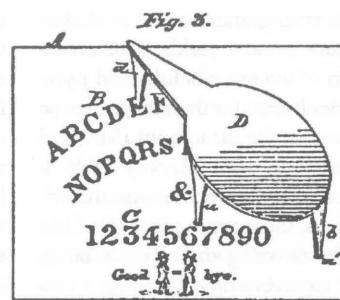
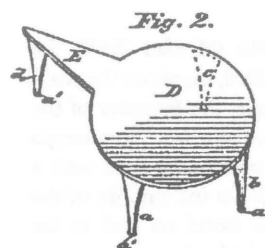
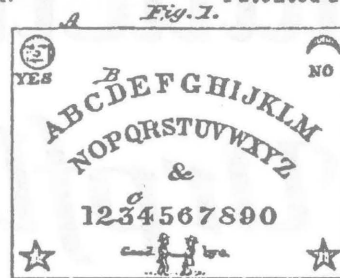
- (1) Fall Down Psychographs;
- (2) Classic Hand Held Psychographs;
- (3) Psychographs Using Pivotal Mounted Indicators
- (4) Pendulums;
- (5) Tilting Tables;
- (6) Simple Dial Type Psychographs;
- (7) Psychographs Using Linearly Movable Indicators;

(See Model.)

E. J. BOND.
TOY OR GAME.

No. 446,054.

Patented Feb. 10, 1891.



Witnesses:

Frank A. Bond
H. C. Hall

Inventor:

E. J. Bond
By J. E. Ansett
Attorney.

- (8) Simple Ouija Sets;
- (9) Ouija Sets With Involved Board-Indicator Interaction;
- (10) Enhanced Ouija Type Sets;
- (11) Specialized Psychographs For Writing, Drawing and Composing (Music);
- (12) Field Effect and Related Psychographs; and
- (13) Miscellaneous Psychographs.

While this list indicates that psychographs can be constructed in a number of different manners only the eleventh item in it suggests a few relatively specific uses of a psychograph. These specific uses listed are relatively obscure; the most common uses of psychographs in dowsing or in obtaining messages are not indicated by them. This situation is indicative of some aspects of the problems encountered in understanding the field of psychograph.

Comprehension of the entire field of psychographs is handicapped by a lack of widely accepted terminology. Any attempt to indicate what a psychograph really is on the basis of how such a device or item can be constructed as in the preceding list or on the basis of a broad designation of the results which can be achieved with it is headed for an inaccurate understanding of psychographs. True knowledge of this field requires a comprehension of both the construction and use of a psychograph and an acceptance of occult phenomena.

Inducing The Urpflanze

by Dennis Kloczek

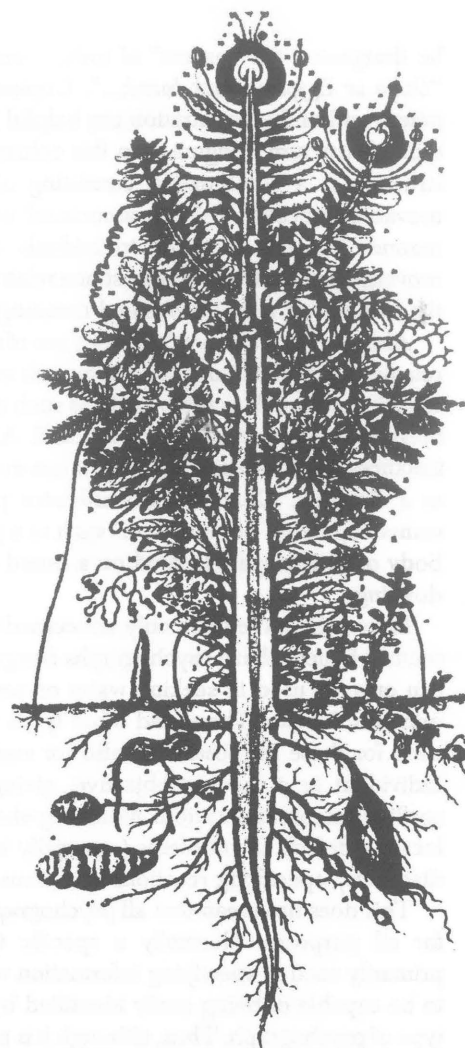
In the book, **Secrets of the Soil**, the author, Christopher Bird, mentions the work of T. Galen Hieronymus, the inventor of the cosmic pipe. The cosmic pipe is a 6 foot length of PVC 6" pipe filled with basalt flour with a copper wire running down the middle of the pipe. The pipe is then stood on end in the ground near a field in which a farmer wishes to grow a crop. This arrangement is said to vitalize plants and produce greater yields. This invention is a variation of towers, obelisks and pyramids used by agriculturists for the same purpose since ancient times. In the same book, Mr. Bird includes an interview with Harvey Lisle a bio-dynamic experimenter who has researched, among other things, the cosmic pipe. Mr. Lisle did his research by dowsing and by chromatography. Mr. Lisle experimented by using a cosmic pipe to try to broadcast the Bio-Dynamic preparations. What he found was that the life force in the preparations showed strong deterioration when put inside the pipe. This was checked by chromatography. The article ended with Mr. Lisle questioning why the cosmic pipe would damp down life force when it apparently stimulated growth. This question became a burning one for this author. This paper is an attempt to take a look at the original versions of the cosmic pipe in order to try to gain insight into the problem of stimulating life in the agricultural sphere through the induction of cosmic forces.

Perhaps a beginning angle to explore this question would be to look at the principles of conduction, induction and capacitance in electric phenomena.

As I read Mr. Lisle's comments about his experiments with the cosmic pipe, the same idea kept returning. I felt the copper wire down the center was in part responsible for the damping down of the life force. A copper wire is called paraelectric in electrical terminology because it conducts electricity, that is, it will not hold an electric charge but accepts it and allows it to move freely within the wire. Substances that are paraelectric are called conductors. Substances that do not allow electricity to pass freely are

called dielectric. These substances will hold on to a charge but do not accept a charge easily so they are called insulators. Copper accepts a charge easily and passes it along. It is a conductor. Basalt is strongly dielectric. It does not accept a charge. Conductors create a flowing of energy in one direction. This flow draws energy from one place to another. This is the basic concept behind all of our electrical circuitry in the modern world. Wires made of conductors carry charges from one point to another. This is fine except for the fact that in order for a conductor to work, a constant supply of force is necessary at one end. In the modern world, we harness coal or water, sunlight or nuclear energy to keep a constant electromotive force at the ends of our conductors. In the cosmic pipe, the source of energy is the sun, the stars and the planets. Their charges are very weak but are constant. It is these weak fields which are constantly charging the biosphere with life energies according to the ideas of Rudolf Steiner. Rocks, metals, water, plants, and air are bathed in these weak fields to varying degrees. The basalt in the cosmic pipe acts, in effect, like a sponge or antennae for the weak cosmic emanations. More will be said later about the significance of the form of the cosmic pipe but its circular sides have a great significance for electric or magnetic phenomena. Why, then, did the life force not register in the B. D. preps placed within the radiations of the cosmic pipe? Perhaps the conductor drew them off at too rapid a rate, before they could build up into an energetic environment capable of enhancing the B. D. preparations which were placed inside the cosmic pipe. In order to make sense of such an assertion, it is necessary to take a look at some further concepts in the phenomena of electricity and magnetism.

A central concept which is connected to conduction is induction or inductance. There are many kinds of inductors in electrical studies, but at the basic level, induction simply means the transfer of a charge between two bodies when there is no direct physical contact. In the



previous example of a copper wire conducting a charge, the simplest way to produce such a charge is to move the wire through the lines of force of a magnet. The magnetic lines have force in them. The wire passes through the lines and some of the force that is in the magnet is transferred or induced into the wire without the wire physically touching the magnet. As soon as the wire is out of the magnetic field, the induction ceases. If the wire is moved rapidly back and forth in the magnetic field, then the induction of its forces into the wire is increased. This is the basis for all of our electric generators and motors which produce electromotive force. As said earlier, conduction of this induced magnetic current requires unlimited supplies of energy to move the wires in a generator through the fields of a big magnet in order to produce electric power. In this system, the original force of the coal or water or sun is mostly lost as it is conducted through the wires. This is the dilemma of modern appliances which are based on wires cutting through magnetic fields.

There are, however, many kinds of induction. One form of induction, electrostatic induction, can show us some basic principles by

which we can move our idea one step further. Electrostatics or the study of electricity produced by friction, is an ancient way of looking at electricity. It was the primary study of men such as Benjamin Franklin, Luigi Galvani, and Alessandro Volta. The study of electrostatics involves the use of an electroscope. A simple one can be made by hanging a small piece of pith from the center of a reed, on the end of a thread. Take a piece of amber or nylon or PVC pipe and rub it with a piece of wool. Bring the rod or pipe near the pith ball and it will try to touch the end of the rod. This can be continued for a long time until the rod no longer attracts the ball. By rubbing the rod with the wool, we have created a charge. The ball, which has no charge, is attracted to the rod because experience has shown that unlike charges attract. As the charge in the rod dissipates into the air, the rod and the ball become neutral and lose their attraction for each other. Suppose, however, that we once again charge the rod and let it attract the ball. If I place my finger on one side of the ball and then touch the ball with the charged rod, a curious thing happens. When I remove my finger, the pith ball is now repelled by the rod. Electrostatics concludes that the rod and the ball now have the same charge. How did this happen?

My finger represents a ground to which a charge wants to flow. My finger is a conductor. When I touch the ball, I make the ball a conductor. Being a conductor, it draws a charge from the rod. Electrostatic force is now flowing into the ball and into my finger. When I pull my finger away, the force is still flowing from the rod into the ball. The ball is now the same charge as the rod and so they repel each other. This simple experiment reveals a deep mystery. It was later expanded upon in the invention of the Leyden jar. Large glass balls were rotated with cranks while an operator rubbed the rotating ball with fur. The resulting charges were led into a glass jar with tin foil on the inside and on the outside. Strong opposite charges would accumulate on the inner and outer surfaces of the glass and the charge could be stored for a short period of time. In the Leyden jar, static electricity migrated to the surface of the tin and the glass but not into the substances themselves. This was proved through experiment. Very strong voltages could be stored in a jar. The surfaces of the glass are induced to take a charge even though the glass is an insulator. Remember that a conductor cannot be charged because it keeps drawing forces away. While an insulator, which is a poor conductor, can be induced to hold a charge. This is a key idea when we wish to understand the relationship between electromagnetism and the life forces found in the etheric world.

Electrostatic induction causes more force to be taken into a body than exists there normally.

The body becomes charged with energy. The surface of the body is where the charge tends to congregate, not in the center. The rounder the surface, the more force the body can assimilate. What this accurately describes is the principle of the organism in biology.

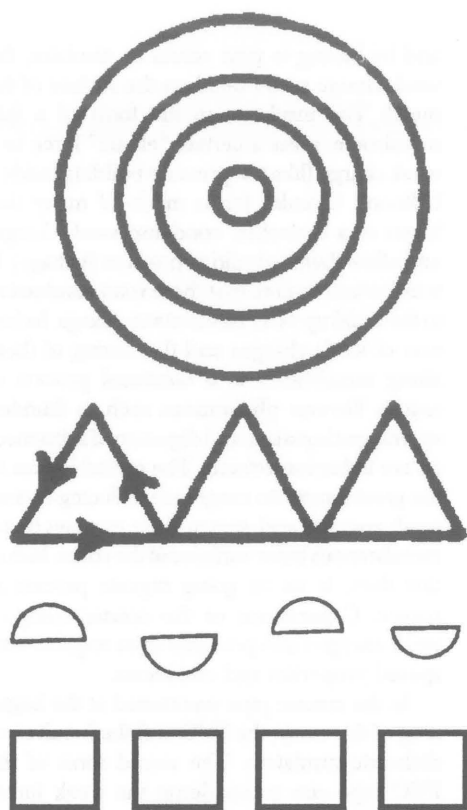
Studies of the electrical and magnetic properties of simple organisms point to the relationships between crystalline structures in the center (cell nucleus) and the tension in the cell wall or membrane, brought on by electrical or magnetic stimulation. The importance of the membrane and its ability to carry and disperse charges is well documented in scientific literature. Round surfaces tend to collect and store strong charges as do the surfaces of membranes. If we could imagine a round cylinder or sphere made of many fine layers of an insulating material such as quartz or mica, we would be seeing a prototype of the Leyden jar. Such a prototype exists in the fetal layers surrounding an embryo and in the brain and its surrounding tissues. If the form were a cone shape made of many layers of calcium, we would have a mollusk. If the cone were made of quartz, we would have a cow horn. Any place where nature wants to enhance life and build a charge, we find circular surfaces composed of many layers of an insulating material.

In these natural forms, it is of the utmost importance that the increased charge of energy inside the cell or the organ or the organism is maintained and not leaked out into the environment. Through such systems of outer membranes, life becomes possible. The membranes must function in two distinct and polar ways. They must allow weak charges to enter the cell through induction. As the cell or organ or organism becomes charged and filled with life, the membranes must be capable of sustaining a higher charge. To do this, it must expand in an elastic way like a balloon. The more air we put in, the more the rubber membrane pushes back. The ability of an organism to induce and concentrate energy by expanding is called capacitance or capacity. In electrical phenomenon, the function played by the membrane in biology is taken by insulating or dielectric materials. These materials repel electricity. Two of the best dielectric insulators in use are glass and mica. These substances are used in the production of condensers which concentrate electrical energy in a given area. A simple condenser is made of two metal plates (conductors) with a dielectric (glass or mica) plate between them. The scientist Alessandro Volta used such a device to build static electricity charges when he was studying the electrical properties of common substances. Most substances are so weakly charged that they cannot be measured. Volta put a mica plate or a thin coat of shellac between the metals he was testing with an electroscope

and by having to pass across an insulator, the weak charge could build on the surface of the metal. The insulator, in the form of a thin membrane, gives a certain "elastic" force to a weak charge (like the pressure building inside a balloon). Circular forms made of many thin layers of a dielectric, condense weak charges and allow them to build in pressure (voltage). It is important to note that there is no conduction in the build up of an electrostatic charge. Induction of weak charges and the storing of them along membranes is a continual process in nature. Diverse phenomena such as thunderstorms, earthquakes, and digestion of substances all are induction related. The crystal lattices in the great mountain ranges are inducing cosmic weak energies and storing these energies in the membranous inner surfaces of the rocks. Induction then, is an on going organic process in nature. Capacitance or the concentrating of weak energies into powerful ones requires very special properties and conditions.

In the cosmic pipe mentioned at the beginning of this essay, the PVC and the basalt were dielectric insulators. The round form of the PVC pipe acts to condense the weak forces inducted from the cosmos. The copper wire draws the capacity from the pipe and directs it to the ground. Condensers, by balancing capacitance and induction, self regulate the flow of energies in a circuit. Indeed, this is often their purpose for being in a circuit, to act as a governor. Perhaps the wire in the cosmic pipe is conducting the life force before it has reached the proper stage. Whatever the case, the copper wire is an addition to a system which works best without conductors. The induction/capacitance model in electricity and magnetism is an objective, clear imagination at work in the complex energy exchanges involving the soil, plants, animals and human beings. We have found it as a model for diverse forms of horns, and organs in the animal world and in embryology.

It is also a model for the ancient cosmic technology employed in the erection of temples, pyramids, obelisks, and towers for the purpose of gathering and concentrating weak cosmic energies and then letting them spread gently but efficiently through the crop lands and farmsteads of the country. The cosmic pipe is an inartistic solution to the problem of inducing primal plant energies. By trying to force conduction through the use of the wire, it goes against the alchemical premise out of which it springs and takes a step into the explosive, driven, power squandering technology that has arisen around the once sacred forces of electricity and magnetism. In the next article, we will look at the work of etheric researchers past and present who seek to harmonize their agricultural science with the models so plentifully provided by Nature and Nature's God.



THE ETHERIC FORMATIVE FORCES

by Guenther Wachsmuth

*being Chapter II Of The Etheric Formative
Forces in Cosmos, Earth & Man, 1932*

WHAT we perceive in Nature by means of our sense-organs—as every person trained in science and philosophy knows—is not in reality substances and forces but states and the changing of these into one another. “The senses inform us in regard to states. If we speak, then, of something other than states which undergo transmutations, we are no longer restricting ourselves to the bare facts of the case, but are adding concepts to these.” When we go beyond the states and their metamorphoses given to us by the senses, a twofold question then forces itself upon our thought: 1. What maintains the given states in the form in which they now exist? 2. What in given instances causes the metamorphosis from one state to another?

If we begin, not like Newton from the standpoint of matter, of the bodies, but like Goethe from that of the primary forces, we must reply to both these questions: *The etheric primal forces (formative forces). In so far as they are united with bodies in the phenomenal world, these bodies continue in that state induced by them, until such time as free etheric forces of another sort, or stronger ones of the same sort, bring about a metamorphosis of the existing state.*

We shall be able to pursue this idea in the most varied examples in Nature. But at this point we must first give a conception of the nature and the action of the etheric forces. Lenard writes: “Because of the identity of electric waves and light waves, we are sure that the same ether which brings us light, heat, and all energy from the sun also conducts the electric and magnetic forces... A single ether for light, heat, and electricity—thus did Lord Kelvin express the great achievement of the electrical researches of Hertz.” This error Dr. Steiner combatted as early as 1888, in the words already cited: “When we seek to discover what happens in that which is extended in space when the entities under consideration are being transmitted therein, we must conclude that it is always a motion. For a

medium in which motion alone is possible must react to everything by way of motion, and all kinds of transmission which it must perform will be carried out by way of motion. When, therefore, I seek to discover the forms of this motion, I shall not learn what the thing is which is being transmitted, but only in what manner it is conveyed to me. It is sheer nonsense to say that heat and light are motion. Motion is merely the reaction of matter capable of motion to the action of light.”

The conclusions which were arrived at from the researches of Hertz, led not only to the error that from the mere effects which are produced in the ether, a medium capable only of motion, too much was concluded regarding the very nature of the ether itself, but also to the erroneous assumption that—because of the uniformity of the reaction of the perceptible medium (that is, substance) to the actions of the ether—therefore a single ether calls forth all the effects. But this error is fundamental and has blocked the way to reality before all further researches in ether.

As a matter of fact there are altogether seven etheric primal forces, formative forces, active in the cosmos; of these, however, only four reveal themselves in the space-and-time processes of our present phenomenal world. In what follows, therefore, we shall deal only with these four etheric formative forces.

Anthroposophical spiritual science designates these four kinds of ether as:—

Warmth ether,
Light ether,
Chemical ether (or sound ether), and
Life ether.

In characterizing the differences among the four kinds of ether we cannot restrict ourselves to the ascertained fact that they are distinguished in comparison with one another by the wavelengths—

that is, the degree of motion—which they call forth in the world of substance. Such merely quantitative distinctions of modern science do not at all suffice to explain the phenomena, qualitatively so utterly unlike, which the different kinds of ether produce in the world of substance. The relationship existing among the etheric formative forces is, rather, the following: The four etheric formative forces have proceeded phylogenetically one out of another, and proceed now ontogenetically one out of another; and, in reality, warmth ether has been metamorphosed—that is, has evolved into light ether; light ether into chemical ether; chemical ether into life ether. Further, the mutual relation between the etheric forces is such that the later ether, more highly evolved, always contains in itself the attributes of the earlier, yet always develops, as a new entity, an activity clearly distinguishable from that of the other. Thus the life ether contains in itself the warmth ether, light ether, and chemical ether; the chemical ether contains the light ether and warmth ether; etc., etc. Nevertheless, each ether acts in the manner characteristic of itself alone; and only when, through having penetrated into the substance-world, it has been modified, may a higher ether, for instance, be reduced, as it were, to the action of a lower. Warmth ether, from which the other ether forces have evolved, has in turn come into being out of purely spiritual states outside of time and space. Of these we shall speak later.

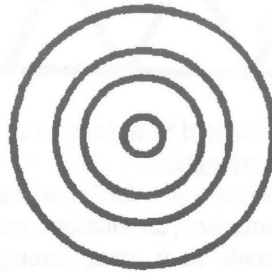
The four kinds of ether may now be classified in two groups, and this distinction is of fundamental importance for the understanding of all that is to follow:—

The first two, warmth ether and light ether, have the tendency to expand, the impulse to radiate out from a given central point; they act centrifugally; whereas the other two, chemical ether and life ether, have the tendency to draw in toward a centre, the impulse to concentrate all in a given central point; their action is suctional, centripetal. This polarity of the two ether groups—the centrifugal, radiating, self-expanding will, and the suctional, centripetal will to draw inward, to concentrate—is an ultimate elemental principle lying at the bottom of all natural phenomena. This will be indicated hereafter for a great many fields of natural science.

Individually, the four ethers have the following characteristics. The etheric commences with the first state of ether, that of warmth ether. Present-day physics views “heat,” not as an objective state, but only as a subjective quality called forth by a form of motion. Here also, however, the results of the theory of relativity have within a very recent period greatly modified or completely transformed many conceptions long held to be unassailable. Professor I. Graetz in his work “*Der Äther und die Relativitätstheorie*,” which boldly denies many conceptions hitherto in constant use, thus states the problem: “Whereas heat was considered at an earlier period to be a substance, something material, this substance theory has been abandoned since the middle of the last century, and heat and energy in general are considered as something kinetic. The second conception of the law of energy, according to the theory of relativity, conflicts with this purely kinetic theory; it conceives energy as something material. Mass is, of course, something material; and, since every change in energy is bound up with a change in mass, the theory of relativity views energy as something material, as an energy-substance, not as a motion, or at least not as motion alone. Thus it appears that energy must be conceived in the theory of relativity as energy-stuff.” To future observation of Nature, heat,

embraced by such observation in its totality, will, in its essential nature, be just as objective a state as the gaseous, liquid, and solid states of aggregation in substance. “Heat” processes are a transition stage from the purely etheric to the so-called “substantial,” and *vice versa*. We shall be able to convince ourselves of this fact from many points of view in the further course of these reflections. It can be shown that only through the action of warmth ether do heat phenomena arise, whereas the other phenomena, light, chemical processes, etc., possess quite different qualities for the reason that the etheric forces themselves which call forth these phenomena are marked by quite different qualities.

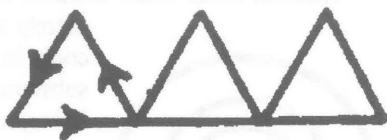
Warmth ether tends towards the *spherical* form. If it were merely a conveyer of “motion,” then it could in turn call forth only motion in a substance-medium in which it works. Since, however, the tendency to create spherical forms is inseparably linked with its action, therefore it calls forth, wherever it enters into Nature and is not obstructed in its action, spherical forms. We are here dealing—and this must again and again be emphasized—not with abstract dead oscillations of unknown origin, but with concrete formative forces.



The second ether state is that of light ether, or, more simply, of that which is given to the physical perception of man as “light”. As Lenard says, light gave us the first intimation of the existence of ether, and he thinks “Light is undoubtedly a transverse wave motion: that is, in a beam of light and perpendicular to its direction—never merely backward and forward displacements in the same direction with the beam, as is the case in sound waves—there are present periodically shifting states. Optical researches by no means recent—for instance, those in regard to polarization of light, have already shown the transverse character of light waves. In the course of time we have learned to recognize still other ether waves which are invisible: ultra-violet, ultra-red, and electric waves; but these as a group have the same characteristics as light waves, differing only in their lengths.” That the “characteristics” are similar, the lengths different, may satisfy us so long as we are testing in a one-sided and arbitrary fashion the quantitative-mechanical action in the substance medium; but in this way we learn nothing whatever in regard to the natures and the concrete distinctions of the different kinds of ether. The light ether to which we refer, which calls forth for the human eye in the manner to be explained later the phenomenon of light, does in fact induce among other things a transverse oscillation; but in addition to what has been said above we must add that this occurrence describes the figure of a triangle (see below), so that light ether, as we shall see, when it can exert its effect unhindered in Nature, also produces there triangular forms, whereas warmth ether produces spherical forms.

We agree entirely with Lenard when he says: “We must take the characteristics of ether just as we find them in order to base these upon experience and seek to harmonize them in a conception free from contradiction; and we must not permit ourselves to be disturbed in this—a serious error which, I think, has often been made—if we find that *these characteristics are entirely different*

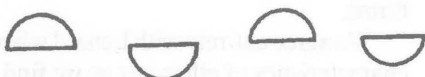
from those of matter in solid, liquid, or gaseous forms. For ether is simply not matter." When, however, he proceeds further, saying: "and it is legitimate for us only by way of comparison to draw upon matter at all, in order that, proceeding from our knowledge of the motions induced in matter, we may endeavour to reach a conception of the motions in ether," we must remark in regard to this that we shall never be able to reach a true conception of ether by transferring the forms and laws of motion in matter to the ether itself. If, however, we conceive of ether, or the etheric formative forces, as formative forces void of any quality of substance, as active principles which come to living expression in the phenomenal world only through their active tendencies to definite motions, to shaping definite forms with definite qualities, then this difficulty disappears. We may say, then, that an oscillation, a form which is caused by light ether in a substance-medium, takes the shape of a triangle.



The third ether is *chemical ether*, or *sound ether*. Its forces, that is, cause the chemical processes, differentiations, dissolutions, and unions of substances; but also — though, as it were, through activities in another field — its forces transmit to us the tones perceptible to the senses. The inner kinship of these two spheres of action will be clear to us from the phenomenon of Chladni's sound-forms. For it is tone which causes the uniting together, the orders and forms, of substance and bodies of substance. "That which the physically audible tone produces then in the dust is happening everywhere in space. Space is interpenetrated by waves produced by the forces of chemical ether," which, in the manner of the Chladni dust figures, dissolve and unite substances. But chemical ether has in reality "a tone-and-sound nature of which sensible sound, or tone heard by the physical ear, is only an outward expression: that is, an expression which has passed through air as a medium."

We shall discuss more thoroughly in Chapter IX the origin of tones audible to the senses; here we must only establish the fact that tone and chemical processes are to be attributed to the same ether in the manner explained.

Chemical ether, when it can exert itself unhindered in Nature, produces, as we shall be shown concretely, *half-moon* forms.



In contrast with the expansive kinds of ether—warmth and light ether—chemical ether, as we have said, tends in its action to be centripetal.

It may also be proved that the phenomenon of cold is one of those attributes which are to be ascribed to chemical ether, a fact which

is essential for an understanding of the relation between processes of cold and of contraction.

The fourth ether is *life ether*. It is phylogenetically the most highly evolved ether, and therefore in its qualities most varied and complicated, as we shall later show in connection with the most varied phenomena. It is, as we shall see, that which is rayed out to us, among other things, from the sun and then modified in its action by the atmosphere of the earth in a manner to be described in the following chapters. Life ether, together with chemical ether, belongs to the group of suctional forces, those which tend to draw inwards. We shall also be able to prove its relation to that which is called "gravitation" and to the phenomenon of magnetism.

Its form-building tendency, when it can exert its effect unhindered in substance, leads to *square* shapes, expressed, for instance, as we shall show later, in crystallizing salt.



By way of resumé then, see Chart A:

The States of Aggregation of Substance and the Etheric Formative Forces

We have shown that what we really see in the phenomenal world

is "states and their metamorphoses into one another." These may be grouped, first of all, into the four states of aggregation: the solid, the liquid, the gaseous, and the fiery, or heat, state. That the last is in fact an objective state and not only an imaginary "motion" bringing about in the human organism the subjective heat-experience.

Chart A			
There comes into existence phylogenetically and ontogenetically out of the non-spatial state:			
	Spatial tendency	Form tendency	State induced
Warmth ether	{ Expansive or Centrifugal	Spherical	Heat
Evolved therefrom, Light ether		Triangular	Gaseous
Evolved therefrom, Chemical ether	{ Suctional Drawing in Centripetal	Half-moon shaped	Fluid
Evolved therefrom, Life ether		Square	Solid

Fearless investigators have already been compelled recently to assume a certain state beyond the gaseous and different from it, but they have not been able yet to reach a concrete conception of its nature. As a matter of fact, the heat state is present quite independently of the others, as is evident on the following grounds. If we wish to answer rightly the two-fold question naturally arising:

1. What induces and maintains the different states in Nature? and
2. What preserves these or metamorphoses them one into another?

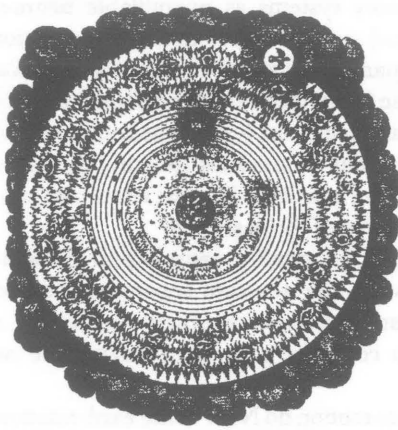
the answer is that each of the four states of aggregation is brought about and maintained by one of the etheric formative forces, as follows:

The Heat state by Warmth ether,

The Gaseous state by Light ether,

The Fluid state by Chemical ether,

The Solid state by Life ether.



EIDETIC GEOCENTRISM

Part II by Gerry Vassilatos

In a previous article I have shown that a very significant disparity exists between quantitative geodesic calculations and qualitative physiological sensation. According to geodesically determined calculations there should be a significant sensate response to the (supposed) earth rotation. The absence of this sensation is problematic... and leads into a most curious series of conclusions.

Theories are accounted worthy of acceptance only when they can show connections, correlations, and equations among very divergent phenomena. Quantitative theories correlate specific portions of different phenomena in the inertial space. Qualitative science reveals essential communions among quantitatively incompatible domains.

I utilize the (supposed) earth rotation as a tool for enlarging upon a fundamentally ancient cosmology...one whose world-view best comprehends and correlates the natural enigmas of experiential reality. The fundamental role of perception in both quantitative and qualitative sciences must be addressed and properly interpreted.

In my last article I used a battery of very accurate geodesic values to calculate earth surface disequilibria. Anyone may review my calculations and arrive at these values. Each value is precisely calculated for (maximum) equatorial constants...where (according to the rotating earth model) motional displacements and disequilibria should be experienced in their extreme.

These constants constitute certain fundamental geodesic values. They demand the pre-supposition that

- a) the earth is a solid spheroid of specific curvature
- b) is rotating on a relatively fixed axis in vacuum
- c) has its center of gravity in a fixed core focal point.

I personally find these three accepted quantitative concepts to be the objectionable conclusions drawn from a specific distortion in qualitative space...but reiterate them for the sake of my calculations. It is possible to prove the existence of a permeating qualitative space...while utilizing the very constants which quantitative science cites as "proof" of an academically accepted terrestrial model.

Earth Geodesy Constants

Radius [3963.221] miles.

Circumference [24911.22191] miles.

Rotational Period [23.9344694] hours per rotation.

Rotational Speed [.28913735] miles per second point-disequilibrium

Angular Disequilibrium [.0041666] degrees per second.

a = [.002083333] degrees per half-second

a = [7.4999988] degree-seconds

sine angle a = [.000036177]

In two (geometrically exaggerated) diagrams we shall solve for the actual disequilibrium which any sensitive individual SHOULD experience on the equator every experiential second. Diagram 1 indicates a slice of equatorial earth in which we have constructed a very large right triangle. We know the hypotenuse of this triangle as the earth radius.

We wish first to find half the chord which connects both surface points as indicated. This distance represents the actual surface distance through which any observer travels with respect to an imaginary overhanging fixed point.

The sine of angle "a" is known by considering the total rotational time through which 360 degrees are precessed. Equatorial surface curvature is [.144556867 miles per second rotation]. We therefore discover that chord section A is [.143377446 miles per second rotation].

We utilize the equation of Pythagoras to determine the actual "drop" (Diagram 2) from curved surface to chord as [1075.018618] feet per second...a staggering value. Quantitative analysis separates, isolates, and quantifies forces in dynamic situations. The (supposed) earth rotation would produce several experiential (physico-physiological) species which may be enumerated and distinguished:

- a) the forward thrust of [0.2891 miles per second]
- b) the continuous disequilibrating "drop" of [1075.02 feet per second]
- c) the forward (headlong) disequilibrating angular displacement of [7.49999 degree-seconds]
- d) the disequilibrating vertical displacement of [7.49999 degree-seconds]

Empirical qualitative research continued to discover consciousness-modifying effects of "aetheric streams" among natural geological structures and in specific material configurations. Neither quantitative nor qualitative researchers ever discerned an "aether drift" correlated to the (supposed) rotations of the "earth in space". Quantitative science took this supposition as proof that no motional reference exists. Quantitative analysis does not recognize the consciousness of space...viewing space as vacuum.

Quantitative space is not a conscious space...because no transducer exists by which space consciousness may be quantifiably

measured. Only bio-articulate structures are capable of experiencing the consciousness of space itself. Quantitative space is not a biological formative generator...despite numerous exhibitions of spontaneous biological activity in quasi-articulate "inorganic" systems (Brown, Littlefield, Bastian, Kolisko, Fox, Oparin, Reich, et.al.).

Quantitative analysis fails to identify the fundamental disturbance in which all organisms necessarily experience discomfort. The presence of any significant rotational force would continually produce a life-defying discomfort of great extremes. Such discomfort is not known on earth.

Fixed mass-points upon a curved gravitating body should produce several dynamic actions such as:

- a) eastward thrusts
- b) upward centrifugal "levitations"
- c) east groundward angular displacements.

Despite insignificantly small forward angular-displacement there exists a disorienting motional component which neither gravitation nor virtual centrifugal forces can neutralize. It is this motional component which must be powerfully felt and comprehended...if it exists at all.

The geotropic sense is evident in all life-forms which subsist in ground-referenced environments. Spatial disorientation produces special responses which are best understood through qualitative sensitivities.

The human organism delicately senses many varieties and distinctions of movement, displacement, disorientation, and disequilibrium. Specific senses detect continuous changes in human perspective...and these senses do not all require changes in velocity for their stimulation. Displacements in space are strongly sensed in all living organisms as disequilibria. Displacements may be quantitatively measured...but disequilibria are qualitatively experienced.

DISPLACEMENT AND DISEQUILIBRIUM

Interpretation of my findings requires examination of each physiological sense resulting from such (supposed) significant movement. Quantitative analysis demands specific correlated measurements of motion and sense. Are the calculated large earth-point displacements capable of being physiologically sensed at all? If so...by which actual sense organs, sensory systems, or sensory modes must they be sensed? Neurological determinations of stimulus-sensitivity might comprise a thoroughly quantitative examination of possibly felt earth motions.

Physiological sensation accommodates and discerns several degrees of space-motional freedom with great sensitivity. Kinesthetic equilibria correlate closely with the primary senses of being. These exist as fundamental sensations which cannot be quantitatively discerned, described, or evaluated.

Those who study sensory systems as quantifiable neuro-responses (via electrical meters) can never give detailed descriptions of stimulus-experience. Quantitative science cannot know exact responses to stimuli because its methods demand separation from anything experiential. Quantified neurological measurements appear as minute and insignificant magnitudes (Reich). Qualitative responses to specific stimuli are inordinately great when compared with quantitative measurements of those stimuli.

The divergence between examining neurological dynamics and actual experience reveals the absolute separation between quantitative and qualitative science. Either we observe neurology...or experience it. There is no common ground between these two opposites.

Nerves which sense mass-motion do NOT sense earth rotations. No portion of our experience corresponds with the [1075 foot per second] disequilibrating "drop" through space either. Displacements in "space-poise" require far more sensitive perceptive modes than the pressure-activated neurology.

Quantitative observation of experience in organisms never yields qualitative comprehension. Qualitative Science admits human sensation and observations of metacognitive activities during experiment. Qualitative Science permits experiential fusion in and among examined phenomena and permits deeper cognition of examined entities.

Qualitative science recognizes sensations which exceed the inertio-physiological domain...sensations which are intimately related with organisms in conscious space. Quantitative analysis does not explain or predict the most intimate organismic cognition.

Whenever we are moved in space we know of it...the sensations are distinct and different from those by which we know that a spatial DISPLACEMENT has occurred. Organisms sense DISEQUILIBRIUM with great precision. The important distinction between the two terms forms the foundation of all our subsequent conclusions. Organismic equilibrium in space conceals a fundamental biological secret.

Only qualitative method defines DISEQUILIBRIUM. Disequilibrium is organismic response to specific environmental displacements. Disequilibrium and displacement are two completely different items but may be related in certain phenomena. Equilibrium sensations are exceedingly sensitive and precise. Quantitative science defines and measures spatial DISPLACEMENT but not disequilibrium because physiological experience cannot be quantified.

Physical displacements are not the only sources of disequilibrium sensations in organisms. Energetic disturbances are capable of disrupting spatial equilibrium in organisms. Strong distal electrical discharges have demonstrated ability in producing disturbing irritability, fear, sleep, and nausea in living beings. In such instances there are no relative mass motions between disturbance and organism. Energetic disturbances of all kinds produce specific

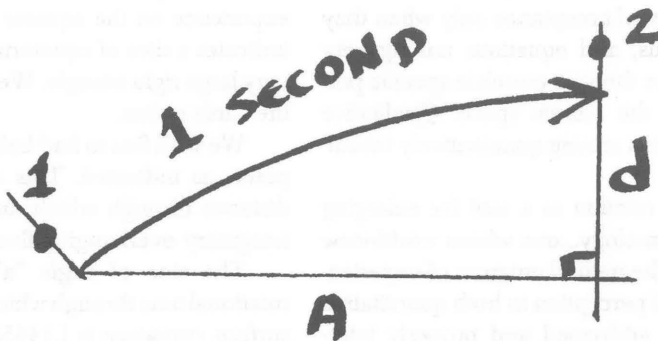


Diagram 1

biological disruptions.

Life-threatening disequilibrium is sensed, feared, and avoided among otherwise placid organisms. Such energetic events effect disruptions among spatially articulate patterns...which externally feed organisms with their life. These spatial patterns are bio-fundamental integrators of the organisms which manifest inertial appearances.

Qualitative experience informs each of us that earth is NOT MOVING. Bio-articulate equilibria evidence the terrestrial rest state. Properly interpreted quantitative analysis provides mathematical enigmas which confirm this simple knowledge. Are there trans-physiological sensations which must necessarily prevail on a rotating earth surface...despite the historically assumed "neutralizing" effects of gravitation? Is there a qualitative means by which a rotating earth model may be tested to satisfaction?

SPACE DISARTICULATION

Quantitative analysis does not offer information about experiential disequilibria. Any motion empirically modifies consciousness and experience. Organisms and masses alike qualitatively experience specific disequilibria. These disequilibria are due to specific environmental "disengagements". The qualitative species which appear in moving organisms in ground contact should include continuities in:

- a) physiological disequilibria
- b) perspective distortions
- c) eidetic disengagements
- d) consciousness disequilibria.
- e) continual visceral anxiety

Not one of these supposed sensations are experienced in continuous processions. Qualitative science observes and charts the occasional appearance of certain such diurno-seasonal events... observations which modify our experience during the day and among the seasons.

Facing eastward should be facing "with" the supposed rotational terrestrial motion through articulate life-supplying space. This poise should focus subjective sensitivity upon very distinct and powerful disequilibria. The continuous disorientation of a supposed mobile earth through articulate space must be strongly sensed by all organisms. None of these effects registers the slightest sensation.

Vertical orientation in Qualitative Space establishes organismic equilibrium through articulate extension. Organisms are articulately engaged and enmeshed in their life-supplying space. Any continuous disorientation in articulate space dangerously shreds the articulate patterning (auric threads) of organisms. Such violence produces great fear and nausea (motion sickness) in biological systems.

Quantitative examination studies the mass-pressure effects of velocity change on neuro-systems in order to discover the inertial cause of such sensation. An intriguing physiological phenomenon

indicates the true qualitative cause of prolonged motion sickness.

Cessation of prolonged centrifugal motions produce inordinately prolonged organismic nausea. Sea-sickness may last up to 30 or more hours AFTER disembarking from a ship. Quantitative science has placed the "balancing" neurosensors in the middle ear. Semicircular middle ear canals offer great resistance however to the continuous flow of liquids which (according to quantitative examination) are responsible for body-equilibrium. Quantitative science must concur that nerves cannot register prolonged stimulation when once long motion has ceased. Some other cause for the continuity of such organismic pain must be found.

Quantitative examinations indicate that violent and continuous motions produce greatly disturbed bio-electric patterns. Contractive bio-electric fields are measured in organisms which are subject to violent and continuous spatial displacements. Such organisms require time in order that these bio-fields again reach equilibrium.

Sudden bio-electric expansion articulately appears when equilibrium is again reached. These disequilibrium reactions indicate a specific relationship which bio-organisms have with space itself.

Organisms behave as if articulately "patterned" into their living space. This "patterned living space" extends into both deep ground and space...and yet exhibits no relative movement between deep ground and the depths of deep space.

Disequilibrating motions of this environment would be sensed as articulate disengagement... disturbing the articulate patterns by which bio-physiology is actual (externally) supplied. The nameless fear which grips us when sufficiently disarticulated from our articulate rest-space reveals the secret (spatial) source of life.

Qualitative examination reveals that violently displaced organisms evidence articulate disruption in space. Violently moved organisms experience painful disruptions in the articulate patterning which feeds them life. Torn articulate spaces produce prolonged organismic disturbance. Time is required for the restoration and healing of articulate distensions, distortions, and disruptions.

If the earth were truly rotating then all biology would seek refuge in non-motive locales. Organisms would scramble for places where the ground-surface angular motion is minimized...not enlarged. Poleward biological migrations would be observed from time immemorial...if this were the greater reality. Such motion would result in the severe sensation of constantly impending cataclysm. But...no such disturbance is experienced on earth.

Disarticulation through world-movement remains undetected by all organisms on earth. A continuously rotating earth demands the illness concomitant with continuous space disarticulations among all bio-organisms...a state which does not describe our world-experience. Severe space disarticulations produce severe organismic disequilibrium...but no such motion is detected.

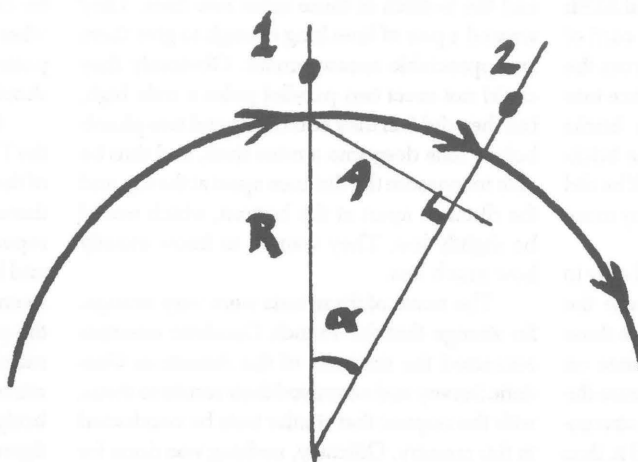


Diagram 2

EARTH'S "CENTER OF GRAVITY"—UP OR DOWN?

by Ray Palmer, reprinted from FLYING SAUCERS issue No. 40, February, 1965

Why is it that at the turn of the century, the Geodetic Survey Departments of both the French and United States governments made certain tests which upset the Copernican theory, then decided that they should be kept secret? What, actually, were these tests, and should they be repeated today, under the most severe test conditions?

If you've ever watched a bricklayer at work, you've seen him use a plumb bob to determine the perpendicular so that his wall will be erect and straight. A plumb bob is simply a weight suspended on the end of a cord. It acts on the principle of the attraction of gravity, or mass, and the weight always points toward the center of gravity, which in the case of the spherical Earth is its exact center. A line formed by the cord of a plumb bob is at precisely a right angle from the horizontal. It is a division of a plane surface into two 90° angles. By simply laying his bricks parallel to the line of the plumb bob, the bricklayer builds a wall that is precisely erect. If he did not use a plumb bob, there would be many more leaning towers of Pisa in the world.

However, the plumb bob is not used only to erect buildings, but it is used to measure the distance of the sun. Or any planet. This is done by measuring a precise horizontal distance on the Earth (which is naturally a curve, because the Earth is round), and since we know the circumference of the Earth, the distance around it, thus we can calculate an exact base for our proposed triangle to be used in measuring the distance of the sun. Then, by use of a sextant, we can "shoot the sun" from both ends of this base line, and get a pair of angles which are slightly less than 90° angles because they are obviously not parallel to the perpendicular as determined by the plumb bob. We know that, given one side of a triangle, and two of its angles, we can calculate the length of the other two sides. Thus, we can tell how far the sun is from the Earth.

It isn't quite this simple, because we don't know the precise size of the Earth, and thus, the difference in parallelness of the two perpendiculars we have achieved at both ends of our base line. It should be obvious to the reader that since the plumb bobs point at the center of the earth, lines projected to the center of the Earth from each plumb bob would meet at that center and likewise, lines projected into space would continually move further apart. Thus we have a great interest in exactly how far it is to the center of the Earth, in order to be absolutely sure of our two important angles in figuring interplanetary distances.

Sometime prior to 1901, the French Government, wishing to determine more accurately the actual size of the Earth, so that they could revise and refine their calculations regarding the distance to the sun, hit on a way to measure the difference in distance apart at the top of two lines perpendicular to the surface of the Earth and the bottom of those same two lines. They wanted a pair of lines long enough to give them an appreciable measurement. Obviously they could not erect two parallel poles a mile high, but they did feel they could suspend two plumb bobs a mile deep into a mine shaft, and thus be able to measure the distance apart at the top and the distance apart at the bottom, which would be slightly less. They wanted to know exactly how much less.

The result of these tests were very strange. So strange that the French Geodetic scientists contacted the scientists of the American Geodetic Survey and conveyed their results to them, with the request that similar tests be conducted in this country. Officially, nothing was done for some years. But in 1901, one of the Geodetic surveyors happened to be working in the vicinity of the Tamarack mines near Calumet, Michigan. He contacted the chief engineer at Tamarack, and informed him of the information transmitted by the French government.

Two mine shafts were selected, and plumb lines exactly 4,250 feet long were suspended in each mine. At the end of these lines a sixty pound bob was hung. In order to prevent movement through a horizontal direction, each bob was suspended in a tank of oil placed at the bottom of the mine shafts. In this way, it was reasoned, magnetic forces could not effect them. The lines used to suspend the bobs were No. 24 piano wires. For twenty-four hours the lines were allowed to hang, so that there would be no possibility of movement from putting them in place still remaining in the lines. The measurements were begun.

It was then that it was discovered that the French Geodetic engineers had not made a mistake. Careful rechecking proved that the lines, contrary to expectations, were farther

apart at the bottom than at the top!

There can be only one implication to such a strange result—the center of gravity is not, as previously believed, at the center of the Earth, but in fact, it must be above the surface of the earth, somewhere in Space! If these two lines, formed by the suspended plumb lines, were to be extended upward, they would meet somewhere in the void away from the Earth, and that point, by all the rules of gravitational attraction, should be the center of gravity of this planet!

Greatly puzzled, and not a little disturbed, the Tamarack engineer sent for Professor McNair of the Michigan College of Mines. With McNair there to check his results, the experiment was repeated the measurements gone over again, and both men were convinced that no error had been made. Professor McNair suggested that the plumb bobs be changed to a nonmagnetic metal to overcome any possibility of magnetic attraction or repulsion due to a magnetic ore body nearby. But when this was done, the same figures were arrived at. If magnetic influences had been at work, they would have varied with different metals, but they did not.

Now, suggested McNair, it would be a good idea to prevent air currents from traveling up and down the mine shafts which might be affecting the plumb lines. Thus, both mine shafts were sealed at the top. Once more the figures remained the same.

After trying many methods to vary the figures and failing, Professor McNair gave up in complete bewilderment.

These series of tests had not gone on in complete secrecy, and it was inevitable that news of them leaked out. It leaked to a reporter of the Milwaukee (Wisc.) Sentinel, who published the story. It stated the crux of the situation as follows: "The wires were supposed to hang parallel to each other (the reporter made an error here, because this is not a fact—they should have hung closer together at the bottom), but were farther apart below the surface than they were at the surface and no one has suggested anything that seems to cover the question."

Professor McNair, when questioned, stated

for publication that he had proved that magnetic attraction from the Earth or the sides of the shaft did not cause the strange divergence. Then he went back to the Michigan College of Mines and wiped the whole thing from his mind. Apparently this is true, for he made no effort to contact his colleagues or scientists to call attention to the fact that what they were teaching about gravitation and plumb lines did not actually hold true when put to a conclusive field test. However, we can forgive Professor McNair for his reluctance to pursue the matter further, because its implications are tremendous indeed. They are totally shattering to our concept of the universe, and in fact, if they can be made to hold true, make a shambles of all our physical sciences. Obviously Professor McNair was unwilling to so upset his daily routine. Nor were the United States and French governments—for as the French put it “the value of the franc will remain unchanged, and bridges and buildings can still be built, so why make an issue of it?”

However, Professor Hallock of Columbia University was of a different mind. He heard of the experiment through a professor at the Michigan College. He held that this actually was attraction upon the plumb lines, and in a very astute article, told how easily the matter could be settled by using phosphor bronze wires instead of piano wires, and lead bobs for iron bobs.

The Tamarack engineer, delighted at an opportunity to clear his mind of its confusion, followed instructions to the letter—and came up with precisely the same measurements as before. When Professor Hallock was informed of this result, he retired into a dignified and stony silence. No so the Tamarack engineer. He had decided that something was causing this phenomena, and he was going to find out what it was. Plumb bobs suspended in a single mine shaft gave too delicate a difference in measurement, and after all, were not accurate enough to give any reliable figures on the amount of deviation (for instance, per mile) and whether or not the deviation had any relation to the size of the earth. After all, it had originally been the purpose of the French Geodetic Survey to refine the actual size of the Earth as then known to a more accurate figure. They had something in mind concerning artillery, as well as astronomy

A second series of experiments were conducted at Calumet. This time two elevator shafts into the mine were used instead of one, those numbered two and five. These two were 4,250 feet apart, and were also 4,250 feet deep. They were connected at the bottom by a perfectly straight transverse tunnel. Now, plumb bobs were hung in each shaft and measurements were made. This time it was found that the plumb lines were 8.22 inches farther apart at the

bottom than at the top. It did not take the Tamarack engineer long to discover that this figure exactly represents the divergence that would be necessary to complete a 360° spherical circumference. There was only one difficulty—as expressed by the plumb lines, it would be the circumference of the inside of a sphere, and not the outside! Further, the center of gravity, as expressed by the angles formed by the plumb lines, would be approximately 4,000 miles out in space!

Obviously this could not be true, because if the Chinese were to make calculations based on a similar pair of mine shafts in their country, on the opposite side of the globe, the center of gravity would be found to be 4000 miles in the other direction. The center of gravity, according to the plumb lines, was a sphere's surface, some 16,000 miles in diameter. Any place, 4000 miles up, was the center of gravity.

Can we blame the Tamarack engineer for going down in his mine and maintaining a grim silence from that moment on? United States Geodetic Survey crew for two years conducted further experiments, among them measuring the surface of a long lake in Florida on the theory that water conforms to the true curvature of the Earth's surface, regardless of how the land may be, thus giving a true level—only to find that the water curved uphill in each direction rather than downhill. Can we blame them for deciding that to give these startling figures to the world would have no bearing on the practical problems of life, and was therefore best forgotten, since an explanation was beyond them?

However, others were making similar experiments, among them a mystic named Koresh, who claimed he was the Christ, come for the second time. In spite of his mysticism, his scientific measurements and experiments were not in the least mystic. He used the plumb bob to great advantage, for proof that the Earth's curvature was the reverse of that usually accepted as true, and thus claimed—that we lived on the inside of the globe, rather than the outside. He accounted for the sun, the planets, the stars, the moon, gravity, etc., in a very elaborate set of theories, but in spite of this, his discoveries also went by the board, and are scarcely remembered today, and never mentioned in scientific circles.

Yet the facts remain. Plumb lines are farther apart at the bottom than the top. What does it mean? What is wrong with our concept of gravity, mass, electromagnetism, the Earth's size and shape, our position in relation to other bodies in space, the very nature of physical reality?

From this point on, in this article, we will deviate from facts, and merely theorize. We ask no one to take what we say seriously, as being

presented as an explanation. The statements we will make we make only for the purpose of argument, and possibly to point a way toward further experiment in an effort to solve the mystery.

First, the Earth is a sphere (with certain very minor irregularities). We live on the outside of it. The Moon circles the Earth, and the Earth circles the Sun. Some force holds them all in orbit and in their relationships to each other. It is said that gravitation is that force. It is said the Moon's orbit is maintained because the attraction of mass of both bodies is exactly counterbalanced by centrifugal force. The Earth system is maintained in its orbit about the sun by the same delicate balance. Could it be that there is no such thing as “attraction of mass?” Would not such a quantity in mass have resulted, eons ago, in the whole Universe being gathered together in one crushing single body? Some scientists say this is what did happen, and that there was a resultant terrific explosion, and that the Universe is now expanding was proved, they say by the “red shift” which shows the distant galaxies to be receding in every direction at a constantly increasing speed, the more distant ones just recently discovered receding at something like 90,000 miles per second). Does not this increasing speed disprove their own theory, because shouldn't the speed of retreat from the central point (strangely enough our own solar system!) decrease as greater distances were reached?

If there is no such thing as attraction of mass, then we are not bothered with any center of it. Could it be that the presence of mass (regardless of properties) merely causes a distortion in its immediate area, such as the curvature of light noted (as predicted by Albert Einstein) around the sun during a solar eclipse? Thus, wouldn't a plumb line be deviated in proximity with mass simply by reason of the intensification of that mysterious agent of creation, an electromagnetic field? The best theory of creation to date is the theory of an electromagnetic field being placed in rotation, and thus the driving to its center, in a literal condensation process, of matter, to form a central body and planets.

Anyone who has watched a whirlpool, or a whirlwind, has noted the polar “holes” in both ends. If the Earth was so formed, would it not be mandatory that it have a hole at both poles, and possibly even be hollow? Do all planets have such holes? Do we see evidence of them in the polar caps (clouds hiding the opening, just as clouds perpetually shroud our own poles) of Mars, and the mysterious “hole clear through” Mercury, the mysterious “red spot” of Jupiter, the rings of Saturn, etc...?

If gravity (as Einstein finally said when he formed his last theory, the electromagnetic field theory) is really not a thing at all, but merely

manifestations (along with magnetism) of something else (the electromagnetic field in motion), then can we not account easily for the experiment of the plumb bobs and its strange result?

Is there actually no gravity out in space (outside the whirling electromagnetic field) and also, no inertial mass, so that the recent proposal to "sail through space" on aluminum sails which catch the infinitesimal energy of the photon (light particle), and thus require no engines at all, is reasonable and practical?

Is it not true that the plumb lines are not straight at all, but follow a curve dictated by the lines of force of a whirling electromagnetic field? Is it not true that the sun is seen not via light coming to us in a straight line, but actually a gigantic curve dictated by the master vortex of the Solar System's whirling electromagnetic field? Thus it would be considerably nearer than the 93,000,000 miles we believe its distance to be?

If there is no such thing as a "straight line" in this sense of the words, then are not all our measurements of astronomical distances based on initial error inherent in the incompatibility of angles and lines in a perpetually whirling "curved" electromagnetic field?

Are gravity, magnetism and inertia only

illusions induced as properties of electromagnetic fields? Is that why the plumb lines do not behave as they should; why gyrocompasses do not work within 150 miles of the "pole;" why it is proposed to "sail" the seas of space merely by the propulsive force of the "wind" of light photons; why we are developing an "ion-thrust" engine for space travel in spite of the fact that its thrust is comparable to that of a pocket flashlight?

The sun, they say, has a very weak electromagnetic field. The Moon none at all. Does this mean no gravity on the moon? No inertia? No magnetism?

A thousand questions arise from the stimulus of these two vexing plumb lines whose effects have been so disturbing on the minds of those whose lips remain sealed—because "it will not effect the value of the franc." Anyone with any basis in physics at all will find them thronging through his mind. We present these few only to provide that "initial thrust" to your thinking, and to challenge the owners of francs whose value is dubious in any event.

Lastly, might we suggest to the scientists at Vandenburg Air Force Base, where the polar satellites are launched, that here, in the doubt cast on the scientific concept of gravity, mass,

and inertia, exists perhaps an explanation for six straight failures to even locate a perfectly launched missile after it passes into the mysterious polar reaches. That failure is due to the inertial guidance system that depends for its function on remaining in an electromagnetic field. At the poles, might it be that there are "holes" in this field, and that your rockets are being lost in these holes, propelled by too much rocket thrust acting on little or no mass at all (inertia-wise)?

The whole thing is something to think about, and certainly not to be hidden beneath a pile of francs.

Would it be too much for us to ask that a body of recognized savants be assigned the task of conducting these experiments again, in the light of present-day knowledge and experience and implements, to correct our impressions concerning gravity the true nature of electromagnetism, and such relatively simple things as whether or not a body of water's level curves up or down?

After all, it is our money that is being spent shooting at a target that may not even be where we think it is! A record of 100% misses for Vandenburg is subject to questioning and re-evaluation!

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BINDING FORCES, OR LACK OF THEM!

by W. B. Smith

Founder and Late Director of the Ottawa Flying Saucer Club

Reprinted from the October 1963 *Journal of Borderland Research*

Matter, as we know it, is held together by forces the nature of which we do not clearly understand. We have developed some very elegant theories to explain most of the observed phenomena, and we add sufficient "corrective factors" to make the theory fit the rest. But every now and then we come face to face with something which our theory just will not explain, and rather than admit that our theory is inadequate, discard it and start over again. We just can't bring ourselves to throw out such an elegant mathematical masterpiece, so we usually just turn our backs on the new fact and refuse to recognize it. This is well demonstrated in the matter of Binding Forces.

Some years ago, following some rather bad aeroplane crashes for which there was no satisfactory explanation, the people from "elsewhere" were asked through "contacts" if these crashes were possibly due to our craft flying too close to their craft (Flying Saucers). We were informed that while a very few of our craft had suffered in this manner much greater care was now being exercised by the Saucer pilots so that this cause was virtually eliminated. We were informed, however, that our pilots flew around in complete disregard of the regions of *reduced binding* with which this planet is afflicted, and very often our craft were not designed with a sufficient factor of safety and came apart.

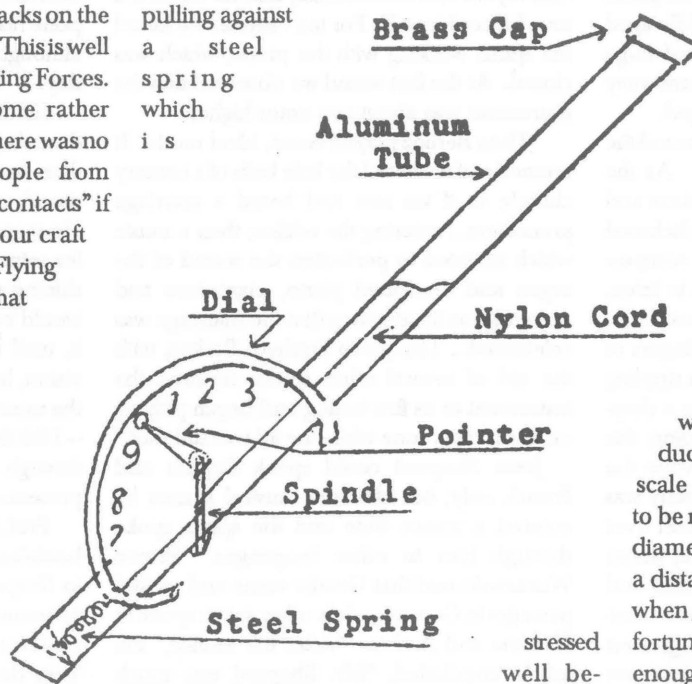
When we countered by saying that we knew nothing of such regions, we were informed that means for detecting them were easily within our technology and that we should build suitable instruments and then pay attention to what they registered. They also passed a few uncomplimentary remarks about our propensity for shooting off atom bombs which actually created a pair of such "vortices" with each explosion.

The principle of the "Binding Meter" was then explained to us, and we were left to work out its detailed design. The principle is quite simple: all matter is held together by the relative configurations of the three basic fields of nature, tempic (time), electric and mag-

netic. These configurations are characteristic of what we call the molecular structure, and the interactions of these fields is NOT linear. Therefore, since the fields interacting are the sums of the local fields, and the background fields, such interaction can be used to indicate certain characteristics of the background, through this very non-linearity.

Structurally the Binding Meter consists of a nylon fibre which is stressed closed to its elastic limit (after having been overstressed to establish stability)

pulling against a steel spring which is



stressed well below its elastic limit. The nylon fibre is wound around a spindle which carries a pointer so that any longitudinal movement of the fibre will cause the spindle to turn and the pointer will move across an arbitrary scale. In setting up the instrument nylon fishing leader was used and pre-stressed to the breaking point and this point noted. The instrument was then threaded and one end fastened to the spring and the other placed under tension to 75% of the previously noted breaking stress, and the end clamped under a friction washer. This washer was somewhat softer than the nylon to grip it solidly without deforming the nylon. The whole instrument was then set aside for a few days to make sure that it was stable;

after this the pointer was slipped to mid-scale and the instrument was considered ready for service.

By making the body of the instrument of aluminum tubing about 1/2 inch in diameter and 10 inches long, the combination gives very good temperature compensation, and a range of temperature of 100 degrees Fahrenheit makes less than 1/2 division on an arbitrary scale of 12. There is no perceptible change over the complete range of humidity and no barometric sensitivity was observed. Dimensions apparently are not critical, and successful instruments have been made with quite a variety of parameters. Unfortunately, we have no way of calibrating these instruments at the present time, and the best we can do is use them for quantitative indication.

My colleagues and I have investigated the general areas through which aircraft have flown just prior to unexplained crashes and we have found several regions of reduced binding, the meters showing several scale division changes. These regions seem to be roughly circular and about 1,000 feet in diameter, and probably extend upward quite a distance. A few have been detected by air when planes have flown through them, but fortunately in these cases the craft were strong enough to remain intact.

Whether this is generally true or not we cannot say, but it does appear that things are somewhat stronger in the northern latitudes than they are farther south, and certain areas seem to be permanently afflicted with reduced binding. We do not know if the regions of reduced binding move about or just fade away, but we do know that when we looked for several of them after three or four months we could find no trace of them.

It would therefore appear that this business of reduced binding would stand quite a bit of further serious investigation. Unfortunately, because of the unorthodox source of this information, efforts so far to obtain official recognition have resulted only in more letters being added to the "crank" file.

Mystery of the Musical Medium

by Vincent H. Gaddis

THE PLACE was the royal residence of Prince Adam Wisniewski in Rome and the time was a September day in 1894. Members of the Italian court, social personages, patrons and performers of the arts had gathered to witness a musical seance. Seated at the piano was the medium, a tall, slender middle-aged man with a trim dyed moustache and large brown eyes. On his head was a wig of dark wavy hair and his cheeks were slightly rouged.

The guests were placed in a circle around the piano and the room was darkened. As the pianist, his huge hands covering an octave and a half, struck the first chords, tiny lights flickered in every corner of the room. The great composers of past centuries had arrived, some to listen, others to perform from the beyond their latest compositions through the dexterous fingers of the medium. Thalberg was first with a rippling fantasia, then he was joined by Liszt in a rhapsody for four hands. "Notwithstanding this extraordinary complex technique," wrote the Prince in *Vessillo Spiritista*, "the harmony was admirable, such as no one present had ever known paralleled even by Liszt himself, whom I personally knew and in whom passion and delicacy were united. In the circle were musicians who, like myself, had heard the greatest pianists in Europe, but we can say that we never heard such truly supernatural execution."

A globe of light and three raps on the Prince's knee announced the appearances of Chopin and George Sand, respectively. Then Chopin's spirit, with the expressive tones that distinguish his compositions, played first a fantasia followed by haunting and exquisite melodies "with a pianissimo of diminishing notes and tones full of despair — a prayer to God for Poland."

The somber mood was dispelled by Mozart who played with the agility and lightness of a sylph, the genius of his unique and melodious style displayed by notes that danced to an airy climax above a Lydian measured undertone.

"But the most marvelous incident of the evening was the presentation of the spirit of

Berlioz by his two chaperones, Liszt and Thalberg," the Prince reported. "That was the first time Berlioz had played through Jesse Shepard. He began by saying that the piano was tuned too low for his music (Shepard is also clairvoyant and clairaudient) and he tuned it a tone higher himself. For ten minutes we heard the spirits working with the piano, which was closed. At the first sound we observed that the instrument was about two notes higher.

"Then Berlioz played sweet, ideal music. It seemed as if we heard the little bells of a country church; as if we saw and heard a marriage procession... entering the edifice; then a music which imitated to perfection the sound of the organ and continued piano, pianissimo and morendo, as if indicating that the marriage was celebrated... This piece finished, Berlioz, with the aid of several other spirits, restored the instrument to its first tuning and began playing on its ordinary tone while the lid was still shut."

Jesse Shepard could speak English and French only, but after the musical seance he entered a trance state and the spirits spoke through him in other languages. Prince Wisniewski said that Goethe came and recited passages in German, while other spirits spoke in Hebrew and Arabic. "After the seance," the article concluded, "Mr. Shepard was much exhausted and had to retire to rest."

As the late Dr. Nandor Fodor wrote in his book *Between Two Worlds*, "No musical party by the Mad Hatter could sound more preposterous than this account. It leaves breathless the most ardent spiritualists." Did Prince Wisniewski make an accurate report or was he guilty of exaggeration?

Whatever the source of his inspiration, Shepard was a master pianist whose improvisations left his listeners dumbfounded. Varied in style, emotionally powerful, his music sometimes had a delicate lilting beauty and at other times it was haunting, primitive. His renditions roamed the world and the centuries. With processions of chords, he evoked the antiquity of Egypt, the mystery of India, the agelessness of

China, and the sophistication of the West.

John Lane, the English publisher, was a guest one evening at a Shepard musicale when the performer improvised on the sinking of the Titanic. The treatment was so stupendous, so overwhelming, Lane said it caused him to postpone his departure for America for a fortnight, although he had arranged to sail the very next day.

Edwin Bjorkman, writing in *Harper's Weekly*, described a Shepard concert: "Something more than sound issued from that piano: it was a mood, uncanny yet pleasing, exalting, luring. He seemed to keep notes suspended in the air for minutes. Now and then he would make a shining vessel out of such a chord, and then he would begin to drip little drops of melody into it, until the Grail seemed to rise before your vision, luminous with blood-red rubies... Then the music swelled and became strangely urgent — I felt there was an image that wanted to break through — a consciousness of some mighty presence."

Prof. Harold P. Simonson, author of the only book-length biography of Shepard, writes that to Shepard "music was the medium to supra-conscious experience. An intransigent foe of positivism, relativism and determinism — of all 'isms' denying the power of the invisible and the reality of absolute spirit — (he) by means of musical seances, sought to lead others to transcendental perception." (*Francis Grierson*, by Harold P. Simonson, Twayne Publishers, Inc., NY, 1966.)

Unlike Rosemary Brown, the contemporary English housewife who has produced hundreds of astonishing and gifted compositions said to have dictated by Liszt, Chopin, Schubert, Beethoven and other musical geniuses of yesteryear, Shepard's music was never committed to paper. He believed that to do so would nullify the rationale of his gift. Some of his improvisations had titles and basic tonal structures, but his renditions were never exactly the same.

Born in England in 1848, Jesse Francis Shepard was brought to the United States as an

infant by his parents. The family settled on the Illinois prairie, in Sangamon County, in the heart of the Lincoln country. For a time his log home was a station on the Underground Railway, and at the age of ten he listened to the final Lincoln-Douglas debate at Alton. Three years later, as the Civil War got underway, he was a page to Gen. John C. Fremont in St. Louis.

Later the family moved to Niagara Falls and then Chicago. Shepard, in an biographical article in *The Medium*, a London spiritualist publication, said that his first psychic abilities of clairvoyance and psychometry appeared when he was 19. Meanwhile he was taking piano lessons and developing his skill in a normal manner. In fact, for a time, his sister Letitia played better than he did. When and where did the baptism of transcendental proficiency take place?

The mystery of this musical medium is presented in *Twentieth Century Authors*: "With only two years of formal musical training, Shepard exhibited an extraordinary talent at the piano. At barely 21, he set out for Paris, with scarcely enough money to buy his own passage, and almost overnight became a sensation." Without a knowledge of French, letters of introduction, companions or a reputation as a musician, he received immediate acclaim as piano improvisator par excellence. Within a month he was a welcome guest at the Parisian salons where he entertained those distinguished in titles, society and the arts.

In addition to his instrumental endowment, Shepard was blessed with a remarkable voice. He sang in Saint Eustache and the Basilica of Montmartre by special invitation, and was chosen by composer Leon Gasinelle to sing the leading parts in his Mass written for the fete of the Annunciation and performed with orchestra and chorus in the Cathedral of Notre Dame.

"With your gifts you will find all doors open before you," Alexandre Dumas the Elder told Shepard at a reception. Now the darling of French nobility, Shepard received so many social invitations that he sought the advice of friends in dealing with them. But in time the Franco-Prussian War brought his happy stay in the City of Lights to an end.

He went to London where he stayed at the home of Viscountess Combermere. He continued his recitals for the distinguished and socially elite and also advertised that his psychic services were available — "clairvoyant, prophetic, psychometric sittings, diagnosis of disease, and discovery of mediumistic faculties," with the added note that "music manifestations are not given at the same sitting."

After eight months in London he spent a delightful summer in the German resort city of Baden-Baden where his circle of aristocratic friends included the King and Queen of Prussia.

In October, with no knowledge of the Russian language and with only enough money to pay expenses for one week, he moved on to St. Petersburg. After spending the week in a hotel room reading the works of Lord Byron, he took his limitless optimism and a letter of introduction to Madame and Monsieur Hardy, owners of the opulent Restaurant Dusseau. They took him in, and while the fierce Russian winter raged and howled he moved among the high and mighty, his days "crammed with pleasure and amusements of all sorts."

Princess Abamelik introduced him to General Jourafsky, the noted Russian mystic who discussed with him the proper conduct of seances. Shepard climaxed his first visit in the spring by performing before Czar Alexander II, then returned to London.

In the autumn of 1874 he returned to the United States. Within a month he was in Chittenden, Vt., attending the seances of the Eddy brothers in their farmhouse. He spent ten days there with Madame Blavatsky and Col. Henry Steel Olcott, later the cofounders of Theosophy, as crowds of the curious came and went. According to Olcott, in his book *Old Diary Leaves*, Shepard not only gave "mediumistic musical performances," but entered into the spirit of things by going into trance and singing Russian songs "under the control of Grisi and Lablache."

Back in New York Shepard continued to visit Madame Blavatsky, but a personality conflict finally developed. She told Olcott Shepard was a charlatan and accused him of having paid a music-master to teach him the Russian songs he sung in the Eddy farmhouse. But theosophical teachings were another matter, and years later he lectured on the doctrine.

During the next 12 years Shepard roamed the world living by his wits and talents in northern California, Europe and a year in Australia. In Chicago he held a series of seances in the home of another medium, and according to the daughter of Hudson Tuttle, "strange and unaccountable phenomena nightly occurred." Tuttle is the noted author of classical books on spiritualism. Shepard, the daughter reported, said he was controlled by a bank of Egyptian spirits, the leader of whom had lived on the earth when the pyramids were young.

The medium's most amazing performance was simultaneously singing in two voices, in bass and soprano, his control singing in one voice and the Egyptian in the other, while another spirit accompanied on the harp. "Between the musical pieces," she added, "Mr. Shepard, 'under influence,' gave tests, describing spirit friends, etc." Throughout his career Shepard's dual-tone singing left his listeners in states of bewildered shock.

And it was in Chicago that he met Lawrence

W. Tonner, his self-effacing modest secretary, man Friday and dedicated admirer, who would be his companion the rest of his life. A few months later they came to San Diego, Calif. Here Shepard would build his magnificent Victorian mansion, the Villa Montezuma, and enter a new profession. He had reached life's midpoint, a Midwest farm boy who had become a globe-trotter over three continents; a cosmopolite honored in the salons and palaces of society and royalty. Now would come a time for inner searching, a change in goals, a personal renaissance.

Designated a historical landmark, the Villa Montezuma is currently being restored by the San Diego Historical Society, the San Diego Chapter of the American Institute of Architects, and the Save Our Heritage Organization. Upon completion of the work it will be furnished with period furniture and open to the public. Its exterior is somewhat weathered, but the main floor of the interior with its polished redwood walls, ornate tiled fireplaces, silvery lincrusta wall coverings and cathedral glass transoms is almost the same as when the house was built in 1887. There are ebony panels inlaid with bas-relief figures of ivory and mother-of-pearl. A mantel in the design of a medieval castle tower is made of walnut shingles and imported English tiles.

It is the colored art glass windows that Shepard had made to order that is the home's outstanding decorative feature. On the long east wall of the music room is a huge window depicting the Greek poetess Sappho attended by two cupids. At the north end of the room are circular windows containing portrait heads of Mozart and Beethoven in art glass, while on the south wall are similar windows with portraits of Rubens and Raphael. In the drawing room are the heads of Shakespeare, Goethe and Corneille. Other art windows included allegorical representations of the Orient and Occident (the face of the figure representing the Orient a portrait of Shepard himself), the four seasons, and St. Cecilia playing the organ.

When Shepard lived in the house, the floors were covered with heavy Persian and Turkish rugs with a large polar bear skin in the music room. An elaborate Oriental candelabrum hung from the ceiling, and throughout all the rooms were life-sized busts, exotic plants and polished candelabra. The second floor, since remodeled into rooms, was originally an art gallery and museum displaying along with sculpture and paintings, memorabilia and gifts Shepard had received from royalty, titled patrons and others during his tours. A Spanish cedar stairway led up to a third floor tower room beneath a Moorish roof. This was Shepard's study.

Private seances were held in the music room.

So beatific, so unearthly was his music that contemporary accounts call it "simply indescribable." There were listeners who said they heard drums, tambourines and trumpets accompanying the piano with voices issuing from the trumpets. Other guests claimed they heard choirs of voices led by Shepard's own singing, now soaring to the heights in melodious soprano, then dropping down to an euphonious bass.

Two changes occurred in Shepard's life during his San Diego period, one temporary, the other permanent. There was a crisis in his spiritual and religious thinking. Although he continued his musicales and was associated with a group of wealthy local spiritualists who had contributed heavily to the cost of his villa, he seemingly tried to break away from spiritualism. He attacked what he called "phenomenal spiritualism" which led to a bitter counterattack by Hudson Tuttle in an article in the *Religio-Philosophical Journal*. His upheaval was climaxed by his becoming a member of the Roman Catholic Church.

The permanent change was his decision to embark on a literary career with music taking second place. This career began with the writing of essays for *The Golden Era*, a West Coast journal that published much of the early work of Mark Twain, Bret Harte and Shepard's friend, the poet Joaquin Miller. Most of them were written in the tower room where in later years it is said a butler hung himself.

Late in 1888 Shepard and Tonner went to Paris to arrange for the publication of his first two books, both containing some of the earlier Golden Era essays. They returned the following September. Shepard decided that to achieve literary success he should move permanently to Europe. He needed money. On Dec. 17, 1889, he completed the sale of the Villa Montezuma and all its furnishings to David D. Dare, a bank executive, and that night gave his farewell concert before a large audience at the Unitarian Church.

In a biographical sketch Tonner wrote: "Certain rich townspeople gave the land and some of the money to build the villa, the idea being to attract attention to the town (which it certainly did)... When the boom died out in San Diego in 1889 we had to sell for what we could get. We gave half the proceeds to those who had supplied the money, which they considered quite generous, for it was not thought necessary to return any; and the following year we went to Europe."

Their arrival in Paris marked the beginning of a twenty-three year residence abroad. Shepard resumed his European tours and published reports revealed that he was still the musical medium. In Austria he played at a reunion of three royal houses as the guest of the duchess of

Cumberland. The Queen of Denmark said that the piano playing was so marvelous that it seemed four hands were engaged instead of two. Again he was welcomed in royal courts and cosmopolitan salons.

Unless he knew his listeners were sympathetic, Shepard did not refer to psychic inspiration. Few would believe such claims, and those who did were regarded by others with suspicion. According to Dr. Fodor, the penalty for belief could be great. Henry Kiddle, Superintendent of Schools of New York, was forced to resign when he publicly said he believed in Shepard's spirits. The school official said he heard Shepard play a magnificent impromptu symphony under the control of Mozart, give philosophical dissertations under the influence of Aristotle, and speak in six different languages while in trance.

During his European years Shepard was writing essays, articles and books on art, philosophy, human nature, biographical sketches and his own experiences. With the publication of his book *Modern Mysticism* in 1899, he took one of his middle names and his mother's maiden name "lest his literary efforts be regarded as mere diversions. Thus, during the last 28 years of his life the former Jesse Shepard became Francis Grierson.

Included among his published books were *The Celtic Temperament* (adopted as a textbook by Japanese universities), *Parisian Portraits*, *The Humour of the Underman*, and *Abraham Lincoln, the Practical Mystic*. In 1911 his *Invincible Alliance* foresaw World War I.

He won the admiration and praise of the leading critics and literary greats of his day. Maurice Maeterlinck found his writings mystical, romantic and profound. The *Westminster Review* noted his "rare intuition and a profound knowledge both of art and human nature." Grierson's greatest work was *The Valley of Shadows*, the story of his boyhood on the prairies of Illinois, in Lincoln country, at the time of the spiritual awakening as the Civil War approached. It presents a poetic and vivid picture of a bygone time, and was used by Carl Sandberg as an information source in writing his *Abraham Lincoln, the Prairie Years*. When the fifth edition appeared in 1948, Bernard DeVoto called it an American classic. Edmund Wilson, reviewing it in *The New Yorker*, said it fills a "niche which no other book quite fills." This edition came 39 years after it was first published.

Grierson and Tonner returned to the United States in 1913. He continued his writing and piano recitals. For a time he was in Toronto giving lecture on theosophy. He made many friends. Judge Ben Lindsey introduced him to Henry Ford and he was invited to membership in the Chevy Chase Club. He discussed the fourth dimension and occult theories with Claude

Bragdon. His literary friends included Edwin Markham, Sara Teasdale, Mark Van Doren, William James and Edwin Arlington Robinson.

In 1920 he settled in Los Angeles and a year later published his final book at his own expense. It was titled *Psycho-Phone Messages*, and its 82 pages contained communications allegedly received through a phone-like device from illustrious but deceased persons. Abraham Lincoln predicted the failure of the League of Nations; Henry Ward Beecher assailed the sins of the Jazz Age; and Elizabeth Cady Stanton preached Women's Lib. Other messages, warnings and diatribes came from General Grant, Thomas Jefferson, Benjamin Franklin, Daniel Webster, Oliver Wendell Holmes, and other great personalities of yesteryear.

Grierson's final years were sad ones. The public was no longer interested in his music. Despite the efforts of admiring fellow authors, publishers failed to express sufficient interest in his manuscripts. Occasionally he gave a lecture or lessons in poise and practical psychology. Tonner taught French and for a time was a partner in a small dry cleaning establishment. Despite the recommendations of Mary Austin, an anthology of poetry Grierson had compiled and edited could not be sold. Eventually all sources of income failed and the pair were destitute.

Zona Gale, the Pulitzer Prize winning novelist, was staying at the famed Mission Inn in Riverside, Cal., where Grierson sometimes gave concerts. He visited her at her request. When she arrived back home at Portage, Wis., she wrote friends in Los Angeles and encouraged them to arrange a benefit dinner to honor Grierson and to raise money for him. In the meantime he pawned the last of his valuable possessions, a gold watch given him by King Edward VII of England.

The benefit was held the evening of May 29, 1927. Following the dinner Grierson entertained with what Tonner called "marvelous instantaneous compositions on the piano." Finally the pianist told the thirty guests that his final number would be his Grand Egyptian March. It was a moving rendition, haunting and mystical, with mighty chords alternating with soft melody that invoked thoughts of dark antiquity, of temples, the ever-flowing Nile, of gods de-throned and empires of the past.

When he finished he sat perfectly still as he often did as he rested, his head slightly bent forward, his fingers on the keys. There was applause but he failed to acknowledge it. Long seconds passed. A grim suspicion gripped Tonner. He walked over and touched his companion of over four decades. It was true! Dramatically, yet quietly, surrounded by friends, he had entered the realm of his visions and found peace.

FREE ENERGY

The Political, Social, & Economic Implications of The N Machine / Space Power Generator
by Bruce de Palma

It is said: "The whole Universe and created world is a thought in the mind of God." (*The Gospel of Sri Ramakrishna*) If that be the case, shouldn't it be the finest show in town?

As a long time worker in the field of Free Energy physics, and the inventor of the N machine which extracts energy from the Free Energy field of Space, sooner or later I would have to face the political nature of progress. It is not simply enough to violate the established laws of physics with a new experiment.¹

We are facing at the close of the 20th century a situation unique in the history of the world. In the past the inventor had to serve the requirements of a vital and expanding society. The telegraph, the telephone, long distance communication, the railroad and automobile covered the globe and finally satellite communications making a truly global and planetary society. With the coming of the global society the planetary Earth became a floating island in space with only resource wars on the horizon as a foreshadowing of things to come.

Limitation of resources as opposed to development of uncharted territory poses a new challenge to the inventor. In the case of Free Energy, it is not a case of being able to accomplish something which had not been done before but being able to accomplish the same things which had been done before without consumption of gas, coal or oil or the pollution of natural resources by exhaust fumes or combustion by-products.

Take the case of the electric car. An automobile which could exceed the presently accepted performance while not consuming or burning oil or gas which could be switched on before a journey and off after reaching your destination. The power unit for such a machine would extract its energy directly from space without noise or pollution.

With the growth of society limited by the finite planetary surface area the Space Power Generator offers the only hope for avoidance of resource wars. In fact, planetary renewal can be affected with the availability of unlimited non-consumptive and non-polluting Space Power. It must be recognized that advancement in society always means less manual labor and that finally we must accept the condition of unemployment as the fulfillment of the nature of progress itself. A new source of energy in our society, a new prime mover, can make possible a new kind of independence. A kind of independence for the common man where he can take pride that he has fulfilled his role in free society and now he can make his own life in the certainty of a new source of prime energy which can make him independent of the feeling that he must take orders from someone else in order to feel he has a job.

That total unemployment is the ultimate goal of capitalistic society. When all the natural forces of Nature have been harnessed man is released from the state of slavery. At this point politics becomes a form

of state or option from which he can launch his platform to the stars.

If energy and transportation costs were zero, society would center around quality of life, small communities would form in which all basic life support requirements would be met locally. Money would still be required to purchase manufactured high-tech items and money could be earned through sale of community grown or manufactured goods.

A political administration would be elected to provide global planetary coordination for projects outside the scale of simple community organization. This does not imply the necessity of a global one-world government; a loose federation of autonomous states and countries would be sufficient.

In our present 1994 society Mammon has been elevated to the position of a god, i.e. nothing can be accomplished without money. The challenge is to replace promises on paper with real quality of life.

When Isaac Newton formulated his "Principia Mathematica" in the late 1600's he violated his own admonition "Hypotheses non Fingo", "I make no hypotheses", in his third law of motion: "For every action there is an equal and opposite reaction." This statement implies there is an "equal" and "opposite" reaction to every action. The statements "equal" and "opposite" are in themselves an hypothesis, since every experiment in physics would have to be tested, including experiments not yet to be done, in the future, to substantiate the truth of such a statement. Newton's first two laws, the law of inertia, and the law of mass, are laws of experimental observation which define inertia 'n' mass and do not in themselves include a foreshadowing of the results of those experiments, to wit *equal* and *opposite*. Einstein, whose theories are based on the definitions of Newton's 1st and 2nd laws and the conservation laws which grow out of the hypothesis of the third law, are in themselves a conjecture resting on the hypothesis of equality of action and reaction.

Free Energy transduced through the reactionless self-running electric engine will replace all other forms of internal combustion machines. Society will reformulate itself around the new reactionless prime mover. Man and his activities will hitch themselves to the very wheelwork of the Universe, the forces which cause the planets to rotate and move in circular orbits around the Sun.

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FOUNTAIN OF TRUTH

The old Journal of Borderland Research was a hit. But, the new BORDERLANDS is still better. How do you people do this? When it arrives it is definitely like Christmas. Thank you very much for making this astounding journal. Please do send me this fountain of truth for one more year. Thank you.

Billy Henriksson
Vaxjo, Sweden

Each issue represents what crosses our desks, from members' contributions to our own research and file archaeology. We appreciate your support, for without it we would not be here!

SUPERIOR CONTENT

Your new magazine format, as well as article content, is superior to the older format. I welcome each magazine, and always find an article of extreme interest to me. Thank you for your effort.

Herb Wasmuth
Lawton, Oklahoma

Our output is based on our input. We live in interesting times and this magazine is a reflection of our views of these times. It can only get more interesting. Thanks for reading us!

JUPITER DISPLAY

I am so interested in the information on the frontiers of scientific and spiritual thought which is truly amazing that I am sending US\$100 to cover another year's Sustaining Subscription. I really enjoyed reading about the Rebirth of Pan, the battle with the astral and etheric beings, as some of the astrals want to control human minds. I enjoyed the other articles as well.

I am looking forward to the pieces of a comet striking Jupiter in July which will give off a cosmic fireworks display.

Andrew Barclay
Victoria, Australia

We're looking forward to the Jupiter activity in July ourselves, about a month from now. As many of you read this the event will have already happened. Cosmic calamity or fantastic fizzle? We'll know soon.

RUNNING COMMENTARY

I really appreciate that your running commentary with some of the readers usually reaches for higher spiritual ground, while eschewing the trite and trivial. For instance, your answer to the query about Owen Barker's solar harness helps me confront my own

unresolved ambivalence about the whole prospect of free energy. One must consider that in large part our current military-industrial predicament has been created by the availability of relatively cheap energy—the kind measured in horsepower. Without it, the earth would probably still have most of its rainforests. From a historical standpoint, it doesn't take much imagination to see that free energy would probably only exacerbate the fundamental spiritual problem of greed and rapaciousness. Likely it would fail to abate environmental destruction, although it could alleviate pollution. To introduce free energy at this point would, I'm afraid, be putting the cart before the horse on the path of spiritual evolution.

Ron Stinnett
Santa Rosa, California

I believe it was Charles Fort who said something like "It will steam engine when it is steam engine time." I've always felt that our technology was representative of our world view. Different cultures have different forms of technology, our modern technology being a materialistic technology expressing the fluorescence or outpouring of our volitional force, especially in electrical apparatus. The modern discursive consciousness views megaliths such as Stonehenge as mere time markers, for the calculation of celestial events. That is because our modern consciousness can barely comprehend the forms of awareness domiciled in the people or beings who built such enigmas. As there are exceptions to this general observation on technology we can account for great minds like Tesla, Farnsworth and Reich, people whose grandest inventions are naturally suppressed by the inability of society to deal with their full ramifications. When the great masses of humanity awaken from their present spiritual slumber we may not have "free" energy in the sense that it is sought now, but we certainly will have a more beneficial and enlightened world.

ADVANCED ENERGY RESEARCH

You don't know me and I don't know you but it seems that we've heard of each other through mutual friends. I think it is time to become acquainted. I have much information of interest to you and your readers and you have an information distribution medium. I expect I'll learn a lot by our association too.

Over a period of time, I have been sent articles that my friends felt would be of interest to me, the major contributor being Jeane Manning. Some of the most interesting articles were from your "Journal of Borderland Research". I am particularly impressed with articles by Peter Lindemann. It so happens that I have done a lot of research in the areas that he writes about. Please find enclosed a copy of my "H.E.A.T. Technology. Book II"; which you may copy and distribute as you see fit. By the way, I agree with Peter's assessment of Dennis Lee outlined in "Borderlands" May-June

1992, page 14-15. I can say that because I've gone far beyond Dennis' supposed designs and can show where his explanations are wrong.

I understand that Peter Lindemann is looking into my fuelsaving technology of the Carburetor Enhancer and the HyCO systems. I have developed these technologies quite a bit farther than I've had a chance to write about. To give a fair test of the current potential, he should contact me to get the updated information.

Notice that my "H.E.A.T. Technology, Book 2" outlines non-electric zero emission vehicles that gather heat from the environment for their energy, thus you never have to fuel them! This is only practical using the Wiseman cycle. This is my answer to the article written by Ed O'Brian in 1993 Second Quarter of "Borderlands", Page 29, "Another Possible Alternative to Battery Powered Vehicles". I have designed heat sinks that store seven times more energy density per pound than lead acid batteries. I have designed a "heat pump" system that is actually a prime mover, converting heat energy directly into mechanical energy. This "heat pump" operates from a "mono-polar" heat source; in other words, I don't require a condenser. Heat goes in, mechanical energy comes out; THERE IS NO HEAT THROWN AWAY, thus the cycle efficiency is very high. The horsepower to weight ratio can be as good as eight horsepower to the pound. I can gather heat energy from -50°F as effectively as from +50°F. We live in a "river of energy" and I've developed a better "water wheel".

Dropping one kilogram of water 10 meters in one second is 98 joules of energy. Lowering the temperature of that same kilogram of water one degree Celsius in one second gives us 4,184 joules of energy. The earth receives about 1,000,000 calories of energy from the sun per hour, for each square meter facing the sun.

H.E.A.T. Technology allows us to turn bodies of water into very efficient solar collectors and to get more energy out of the resulting heat than conventional solar cells possibly can and at a fraction of the cost. We can increase the power output of Hydro "Dams" by 20 TIMES without letting a drop of water over the dam. This increases our power potential without more power stations and without sacrificing the second important aspect of Dams, *fresh water storage*. We can generate more power from the warm ocean currents off California than all the world's power stations put together and do it at no cost to the environment and at minimal project cost. We can go out beyond the "life zone" and only take the heat energy that the sun replaces on a day to day basis.

The first applications of the Wiseman cycle are being prototyped now, as stand alone home power generating systems. These systems will operate winter and summer, day and night with NO energy input, except the heat energy the system gathers from the environment.

Find also enclosed a copy of my "Energy Conserver Method, Book I" and my presentation paper to the ISNE when I spoke in Denver recently. I am currently designing a "closed loop" Energy Conserver demonstration that produces enough energy to keep itself going while producing a bit of excess to power a small "load". More on that as it develops.

I recently spoke with Dr. Tewari (during the Denver ISNE) about a video I saw from Borderlands where you developed AC current with a homo-polar generator. He is now using the alternating magnetic fields in his rotor to do the same thing you did. I have some further suggestions that may help you:

First, my understanding of the aether suggests that pulsing the motor driving the rotor may produce better results. This opinion is based on research that indicates that the aether and "inertia" are closely related.

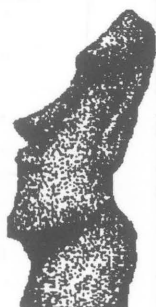
Second, it is my understanding that the outer rotor rim speeds and high current densities cause rapid rim brush wear. I suggest you redesign your rotor with one or more leads coming down to a separate shaft, so that the brush speeds will be the same on both shafts. I do not know if this will work but I thought you'd like to consider the possibility.

I have also done ground breaking research in "Brown's Gas" (BG) and have come up with simple, effective Brown's Gas generator designs. I assure you that Yull Brown doesn't tell anyone a fraction of what is actually happening with his gas. I find this sad and am willing to share my results with any interested party.

During my research of BG, I have discovered a technique that qualifies as "light water" cold fusion. I mention this after talking to Hal Fox (expert on cold fusion) I get two to one over unity heat. Anyone can duplicate this process at home. I am going to develop the technique farther and apply it to my H.E.A.T. technology.

As you can see, I specialize in energy research.

Please answer and let me know what you think of my research. I am looking for contacts to technical



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expertise that can duplicate my developments and to act as a "think tank" to get these projects implemented. This requires marketing expertise and subsequent fine tuning of products to fit the requirements of various market niches. My goal is to get these alternative technologies out into the marketplace.

Yours sincerely,

George Wiseman President,
Eagle Research, Inc.
P.O. Box 145
Eastport, Idaho. U.S.A. 83826

Many thanks for the contact and your enclosures which have been forwarded to Peter Lindemann for his evaluation and education. We look forward to hearing more on your work, and hope that the technically minded readers get in touch with you to duplicate your experiments and help carry on your research.

GREAT ARGUMENTS

I would like to submit "another ether-perspective" as a possible solution, suggested by ether-theory, to the theoretical problem raised by Gerry Vassilatos in "Eidetic Geocentrism."

He asked, why don't we "feel" earth's rotational angular displacement in space? He argues that our not sensing this appears to be a key inconsistency of quantitative inertial theory.

His analysis is based on standard quantum concepts. Standard quantum theory holds that quantum-order-particle forces are determinative in the universe. In this standard cosmology, optically-visible quantum light forces are considered to be a central parameter of both universal forces and human sensations in general.

But what if the actual, elemental, determinative forces of the universe, and the forces mediated and sensed in Nature, are much more rarefied, etheric, and yet undefined?

In a universal-ether model, our atoms would ultimately comprise etheric units, or etherons. Quantum-order particles and quantum forces like the photon particle of visible light would be merely one more (from a deterministic viewpoint, unimportant) gradational aggregative particle composed of

much-more-rarefied etheric particles. There would exist a dynamic continuum between the energetic ether of material bodies like humans and the earth, and the contiguous ether of space. How a succession of ether-gradients interact would constitute the actual deterministic schema — not our visual-interpretive processes.

In this schema, our bodies are ultimately made of simple energetic etherons possessing (like the known larger energy units) spin and magnetic polarity, and they would be capable of resonating, via wave effect in the ether, in an elemental, pure, way, with other etheric (determinative, universal) forces. The etherons comprising our bodies would resonate most strongly, by far, with each other, because of their close proximity. That would be how we keep our atomic and physical structure. But they also would

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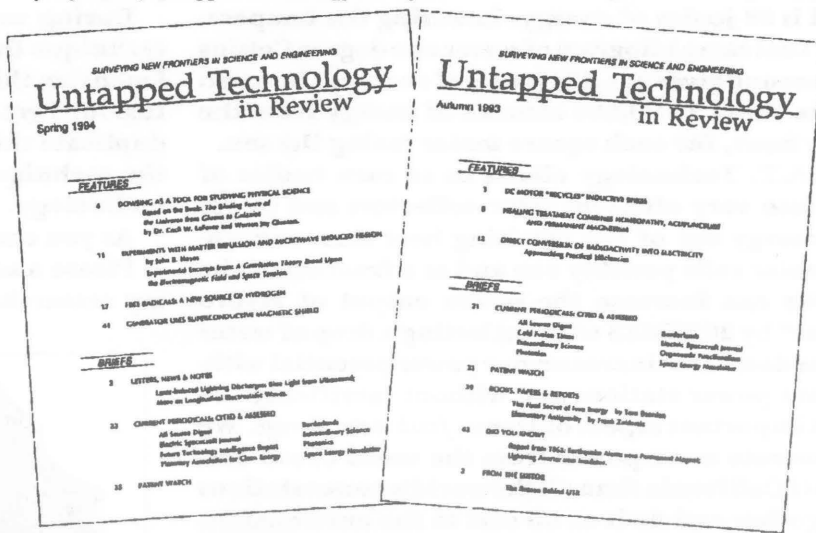
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resonate partially with outside etheric ("auric") forces. These external forces are not nearly as strong as their mutual resonance within their body, but of the outside forces, earth's forces would be overwhelmingly the greatest. In this schema, our elemental etheric external-spatial orientation is entirely toward earth. Forces from space would be vastly more distant and insignificant compared to earth's.

So our spatial-displacement orientation would be overwhelmingly toward earth; with respect to outer space would constitute a macrocosmic-scale step-down-gradient. In terms of our elemental sensations, earth's movements in space would not be felt at all by us.

I am also writing to address criticisms (yours and his) of my critique of Richard Petersen's "Lost Cities of Cibola." I have now read the book. My main opinions have not changed. To clarify one objection made to my critique, not all my objections had to do with "my theories," which center around Atlantis, ancient and modern UFO groups, and ether theory. I still think Petersen's emphasis on "seven" cities might be an error. The Spaniards' chief motivation was gold. In official Spanish record-keeping, "7" referred to "gold" and "5" to "silver." Charles Kenworthy, a treasure writer who has researched Spanish archives, points out commentaries like "the five mines did well this year but the seven mines poorly," which meant that the silver mines produced better than the gold mines. On page 39 of his book, Petersen quotes from Coronado's report, "the Seven Cities are seven little villages... within a radius of five leagues... altogether called Cibola." He rather-glossingly dismisses Coronado's version of Cibola, but Coronado was closely connected in time and details to deNiza's journey, as against Petersen's far-removed conjectures on possible itineraries and possible motives behind commentaries.

On his way to constructing his fourth-dimension hypothesis for Cibola's disappearance, Petersen cites the anomaly of the loess, a unique type of soil deposit found in certain locales, and deduces 3 possible mechanisms for the loess. He dismisses two and arrives at a 4th-dimensional mechanism that intrinsically defies our human three dimensional comprehension. But in dismissing "cataclysmic deposition from above because of the lack of impact craters," he is resting his case on the official geophysical deterministic-gradualism theory, which is disputed by many writers, including me, who believe that the driving force behind the shaping of earth's surface has been recurrent world-scale cataclysms. My own book, "Twilight of the Gods" (1), is an updated revisionistic analysis of the "cometary-Venus" cataclysm propounded by Immanuel Velikovsky 40 years ago. I propose that a new analysis of this putative penultimate disaster, spoken of in folk and esoteric traditions the world over, yields insights into mechanisms that can ac-

count for the loess and all the other anomalous findings cited by Petersen, without resorting to the "shrug-and-carry-on solution" represented by the multidimensionality hypothesis.

On p. 198, for example, Petersen cites the strange apparently anti-gravity flow/congealment rock patterns at the Arizona site, and concludes they are due to "atmospheric manifestations... brought on by forces beyond our sphere," and that understanding these phenomena is "a forlorn hope." However, in my book, I note that, if a large-enough comet closely brushed earth, the slowing of earth's rotation would shear the crust on the mantle, leading to generalized eruptive activity over the earth. Over oceans, the heat of the vulcanism would be damped by the water, and marked differences in temperatures between oceans and land masses would lead to vast atmospheric movements and winds of cosmic force (as described in the ancient accounts.) These kinds of forces could account for the Arizona flows and all the other anomalies cited in Petersen's book.

I believe that some of the strangeness and seemingly-remarkably coincidental aspects of findings like Petersen's in Arizona relate to the fact that during earth-humanity's developmental period, earth was being affected by UFO groups whose technology was capable of manipulating inner-planetary forces and of creating cataclysmic forces on any scale desired. Those kinds of findings are not confined to Arizona. The entire state of New Mexico is more-or-less covered with lava referred to as the malpais, although no active volcanoes exist there today.

What initially aroused my criticism of Petersen's book was his authoritative application of conventional quantum-order technological and quantum optical-light-forces that physics theory is based on. I think energy in Nature is mediated by more-rarified, etheric, forces, which resonate with natural physical entities, such as standing stones and human psyches. I think his enterprise was doomed from the start because his theoretical base rested on the geological theory of gradualism (vis-a-vis world catastrophism), on a physics of quantum forces and multidimensionality (vis-a-vis the ether concept), and on the concept of "humanity appearing de novo and now alone in the cosmos" (vis-a-vis the concept of pre-existing UFO groups occultly influencing earth events.) Inasmuch as I read his book, I feel that Mr. Petersen ought to reciprocate by reading mine.

(Twilight of the Gods 1992. International Guild of Occult Sciences, 255 N. El Cielo Rd, Ste 565, Palm Springs, California. 92262. \$25, hdcvr., illus.)
Michael Baran
Brockton, Massachusetts

We always appreciate your spirited input here, and you have brought up some good points. I will leave the major responses to Mr. Vassilatos and Mr. Petersen. I doubt Gerry Vassilatos would agree

with you that he is operating on standard quantum concepts. His **Ray of Discovery** video series and the **Vril Compendiums** show that his understanding and vision is one of depth and clarity, taking in many diverse points of view beyond the presently accepted one.

In defense of Richard Petersen's work I would like to point out that you still completely ignore his evidence of the ACTUAL CITIES that once existed where Phoenix, Arizona now resides. You base your rebuttal on a simple Spanish symbol, while Richard has retranslated DeNiza's entire account from the *original colloquial Spanish*, and has traced it geographically from that account. He also presents physical evidence of DeNiza's marks on the South Mountain Park hills by Phoenix which further corroborates DeNiza's original report. In your desire to defend your theory of Cibola you still ignore some of the other factual evidence Richard presents, such as the extensive hydrological research on the Phoenix-area canal systems and the anomalies associated with them, which cannot be written off as ancient catastrophism. Richard shows, and has shown us in the field, how the rock flow patterns in the area are related to some of the canal system anomalies. He presents an excellent case for some mysterious, local catastrophe within in the last few hundred years, and he also shows how this could very possibly tie in with mysterious happenings and deposits on Easter Island. I am no stranger to weird formations in the American deserts, having covered them extensively by car and foot, and Richard presented some excellent physical evidence of a localized phenomenon. He has also done extensive research in obscure historical astronomical literature on potential celestial objects that may have caused this relatively recent catastrophe (which he admits is only a theoretical possibility).

The vast loess soil deposits are still a great enigma, and Richard is well versed in the loess mystery, having done extensive field research of the loess soils. You may want to check with William Corliss' Sourcebook Project and discover that the latest theory of the loess, in the orthodox scientific world, is that it is of *meteoric origin*. But there is no impact evidence related to such soils, in fact they appear as though they fell slowly—like snow! They also contain curious fossils such as snails and small mammals which makes it all the more curious if they fell from space. There is a great mystery in the loess and LOST CITIES presents some excellent evidence enforcing the mystery.

I have a different concept of the loess soil's origin from that of Mr. Petersen; I feel that they are the final solid residue from vast silica-based organic structures in a canopy rotating above the earth, which upon collapse (in stages, and perhaps slowly at times due to different earth conditions) caused the Ice Ages and finally the Flood of Noah. The book **THOSE ASTOUNDING ICE AGES** by Dolph Earl Hooker (1959, reprinted 1993 by BSRF) deals with this theory in detail, though I do agree partially with the critics of that theory that it does not explain everything (which theory does?).

Richard, being a Ph.D. in physics from Berkeley and a life-long engineer, has gone out of his way to base his theories on factual evidence and the prevailing scientific view. He has presented a formidable package, with which I find much to agree with. While I agree in many ways with your theories and viewpoints you throw in things like "pre-existing UFO groups" manipulating the earth with occult technologies as though this is all established fact, yet you bear Richard's extra-dimensional concepts no favor! I love a good argument, that is how we learn, but it appears that you had drawn your conclusions before reading the book and only picked on the evidence that would support your view. I didn't think that Richard's book

would stir up such a controversy and I hope other interested parties read it, as well as yours, and comment further. I'll carry this on for years, as it will allow us to delve deeper into these mysteries. I do hope that Mr. Petersen reads your book and provides us with his comments, which will be most welcome.

NOT A GEOCENTRIST!

I am writing this in the hopes of stemming the tide of what I perceive to be incipient idiocy among your editorial staff, from the contents of your latest issue. It isn't unusual for things to get a little rocky with the passing on of a monumental elder like R. H. Crabb, but if things don't stabilize, I will drop my subscription.

All the material about Crabb was up to your usual snuff. But the article by G. Vassilatos could have been done by anyone at all with a hand-held calculator and an attitude. There wasn't a single valid observation in it. Did you ever look out of the window and feel yourself moving, only to discover that it was the train on the other track moving, and you were stationary the whole time? Feelings are only raw data. Apart from evaluation and testing, they are not the basis of anything. Just because feelings tend to be rejected as data by a perceived enemy, that doesn't make them the automatic description of truth.

I fail to see any value in making zip codes the line we draw in the ultimate battle between good and evil. The people working in the Postal Service may be unconscious, but they are not therefore evil. Making things difficult for them by refusing to go along with the system they are running will just make them reactive. They don't need this; it's difficult enough to run something when you're unconscious. And when they get reactive, you now have your little group of devotees all primed to see in that reactivity yet another incredibly nefarious refinement of the Great Federal Conspiracy. Brilliant strategy, guys! Just really modibular to the max! Instant gridlock free for nothing.

Postal Codes are used by virtually every postal system on this planet. It's OK, really, guys, it is. Nobody's going to take your toys away for using them.

**Sincerely,
Chonyid Dorge**

Gentlemen:

Kudos to E. D. O'Brian for "The Meaning of the Word 'Psychograph'." In my opinion, this is the kind of terminology we need more of. Here is a word made out of two exceptionally clean and powerful Greek roots, with a history of use upon which a consensus of meaning can be based. What else is a good term?

On the other hand, however in the same issue, we have G. Vassilatos proposing "Eidetic Geocentrism" with not one shred of justification, either historical or experimental. Master Vassilatos also uses the term

"Quantitative inertial science" to finger an unidentified and untried but nevertheless convicted evil other. Both the frivolous coinage of new terminology (neologisms), and the proposal of evil others on subjective grounds alone, are clinically significant in the diagnosis of schizophrenia. And apart from that, the frivolous coinage of terminology is certainly an insult to the great researchers of the past, who proposed terminology in a vacuum to meet the challenge of unprecedented experimental observations.

The lack of a common language which E. D. O'Brian deplores is in fact a besetting limitation on the nascent scientific culture which is the real business of *Borderlands*. And the frivolous multiplication of terminology apart from experimentation is certainly a prime contributor to that lack.

Science and conspiracy theory don't mix. You cannot with one head track the thread and meaning of scientific data, and also the machinations of the Great Adversary, whether that perceived one may be real or imagined, or some combination thereof. There are plenty of publications dedicated to conspiracy theory, and none devoted to the traditional content of *Border-*

lands. Please leave conspiracy to the experts. You're no good at it, and it distracts you from what you know how to do.

The evidence to me is that since the previous issue, members of the editorial staff of *Borderlands* have been altering themselves. In my opinion, you need to throw the potheads off your staff, and get out of Garberville. The true interests of the growers and dealers aren't compatible with the free publication of anything. With continued anti-establishment diatribes, you will attract the attention of the Feds, if you haven't already done it, and then the local growers and dealers will be forced to shut you down.

Sincerely,
Chonyid Dorje
Hanalei, Hawaii

This gentleman was so hopped up on something that he sent us two letters within days of each other, so I thought I would run them both in case he forgot which one he mailed. First off, I would like to point out that we agree on one thing: E.D. O'Brian's **Pundit Curmudgeon** columns are an exceptional addition to our ability to progress in our understandings of scientific issues, for which we are eternally

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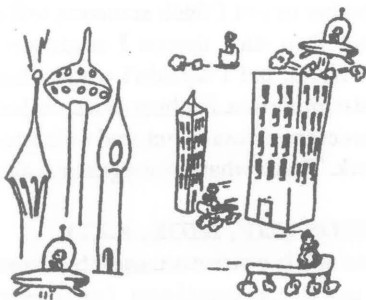
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thankful. He possesses a brilliant and aware mind, and I have learned much from his columns and other input to here through the years. But creating a "nascent scientific culture" is hardly the main "business of Borderlands" as you have wrongly deduced. Our main objective, *as has always been stated*, is to penetrate the borders of perception, to break through the limits of our senses and develop a higher awareness of our manifold universe. By the very nature of this form of open-ended research we are quite interested in increasing awareness of the perceptions of scientific issues, as science attempts to study and explain our universe. Borderland's near 50-year publishing history will bear out the truth of this.

You make a number of false statements and assumptions. There is a vast historical background to Gerry Vassilatos' concept of geocentrism. In fact the major part of history encompasses such viewpoints. It is only the advent of the aptly defined quantitative inertial scientific viewpoint (*not a neologism, especially in the clinical definition*) which became enforced through the heliocentric worldview which separated people from full acceptance of their direct experiences of Nature. This is not to say that the quantitative inertial heliocentric viewpoint is not valid (it is in a limited, inert sense), nor does it imply that it is "evil" (as you mistakenly think we have made it), *but all life on the planet still reacts to the geocentric universe*. In fact, more than life does... We have published numerous times on the Kolisko/Kollerstrom experiments that scientifically describe the direct relationship between the crystallization of metals and the *geocentric* positions of the planets. There is also the insightful book **Planetary Influences Upon Plants — A Cosmological Botany** by Ernst Michael Kranich (1984, Biodynamic Literature, Box 253, Wyoming, Rhode Island 02898, ISBN 0-938250-20-5) which shows that the shapes of many plants (leaves and flowers) can be directly related to the "apparent" motions from earth of planets traditionally ascribed to the plants in herbology!

Sense impressions are only "raw data" in an extremely simplified sense. (Let me lock you in a closed room with a rabid skunk and see how long it takes you to evaluate the "raw data" of your senses. Perhaps after referring to several reference books a scholarly report could be submitted for peer review to see if your evaluation was within the accepted parameters of thought.) If the result of the assessment of the "raw data" defies the common sense then there is something wrong with the assessment procedure, not with the sense impressions themselves. The direct senses lead to higher senses which encompass etheric concepts, an example being the cognition of the metamorphosis of plants wherein the plant is conceived as a temporal etheric being represented at various stages by the physical presence of the growing plant. Certain ancient cultures sensed that the earth was like a large plate with a celestial "bowl" over it. Yet these people could calculate eclipses and other cosmic events with full accuracy. Ditto for the geocentric AND heliocentric views. Which is correct? All and none. The higher contains the lower, any idea that the heliocentric negated the geocentric worldview is merely ignorant of the finer activities of the Life forces of the universe. The true state is probably beyond what most people today would consider logical or functional. In projective geometry a sphere at infinity is a plane. And what is a planet? A "plane-

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ette", upon which the infinite universal forces work into life. The "irrational" numbers derived from the ratios of living organisms describe the workings of this infinity. So perhaps we live on a flat, infinite plane, which appears globular/circular due to our eidetic capacity in our present state of consciousness, and the engineered capacity of our scientific instruments based on such a world view. Methinks the universe is stranger than we can think, and that is why I will continue to run articles by Gerry Vassilatos, an accomplished science teacher and active experimentalist, even if it is only to get people to question their place in the universe.

As far as your bizarre geographical prejudices are concerned it appears that you have somehow concocted a nefarious evil enemy out of some perceived coordination between a hypothesized cabal of marijuana growers and the

U.S. government. This could be clinically significant in the diagnosis of some severe psychosis on your part. It appears that you are guilty of what you accuse us of, and this form of transference is a classic indication that you are going through a mentally unstable period. Northern California is a diverse, multicultural area with people from all walks of life. Certainly there is marijuana growing in the area, but probably not any more than in Hawaii — maybe you should move! The media picks on this area to allow the government to test all its latest surveillance technology on the populace. You have fallen for the media bait and expect us to do so, but we are not so ignorant.

On the concept of ZIP Codes I quoted the law as it stands. Rather than causing instant gridlock, we send and receive mail regularly without ZIP Codes! I thought seriously and soberly on the subject before I ran that information, as it was not in our usual stream. As I was doing the Riley Crabb Memorial issue, I thought about how Riley got into hot water with certain members in the 1960's for presenting his mixture of politics and metaphysics, so in deference to his early problems I thought I'd run it and see who got hopped up, sort of rattle the bushes so to speak. And it made a good lead-in to the concept of organic time that I have been considering, a far more important consideration which further enforces geocentric awarenesses. We'll leave the base conspiracy theories to the many "experts" who rarely agree with each other (as the history of conspiracy literature will attest), but we will never lose sight of the spiritual connections behind all human activities, be they detrimental or beneficial.

People come and go all the time. I certainly don't judge what I am going to print based on whether or not I think someone will cancel their subscription. If I catered to such threats I might get more subscribers by being more bland, but I wouldn't enjoy what I am doing. We print what we feel is important. Nothing more, nothing less. We are always willing to correct any errors of fact, and willing to argue any theory related to our work. That is what this magazine is all about.

THREE LETTER WORDS (ZIP, AIDS, AZT)

I wholeheartedly agree with your comments about the ZIP code and other such usurpations (another one being the Social Security number), which you describe in Clips, Quotes & Comments in the Second Quarter 1994 issue of Borderlands. The other side of

the picture is the poor bastards who have to sort and deliver all the useless mail (such as billions of Christmas cards every year), that the thoughtless public dumps onto the postal system. Most of the workers have become exploited minorities who cannot survive any other way. I therefore reluctantly submit to it. I do not believe it is a conspiracy from above, but the result of masses who do not want to know and are incapable of being aware of the consequences of their actions. In the end, we get what we deserve, and that means government too!

Speaking of that, I have enclosed a number of articles on aids. The "epidemic" has taken a startling and frightening turn—the CDC, apparently has invented the whole thing out of practically nothing, and made it come true by prescribing AZT, a deadly poison. It is almost too much to believe; however, I know Bryan Ellison and his mentor Peter Duesberg and trust them. Please do look at the material, especially the one from Rethinking Aids.

For a while I was an adherent to the AIDS/syphilis theory, but reluctantly had to part ways with it because of the fact that the so-called aids epidemic does not fit the epidemiological pattern of a sexually transmitted disease. The historical evidence that the CDC invented the disease as it has many others, is overwhelming and will be detailed in a book coming out in August from St. Martin's press. I'll try to let you know about it when I get it.

I couldn't agree more with you about our spiritual dimensions being primary. In that connection, there is a very good book by Blair Justice called "Who gets sick?" (L.A. Jeremy P. Tarcher, 1988) The mind-body connection is often overlooked in contemporary medicine. Again, those of us who are not self-empowered go to the doctor and expect him to cure us in 5 minutes and what do we get? AZT! Again, we probably get what we deserve.

Aldous Huxley was very worried about the effects of television and centralization on us, and his worst fears have come to pass. We must all work diligently to preserve what freedoms we have left.

In my retirement I am enjoying your publication very much. Thank and bless you for your efforts.

Fred A. Cline, Jr.
San Francisco, California

Many thanks for your interesting enclosures which we have added to our constantly expanding AIDS files. As far as ZIP Codes go, we'll run our postal code on our return address to help the "poor bastards" who can no longer think in complex geographical terms, but only in simple sequential numbers. If we don't strive to overcome this diminishing of cogitative process then we have failed in our ability to move forward. Metrification has diminished the capacity of our young to figure properly and their ranks will supply the next generation of postal workers. But I would like to add that the U.S. Postal Service has been very good to us over the years. They do a fine job — otherwise you wouldn't be reading this now!

BOOKS RECEIVED:

This is only a partial listing as space is limited. More next issue...

SCORPIONIC AMERICA by David A. Solté, 1666 Garnet Ave - Box 1006, San Diego, California 92109, (619-581-1452) \$17pp. A most interesting piece of research for those interested in the establishment of the United States of America and its destiny. David presents some excellent historical research showing that the Fourth of July was **not** the birthday of the U.S.A. Thomas Jefferson's diary shows he was quite involved in experiments with a new thermometer on that date. Rather July 4th, 1776 was used as a form of corporate dating wherein people signed on different dates, but an official date was used for the presentment. David uses extensive numismatic research of early colonial paper money to show that the birthdate of the united colonies was when the Articles of Confederation were established, and entered into the Journals of Congress, early afternoon, November 15, 1777. So rather than the U.S.A. being born in the sign of Cancer, a family oriented sign, it was born in Scorpio. Of course to the astute this will immediately make sense. The myth of freedom in America is so engrained that people actually believe it, even though they live their lives as legally indentured servants to the government. David delves deeply into astrological research to back up his historical research and in the end has provided us with a worthwhile addition to any borderland library. This book is packed with insights and astrological charts assessing the evolution of various aspects of the American society in relation to its true birthdate.

ATLANTIS IN SPAIN by Elena Maria Whitshaw, Adventures Unlimited Press, Stelle, Illinois. This is a fresh reprint of *Atlantis in Andalusia* originally published in 1928. Extensive researches on the ancient and mysterious remains on the Iberian peninsula. ISBN 0-032813-22-4, \$15.95.

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The Etheric Formative Forces in Cosmos, Earth & Man by G. Wachsmuth. #B0118 ... \$20.95

The Metal-Planet Relationship by Nick Kollerstrom. #B0253 .. \$12.95

Metal Power: Soul Life of the Planets by Alison Davidson. #B0125 ... \$8.95

The Cosmic Pulse of Life by Trevor Constable. #B0095 ... \$24.95

Etheric Weather Engineering on the High Seas by Trevor Constable. video #V0043 ... sale price \$19.95

Lost Cities of Cibola by Richard Petersen. #B0241 ... \$22.50

Those Astounding Ice Ages by Dolph Earl Hooker #B0154 ... \$11.95

Unknown Earth: A Handbook of Geological Enigmas by W.R. Corliss. #B0171 ... \$21.95

Tzolkin: Visionary Perspectives and Calendar Studies by John Major Jenkins. #B0312 .. \$13.95

Extraterrestrial Archaeology by David H. Childress. #B0286 ... \$18.95

The Eidophone Voice Figures by Margaret Hughes. #B0024 ... \$7.95

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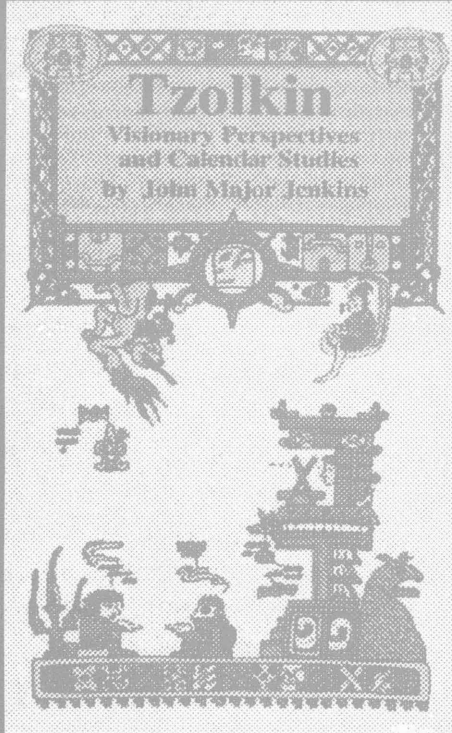
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