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TOWARD A SPIRITUALIZED SCIENCE AND MATHEMATICS
Donald Reed, Tachion Energy Research

The scientist of today has penetrated deep into the mysterious interior of matter, "unearthing", in the literal sense of the word, the abysmal powers that lie hidden there. But he is at a loss, for what he finds in stars and atoms is no longer matter in any real sense of the word; it is a pure nexus of relations, an intellectual shadow of a subtle inner essence which as yet eludes him.

Notwithstanding the impressive fruits of 20th century technology, it cannot be denied that mathematical physics, the underpinning of technological progress, is very largely groping in the dark. Mechanistic in spirit and outlook, it seeks to answer the searching questions of mankind with symbolisms ever more abstruse as time goes on. Its root ideas have grown further removed from the realms of experience, moreover, from anything that is accessible to human imagination.

Part of the reason for the undue abstruseness of such a system devolves upon its built in restrictions for modelling the full spectrum of human experience, both physical and metaphysical. Indeed, the mathematical system chosen to describe reality, is necessarily abstracted from the way we consciously perceive that reality. If one's perceptual understanding and belief systems are limited to one small aspect of reality, then the mathematical expression of physical laws will become correspondingly unduly complicated and restrictive in scope when ascribed to facets of nature not so circumscribed by our perceptions. For this reason, and others voiced recently by physicist Allen J. Jackson,(1) the system of physical science has for centuries remained incompatible with the equally valid body of metaphysical knowledge.

The outcome of all this is that without abandoning the skeptical and undogmatic frame of mind which it professes, science today is in need of a deep philosophical change. A new metaphor is urgently required that will serve as the foundation for a synthesized framework of physics and metaphysics. We require a fresh paradigm that will put the mechanistic approach into its proper perspective, not merely repudiate it and leave us to wander around in the resulting emptiness. It must be a model of the universe and man around which human thought, feeling, and action can find a fresh mode of expression.

There is, side by side with the intricacy of the analytic school abstracted from Cartesian geometry and Newtonian calculus, another geometrical system. This latter system represents a novel avenue of thought and imagination. By its

precepts we shall be led far more directly into that cosmic and ethereal realm of metaphysics where will be found the living links, both in the universe and ourselves, between the spiritual heart of things, and the outer surface.

We speak here of the science of projective geometry, which is far from new. Hidden away in the general textbooks and regarded as a rather abstract branch of higher mathematics, projective geometry has not presented many immediate aspects for practical application in technical areas. This, as well as its abstract guise, has kept it in the background for centuries. The important thing about it is the quality of its forms of thought, and this is modern. Because it reflects a modern outlook, projective geometry will hereinafter be referred to in this article as the "new" geometry.

The following exposition is an expansion of the inspiring ground-breaking work done in this field by the German mystic Rudolf Steiner, and his interpreters.(2) The interested reader is encouraged to consult their works for further treatment of the subject.

Physical science is based upon Cartesian geometry, which deals primarily with rigid and lifeless forms circumscribed by measurement. In contrast to this, the new geometry moves in a realm of light and metamorphosis, out of which the ethereal and archetypal forms are fashioned. It is characteristic of the new geometry not to refer the geometric forms and figures to an arbitrary framework, but to evolve their qualities, as it were, out of their own nature. The new geometry enables us not only to approach the forms externally, as in the Cartesian format, but to perceive them in their inherent mutual relations--relations that proceed from the forms themselves. not from extraneous coordinates. This corresponds to a transition from a discursive and analytic treatment of nature, to an imaginative perception of her living and unfolding process. In this sense the science of the new geometry approaches the spirit and practice of art, while remaining firmly grounded in the rational edifice of mathematical precision.

The basic concepts of the new geometry are not difficult, but they require a kind of thinking to which we are not yet accustomed, nurtured as we have been for so long on the one-sidedly Cartesian-Euclidean way of thinking and the analytical method. The new geometry requires a qualitative grasp of mathematical forms, and the cultivation of an activity of thought which encompasses more than the momentary manifestation of form.

In the new geometry, the ideal structure of 3-dimensional space does not proceed one-sidedly from the point alone (as in Cartesian systems), but from two opposite but mutually

dependent entities--point and plane, each of which plays a fully equivalent part in the fundamental structure. A simple illustration will serve to show the spatial significance and mutual polarity of point and plane. Imagine a spherical surface expanding and contracting. At one extreme it contracts into the central point; at the other, it expands into the plane that disappears into the infinite distance of space. We say a plane rather than an infinite sphere because of necessity when the radius is infinite, the curvature vanishes altogether. Although the infinitely distant plane is not perceptible through the sense, it is nevertheless a clear and exact thought which finds expression in corresponding mathematical formalism. Moreover, the infinite plane stands on an equal footing with every other plane of finite space.

Thus the polarity of point and plane is really one of expansion and contraction, not only quantitative but qualitative. In this polarity the straight line plays the mediating factor, its formal relations to point and plane being mutually equivalent. It is the inclusion within the system of infinitely distant entities, which create a geometry based solely on the interrelationships of point, line, and plane. Projective geometry is not merely a geometry of created forms, but the geometry of the relationships between form-creating entities.

Implied in such a structure exhibiting mutual polarity, is the existence of a space in dual or polar relationship to our ordinary Euclidean space, not independent but interpenetrating the latter. Its nature is qualitatively different in terms of function and activity, and quantitatively different in regards to form. Euclidean space is structured from points raying outwards centrifugally from a center towards an unreachable infinite periphery (the so-called "infinite plane" of space). In contrast, the polar-Euclidean (or Counterspace, in the terminology of Rudolph Steiner) is characterized by planes, starting from an infinite periphery and taking on a centripetal or inward motion. thereby engendering a plastic or molding quality as they attempt to extend themselves toward an all-relating point in the center (Rudolph Steiner called it the "star point").

As we shall subsequently see, it is in the realm of Counterspace that all forces of living organic growth have their domain. Consequently, by means of this Counterspace structure, the function and expression of all living forces of nature can be properly understood.

Yet, the introduction of Counterspace into our geometrical repertoire, at the same time necessitates some shifting of our mode of thought in regards to relationships of geometrical elements. Specifically, our ideas of "part" and "whole" are profoundly changed by this new geometry. Ordinarily, we think of a plane for example as composed of

infinitely many points. But now we have to think of a point as made up of infinitely many planes. Admittedly, the second concept is not as easily accessible to the imagination. But the two polar aspects interweave. In the first case, the plane is the whole--greater than any of its parts (points). Whereas, in the latter case, paradoxical as it may seem, the point is the whole and the planes which pass through it are parts, or members of the point.

Unlike current forms of geometry, which find their basis in the egocentricity of the point alone, the new geometry is a true reflection of spiritual and moral ideas. The interweaving of planar entities working towards a common goal, in conjunction with earthly point centers thrusting out, is evocative of the view of brotherhood held by the Rosicrucians and other mystical orders--of the community where each stands as an individual, yet all are interwoven into the whole, and by their cooperative actions achieve a common accord with themselves and their environment.

Let us now turn from the world of pure form to that of active forces. In addition to the centric forces described in the "field theories" of physics, the new geometry establishes a concrete basis for the existence of another type of force which can be described as "peripheral" or "etheric". Much like the aforementioned geometrical model of Counterspace, these forces can be considered as originating from the periphery, or infinite plane of space, and tending towards the material bodies of living things--above all towards the germinating centers of fresh life. But the relative center toward which they work is not their source, but rather their infinite receiver. Again, we must invert the accustomed notions of center and periphery to get at the right idea. A physical force, emanating from the center--such as gravitational, electromagnetic, etc., needs the surrounding space into which to expand and dissipate. The infinite periphery has to be there to receive it. Accordingly, a peripheral force needs the living center towards which it expends itself. And yet this center is radically different from the point center of physical forces. Its activity will be receptive, rather than self-centered. It will be active by virtue of what is around it, not within it. Just as the operation of centric forces are quantitatively described by Cartesian related systems, the workings of peripheral forces find their proper expression in the interplay between point and plane underlying the new geometry.

As abstract as the operation of etheric forces seems, nowhere is their activity more apparent than in the world of nature, specifically in the morphology and physiology of living things. A pertinent example is afforded by the pupation of the caterpillar. At the stage where the metamorphosis into the butterfly is to take place, inside the caterpillar chrysalis a breakdown of organs and tissues is

occurring. Yet at this stage, the shape and position of the organs of the forming butterfly are already stamped on the pupa. These marks are outside and there is nothing yet formed inside to correspond with them. Clearly, no centric-type force could produce this result, but invisible etheric (peripheral) forces outside the insect have stamped upon it the shape corresponding to that final cause which is inherent in its being.

Now, the formation of sugar, starch and cellulose in the leaves and other organs of the plant is a phenomenon, not of expansion but of contraction. The chemical constituents of which these carbohydrates are formed--carbon dioxide of the air and water raised from the soil--are specifically lighter than the resulting product in the body of the plant. The chemical process itself is endothermic and therefore cooling and contracting. Even the polymerization, forming the di- and polysaccharides, the different forms of starch, cellulose and lignin, is a condensing process. Once again we see the activity of peripheral forces in ample evidence.

Even in the inorganic realm we find evidence of etheric forces working. For instance, although it has largely gone unrecognized by the orthodox science community, the mathematical laws governing the science of crystallography owe their existence to projective geometrical relationships. In addition to the centric forces of stress and strain which are operating in the crystal after formation, invisible etheric forces are chiefly responsible for sustaining the crystal as a stable entity in time and space. All that is localized at the place where the crystal appears to our senses is a kind of rigidification, as it were, a shock or inner rupture of the archetypal ethereal form which pervades all space. In this connection the esoteric metaphor, "All matter is 'woven' light", takes on a fresh meaning.

The medical treatment procedure known as homeopathy is a process whose effectiveness has thus far eluded an explanation from the fields of modern chemistry or medicine. Briefly, homeopathy is a medical treatment wherein through successive dilutions of an original amount of medicinal preparation (usually shaken or succussed), that substance becomes potentized and more effective in combatting the disease or affliction. Such an outcome is indeed difficult to account for both in terms of rough and ready common sense and of prevailing scientific notions. Nevertheless, this phenomenon becomes understandable when considered from the standpoint of Counterspace. Precisely because of the polar nature of centric and peripheral forces, when we dilute a physical substance (make it smaller), we are really intensifying or concentrating the sphere of ethereal force which is invested within it. Thus by physical dissolution we make the ethereal, or curative influence, stronger.

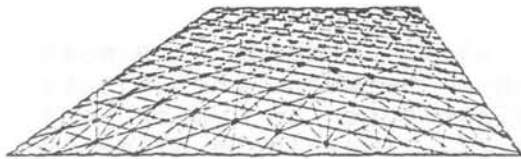
Finally, the ground-breaking work that Eric Dollard is conducting as an extension of Nikola Tesla's research, and recently reported in the Journal of Borderland Research (May-June 1987), is the clearest replicable evidence to date of the working of living Counterspace forces by virtue of the operation of an electro-mechanical device. The living organic forms Eric and his colleagues have observed in discharge tubes, and the planar discharge patterns mimicking the structure of morphological forms of nature incorporating the golden-mean ratio, suggest that the unique dielectric wave set in motion is resonantly coupling with and entraining the subtle but powerful Counterspace forces of light and life which pervade our everyday existence. Moreover, this research is pivotal since it holds the promise of ultimately extricating the subject of etheric forces of nature from the nebulous realms of speculation and pure abstract mystical thought, and placing it on a firm rational basis.

Because of the limited space in this journal, in this introductory discussion we can only treat the subject on merely a superficial basis. Nevertheless, even in the foregoing encapsulated discussion, it has been demonstrated that such a system of Counterspace shows promise as a basis for the mathematical modelling of metaphysical operations. Moreover, it may serve as a fresh viable alternative to the lofty but lifeless theoretic abstractions attendant with the current mathematical edifice of science.

Above all, if formally integrated in scientific thought, the tenets of the new geometry like few others yet formulated, may hold profound implications for the status of our very social, political, and religious structures as well. Unlike the impersonally motivated interactions in modern sub-atomic physics which help to sustain our illusory belief in the supremacy of the ego, the philosophical basis of the forces that are engendered by the new geometry of Counterspace is an able reminder of the humility of purpose which should be the guiding forces in our lives. Like the elements of point and plane, in the ideal social structure individuals will work together independently, side by side, yet achieving a common accord. United in the circle of their activity, they will work together joyfully in freedom, each with his own task yet conscious of the common bond. With the full import of these simple truths appreciated, the new geometry will perhaps afford a rational justification of the formerly "unprovable" mystical doctrine of the omnipresent intelligent plan behind the workings of the universe at all levels of Creation. We will come to realize the profound truth of Einstein's vision of ultimate reality couched in his heretofore cryptic statement, "God is subtle, never malicious".

Footnotes

- (1) Jackson, A. (1982); "Cause and Effect in Metaphysics and Science", Rosicrucian Digest(60) 10:24-27
- (2) Adams, G. (1965); Physical and Ethereal Spaces, Rudolf Steiner Press, London
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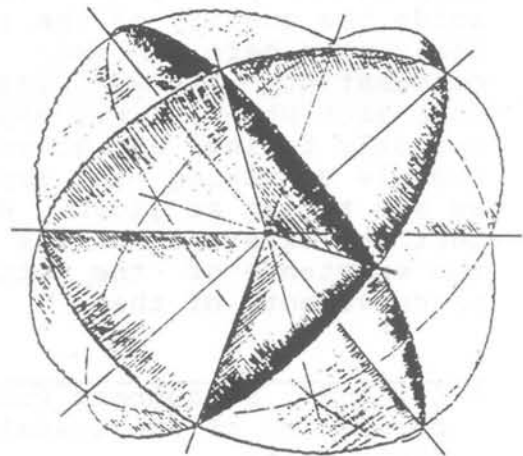


SPACE

Plane, woven of lines and points

COUNTERSPACE

Point, formed of lines and planes



GOETHE'S CONCEPT OF SPACE

Rudolf Steiner

(Translated by Eva Lauterbach)*

A full understanding of Goethe's work in physics is only possible if one considers Goethe's concept of space. For this reason we shall describe it here. If we wish to understand this concept, we need to have grasped from our preceding elaborations the following points:

1) Objects singly confronting us in our experience have an inner reference to each other. In reality, they are bound together uniformly by the world. In them lives but one common principle.

2) When our mind approaches objects and tries to mentally embrace what is separated, the conceptual unity thus produced is not external to the objects, but taken from the inner essence of nature itself. Human understanding is not a process taking place outside objects, arising from purely subjective arbitrariness; instead, the law of nature arising in our mind, the happening in our soul, is the heartbeat of the universe itself.

For our present purpose, we shall examine the most external reference our mind establishes between the objects of experience. Let us take the simplest case in which our experiencing calls for mental activity. Two simple elements of the world of appearances are given by way of example. In order not to complicate our examination, let us take something quite simple, for example two shining points. We shall leave aside completely that possibly in each of these shining points we already have something unbelievably complicated posing a task for our mind. We shall also leave aside the quality of the tangible elements of the world of the senses before us. We shall only consider the circumstance that we have before us two elements separated from each other, i.e., appearing separate to our senses. We are only taking as given two factors, each of which is capable of making an impression on our senses: that is all we are taking as given. We shall further take for granted that the existence of one of these factors does not exclude the existence of the other. One organ of perception can perceive both of them.

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If we assume that the existence of one of these elements is dependent upon the existence of the other in any way whatsoever, then we have a problem different from our present one. If the existence of B is such that it excludes the existence of A, yet, according to its essence, is dependent on it, then A and B have to have a relationship in time. Because the dependence of B on A - keeping in mind that the existence of B excludes the existence of A - is conditioned on A preceding B. But this should be discussed separately.

For our present purpose we shall not assume such a relationship. We are taking for granted that those things we are concerned with do not exclude each other's existence, but instead are entities existing with each other. If we disregard every reference demanded by inner nature, only this remains that a reference as such exists of the special qualities, that I can transit from one to the other. There can be no doubt for anyone what kind of relationship it may be that I create between things without considering their composition, their essence. Whoever asks what kind of transition from one thing to the other can be found, with the thing itself of no consideration, must certainly give the answer: space. Every other relationship has to be based on the qualitative composition of what appears separately in the world. Only space considers nothing other than that things are separated. When I am thinking: A is above, B is below, I don't concern myself at all with what A and B are. I connect no other thought with them than they are separate factors of the world that I grasp with my senses.

When looking at experience our mind wants to overcome separateness, it wants to demonstrate that the force of the whole can be seen in the individual members. Concerning spatial views, it does not wish to overcome anything other than individualization as such. Our mind wants to establish the utmost general relationship. That A and B individually are not a world by themselves but share togetherness, is clear through spatial observation. That is the idea of next to each other. If each thing were a being alone, there would exist no concept of next to each other. I would in no way be able to establish a reference of beings to each other.

Now we shall examine what further follows from establishing an external reference between two individual entities. I can visualize two elements only one way in such a reference. I visualize A next to B. I can now do the same with two other elements of the world of the senses, C and D. Thereby, I have established a concrete reference between A and B and another between C and D. Now I will completely set aside the elements A, B, C, and D, and only refer the two concrete references to each other. It is clear that as two special entities, I can refer these to each other as much as A and B themselves. What I am referring here are concrete references; I may call them a and b. If I now go a step

further, I can refer a again to b. But now I have already lost all that is individual. When looking at a, I no longer find an individual A and B referring to one another, and the same with b. In both of them I find nothing other than that there has been a reference as such. This determination, however, is the same for a and b. What enabled me to still distinguish a and b was that they referred to A, B, C, and D. If I exclude this remnant of the individual and only refer a and b to each other, i.e., the circumstance that there has been a reference altogether (not that something specific has been referred), then I have again arrived very generally at the spatial relationship from which I started. Further I cannot go. I have reached what I have set out for earlier: space itself is standing before my soul.

Herein lies the secret of the three dimensions. In the first dimension I refer to each other two concrete elements appearing in the world of the senses; in the second dimension I refer these spatial references themselves to each other. I have established a reference between references. I have brushed off the concrete things, the concrete references have remained. Now I spatially refer these to each other. That is, I disregard that they are concrete references; then, however, I have to find in the second reference exactly whatever I find in the first. I am establishing references where there is no difference. Now the possibility of relating is ended because the difference is ended.

What I previously took as the viewpoint for my observations, namely, the totally external reference, I now reach again as idea based on sense perception; from the observation of space, after executing my operation three times, I have arrived at space, i.e., my starting point.

Therefore, space can have only three dimensions. What we have done here with the idea of space is actually only a special case of the method we employ when we observingly approach things. By observing tangible objects from a general viewpoint, we gain concepts of individual things. These concepts we then examine from the same viewpoints so that we have only the concepts of the concepts before us. If we connect those, they melt into that uniformity of an idea which may be placed under no further viewpoint than its own. Let us take a specific example. I am getting to know two people: A and B. I look at them from the viewpoint of friendship. In which case I shall gain a very specific concept, a, of the two people's friendship. Now I look at two other people, C and D, from the same viewpoint. I come to another concept, b, of this friendship. I can go further and refer these two concepts of friendship to each other. What I am left with, if I disregard the concrete fact I have gained, is the concept of friendship as such. This, however, I can also gain in reality by viewing the persons E and F from the same viewpoint, and also G and H. In this, as in

innumerable other cases, I can reach the concept of friendship as such. All these concepts, however, are essentially identical to each other; and if I look at them from the same viewpoint, it becomes apparent that I have found a whole. I have returned again to what I started with.

Space is thus a view of things, a way in which our mind gathers things into a unit. The three dimensions in this connection behave in the following manner. The first dimension establishes the relationship between two sensory perceptions (sensory perception here is what Kant calls sensation [Empfindung]). Thus it is a concrete thought. The second dimension relates two concrete thoughts to each other and thereby moves into the area of abstraction. The third dimension, finally, only establishes the uniformity of the idea between the abstractions. Therefore, it is totally incorrect to consider the three dimensions of space as completely equal. Whichever is the first depends, of course, on the elements perceived. But then the other dimensions have a very specific and different meaning from the first. Kant assumed, quite in error, that space is a totality instead of an entity conceptually determinable within itself.

Heretofore, we have spoken of space as a relationship, a reference. But is there only this relationship of next to each other? Or is an absolute determination of location existent for each thing? This, of course, has not even been touched on in our preceding elaborations. But, let us examine if such a condition of location, a very specific "there" exists. What am I referring to in reality when speaking of such a "there"? Nothing other than an object of which the immediate neighbor is the object in question. "There" means neighboring an object referred to by me. With that, however, the absolute indication of location has been led back to a spatial relationship.

Finally, let us raise the question: According to the preceding examinations, what is space? Nothing other than a necessity, inherent in the things themselves, to overcome in a most external way their being individual without considering their essence, and to unite them in an external uniformity. Space, therefore, is a way of grasping the world as uniformity. Space is an idea; not, as Kant thought, something one sees.

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The Body Electric

Electromagnetism:

Therapeutic, harmful, or a little of each?

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INTRODUCTION

We are continuously bathed in the energy of electromagnetic fields (EMF's). This energy spectrum is a continuum of many wavelengths, from ionizing radiation (radioactivity) to the more common non-ionizing radiation—all invisible except for visible light. Man-made radiation is produced by microwave ovens, electric blankets, lighting, motors, radio and TV transmission, radar and other electrical uses. The earth, sun and moon all have characteristic EMF's and our own bodies produce many such fields. Overall, we are exposed to an enormous range of frequencies and intensities.

Our bodies work electrochemically; electric impulses flow in living tissue, so it is logical to expect that natural and man-made EMF's interact with biological processes. However, as recently as 7 years ago, there was no agreement about the potential for EMF's to cause biological effects. A large mass of research has ended that debate: EMF's are capable of a wide range of effects on living organisms. The controversy has now shifted to whether these effects are harmful.

The therapeutic uses of EMF's have grown considerably; promotion of bone and soft tissue healing, pain relief, control of osteoporosis, drug detoxification, Therapeutic Touch, control of epileptic seizures, ultra-sound for monitoring and therapy, non-invasive monitoring of brain and heart activity (EEG and EKG), Polarity Therapy, etc.

If specific applications of low level EMF's applied by a physician can be therapeutic, it is not logical to assume that exposure to fields from transmission lines or home and industrial use of electricity would not affect health. Reported harmful effects associated with EMF exposures include leukemias, changes in brain and blood calcium balance, some birth defects and many stress type symptoms.

THE EARTH'S GEOMAGNETIC FIELD

The earth acts as a huge bar magnet with north and south magnetic poles and a relatively symmetrical field on the surface. The earth's field strength has varied over time and the poles have reversed, but a field has existed since before life originated. The major component of this field is generated within the earth, but there are also cyclic components derived from the sun, the moon, and probably all celestial bodies. This combined field provides directional information, as well as the very precise daily and seasonal variations necessary for synchronizing our biological clocks. Locally, the geomagnetic field is affected by mineral deposits, earthquake and volcanic activity and large storm systems.

Life on this earth has evolved within this geomagnetic field. Many organisms are known to use the field for orientation and navigation, either as a primary cue or as a back-up when more obvious cues, such as the sun and stars, are not available. The metabolic rate and activity patterns of many animals are directly related to cyclic solar and lunar EMF fluctuations. It is not coincidence that the low frequency micropulsations of this field are in exactly the same range as our brain waves. Until recently, however, no method of sensing or interpreting this information was known, and most scientists discounted the importance of EMF radiation.

HOW WE SENSE THESE FIELDS—TINY MAGNETS

Until 1975, there was no known magnetic field receptor. In that year, the discovery of magnetite was reported in bacteria. This microscopic deposit is biogenic, i.e., synthesized by the living organism rather than the mineral ore mined from the earth. It is the mechanism that keeps these bottom dwelling bacteria in the sediment of their marsh habitat. Since this finding, biogenic magnetite has been found in a wide range of organisms: honeybees, tuna, dolphins, migratory birds and fish, turtles, whales, monkeys and humans. It is likely that all living organisms have one or more organelles of magnetite used for a number of daily functions. It appears to be a common biological product that had not been previously discovered for two reasons: no one looked and only recently have adequately sensitive instruments been available.

There are at least two areas where our bodies deposit these particles: the sinus areas behind our nose, and throughout our adrenal glands. It is thought that the deposits in the sinus are used by us for magnetic direction finding, while the adrenal deposits are necessary for setting our biological clock as well as for "sensing that something is wrong" prior to a storm or earthquake or for getting a "feel" of someone upon first meeting, even without seeing the person come in a room. There is also evidence that a magnetic sensing mechanism is associated with the retina of the eye.

With a mechanism for sensing and interpreting these EMF signals, it is probable that we utilize this information on a continuous basis. Also, with biological fluctuations linked to the minute changes in natural EMF's caused by weather systems and geomagnetism, it would seem that man-made EMF's, approximating these natural fields, might affect organisms depending on signals from the natural fields.

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LIFE IS AN ELECTRIC PHENOMENON—THE AURA

Our body generates many hundreds of individual minute electric currents, some very short lived, other fluctuating but fairly continuous. Each of these produces its own electric and magnetic field in the surrounding tissue and air, lasting as long as the current flows. These currents involve brain activity, blood flow, nerve firings, muscle activity (including the heart), pumping of spinal fluid, and also piezoelectric currents generated when we place a pressure on our long bones (walking, standing, running, etc.).

These individual fields interact to form our aura. While the aura has been a foundation of metaphysical teachings for centuries, it is only recently that western medicine has been able to measure this external expression of internal activity. Heart and brain wave activity are now measured externally without surgically implanting electrodes. These fields have also been mapped to determine areas of brain tumors and the location of mental disorders through the external monitoring of the EMF's associated with the specific region of affected brain tissue. This interaction can work both ways, of course. Internal electric activity produces the external field, while interaction with EMF can affect internal electric activity and therefore biological processes. It is this external EMF, the aura, that is manipulated in Therapeutic Touch, a procedure recognized in western medicine for relaxation, stress relief and pain reduction.

GROWTH CONTROLLED BY ELECTRIC SIGNALS—OSTEOPOROSIS

The electric currents generated by routine stress of bones are, in turn, the signals necessary for bone growth and healing. A mix-up in the signal affects the shape of a bone or creates one which won't heal. Recent techniques simulating this low electric current across broken bones have all but eliminated the non-unions which previously ended in some 2000 amputations per year. This stressor action and the associated electric current also appear important in osteoporosis. There is a daily cycle of calcium deposition and removal in bones and brain tissue. Weightlessness and prolonged confinement to bed reduce calcium deposition and contribute to osteoporosis.

Very low level man-made EMF's affect brain and blood calcium binding cycles, apparently upsetting our own EMF system involved with bone shape and mass development, possibly again causing osteoporosis. Externally applied EMF's have been used in space suits and in extreme cases of osteoporosis to help build bone mass. This very common and debilitating disease of older folks may soon be alleviated by therapeutic EMF's.

MAN-MADE EMF'S IN THE ENVIRONMENT

Although our use of electricity is a little over 100 years old, it has only been since the late 1940's that we have exposed ourselves to high levels of EMF's of varying characteristics. We have changed our electromagnetic exposure more than any other aspect of our environment. These invisible energy radiations exist throughout the world. EMF's emanate from all electrical use, i.e., electric power lines, lighting, kitchen and

shop appliances, motors, electric heating, radiation from radio and TV transmission, satellite and other communication systems, and radar and medical uses of EMF's. The strength of an EMF decreases rapidly with its distance from the source. The electric field component may be distorted, shielded, or blocked by the individual, a house, tree, etc., whereas the magnetic component penetrates almost everything unchanged.

STUDIES OF BIOLOGICAL EFFECTS OF EMF'S

In the 1970's, concern was raised over the electric fields that would exist along the large electric transmission lines being proposed at that time. Because of this and similar concerns raised about a major antenna system designed by the Navy for worldwide communications with submerged submarines, research was initiated to determine the effects on humans living or working near these facilities. Since then, many millions of dollars have been spent on research studies every year by the electric utility industry and by the U.S. Departments of Defense and Energy. Some of these studies, particularly in the early years, were poorly designed and unproductive, with some scandals and cover-ups. Results in recent years, however, have contributed to the recognition that we are exposed to and affected by man-made EMF's at various frequencies and strengths from our use of electricity. Ironically, it appears that the level of exposure to biologically active fields in our homes and from electric distribution systems in residential areas may be as much of a concern as the EMF's from the new lines that prompted the research.

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Mary Ann Ashcroft

STRESS AND IMMUNE SYSTEMS EFFECTS— THE STRAW THAT BREAKS THE CAMEL'S BACK

It appears that the stress response is one of the most important effects that EMF's have. This stress syndrome is measured by changes in reaction time, ability to concentrate, sleep patterns and brain function tests, endocrine system changes, a variety of blood changes as well as changes in growth systems and immune response measurements. What is not yet known is how serious these changes are and how many people they affect.

This is a difficult answer to obtain from routine scientific research which requires uniformly healthy participants (lab animals or humans). The results therefore can only be applied to healthy individuals. This test bias is particularly important with prescription drug or EMF stress effects. Exposing someone who is already experiencing a heavy load of emotional or physical stress to a particular level of EMF could very well exacerbate a poor situation; however, the same exposure level might have no noticeable effect on a healthy individual. Another complication is the potential for additive effects with other treatments. As with the recognized interaction of drugs and alcohol, the side effects of some glaucoma treatments, Librium and other drugs are increased with exposure to some EMF's.

LEUKEMIAS, BIRTH DEFECTS, CANCER GROWTH AND ...

The first study clearly associating EMF exposures to human health problems occurred in Denver in 1979, where 344 deaths from childhood cancer from 1950-73 were studied in relation to the wiring characteristics of the home and the distance to nearest transformers. Childhood death rates from leukemia, lymph node cancer, and nervous system tumors in the high current homes (those with strong magnetic fields) were more than double the rate in low current homes. Later studies contain similar findings.

There have been a dozen or more studies of the relative risk of leukemia in the work environment. Adults who work in strong EMF's have a leukemia incidence significantly higher than the norm. Such occupations are electrical equipment assemblers, telegraph, radio and radar operators, power station operators, welders, etc. Also high voltage switchyard workers appear to have an increased rate of genetic damage and birth defects.

Extensive use of electric blankets and/or waterbed heaters during pregnancy seems to be related to reduced birth weights and an increase in spontaneous abortions. An electric blanket produces a relatively high EMF at the waist of a user, while the field at the waist of a person standing in a transmission line field is effectively zero because of the shielding due to the upright position. Embryos develop electric currents which play a role in their own future development and it is likely that this process is affected when a man-made field exists in the fetus and surrounding fluid and tissue.

Man-made EMF's can stimulate cancer growth in cell and tissue cultures. No studies have suggested that EMF's are

carcinogenic, i.e., cancer producing. The theory, however, is that once cancer is initiated, EMF's can contribute to its rate of growth.

While these effects are clear, the increased individual risks (as now known) are low, maybe on the order of other known environmental insults such as cigarettes, alcohol, driving or air pollution. The danger is that with the large number of people exposed to these fields, the number of cancers or otherwise affected people is high. As with cigarettes, alcohol and seat belts, we can decide to reduce our individual exposures. However, this route is complicated because if we want to "play it safe" the rules may be different from other hazards. We cannot assume that if it's bad, more is worse: at times, less is more!

THERAPEUTIC USE OF EMF'S—MAGNETIC HEALING

There is a healing tradition in many societies that referred to magnetism and magnetic healing long before modern medicine or our present understanding of electricity. This tradition has entered our society with varying levels of acceptance and success in the forms of spiritual healing, laying-on-of-hands, psychic healing, faith healing, Reiki, Reiko, and Mari EI. Other EMF therapies have a broader acceptance, documentation and clearer success, such as Polarity Therapy, the 2500 year tradition of acupuncture and acupressure and our nursing school development of Therapeutic Touch. Some of the present medical applications of EMF's in monitoring and healing have already been mentioned, such as EEG's, bone healing, relief of chronic pain, reducing osteoporosis and drug detoxification. Similar applications are likely to increase tremendously.

EMF's possess the potential to alleviate symptoms of arthritis through cartilage restoration, to reduce ulcers and some cancers, to provide anesthesia, and to correct some genetic birth defects. There is evidence that EMF's increase the mitotic rate of growing cells. While this would promote healing, it might also accelerate the growth of malignant tissue.

We need to recognize that EMF's, as with most things in life, are a two-edged sword. We should not foster the easily apparent benefits without carefully examining the side effects.

Steve Eabry is a biologist who, while working for the State of New York, was responsible for evaluating the effects of electric generating plants and transmission lines on humans as well as on natural systems. Since 1976, he has monitored the multitude of EMF effects research while studying therapeutic applications of these fields. Steve and his wife Martha are State Certified Natural Health Counselors and Massage Therapists offering a variety of body therapies —by appointment—544-1096.



THE NEGATIVE INFLUENCE OF WATER VEINS. Part I
Zbigniew Wisniewski
Pogodna 11a, 71-376 Szczecin, POLAND

If a man wants to live and exist on the Earth, three basic conditions must be fulfilled: 1)man must breathe; 2)man must eat, drink and excrete; 3)man must sleep. When one of these conditions is not kept--man must die!

In this article I would like to deal with the problem of proper location of a place for sleeping. It is well known to some people, such as geologists, building workers or well diggers, that the whole world is covered by a hydrogeological network of underground waters. I rule out, obviously, surface waters, rivers, lakes, and seas. Underground waters, commonly used, are strictly related to precipitation and geologic structure and shape of the ground. Precipitation waters partly evaporate, partly flow into rivers and lakes, and partly percolate into the ground, making up underground waters and subterranean waterflows or water veins.

Underground water, in turn, having remained in the ground for some time, gets to the surface again in the form of springs or seepages and flows into basins of surface waters from which it evaporates into the atmosphere. This is a cycle of closed circulation like all phenomena in nature.

Simultaneously with subterranean waters and water veins, there exists a very complex system of deep underground waters influenced by hydrostatic pressure. I mean all kinds of artesian basins, giant lakes created in the glacial period. The principle of connected vessels is in use here. The resources of water contained in large artesian basins are estimated to amount to tens, or even hundreds of billions of cubic meters.

Famous American dowser, Vern L. Cameron called that deep settled water--completely free from bacteria--Virgin Water.

I am not interested in deep underground water. I wish to concentrate only on the harmful influence of water veins, also called geopathic stresses.

Water veins are small streams and rivers that flow in various depths, differ in breadth and speed, depending on the angle of indication of the substrate. The larger the angle, the faster a water veins flows. In my practise I have encountered veins ranging from 70cm to 7m in breadth, their average breadth is 2 to 4 m.

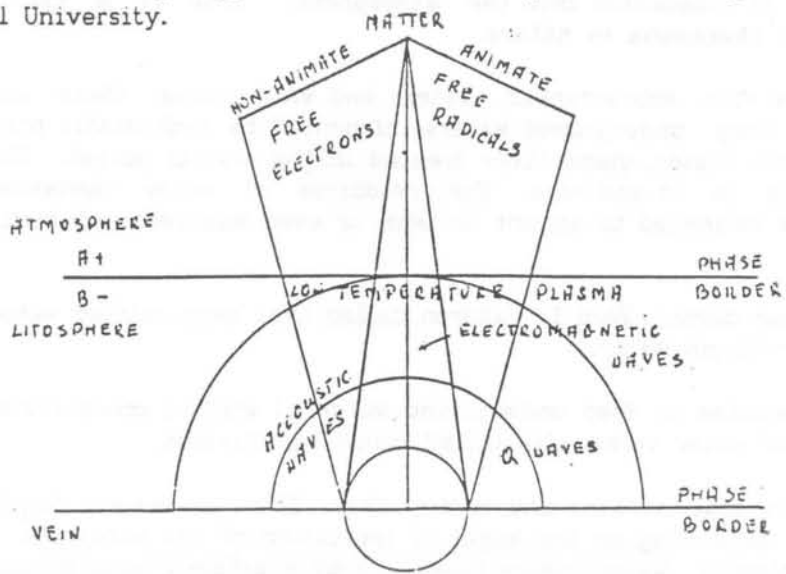
Radiesthetists determine how harmful geopathic stresses are by reading the depth of 40 - 50 m, depending on the composition of geologic structure between a vein and the earth surface.

If this enormous hydrological network, located underground in a very elaborate way and prepared for millions of years to provide for the living conditions we have nowadays, were to work its way onto the surface, we could not walk or drive, we would have to sail in boats and the life on the Earth would be completely different. People build large waterpipe, gas or sewage networks, i.e. artificial systems which make living easier - that is quite obvious and these pipelines are also hidden underground, it is made for practical reasons and everybody considers it natural and correct.

This natural hydrogeological network allowed people centuries ago, and it does nowadays, to settle in a site chosen for its charm, beautiful sight or for practical reasons on plains, hills, slopes, in forests, mountain passes, etc. Many castles in Europe, and all over the world, are situated on mountain tops. It is obvious that if water had not been found in a selected place, nothing would have been built there--people may have been primitive in former times, but not fools.

Nowadays, in this time of high technology, pictures are taken by Landstat system, and others, with the use of a multispectral scanner in certain spectral bands--green, red & infrared--in order to obtain a picture of geopathic stress locations - for geophysics research or simply before drilling in the ground.

What does the harmful radiation of that enormous geopathic network depend on? There are many theories on that subject. I am going to describe briefly some of them. Some explorers state that the cause of people's bad feelings are microvibrations produced by water movement. Others think that weak electromagnetic fields of low frequency are guilty. There is also a theory that electromagnetic radiations of 1420 MHz are the reason, reaching the earth surface from the depths. The French school representatives believe these are cosmic rays reflected from various materials deep in the ground. An interesting hypothesis has been put forward by Prof. Radwanowski, Warsaw Technical University.



GEOMAGNETOHYDRODYNAMICS OF WATER VEINS ACCORDING TO PROF. L. PADWANOWSKI.

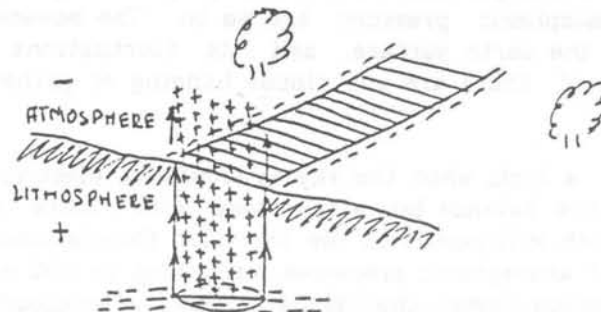
One of the natural sources of excited states in the medium is magnetohydrodynamics of the deep underground waters. In a turbulent motion and in geomagnetic field they work their way through rubble at a specific pressure, density and viscosity. As a polyelectrolite, the water constitutes an electric current conductor in which Quinck, Lorenz and Faraday phenomena and the emission of MHD energy take place, and consequently, animate and non-animate matter of natural and man-made origin undergoes accelerated process of ageing.

Prof. Radwanowski also claims that there is analogy between low temperature plasma medium with a specific pinch of electric discharge and bioplasma medium of an organism where a periodic "explosion" of emission occurs at the moment of cell division or its atrophy. Plasma is defined as an ionized area with a small space charge and nearly equal member of positive and negative, very active ions including free radicals and

electrons. The medium in such case constitutes an electrolyte of higher electric and thermal conductivity. Prof. Radwanowski's hypothesis is undoubtedly the first, relatively complete theory concerning the anomaly of energy over water veins. This highly complex theory has been presented here only in brief. In my opinion the matter is much simpler.

In the tunnel grooved by flowing water, where the level goes up or down depending on inflow of water, particles of water rub against substrata particles--function takes place here--a phenomenon described by electrostatics. While conducting, a simple experiment with an electroscope we may see that there are two kinds of electricity in nature, and they are conventionally called plus (+) and minus (-). This phenomenon is well known and described in all physical handbooks all over the world. Briefly speaking, the same electric charges repel each other, opposite charges attract each other. Now, what happens when large water masses move on the substrata. When two bodies rub each other, free electric charges appear on their surfaces. It should be remembered, however, that they become free not because of friction. Friction plays a subordinate role which depends on creating a good contact, between two rubbing bodies. This promotes the separation of charges. Thus, the charges are released and according to Cohen's principle, substances which have bigger specific inductive capacity (dielectric constant) electrify positively.

The phenomenon of electrostatics is not unknown to an average man. We encounter it in everyday life. Its characteristic symptoms are noticeable when we comb our hair or take off a sweater made of synthetic material, (crackles), or when we walk on an artificial carpet - there is sometimes a jump-spark (potential difference) between two inhabitants of the house, reaching 10 kV! The makers of antielectrostatic liquids guard their secret composition. The manufactures of car varnishes also add components which allow for the transfer of positive ions to the ground through the wheels, and so on.



The figure implies that ions (+) penetrate through water and get to the space over water surface. What happens then? It is known that we, people, live between two plates of a giant capacitor. Its lower plate is the earth, (+), the upper is troposphere (-). I must mention that some publications give contrary values, i.e. it is believed that atmosphere has positive charge (+), and the earth (-). Well, scientists are of contrary opinions on that matter. However, one of the above assumptions must be false. Either the first or the second version must be true. In my opinion the former is correct and I will try to prove it. I would like to quote A. Wos, the author of "Everything About The Weather." He says, "...thunder clouds are the centers where atmospheric electricity is created. How these clouds get electrified is still unknown. Existing conceptions and theories are often contradictory. Thunder clouds are strongly charged with electricity. Some parts of a cloud are charged positively, other parts - negatively. So far it has not been explained how electrical charges are distributed in a thundercloud." I believe that further part of my article will explain it.

The fact that atmospheric ions gather over water veins is confirmed by many scientific studies. The quantity of ions increased or decreases depending on the depth and intensity of a vein, that is on the speed of water movement on the substratum. The studies of J.Elster, H. Geitelem and C.T.R. Wilson, written at the end of the 19th century, shed some light on the question of atmospheric electricity. Van Allen zones, existing at the height of 6 to 20 km, play an important role. These strata, bombed by cosmic rays, constitute the source of large quantity of ions (-), I stress it, negative ions! Thus enormous amounts of positive ions released through friction are, in a way, extracted from under the earth, and going through all geological strata they reach human body to penetrate through it like X-rays, radio or TV waves, and go farther upward as high as Van Allen zones. In this way, the big potential difference is being equalized. However, when the troposphere contains many positive ions, they come back to the earth as atmospheric, i.e., electrical discharges. What is the mechanism of this phenomenon?

It has been estimated that there are about 1000 simultaneous thunderstorms on the Earth--although some authors suggest a few thousand. Mean number of discharges per second is about 100, each of them reaches the peak value of 10 to 20 kA, and conveyed charge amounts to 20 or 30 coulombs because potential difference between clouds reaches hundreds of millions Volts. We may treat the lightning channel as a vertical generator of electromagnetic waves.

How is such a large amount of electric power created in the atmosphere? By minimal motion of positive ions released from water veins to the atmosphere. We must use our imagination to realize, how large the scale of this phenomenon is. Almost in every square meter of the earth's surface there exist indiscernible upward movements of positive ions and hence, probably, the misconception about positive charges falling onto the earth. Positive charges come into the troposphere regardless of the daytime, ambient temperature, atmospheric pressure and so on. The movement is almost constant like a river flowing on the earth surface, and its fluctuations are slight. It also takes place no matter if there are any clouds hanging or gathering over a certain territory.

In case there is a high, when the sky is cloudless, electric charges, gathering permanently, may cause the balance but after some time there MUST be a change in atmospheric pressure which will result in the so-called thunderstorm front over a given area. The difference of atmospheric pressures, amounting to 100 or more hectopascals, set thunderclouds in motion over the whole globe. The clouds, constantly moving, collect on their way enormous quantities of positive charges. This leads to an excessive increase in cloud's potential and consequently, potential difference between the troposphere and the earth, what MUST finally bring thunders!

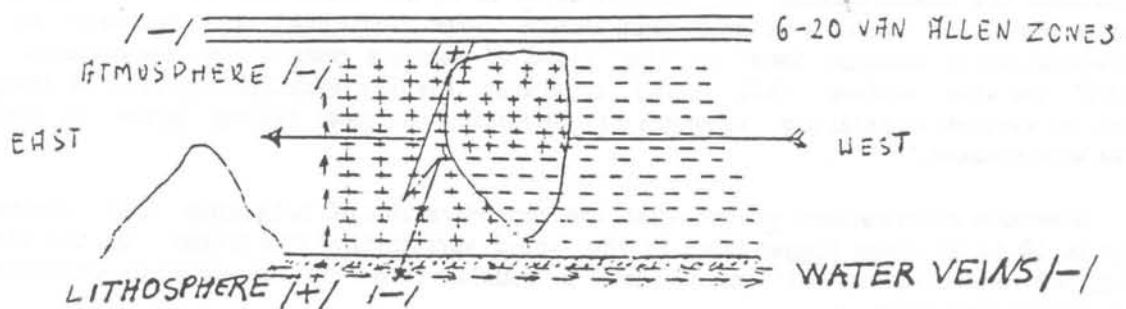
The basic conclusion from this is as follows - the phenomena described above constitute a closed cycle, like all phenomena in nature. Those who study atmospheric processes know that thunderstorms occur more often over lands than seas - why? Because it is underground where large masses of water are in constant motion. Cyclones, on the other hand, occurring in the tropical zone, are caused by trade-winds blowing on the northern hemisphere toward the west and reaching southwest coasts of the U.S. and encountering highly concentrated charges (+) brought by easterly winds. - this must evoke powerful whirls of air accompanied by thunderstorms. Sick men who feel the slightest charges in the environment experience anxiety before a thunderstorm comes, they feel irritated, their bodies ache, etc, these symptoms are caused by excessive concentration of ions (+). After the atmospheric front moves away a relief comes, the air seems to be so clear, the air is filled with ozone and people feel much better -

all these things, felt by a human body are due to the excess of negative ions after electrical discharges.

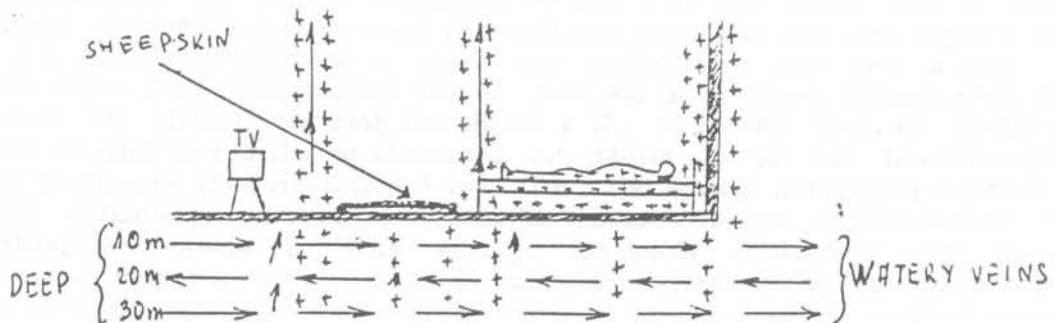
THE POSITIVE IONS ARE NEGATIVE FOR THE HUMAN BODY!!!

Summarizing:

- 1) If a man is to settle in some part of our globe, there must be an easy access to water, e.g. springs, wells, there.
- 2) It cannot be still water since in such a case the possibility of bacteria development would cause mass poisoning.
- 3) Water must flow in water veins to make natural filtration possible.
- 4) Masses of water moving underground, invisible to our eyes, are the cause of the releasing of positive ions/negative too, but we are not concerned with them there in my further discussion. I will concentrate on ions (+).
- 5) Positive ions on their way to the troposphere penetrate through human bodies environment; let us see what goes on next.



Released positive charges, which penetrate like radio or TV waves, reach a man's body in the place he sleeps. Why do I mention a sleeping place? Because a man stays in such a place 6 to 12 hours a day, the number depends on how much sleep a given individual needs. Thus, a human body which does not move is subject to the permanent bombardment of positive ions. It also refers to people who have a sedentary job.



Human skin is not resistant to positive ions, so they penetrate through epithelium inside the body where through the lymphatic system, by osmosis, they reach our external and internal organs. It is known that a human body has about 60 - 70 trillion cells (various sources state differently. it is not essential, however, so let us assume 70 trillion), this is an immense number of cells and every one of them contains protoplasm composed of elements which, in turn, make up chemical compounds. Protoplasm contains mainly water, water with dissolved sodium chloride, NaCl, that is the solution of physiological salt. The content of water in the protoplasm of various human tissues ranges from 20%, bones, to 85%, brain. It is also known that water medium is NECESSARY for chemical compounds in protoplasm to react. Therefore, we may approximately assume, that a human body has, apart from other components, 70 trillion positive charges Na, and 70 trillion negative charges Cl. Very high potential!

I am not going to write here about other cations like K+, Ca++, Mg++, or anions HCO₃, PO₄, SO₄, because Na+Cl- is the most important compound.

I would like to quote here the words of Claude A. Villee from his "Biology". This handbook is probably, due to its qualities, available all over the world and I will rely on it in all my articles, this one top. The author writes in chapter 3, "The concentration of ions of any kind depends on relative speed of their receiving and excreting by an organism. Although salts occur in constitutional liquids in small concentration, they exert a considerable effect on cell functions.. In normal conditions the concentration of various salts is by all means constant and any larger changes may have serious effects, even DEATH. For instance, the decrease in the concentration of calcium ions in the blood of mammals results in convulsions and death!" He also writes: "All living creatures display excitability, that is they react to various stimuli, e.g. chemical or physical changes taking place in their close environment."

Numerous observations proved that the concentration of potassium ions inside the cells is 10 to 20 times bigger than in the liquid surrounding the tissue. On the other hand, the concentration of sodium ions is usually larger in the external environment than inside the cells.

A human body not covered by any insulators absorbs positive ions (+) like a sponge, the number of which becomes excessive after a certain time. Thus, electrostatic balance of an organism will be staggered, e.g., there will be 75 trillion positive ions (+) and only 70 trillion negative ions (-)!! What will be the effect of this?

Let us consider it from the point of view of a single cell. Briefly it may be said that in a cell there will be 2 ions (+) and only 1 ion (-), so electrostatic balance of a single cell will be shaken and this will cause certain changes in chemical reactions. Such a cell will not fulfill the tasks it normally carries out: e.g. instead of 2000 chemical reactions in the hour it will execute 1500, 1200, maybe 876 - nobody is likely to ever check it! If a single cell does not fulfill its task, neighboring cells will not do it either, so thousands or millions of cells in our stomachs, kidneys, pancreases, spleens, etc. will not function properly because of an "intruder". Therefore, the excessive amount of ions (+) is directly responsible for our diseases!! This phenomenon, unnoticed by the world of science, disregarded, laughed off, disdained, is extremely dangerous because it is invisible and its functioning is hidden. In the same way as a bark beetle eats wood, the excess of ions (+) leads to internal damages of our organism!!!

Many a time in our lives we have witnessed a death of someone who enjoyed good health and only an autopsy proves, in such cases, that serious internal damages caused death of, say a 30 - 50 year old person. There is a direct relation between a harmful geopathic radiation and the susceptibility to cancer, what I shall try to demonstrate in the subsequent articles. At present I want only to describe general symptoms of human organism under radiation, observed by hundreds of radiesthetists all over the world. The general noticeable symptoms of human organism under geopathic radiation are: insomnia, apathy, fatigue, an increased excitability, impossibility to concentrate thoughts, and the like.

Scientific researches into radiation effects have proven changes in the bioelectrical activities of the brain, deviation from the rule in morphology of the blood, disturbances of the activities of endocrine glands, pathological changes of blood vessels, susceptibility to disturbances of the blood's ability to coagulate, etc. According to my experience the internal organs most frequently attacked are: head, arms, shoulders, alimentary canal, coronary vessels, pancreas, spleen, liver, circulatory system, nervous system. Would you please pay attention to the fact, that the first under attack are organs containing cells which are built mainly by water, e.g. neuron cells of the brain built in 85% of water.

The negative radiation of water veins affects also the animals and the plants. As to the plants nursed at home they can be divided into two groups: influencing human organism positively and negatively. Generally speaking if a plant is narrow-leaved, e.g. fern, myrtle, geranium, its influence is positive whereas the latifolious plants affect the human organism negatively. The fruit trees which do not like water veins are pear, plums, cherry, walnut. The ones which do like them are apple and apricot. The watchful observers of the vegetable habitat must have noticed losses in old hedges, excrescences and deformations upon tree trunks, the so-called tumors, and like phenomena which I am going to describe--there is a large body of literature on the subject.

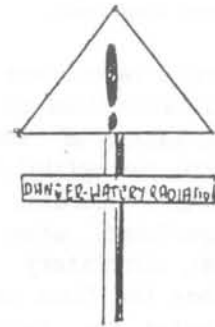
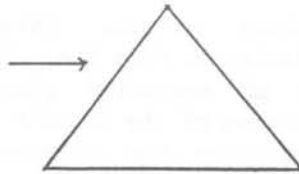
The animals which avoid geopathic radiation zones are: dogs, cows, horses, pigs, storks, whereas bees, ants, termites and cats like these zones, and especially the cat does, it, besides, influences the human organism therapeutically - this topic I shall discuss briefly. Positive ions are necessary for cats to live, therefore cats kept on knees help sick people to recover by absorbing those harmful ions.

A fact worth mentioning is also the negative influence of watery veins upon the safety of the road traffic. In the present period of rapid development of motor transport different road accidents have been happening and there would be nothing unusual about the fact except for the circumstances sometimes very difficult to be explained. According to detailed investigation the drivers were sober, healthy and physically fit, the vehicles were efficient, the weather and visibility were excellent and the road was dry and straight. So it seems impossible that such accidents have happened, but in accordance with police reports drivers sometimes react in a very strange way:

- a sudden turn to the left side of the road and a collision with a tree,
- sinking into a momentary nap and loss of control upon the vehicle,
- a head-on collision when there was hardly any traffic in the road, the visibility was very good and the road - dry,
- a unjustified turn into a ditch or a field.

Some segments of the roads are called "death places". Last year in Poland a new road sign was introduced, it warns the drivers of special concentration of watery veins. The huge positive ions density penetrates in a flash into the driver's body and paralyzes his nervous system and is the reason of the accident! These are the facts.

THE MODELS OF PYRAMIDS
SITUATED AT HIGHWAY
BREMEN- BREMENHAVEN
WEST GERMANY



In the light of these facts, what is the situation in our flats like? Rotten, very rotten. I do not know the situation of other countries but in Poland and particularly in Szczecin the number of watery veins running under a typical apartment house is great, even very great at times. An average number amounts to 5-7 water veins and there are flats with 11-12 veins. Under my detached house there are eleven geopathic threads, but, of course, my place has been secured against them. So, when I hear anybody, even a radiesthetist, talk about only one water vein, I know he still has much to learn about radiesthesia.

I shall try to explain this phenomenon in a concise and clear way. At the very beginning I would like to attract your attention to the harmfulness of all materials used to fill our flats--everything inside them radiates harmfully: walls (the so-called Polish great slab or suporex), artificial carpets and floor finishes, artificial tiles, furniture made of flaxboard and artificial plastics of furniture covering. Generally speaking, what is not natural is harmful, including our clothes, underwear, food and medicines. If there is anybody not convinced yet, let him eat a sausage in natural tripe and later in an artificial one - he will find out the difference by himself. I do not want to concentrate upon these facts any longer --they are well known.

TO BE CONTINUED

START SAFEGUARDING THE ENERGETICS OF AMERICA'S HOMES

Jeff Smith

The growing, and very welcome, attention the energetics of biologic systems has received lately has in turn led to a growing recognition of the effects the energetics of our surroundings are, almost certainly, having on us.

Science has long known the effects of standard radiation, X-rays and the like. What is being discovered today is that a large number of energy products formerly considered generally harmless may have, if anything, far more damaging effects than ever considered possible.

When, for example, an audio system is in use, what in fact is happening is that the listener(s) are placing themselves, in the final analysis, in an energy field.

While it has so far received little attention in media circles, sound systems emit a range of energetic products including RF (radio waves), pulsed magnetics and current carrying electrostatic fields...all of which is well known to have strong bioactive and in some cases psychoactive effects. In fact, it is becoming clear that many appliances in our homes and workplaces are emitting energies which have profound effects on humans in such diverse areas as resistance to disease and mental awareness.

In the mid-seventies, a number of researchers found that differing types of audio equipment tended to affect people very differently. In New York, where a number of programs for the elderly began collecting and repairing sound equipment--to give to the elderly--it was soon found that tube equipment of the mid- to late-fifties had the apparent ability to have a general positive effect on the overall vitality of elderly listeners. Those involved say that solid state units up to about 1965 were either neutral or less positive. While the sharpest response came when a well known importer began offering the modern equipment of post '75 manufacture. The "modern" equipment, mostly compact stereo systems, caused, many of those involved say, a general marked decline in such areas of vitality as mental alertness, strength and resistance to disease.

In New York and on the west coast, a number of audio equipment salons which are aimed at the serious listener market noticed that, given the same music source and speakers, if they switched from a solid state to a tube amplifier often noticeable changes occurred in the

listeners. After about a half hour, those involved recall, the persons exposed to the solid state equipment often felt weak and restless while the same person exposed to tube equipment felt rested and well.

In both cases researchers modified the circuits of the equipment so the audio product of the solid state and tube units were almost exactly alike--so as to eliminate or very greatly reduce the psychoacoustic response. But in both the cases of the elderly and the audiophiles the difference in response remained largely unaffected.

What this suggests is that there is an important class of non-sound energies at work here. A group of bioactive energies of such a nature certainly are, to say the least, a fit subject of concern on a national level.

But as far as the luminaries in Washington and many major science quarters thinketh, as long as a device does not produce ionizing radiation or interfere with a neighbor's TV, an atmosphere of "no further questions" applies here.

No good, gentlemen...

With the rise of energy medicine in Europe and the beginnings of a long overdue domestic research community here, the sobering truth has begun to come to light.

Today, growing recognition is developing on the bioactivity of the systems we live with every day. We have had access to the research findings, and they make for the kind of unsettling reading which, in our opinion, should have the attention of every American. Research in this area clearly shows that many of the energetic products of such standard items as sound systems, TV's, lighting systems and business related equipment are, in fact, heavily bioactive.

In this regard it is worthy of noting that when the Japanese visit these shores they can be found at used audio dealers attempting to buy tube equipment. Just ask any salesman handling tube McIntosh or 1950's GE audio equipment what his sales are to clients in the far east. Further, although it is little known, there is a whole class of audio electronics in Japan which is not for export. Much of this equipment, even if solid state, acts as tube circuits do.

Sure, they know all about bioactivity...

Since the Trilateral agreements of the early seventies resulted in the exporting of electronic production, many of the most important elements in this picture have origins external to the United States.

What we now have is a condition in which we are allowing a number of foreign nations, some with significant histories of hostility to the United States, to set the energetic environment of the American home.

That's quite enough, gentlemen...

First of all, there should be a serious investigation of the bioactivity of what is being allowed into this country, along with the relatively few systems still produced here.

Then, there should be a scale assigned to systems showing not only how bioactive but also in what direction. We would suggest a simple scale of plus ten descending to a negative ten (with a zero at center) showing the system to be biopositive or bionegative.

In addition, a no-nonsense program of evaluation of methods to make systems secure from questionable energetics should be initiated.

We should also be giving strong attention to offering methods to reduce some of the possible hazards in already existing units.

It certainly IS the business of government and science to inform and protect in an area such as this. It certainly IS NOT the business of those in positions of authority to allow America to become a dumping ground for anything and everything the world market sees as fit to import here.

Mulch? Tomatoes prefer red

Gardeners are encouraged to mulch their plants to reduce weed growth and moisture loss in the surrounding soil. Some experts recommend mulching with whatever is least expensive in your area, such as wood chips, straw or shredded newspapers. Others recommend opaque plastic for its ability to collect and retain heat, often a benefit to tender seedlings set out in the cool spring. But gardeners may find it most profitable to focus on the color of their mulch, rather than what it's made from, according to scientists at Clemson (S.C.) University and the U.S. Department of Agriculture's Coastal Plains Soil and Water Conservation Research Center in Florence, S.C. Their preliminary work indicates that the color of the light a mulch reflects back onto a growing plant can significantly affect its growth.

Early work by USDA's Patrick G. Hunt and Michael J. Kasperbauer showed that by affecting phytochrome, a color-sensitive substance, even five minutes of colored light at the end of the day could alter the shape and size of a plant. For example, Hunt says such brief exposures to red light (600- to 700-nanometer wavelength) left soybeans, wheat and peas more spindly and smaller-rooted than plants exposed to far-red light (700 to 770 nm) at day's end.

The next logical step was to see how the color of the soil — or the mulch covering it — might affect seasonal growth. "To our surprise," Hunt says, in experiments with tomatoes last year, "the red mulch gave us larger fruit and even increased the total number of fruit." Relative to black mulch, it improved yields 20 percent. This year's surprise, he says, is how well white mulch appears to be improving bell pepper and potato production over yields in sandy (light-colored) soil and plots mulched with straw painted yellow, red or blue. It suggests, he says, that each plant may have its own preferred color.

Moreover, he adds, since the photochrome chemistry these mulches appear to be affecting can be temperature sensitive, similar plants grown under different seasonal conditions — hotter summers or longer days — may require some spectral fine-tuning to yield comparable results. Finally, he notes that his preliminary studies have focused only on changes in yields and morphological factors like stem length. Still to be studied is whether changes in reflected spectra will alter characteristics like taste, shelf life or susceptibility to blights.

FIBONNACI - THE MUSICAL VORTEX OF CREATIVITY
By Dale Pond, Editor,
The Journal Of Sympathetic Vibratory Physics

Around the turn of the century there was a great debate as to whether atomic pitches represented harmonics of one another or not. According to the available data the question was never resolved to anybody's satisfaction. I uncovered a paper in the Applied Spectroscopy magazine wherein this harmonic relationship was alluded to by a more recent writer when considering the Hydrogen and Oxygen components of water. The writer indicated he would explore this phenomenon in a later article. A later article was never found.

Now, the issue died around the turn of the century because scientists were looking for a HARMONIC relationship instead of a MUSICAL relationship. A harmonic relationship, according to the rules of music, is a doubling or halving of the frequencies under study. They were looking for a 1, 2, 4, 8, etc. series of relationships. This is well but there are more relationships than this simple obvious series. For instance we have a relationship of a Perfect Fifth = 3:2 or a Perfect Fourth = 4:3. How do these relate to atomic frequencies? What can they mean? We've pointed out in other articles that Pythagoras stated the lower the numbers in the relationship, the greater the harmony between the two frequencies. According to Keely's scientific philosophy this translates into greater bonding force or denser material aggregation. The opposite happens with greater number relationships - separation.

Now, in order to determine what the relationships are one must first have the atomic frequencies which can be easily acquired from a table of Nuclear Magnetic Resonances or spectra of the elements. In the February 1987 issue of The Journal of Sympathetic Vibratory Physics was published a table of musical intervals. Match the two tables and you have the true and proper relationships as spoken of by Keely in his laws and philosophy.

I have assembled all the known musical ratios onto a Lotus 1-2-3 spreadsheet (IBM, MS-DOS or PC-DOS compatible) in such a fashion that ANY numbers may be used on it and their respective relationship may be determined. I also have a great number of the spectra assembled though more is lacking than I've been able to acquire. The insights given about elements when run through this spreadsheet is mind boggling! Though little is yet understood at this point, everything points to a facility of being able to do things approaching on the magical.

A fine example of what may come to light using this spreadsheet is the example of the Fibonnacci series of numbers. Currently we use PHI as the derivative of this series but this number is irrational (never ending series of decimal places), but once it is run through the musical spreadsheet we get WHOLE NUMBERS. Exactly what we need to compute finite quantities needed when working with Quantum Arithmetic. Here is the series and their musical intervals:

Fibonnacci Series: 1,1,2,3,5,8,13,24,etc.

Computed to PHI: 1.61803....

1:1 = Unison
2:1 = Octave (harmonic)
3:2 = Perfect Fifth
5:3 = Major Sixth
8:5 = Minor Sixth
18:8 = Major Sixth

All subsequent ratios oscillate from a Major to a Minor Sixth, always approaching what would be termed a Perfect or Harmonic Sixth. What does this mean? Keely maintained:

"The rhythmic relations in which force acts are everywhere, under all conditions, and at all times, the same. They are found experimentally to be universally expressible by the mathematical relations of thirds."

According to musical theory, a Third is the inversion of the Sixth.

Keely worked for many years, without success, on the theory that polar and depolar current actions were circular. He found success when he found and proved that these forces act with a SPIRO-VORTEX motion. Since we can now see that spirals are governed by Sixths (inversion Thirds) we begin to get an idea about his "Triune Polar Flow."

We can now begin to understand why The Ancients could do things eluded to by so many unexplained monuments, etc., and we haven't been able to duplicate their feats. They did it with simple WHOLE NUMBERS, which can be calculated on the fingers, whereas we can't with our high-powered computers trying to work with irrational unworkable numbers. As Iverson (Author of Quantum Arithmetic) has so long maintained, we can skip all the heavy unworkable math when we work with whole numbers. This also helps us grasp why Keely was able to do so much with so little one hundred years ago.

This also opens the door to understanding why and how Tesla could transmit and receive electrical force at a distance without having the electrical force manifesting all over the place. This point will be explored in another future article.

The Musical Spreadsheet template is available on a 5-1/4" floppy for \$50.00 from Delta Spectrum Research, Inc., 2100 Mediterranean Ave, Suite 16, Virginia Beach, VA 23451. Though I haven't tested it, the template should run on any IBM compatible system (MS-DOS or PC-DOS) using Lotus 1-2-3. There are limited instructions on it but no documentation, non is needed. If you have any proficiency with Lotus 1-2-3 on an IBM compatible system you can easily use this spreadsheet. Written inquiries or questions will be answered by return mail. If you are using an incompatible system a printout is available for reconstructing this spreadsheet, price \$35.00. Several hundred pre-ratioed NMR, light, chemical element and other frequencies are available also, price \$50.00.

Those developing calculations from this spreadsheet are encouraged to share their findings for the benefit of future work. Just for fun you will want to run the rainbow colors (use Fraunhofer lines) through this spreadsheet! You will be pleasantly surprised!

Clips, Quotes & Comments

By Tom Brown

* THE SUN *

My search along the borders of consensus reality have led me to the sun. What is this great generator of living energy? How does it affect us? It appears as though the sun is directly influencing our behavior, our weather, our disasters such as earthquakes, radio reception, the economy, but what influences the sun? The solar sun spot cycle is directly connected with various stages of every planet's rotational period. Various planetary conjunctions cause solar activity which directly translates into a change of activity on earth. We are immersed in the living fields of the sun. We are part of the sun. The sun is our life and sometimes death, are we somehow the life and/or death of the sun? What is our connection?

The diversity in our life is brought about through the motion of the sun through four basic quadrants, dawn, midday, dusk, midnight. In this the sun may be seen as one pole of the cosmos. The other is the outermost reaches of space, the periphery.

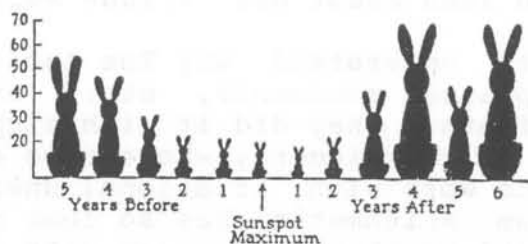


FIG. 5.—Height of figure shows relative number of pelts taken years before and years after sunspot maximum. (Data based on five sunspot cycles.)

WHAT IS THE SUN?

In the article "Spectrums of Darkness and Light...Part II" I pointed out that stars may not be able to be seen in outer space. I called NASA on this and the Public Affairs Office confirmed this.

What does the sun look like in outer space? I spoke with the man who trained the astronauts for photography in space and he says that while the men were told not to look into the sun that those who glanced at it viewed it as white, intensity not being indicated. They feel that the whiteness was actually caused by the response of the craft window (i.e. diffraction). He wasn't sure if the sun could be seen or not without something for it to strike. He corroborated the PAO's story that the stars couldn't be seen in outer space. When the astronauts first went up they were quite surprised to find that space is dark and that some sort of optical device was used, such as a diffraction grating, to give the light something to act upon, and even then only a few high magnitude light sources could be seen.

TWO VIEWS OF SPACE

However, I called the Naval Research Laboratories and spoke with some of the people who developed the solar experimentation that NASA took into space on Skylab. They laughed when I told them what NASA said. The scientist I spoke with said that

from his understanding the sun and stars could be seen in outer space. He said that he hadn't been there himself but that was his opinion from working with the astronauts. He suggested that I call his associate who is an astronaut and has seen space first hand. I called and he confirmed that the stars could be seen in space, just like on earth, but with two major differences: no twinkling and more color! The sun looks much as it does on earth. He couldn't understand why NASA told me the other. Neither can I, because I checked back with them and they held to their story. I'm enjoying the two different views of space. I can actually believe both views. Knowledge, the polar opposite of belief in the realm of thought, will come only from first hand experience.

We have recieved several photos of the sun from NASA taken on Skylab. One famous photo is of a solar flare on December 19, 1973. The photo was taken in the light of ionized helium by the extreme ultraviolet spectroheliograph instrument and the sun looks quite reddish on the surface, but not all that intense as there are dark areas where the surface is not colored. It looks as though the surface is on fire, but the subsurface is dark. This photo has been pigmented to allow surface features to be seen.

Most of the other photos are brightly colored computer printouts of Extreme Ultraviolet (XUV) Spectroheliographs. These are great photos for mapping the surface and watching the types of radiations emitted from various areas on the sun. They do little to show what the sun looks like in space to the eye. One photo shows a dark body with luminescence at various mid latitude areas on both hemispheres of the sun. There is a dim outline around the rest of the sun except the polar region where there is a large gap with rounded edges. (Where is Ray Palmer when we need him!?) This photo was taken with the Spectroheliograph with "enhancements". I'm not sure what range it is taken in, but I understand that the sun, when photographed in specific wavelengths, appears like an invisible body with light regions on the surface. A predominate feature in almost all of the spectroheliographs is the darker, flattened polar regions.

SOLAR WINGS

The ancients pictured the sun with wings--they knew of the corona. We are immersed in the corona of the sun which may be the cause of illumination of the sky during the day. The sky is dark during the night due to no solar wind exciting the atmosphere. We see the stars on earth but not as readily in space where they should be most intense. When the energy of the star strikes the atmosphere we get an illumination effect showing a miniscule disc of light. Perhaps it is this secondary illumination effect which allows us to see the bright sun in the sky. So when we see the bright blue sky and the bright yellow sun overhead we are seeing two different types of illumination effects, the polar opposite of each other. The transverse, or coronal effect is localized to the planetary system while the longitudinal effect allows us to see the distant stars. This is a possible view presented as an alternative to the wave-particle theory of photons. The very function of the solar energy is thought of as something with two activities which predominate, one over the other, depending on the particluar experiment.

HOLLOW SUN

Georg Blattman has authored a most interesting book titled THE SUN - Ancient Mysteries and a New Physics (Anthroposophic Press). He travels a well laid path to a view of the universe quite different from the norm. Blattman points out that the sun surrounds us and that the brilliant ball in the sky is actually most alien because we can't look directly into it. The corona is that part of the sun which contains the energies of life, and the book speculates that it reaches to the outermost planets.

The idea of Counterspace is brought into play and the reader is led to conceive of the sun as being a "totally other" type of space. The sun is hollow and we are on the interior!

Blattman also describes how a psychosis of consciousness is caused by us being told that the sun is a nuclear furnace, nuclear being the most deadly force on the planet, and our actual experience of the sun being the giver of life. Ernst Lehrs, in MAN OR MATTER, also covers some interesting views on the formation of elements in the sun showing it to be the acting opposite to what we usually think and observe in the laboratory.

THE SUN by Georg Blattman is available through Borderland, and is \$16.95 plus \$2 postage & handling. This book rates with MAN OR MATTER, COSMIC PULSE, and LIVING WATER, which all give a view of the living universe. THE SUN gives some great viewpoints on which to hone our belief systems and it has given me a perspective I never expected.

COSMIC WEATHER REPORTS

Borderland is now receiving solar data from various government agencies. Eric Dollard has used these reports for many years in understanding how the vibes will be on earth, the most direct effects being the weather, disasters and accidents, and the behavior of people. This project is being put into motion and in the future we will begin to give Cosmic Weather Reports. Sunspot activity is on an up cycle and began what is known as Cycle 22 around September 1986. The number 22 represents that this is the 22nd studied approximate 11-year sunspot cycle. We will keep you posted on developments and insert charts and pertinent info into this Journal.

DARK MARKINGS IN SOLAR PROMINENCES

(Daunt, R.; British Astronomical Association, Journal, 16:280-281, 1906)

"I was much interested in Mr. Newbegin's remarks on dark markings in prominences in his paper in the last number of the "Journal," and Mr. Maunder's comments thereon. I have myself seen the same phenomenon on three occasions lately, but, being a beginner in spectroscopic work, I hardly liked attaching too much importance to what I saw, owing to my inexperience. However, on April 6 last, so striking an example occurred that I am fully convinced of its reality.

"At the base of a prominence situated about -25 degrees W., there was a dome-shaped marking perfectly black, and which looked like something welling up from the limb of the sun, though cut off by the chromosphere. This marking had every appearance of there being something tangible there. It was well defined, and the edges perfectly clear cut.

"These markings to which I refer look perfectly black in contrast to the prominences, and are very much darker than, and have quite a different appearance to, any gaps in the form of a prominence or to the space enclosed between, let us say, two curling hydrogen jets.

"My instrument is one of Thorp's prism grating spectroscopes which I obtained last November; its definition is excellent."

Source: Mysterious Universe: A Handbook of Astronomical Anomalies by William R. Corliss, The Sourcebook Project, Glen Arm, Maryland 21057

* ULTRAVIOLET BLOCKING SUNGLASSES *

There are sunglasses on the market marketed as ultraviolet light blockers. Ultraviolet light is a media demon to scare people with. It is a common assumption that ultraviolet light will give you skin cancer and damage the eyes. In "Color and Light: Their Effects on Plants, Animals and People", (The International Journal of Biosocial Research, Volumes 7, 8 & 9), researcher John Ott reports on studies which show quite the opposite. In a joint British-Australian study of malignant melanomas conducted in Australia it was found that office workers had a higher incidence than those regularly exposed to sunlight. Dr. Ott investigated a situation where American veterans stationed in the southwest had a high incidence of pterygium, "an abnormal growth on the eye that impairs vision." The blowing dust in the desert was thought of as a possible cause. This disorder manifested also in a group of servicemen who served in South Pacific where rainfall is predominant. That ruled out dust so ultraviolet light was assumed to be the culprit, it being a common factor to the areas. A group of Cree Indians in northern Manitoba, Canada also developed the pterygium. Their global location did not allow them the same intensity of UV light as the American servicemen.

The Cree had been issued special sunglasses designed to study glare and other problems associated with sun on the snow and ice. These glasses blocked all ultraviolet. Ott then checked a limited number of the American servicemen who developed pterygium. He found that all had constantly worn prescription sunglasses. It appears as though the lack of ultraviolet light will cause more harm than an abundance of it, and this is corroborated in further researches reported in the article. However, big promotions are going on for the UV blocker sunglasses.

Recently on a Eureka, California television show I caught part of a consumer report on these types of sunglasses, focusing on one in particular, the "Blue Blocker" (tm). They reported on how harmful the ultraviolet was and gave the video testimony from many people on how great the sunglasses are. Apparently when the blue end of the spectrum is blocked a person can see better. A baseball player can pick the ball out of the sky better, etc. The consumer report congratulated themselves on the great job they did in investigating this subject, never once mentioning John Ott's work, and then provided a toll free number for the consumer to buy right now. This so-called consumer report was a thinly disguised commercial for the glasses and ignored the most important research done on the product! Ah, the media.

OBSERVATION VERSUS EXPLANATION

Dear Mr. Brown,

"You should exercise caution in suggesting that direct observation through a prism refutes the conventional optical theories; your 'Spectrums...part I' paper seems to claim something of this kind, particularly in the third paragraph.

"After all, when I look at a white card through a prism I still see white at the center. Going out from my eye there is a ray which points in the direction from which the whiteness arises. This white ray could be conceived as being composed of colored components which arose from differing points on the white card originally. The blue and violet component come from lower on the card and were sharply refracted into their final direction to my eye. The red originated from higher on the card but ended up coinciding with the others. The blurry, colored borders when seen through the prism arise because there is no light coming from the dark region around the card so that some colored components are left without the complementary colored rays which are needed to produce white.

"You see, I am not forced by this observation to assign a positive, active role to darkness.

"By the way, as a school teacher, I do not favor using anything like a tone of contempt or disgust for 'orthodox science'. It is very difficult to develop an interest in science among the youth. They are already too inclined to hope for some magical excuse to avoid scientific discipline. Even in dealing with adults I should think it better to take the humble attitude of helping science to become more beautiful, alive, interesting, and artistic through interest in Goethe's ideas rather than to denigrate scientists for not adopting them.

"I look forward to your future articles in this series. It is really exciting to find that there are people working with these ideas."

Sincerely, D.B., Spring Valley, NY

Thank you for your letter. I agree that we should help science "become more beautiful, alive, interesting, and artistic through interest in Goethe's ideas." I may be wrong in my conception of color theory but your letter allows me to further my viewpoint by bringing what I see as the main error in color theory to the surface. In paragraph two you state, "This white ray could be conceived..." You are quite right that it could be conceived this way. However, this conception will not hold up under subsequent experiments such as are listed in 'Spectrums....part II' and elsewhere in various books on Goethe's color theory. A color will refract in opposing directions through the same prism, in the same position, simply by changing the background color. The projection of the inverse spectrum provides further experimental evidence that color is formed on boundary regions between dark and light. The reproduction of some of these experiments have given me a different conception.

You are attaching unseen and unknown actions to explain away your direct observation. Where do the "colored components" arise from? The card is white! The prism is supposed to break light into the colors. You are indicating that somehow the prism changes the white part of the card into component colors, which come from different parts of the card, and then changes them again into white--your "white ray". That is a lot of assumed activity when we see that color only appears on the border between light and dark areas.

HIGH-LEVEL CONJECTURE

We will check into what Helmholtz presents as an argument against Goethe's theory. This quote is from "On Goethe's Natural Scientific Works" (1853):

"The prism refracts light passing through it, i.e., deflects it by a certain angle from its path. Simple light consisting of diverse colors has, according to Newton, diverse refrangibility and therefore in taking different paths after refraction through the prism produces separation of the colors. A light dot of scarcely visible size appears therefore, when viewed through the prism, shifted from its position and drawn out into a colored line--a so-called color spectrum--which shows the above-mentioned simple colors in the sequence indicated. If a larger light surface is observed, when (as simple geometric investigation shows) the spectra with their points lying in the middle fall one upon the other in such a way that all colors coincide everywhere in the proportions giving white. Only at the edges do the colors partly free themselves. Thus the white surface appears displaced and bordered on the one edge by blue and violet, on the other by red and yellow. A black stripe between two white surfaces can be completely covered by their colored borders. In the middle, where they overlap, red and violet mix to form "Purpur." Hence the colors into which the black stripe appears dissolved do not originate from the black, but from the surrounding white."

From where does Helmholtz derive the "points" which "fall one upon the other in such a way that all colors coincide....in the proportions giving white"? Where is the experimental evidence on this? If we reverse Helmholtz's black stripe experiment then by direct observation we can deduce, along his own line of thinking, that the colors overlapping a white strip, producing green in the middle, originate from the surrounding black. Various shades of grey will produce border colors when brought together into a borderline. Some interesting experiments along these lines will be presented in future Journals along with further experimental work to allow everyone to check this out for themselves. Don't believe it until your experience it.

The "blurry, colored borders...seen through the prism" indicates the quality of light that illuminated the card during your observation. I have found in my observations that the quality of light can be tested by viewing a card with a light-dark border on it and observing the quality of color seen. The border colors are quite profound in direct sunlight and the weakest under standard fluorescent bulbs. If darkness does not have an active role then how do you explain your indications that some of the "colored components", which we can't see, do not meet their "complementary colored rays to produce white"? The darkness seems quite active in your explanation but I'll guess that this can be explained because the activity is caused by the view that darkness, being an absence of light, doesn't exist, therefore it cannot be active. Light and dark are polar opposites and both are invisible. Light does not appear unless it strikes a surface.

The impossible to explain away FACT that color only appears on the borders shows, by direct observation, that color is a border phenomenon, and yes, I fully suggest, as did Goethe, that "direct observation through a prism refutes the conventional optical theories".

THE REDISCOVERY OF COLOR - Goethe vs. Newton Today by Heinrich O. Proskauer (Anthroposophic Press) contains a prism and a set of cards with which to do the experiments that will show anyone willing to look that Newton's conception of colors being components of light to be an improper perception in science. This book is available through Borderland (\$35 plus \$2 p&h) and I'll give your money back and let you keep the book if you can disprove the experiments in that book with further reproducible experimentation, (explanations don't count). We will also feature your experimental evidence for others to reproduce and then I will gladly print a retraction of my current viewpoint which is the result of an impression derived from direct observation through a prism. This is just the beginnings of my color researches and I may prove myself wrong in time. Opposing viewpoints provide impetus to experiment and check these ideas out. One thing for sure, there is more to light than meets the eye.

HOLLOW EARTH MYSTERIES

We recently heard in the "news" that a man died in Spandau prison who may have been Rudolf Hess. Now there are a lot of unanswered questions about this whole affair. Why in the world would the superpowers keep one old man in prison like they did? He could have easily been slid a piece of pie with sodium morphate or some similar undetectable poison many years ago. A recent 60 Minutes documentary on Hess presented evidence that according to X-rays the man in Spandau may not have been Hess due to a missing WWI wound. The airplane carrying Hess into Scotland was apparently not the plane that took off from Germany (different tail numbers). A tailor had to make a duplicate of Hess' uniform in several hours. Etc. Why was this old man kept in prison? What was Hess really up to?

Little known is that Rudolf Hess may have been the last surviving member of the mysterious Thule Society which believed, among other things, that we are on the interior of a concave sphere. Some of these men were top scientists. They saw the sun go around with night and day and all that, and I'm sure that they could see the curvature of the earth from an airplane, but...they believed. The German scientists developed quite a bit of our modern aerospace technology and we can assume that despite the war they were brilliant minds. However:

"In April 1942 at the height of the war, Dr. Heinz Fischer, an expert on infrared radiation, purportedly led a group of technicians on a secret expedition to the Baltic island of Rugen. The men aimed a powerful camera loaded with infrared film into the sky at a forty-five-degree angle and left it in this position for several days. The goal, which proved elusive, was to take a picture of the British fleet across the hollow interior of the concave earth." Quote from Time Life Books Mysteries Of The Unknown series, vol I, MYSTIC PLACES, chapter 5, An Interior World.

COUNTERSPACE

It would be nice to see the pictures that were developed from that experiment, even if they didn't get pictures of the other side of the globe. Atmospheric critters have been photographed with infrared photography in this country. Perhaps the etheric counterspace of the hollow sun is the interior that the Germans sensed existed. According to projective geometry the interior and exterior of a sphere can be interchanged in concept. A plant exists in counterspace in the seed from which it springs. The imaginary number i , which is the square root of negative one, used in electrical engineering holds a similar concept. The plant is understood as a being whose metamorphosis in time shows its various stages, all combined being the full plant. An individual plant is part of the archetypal plant from which all plants spring

Perhaps counterspace is where the atmospheric-etheric critters have been photographed using reverse spectrum infrared photography. Infrared film is sensitive in the blue-violet and infrared, which provides two borders and the reverse spectrum colors which Dinshah demonstrated to be the etheric. The two borders of infra-red film can be seen in this graph of the color sensitivity of IR film taken from the Kodak Reference Manual, (C) 1940:

Color Sensitivity: Blue-violet and infrared.



ORIGINAL CAMERON AURAMETERS

For the last year or so Borderland has been selling a dowsing instrument listed as a Cameron Aurameter. We feel that this unit is a good dowsing tool with a good price. It has been pointed out to us that the unit we were selling was not the same as the Original Cameron Aurameter. On Cameron's original units the tip had a swivel. On the units that we sold the tip was solidly attached to the wire. The swivel tip allows for map dowsing and other variations of the dowsing art.

Dowser Bill Cox worked closely with Vern Cameron and is still active today making Original Cameron Aurameters as well as other quality dowsing tools. Bill's company, Life Understanding Foundation, P.O. Box 30305, Santa Barbara, CA 93130, also publishes books by Vern Cameron and Bill Cox on all aspects of dowsing, & also Pyramid Energy.

Borderland will carry some of the tools and books of Life Understanding Foundation in our 1988 catalog as well as Bill Cox's instructional DISCOVER DOWSING videotape, (\$39.95 + \$3p&h). Dowsing is an incredible tool for self discovery and we are happy to make instrumentation and knowledge in this field of research available to associates.

CONTACTS

Contacts is a nexus wherein researchers may contact each other, or submit research sources for listing. Listing is free, but we reserve the right to edit or reject. When responding send at least a S.A.S.E., if not a buck or two for postage, time, etc.

* INTERNATIONAL TESLA SOCIETY, 330-A West Uintah, Suite 215, Colorado Springs, CO 80905. Steve Elswick edits the ITS' TESLA Journal which is a good meeting ground for active Tesla researchers. They are holding the 1988 International Tesla Symposium on July 29-31 (tentative dates). If you are interested in Tesla then drop these folks a line and get a catalog. They are doing a hardbound edition of Eric Dollard's books.

* U.S. PSYCHOTRONICS ASSOCIATION, 2141 Agatite, Chicago IL 60625. This is a good group to join for people who take an active interest in radionics, psychotronics, dowsing and related fields. There are many chapters meeting around the country, and new chapters are forming. Write to find out about meeting folks of similar interests in your area. They also hold a yearly convention and in 1988 it will be in Dayton, Ohio. The Los Angeles, California chapter headed by Vince Wiberg has been very supportive of Borderland activities for the past couple of years, and I always meet many Borderland members at the meetings as well at the yearly conference. Get active, present your ideas at the convention.

* George D. Fawcett, 602 Battleground Road, Lincolnton, NC 28092, publishes a list of UFO publications, organizations, & other UFO type information. Send \$2.00 with a long S.A.S.E. with \$.39 postage. Phone (704) 735-5725

* F.U.T.U.R.E., PO Box 228, Butte ND 58723. Forming Unity Toward Ultimate Regenerative Evolution. This is an informative newsletter containing a wide range of good information about where we are and where we may be going. The September 87 issue includes articles like "Are They Blowing A Hole In Nevada", "Education, Evolution and the Creative Mind", and "Passive Solar Today" among others. One year--12 issues: \$15 US, \$20 Canada, \$24 Overseas.

* NUECHOTA PRESS, 2675 W. Hiway 89A, Suite 777, Sedona AZ 86336. This is an interesting newsletter with the notice: This publication may be hazardous to bad government. If you believe that the mass media tells you the truth then you should read this and see what is really happening. If you have enough sense to know something is up then this publication will give you some excellent information about what is being done to usurp your rights, what few you have left that is. Send a Freewill Offering to get some great news!

THANKS FOR THE INPUT

This concludes two volumes of Journals under the current directorship. We have recieved quite a bit of input on our work here. Many Associates from the early days have stayed with, but have expressed that the Journal is too technical, that it doesn't have articles for the general reader. On the other hand we have tremendous support for what we have put in. I try to get the best info in print that I feel will be of benefit to all. Some of the info is above my head too, but my intuition tells me to print it. We always have room to grow. Thanks for all the input and support!



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