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TOWARDS A NEW ELECTROMAGNETICS PART I: SOLUTION TO TESLA'S SECRETS AND THE SOVIET TESLA WEAPONS

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PART I

I am much indebted to Mr. Carey Briggs for furnishing references which strongly support the existence of scalar potential waves and scalar interferometry. Among those papers are Whittaker (1903), Nisbet (1955) , and other papers dealing with Hertzian potential theory. As ever, my profound gratitude is due Hal Crawford for his splendid illustrations which accompany this paper. I am also indebted to John Ratzlaff and the Tesla Book Company for graciously furnishing important Tesla references for me to analyze. My sincere thanks go to Messrs. Jim Beal and Williard Van de Bogart for furnishing important references on exoelectron emission and tectonic fault zones, and to Dr. Robert Beck for furnishing important material on the Rogers underground and undersea transmission system. Additional assistance was also received from Mr. Peter Kelly, Joe Siegeldorf, Joe Gambill, and Bob Beutlich. I am also very appreciative of the information furnished by Bob Jones and Vestigia on the beautiful Vestigia mystery light experiments.

PART II

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FOREWORD

The long-searched-for Tesla secrets have been solved by Tom Bearden. Part I contains the specific description of the solutions to Tesla's secrets and the Soviet Tesla weapons.

The present electromagnetic theory has several flaws, and it is these errors that have hidden the long-sought unified field theory. The explanations presented by the author provide clarity and understanding to related Tesla writings and patents.

Before the turn of the century, Nikola Tesla had discovered and was utilizing a new type of electric wave. Tesla repeatedly stated that his waves were non-Hertzian, and that his wireless transmissions did not fall off as the square of the distance. The author has found that the wave which Tesla was using is a longitudinal scalar wave, capable of many times the speed of light. When coupled with another scalar wave (Tesla wave), the resulting vector wave can be the source of electromagnetic energy for electrical power, a protective force field, or a destructive weapon.

The booklet is well illustrated with special drawings by Hal Crawford. The bibliography includes corroborating information on all major points. Part II presents reprints or the entire subject matter of selected articles from the bibliography, plus additional references of importance. Articles are arranged in chronological order. Also included are nine patents by James Harris Rogers which were the basis of successful wireless communication during World War I. These principles of underground and sub-sea wireless were based on Tesla's discoveries.

Bearden's solutions are truly a major breakthrough, and an absolute necessity to the understanding of existing Tesla writings. It is also important that more should be known of this extraordinary individual, Thomas E. Bearden.

BIOSKETCH:

A nuclear engineer, wargames analyst, and military tactician, Lieutenant Colonel (Retired) Tom Bearden has over 26 years experience in air defense systems, tactics and operations; technical intelligence, anti-radiation missile countermeasures; nuclear weapons

employment, computerized wargames; and military systems requirements.

He is currently with the Alabama division of a large aerospace company where he is involved in determining the future requirements for laser weapons.

Lieutenant Colonel Bearden obtained a Master of Science degree in nuclear engineering from the Georgia Institute of Technology and a Bachelor of Science degree in mathematics from Northeast Louisiana University. He is also a graduate of the U.S. Army Command and General Staff College and several U.S. Army artillery and missile schools.

He has had direct experience with tube artillery and with the Ajax, Hercules, Hawk, and Patriot missile systems and the production of technical intelligence on Soviet surface-to-air missile systems for the U.S. Army/Department of Defense.

Tom holds a Sandan (third degree black belt) in Yoseikan aikido; is a singer, guitarist and songwriter; member of Mensa, Society for the Investigation of the Unexplained, Vestigia, the American Association of Meta-Science: and is on the board of governors of the U.S. Psychotronics Association. In addition, he is Alabama Director of a small nonprofit foundation, the Association of Distinguished American Scientists and is a MUFON adviser on nuclear engineering.

He also edits *Specula*, Journal of the American Association of Meta-Science.

Tom is primarily active as a theorist on UFOs, parapsychological and paranormal phenomena, and psychotronics. He is the author of a book, *The Excalibur Briefing*, Strawberry Hill Press, 2594 15th Avenue, San Francisco, California 94127 and has numerous technical papers dealing with new paradigm physics, paranormal phenomena, and Soviet psychotronic weapons.

Finally, Bearden's *Solutions to Tesla's Secrets and the Soviet Tesla Weapons* promises to be recognized in the future as a major contribution to our present technology.

JTR

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TESLA'S SECRET AND THE SOVIET TESLA WEAPONS

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With Special Drawings by Hal Crawford

Before the turn of the century, Nikola Tesla had discovered and was utilizing a new type of electric wave. Tesla repeatedly stated his waves were non-Hertzian, and his wireless transmissions did not fall off as the square of the distance. His discovery was apparently so fundamental (and his intent to provide free energy to all humankind was so clear) that it was responsible for the withdrawal of his financial backing, his deliberate isolation, and the gradual removal of his name from the history books.

By 1914 or so, Tesla had been successfully isolated and was already nearly a "nonperson." Thereafter Tesla lived in nearly total seclusion, occasionally surfacing (at his annual birthday party for members of the press) to announce the discovery of an enormous new source of free energy, the perfection of wireless transmission of energy without losses, fireball weapons to destroy whole armies and thousands of airplanes at hundreds of miles distance, and a weapon (the "Tesla Shield," I've dubbed it) that could provide an impenetrable defense and thus render war obsolete.

In my pursuit of Tesla's secret, it gradually became apparent to me that present orthodox electromagnetic theory is seriously flawed in some fundamental respects. One of these is in the definition and use of ϕ , the scalar electrostatic potential. It is this error which has hidden the long-sought unified field theory from the theorists.

In the theory of the scalar electrostatic potential (SEP), the idea is introduced of work accomplished on a charge brought in from a distance against the scalar field. The SEP is not a vector field, but is a scalar field. Indeed, scalar potential cannot of itself perform work on a charged mass; if it could do so, then tremendous force would exist on every mass due to the extremely high SEP of the vacuum itself. Only a differential of SEP between two spatial points can produce force or accomplish work. (Rigorously, a differential of scalar potential between two spatial points constitutes a vector. Only a vector can produce force and do work.)

Also, work can only be done on a mass. Further, it takes time* to move an electron or other charged mass between two spatial points, and so the work performed by a spatial differential of the ϕ -field requires time. Rigorously, the delta SEP is voltage, not SEP per se, and is directly related to

E field. The entire voltage concept depends on the work performed in moving a mass, after that mass has moved. The idea of "voltage" always implies the existence of a steady differential of ϕ between two spatial points for a finite length of time, and it also involves the assumption of a flow of actual mass having occurred. SEP, on the one hand, is always a single-point function; on the other hand, difference in potential (i.e., V) is always a two point function, as is any vector.

Yet many graduate level physics and electromagnetics papers and texts erroneously confuse ϕ and V in the static case! Such an interpretation is of course quite incorrect.

** Two spatial points involve at least $\Delta t = \Delta L/c$ in time. All vectors and gradients involve 2 separated spatial points, and thus present timelines in 4-space. ϕ_4 is a point, not a line, in 4-space.*

Another common assumption in present EM theory -- that the electrostatic potential (ϕ_0) of the normal vacuum is zero -- has no legitimate basis. In fact, we know ϕ_0 is nonzero because the vacuum is filled with enormous amounts of fluctuating virtual state activity, including incredible charge fluctuations. And by virtue of its point definition, ϕ_0 must be the "instantaneous intensity" of these fluctuations -- but both in space and time. The scalar electrostatic potential is therefore the "instantaneous stress" on spacetime itself, and a measure of the intensity of the virtual state flux through a 4-dimensional spacetime point.

Potential theory was largely developed in the 1800's, before the theory of relativity. Time flowrate was then regarded as immutable. Accordingly, electrostatic "intensity" was chosen as "spatial intensity," with the connotation of "spatial flux density." This assumes a constant, immutable rate of flow of time, which need not be true at all if we believe relativity. Such a spatial "point" intensity is actually a "line" in 4-space, and not a 4-dimensional "point" at all. Thus the spatial potential -- ϕ_3 -- is a very special case of the real spacetime potential -- ϕ_4 , or charge and electromagnetic theory today is accordingly a special case of the real 4-space electromagnetism that actually exists! Note also that charge is a 4-dimensional concept.

Now mass is a spatial, 3-dimensional concept. Rigorously, mass does not exist in time -- masstime exists in time. Mass and charge are thus of differing dimensionalities!

Also, according to quantum mechanics, the charge of a particle -- e.g., of an electron -- is due to the continual flux of virtual particles given off and

absorbed by the observable particle of mass. Thus charge also is conceptually a measure of the virtual flux density, and directly related to ϕ . Further, since the charge exists in time, it is the charge of a particle of spatial mass that gives it the property of masstime, or existing in time.

Here a great confusion and fundamental error has been thrown into the present EM theory by the equating of "charge" and "charged mass." As we have seen, the two things are really very different indeed.

To speak of a spatial "amount" of charge erroneously limits the basic EM theory to a fixed time flowrate condition (which of course it was considered to be, prior to Einstein's development of relativity). Thus when the limited present theory encounters a "relativistic" case (where the time flowrate changes), all sorts of extraordinary corrections must be introduced. The real problem, of course, is with the fundamental definitions of electrostatic potential and charge. The spatial "amount" of charge (i.e. the coulomb) as we presently erroneously use the term, is actually the spatial amount of observable "charged mass." To correct the theory, one must introduce the true 4-space SEP and separate the definitions of charge and charged mass.

Only when a mass is moved does one have work -- and voltage or vector fields. (The reason one has voltage and E field connected to a normal electrostatically charged object in the laboratory is because an excess of charged-particle masses are assembled on the object, and these masses are in violent motion! A true static charge would have no E field at all.)

Table 1. Some Present Theoretical Facts

- \emptyset_3 -FIELD CONCEIVED BEFORE RELATIVITY
 - POINT FUNCTION IN SPACE
 - LINE FUNCTION IN SPACETIME
 - TIME FLOWRATE CONSIDERED IMMUTABLE
 - SPECIAL CASE OF $\emptyset_4, \dots, \emptyset_N$
- GRADIENT BETWEEN TWO POINTS IN \emptyset_3 FIELD
 - PRODUCES VOLTAGE
 - PRODUCES E FIELD
 - MOVES ELECTRON
 - IS AN AREA IN 4-SPACE
- GRADIENT MAY BE BETWEEN SEPARATED POINTS IN TWO SUPERPOSED \emptyset -FIELDS
- \emptyset -FIELD CAN "MOVE" AT INFINITE VELOCITY*

Table 2. Some Proposed \emptyset_4 Characteristics

- SPATIOTEMPORAL \emptyset_4 FIELD
 - STRESS ON SPACETIME
 - CAN CHANGE RATE OF FLOW OF TIME
- GRADIENT BETWEEN 2 POINTS IN \emptyset_4 FIELD
 - PRODUCES COMPLEX V_4
 - WILL MOVE ELECTRON IF
 - $V_3 \neq 0$, AND
 - $N_1 = N_2 = C$
 - WILL NOT MOVE ELECTRON IF
 - $V_3 = 0$, OR
 - $N_1 \neq N_2$
- GRADIENT MAY BE BETWEEN SEPARATED POINTS IN TWO SUPERPOSED \emptyset_4 FIELDS
- \emptyset_4 WAVE MOVES AT $0 \leq N_4 \leq \infty$
- \emptyset_4 WAVE IS COMPLEX AND LONGITUDINAL

ϕ -field need not involve observable mass accumulation, but only charge (virtual flowrate intensity) accumulation. Accumulated masses are like so many gallons of water; accumulated charge is like so much pressure on both the water (space) and the time in which the water is existing.

Now, if one varies the SEP solely as a point function, one would have a purely scalar complex longitudinal wave, and not a vector wave at all. This is the fundamentally new electrical wave that Tesla discovered in 1899.

Rigorously, all vector fields are two-point functions and thus decomposable into two scalar fields, as Whittaker showed in 1903. It follows that any vector wave can be decomposed into two scalar waves. By implication, therefore, a normal transverse EM vector wave, e.g., must simply be two coupled scalar (Tesla) waves -- and these scalars independently would be longitudinal if uncoupled. An ordinary transverse EM vector wave is thus two pair-coupled Tesla scalar longitudinal waves, and only a single special case of the much more fundamental electromagnetics discovered by Nikola Tesla.

A Tesla (scalar potential) wave -- i.e., a massless wave in pure ϕ_0 , the stress of the spacetime medium would have very strange characteristics indeed. For one thing, since it moves in a complex 4-space, it has many more modes of movement than does a simple wave in 3-space. And for another thing, it need not be bound at all by the speed of (vector) light. In current theory, one ϕ_3 -field does not directly interact or couple with other existing ϕ_3 -fields except by simple superposition. Therefore presently the ϕ -field is considered to have no drag limitation at all, hence infinite velocity. (E.g., as stated in Jackson, Classical Electrodynamics, 2nd edition, page 223.)

Actually, a ϕ_4 -wave can and will interact with some of the other existing ϕ_4 -waves in the medium transversed, and this interaction can involve pair-coupling into EM vector fields and waves, an interaction not presently in the electrodynamics theory. The result of scalar pair-coupling creates a finite amount of vector "drag" on the ϕ_4 -wave, so it then has less than infinite velocity. However, if this drag is small due to limited pair-coupling, the scalar wave's velocity through the slightly dragging medium still may be far greater than the speed of vector EM waves (light) in vacuum. On the other hand, if the pair-coupling is made severe, the ϕ -wave may move at a speed considerably below the speed of vector light waves in vacuum. The velocity of the ϕ_4 -wave is thus both variable and controllable or adjustable (e.g., simply by varying its initial amplitude, which through a given medium changes the percentage of pair-coupling and hence the degree of drag on the scalar wave). The Tesla scalar wave thus can have either subluminal or superluminal velocity, in contradiction to present theory.

Note that the scalar wave also violates one of Einstein's fundamental postulates -- for the speed of our "new kind of light" wave is not limited to c , and need not be the same to every observer. Thus Tesla scalar waves lead to a new "superrelativity" of which the present Einstein relativity is only a highly special case!

Table 3. Tesla Waves Can:

- **ESTABLISH STANDING WAVES**
 - in the earth
 - in the ionosphere
- **TAP ENERGY FROM THE EARTH'S CORE**
- **TRAVEL FASTER OR SLOWER THAN LIGHT**
- **CHANGE RATE OF TIME FLOW**
- **AFFECT ALL FIELDS, INCLUDING GRAVITY**
- **COMMUTE BETWEEN VIRTUAL AND OBSERVABLE**

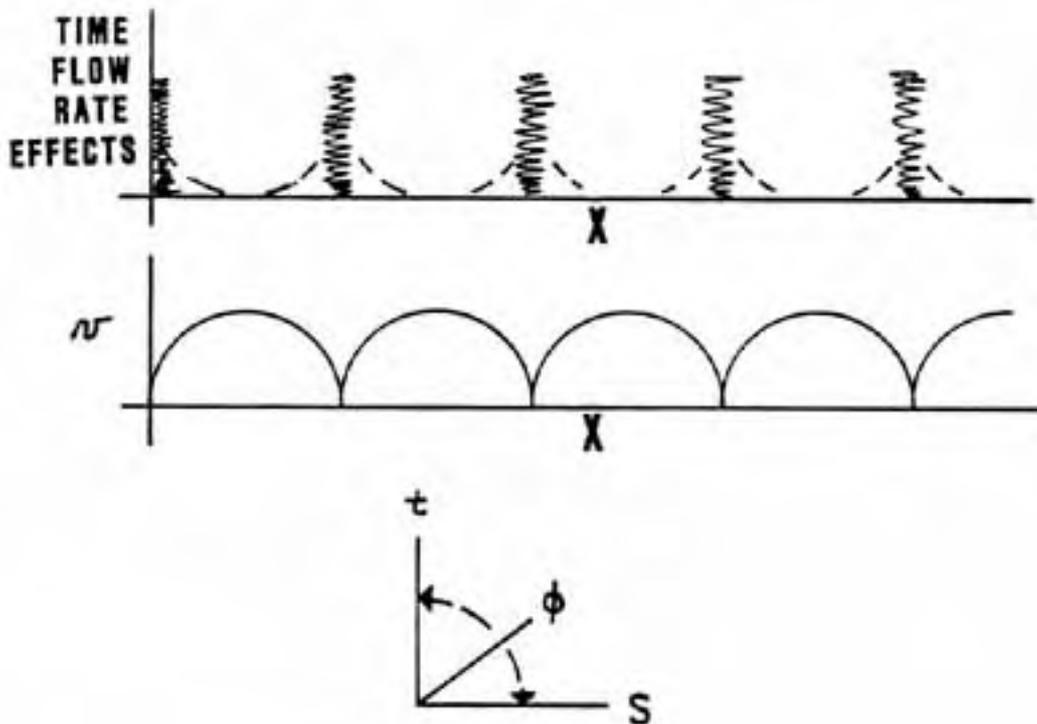
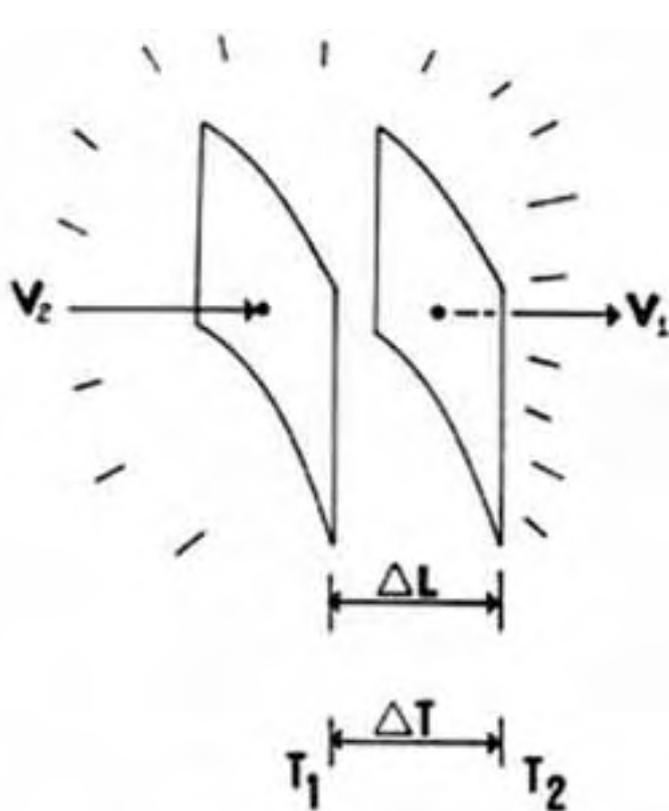


Figure 1. Tesla's Standing Columnar Wave

But let us now look for some subtle but real examples of scalar waves and scalar pair-coupling in nature. As is well known, a tectonic fault zone can provide anomalous lights, sounds, etc. from stresses, piezoelectrical activity, and telluric currents in the earth and through the fault zone. In examining the fault zone phenomena, I finally realized that a fault zone was literally a scalar interferometer i.e., if one can have scalar ϕ_4 -waves, they can interfere, either constructively or destructively. Their interference, however, produces scalar pair-coupling into vector EM waves. This coupling may be at a distance from the interferometer itself, and thus the interferometer can produce energy directly at a distance, without vector transmission through the intervening space. Coupling of ϕ waves with the paired scalars comprising ordinary EM vector waves can also occur. If this triplex coupling forms additional EM vector waves 180 degrees out of phase, the ordinary EM wave is diminished or extinguished. If the scalar triplex coupling occurs so as to create vector EM waves in phase with the interacting vector EM wave, the amplitude of the ordinary vector wave is increased.

Scalar potential waves can thus augment or diminish, or create or destroy, ordinary EM waves at a distance by pair-coupling interference under appropriate conditions, and this is in consonance with the implications of Whittaker's fundamental 1903 work.

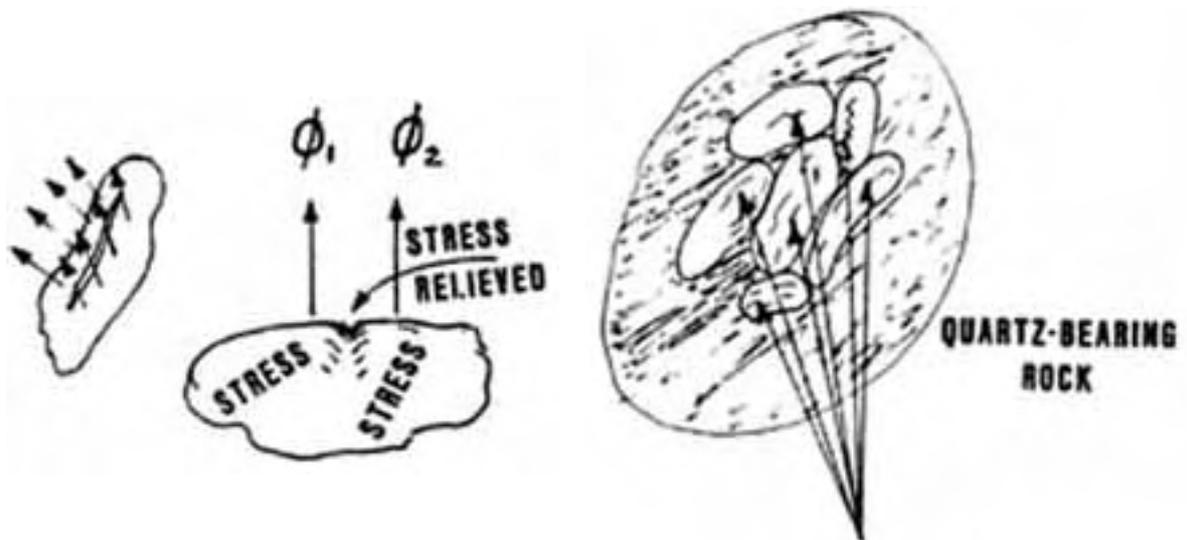


ALL VECTORS AND VECTOR FIELDS ARE CREATED BY SCALAR INTERFEROMETRY AND PAIR COUPLING

EM COUPLING CONDITION

$$\Delta L/c = \Delta T$$

Figure 2. Pair Coupling: Producing EM at a Distance



LOCKED-IN STRESSED CRACKS

EACH TINY STRESSED CRACK ACTS AS A SCALAR INTERFEROMETER

BECOMES A PRIGOGINE CRYSTAL

Figure 3. Natural Scalar Interferometers

An earthquake fault zone is such a scalar interferometer. Stresses and charge pileups exist in the plates on each side adjacent to the fault, with stress relief existing in the middle in the fault fracture itself. Since the rock is locally nonlinear, the mechanical stresses and electrical currents in it are also locally nonlinear. This results in the generation of multiple frequencies of ϕ_4 -waves from each side of the fault interferometer, yielding two complex Fourier expansion patterns of scalar potential waves. On occasion these two Fourier-transformed scalar wave patterns couple at a distance to produce stable ordinary electromagnetic field in a 3-dimensional spatial pattern -- e.g., a stress light such as the Vestigia light covered in Part I of [The Excalibur Briefing](#). Driven by the erratic two scalar Fourier expansion patterns of the scalar interferometer (whose input stresses normally slowly change), an erratic, darting, hovering "spooklight" of the variety studied by Vestigia is produced.

As the stresses change in each side of the interferometer, the distant scalar coupling zone is affected. Thus the stresslight moves and its form changes, but it may be relatively stable in form for seconds or minutes. Since the stresses in the rock may be intense, the stress light may involve an intense pair of ϕ -patterns coupling into the sphere or ball of vector EM energy. The atoms and molecules of the air in the region of the coupled stresslight ball thus become highly excited, giving off radiant energy as the excited states decay.

Since much of the piezoelectric material in the stressed rocks is quartz grains, the features of quartz are of particular interest. Each little quartz grain is itself highly stressed, and has stress cracks. It is therefore a little scalar interferometer. Further, quartz is transparent to infrared and ultraviolet; and the random orientation of all the quartz scalar interferometers may also form a Prigogine system far from thermodynamic equilibrium. If so, this system can tap into highly energetic microscopic electromagnetic fluctuations to produce large-scale, ordered, relatively stable patterns of electromagnetic energy at a distance.

In short, all of this lends support to the formation of relatively stable but somewhat erratic patterns of electromagnetic energy at a distance from the fault itself. In the atmosphere, such scalar interferometers could form in clouds or even in the air or between clouds and earth. If so, such rare but occasional "weather" scalar interferometers could account for the rare phenomenon of ball lightning. The intense energy of the ball of lightning, as compared to the lesser energy of an earthstress light, could well be due to the enormous electrical charges between clouds or between cloud and earth, available to fuel the scalar interferometer. Very probably it is this phenomenon which gave Tesla the clue to scalar wave interferometry.

Thus such phenomena as earthstress lights, ball lightning, and the Tesla system of wireless transmission of energy at a distance with negligible losses and at speeds exceeding the speed of light may be explained. They are complex, however, and involve fundamental changes to present electromagnetic theory. These changes include utilizing 4-space scalar

electrostatic potentials, scalar waves, pair coupling, ordinary 3-dimensional Fourier expansion, the Prigogine effect, and the properties of piezoelectric materials in rocks.

Since the scalar potential also stresses time, it can change the rate of flow of time itself. Thus it affects anything which exists in time -- including the mind, both of the individual and at various levels of unconsciousness.

Therefore the same functions that result in earthstress lights also affect mind and thought, and are in turn affected by mind and thought. This is the missing ingredient in Persinger's theory that UFO's are correlated with, and a result of, fault zones and earth stresses. While Persinger seems to feel this is a "normal physics" explanation, it indeed involves a paranormal explanation.

The time-stressing ability of the true ϕ scalar wave also explains the interaction of such earthstress lights with humans and human intent, as noted by other researchers. (E.g., the lights that repeatedly seemed to react to the observers, as detailed by Dr. Harley Rutledge in his epoch-making Project Identification, Prentice-Hall, 1981.)

These ideas in condensed form comprise the concepts required to violate the speed of light and produce an ordinary electromagnetic field at a distance, using scalar interferometry, without losses -- as Tesla had done in his wireless transmission system which he had tested prior to 1900 and had perfected by the 1930's. Scalar interferometry can give stable regions of EM or "light energy" at a distance without losses, particularly as detailed in the beautiful Vestigia experiments, and it is within our grasp to utilize the new effects. Indeed, any stress crack in a material can result in the scalar potential interferometer effect. Exophoton and exoelectron emission -- poorly understood but already known in fatiguing of materials -- must be at least partly due to the scalar interferometer effect.

However, one additional caution should be advanced. Normal movement of electrons allows so much "sideplay" movement of the electrons -- and there is so much such sideplay electron motion in the surrounding vicinity -- that pair coupling is almost instantaneous for small waves. Thus orbital electrons in atoms seem to absorb and emit vector EM photons. Actually they also emit some percentage of scalar waves as well. Since a scalar wave is comprised exclusively of disturbance in the virtual state, it need not obey the conservation of energy law. Further, a scalar wave of itself does not "push electrons" or other charges; hence it is nearly undetectable by present detectors. Ionization detectors such as a Geiger counter tube, e.g., are exceptions if the scalar wave encountered is fairly strong. In that case sufficient triplex coupling with the ionized gas occurs to produce additional ionization or charge, breaching the tube's cutoff threshold and producing a cascade discharge of electrons and voltage which is detected. But weak scalar waves are presently undetectable by ordinary instruments. However, these small scalar waves are detectable by sensitive interferometry techniques e.g., such as an electron interferometer. Since the use of such instruments is quite rare, then indeed we have been living immersed in a sea of scalar waves without knowing it.

Finally, the percentage of scalar waves produced by changes in charged

mass pileups can be increased by utilizing charged mass streaming. Essentially the charged masses must be moved suddenly, as quickly as possible, at or near the complete breakdown of the medium. For this reason, Tesla utilized sparkgaps in his early transmission systems, but also found that he could induce ionized media to "breakdown" in such fashion by a slow growth process. One of his early patented atmospheric wireless transmission systems is based on this fact. However, it was necessary to use a very high voltage, insuring extreme stress on the medium and hence some spillover stress onto time itself. In other words, ϕ_3 is always an approximation; at sufficiently high spatial stress, sufficient spillover ϕ_4 exists to give Tesla scalar waves. For this reason, Tesla used very high voltages and extremely sharp discharges to give "streaming" of the charged masses and thus high percentages of ϕ_4 waves. This suggests that the breakdown of dielectrics is a much richer phenomenon than is presently allowed for in the conventional theory.

To summarize, electrostatic potential -- ϕ -field is stress on the spacetime medium at a four-dimensional point. I. e. , it is a sort of pressure on the medium, but pressure on all four dimensions, not just on the three spatial dimensions. Thus in the new standard theory, ϕ_4 may have complex values. In addition, a ϕ -wave is to be interpreted as a scalar longitudinal wave in complex spacetime -- directly in ϕ_0 , the normal average 4-space stress itself. And charge and charged mass must be recognized as two separate concepts. This is the gist of what I finally recognized about Nikola Tesla's work and fundamental discovery.

This is exciting, for it means that Tesla stress waves can affect either space or time individually, or both space and time simultaneously, or even oscillate back and forth between primarily affecting time and primarily affecting space, Tesla's waves were actually these ϕ -field scalar waves. As such, they were fundamentally different from ordinary electromagnetic waves, and had entirely different characteristics, just as Tesla often stated. E. g., a Tesla wave can either move spatially, with time flowing linearly; move temporally only (sitting at a point and waxing and waning in magnitude -- but changing the rate of flow of time itself in doing so, and affecting gravitational field, fundamental constants of nature, etc,), or move in a combination of the two modes. In the latter case, the Tesla wave moves in space with a very strange motion -- it oscillates between (1) spatially standing still and flexing time, and (2) moving smoothly in space while time flows smoothly and evenly. I.e., It stands at one point (or at one columnar region), flexing for a moment; then slowly picks up spatial velocity until it is moving smoothly through space; then slows down again to a "standing column," etc. This is Tesla's fabulous "standing columnar wave."

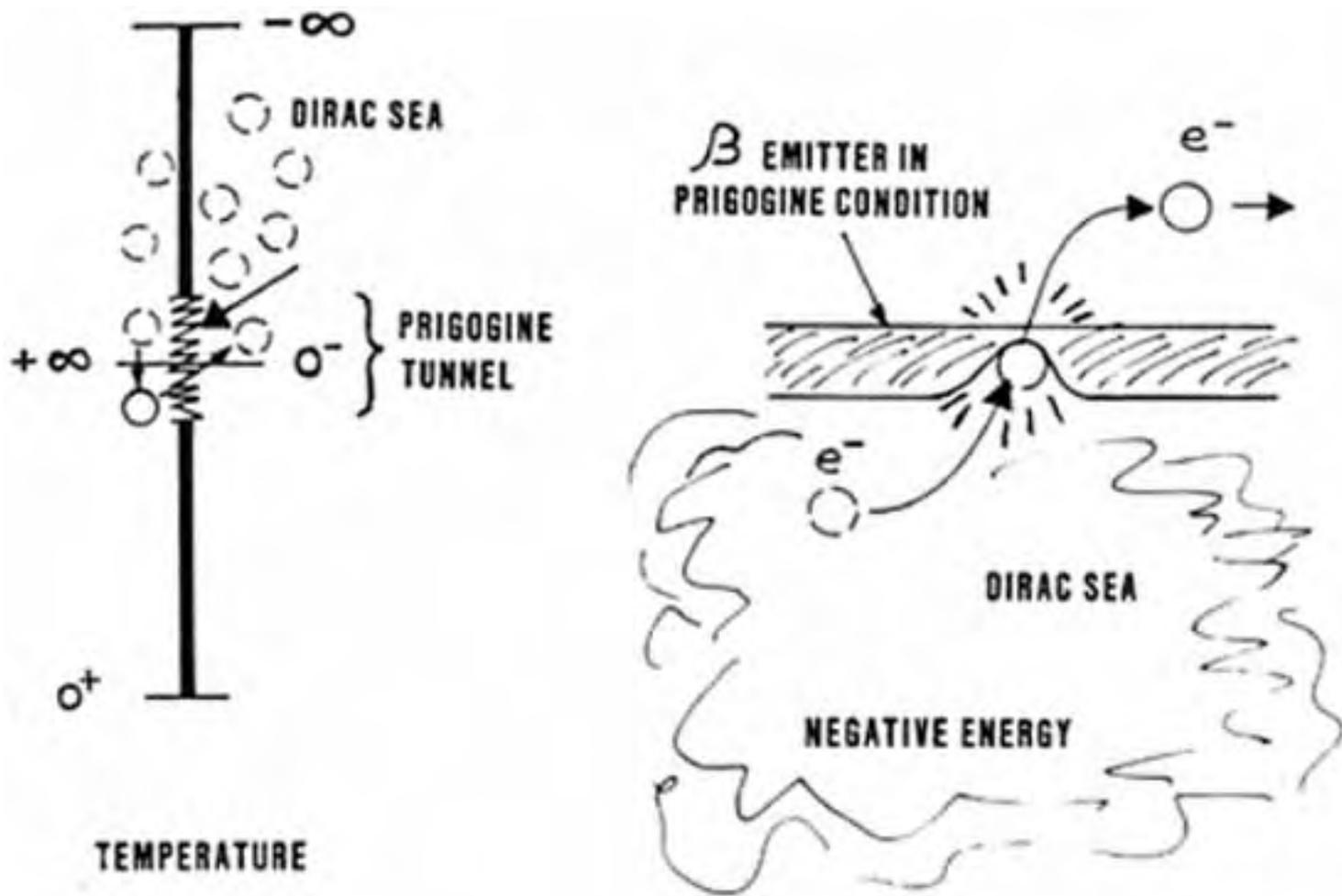


Figure 4. Exoelectric Emission

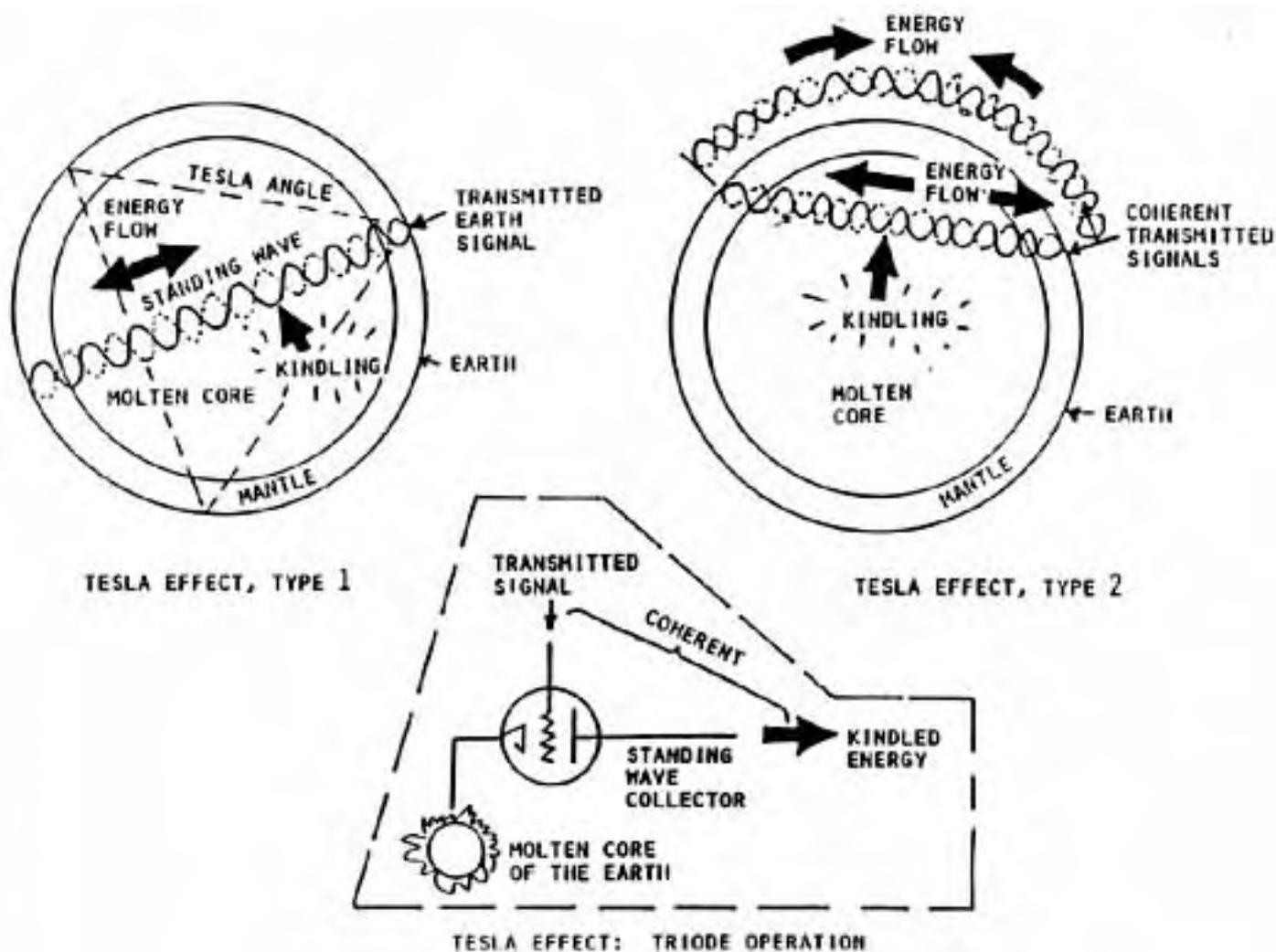


Figure 5. The Tesla Effect

Another wild characteristic of the Tesla wave is that it can affect the rate of flow of time itself; hence it can affect or change every other field including the gravitational field -- that exists in time flow. It can also affect all universal constants, the mass of an object, the inertia of a body, and the mind and thoughts as well! All of these exist in the flow of time, and they are affected if the time stream in which they exist is affected. This was the awful secret that Tesla partially discovered by 1900, and which he came more and more to fully realize as he pursued its nature and its ramifications into the 1920's and 1930's.

Tesla also found he could set up standing ϕ -field waves through the earth. He in fact intended to do so, for he had also discovered that all charges in the highly stressed earth regions in which such a standing wave existed produced ϕ -fields which would feed (kindle) energy into the standing ϕ -field wave by pair coupling. I.e., normal vector field energy would "assemble" onto the scalar matrix wave by means of pair-coupling. Thus by transmitting a scalar standing wave into the earth, he could easily tap the fiery scalar fields produced in the

molten core of the planet itself, turning them into ordinary electromagnetic energy. In such case, a single generator would enable anyone to put up a simple antenna and extract all the free energy desired.

When Tesla's alarmed financial backers discovered this was his real intent, they considered him a dangerous madman and found it necessary to ruthlessly stop him at all costs. And so his financial support was withdrawn, he was harassed in his more subtle patent efforts (and the patents themselves were adulterated), and his name gradually was removed from all the electrical textbooks. By 1914 Tesla, who had been the greatest inventor and scientist in the world, had become essentially a nonperson.

A few other persons in the early 1900's also were aware that potential and voltage are different. And some of them even learned to utilize Tesla's ϕ -field, even though they only vaguely understood they were utilizing a fundamentally different kind of electromagnetic wave. For example, James Harris Rogers patented an undersea and underground communications system which Tesla later confirmed utilized Tesla waves. The U.S. secretly used the Rogers communications system in World War I to communicate with U.S. submarines underwater, and to communicate through the earth to the American Expeditionary Force Headquarters in Europe. The Rogers system was declassified after the War and very shortly after that, it had mysteriously been scrubbed off the face of the earth. Again, potential stress waves -- Tesla waves -- were eliminated and "buried."

Probably the most brilliant inventor and researcher into Tesla's electromagnetics was T. Henry Moray of Salt Lake City, Utah. Dr. Moray actually succeeded in tapping the limitless zero-point energy of vacuum (spacetime) itself. By 1939, Dr. Moray's amplifier contained 29 stages and its output stage produced 50 kilowatts of power from vacuum. Interestingly, another 50 kilowatts could be tapped off any other stage in the device -- which consequently could have produced almost 1.5 megawatts of electrical power! Dr. Moray's epoch-making work was suppressed also. His device -- which represented over 20 years of heartbreaking accumulation of 29 working tubes from thousands made -- was destroyed by a Soviet agent in 1939, but not before the agent had obtained the drawings for building the tubes and the device itself. Today the Moray amplifier is a standard component of many of the Soviet secret superweapons and Tesla weapons.

In the 20's and 30's, Tesla announced the final perfection of his wireless transmission of energy without losses even to interplanetary distances. In several articles (e.g., H. Winfield Secor, "Tesla Maps Our Electrical Future, " Science and Invention, Vol. XVII, No.12, pp. 1077, 1124-1126), Tesla even revealed he used longitudinal stress waves in his wireless power transmission. Quoting from the article, "Tesla upholds the startling theory formulated by him long ago, that

the radio transmitters as now used, do not emit Hertz waves, as commonly believed, but waves of sound." "He says that a Hertz wave would only be possible in a solid ether, but he has demonstrated already in 1897 that the ether is a gas, which can only transmit waves of sound; that is such as are propagated by alternate compressions and rarefactions of the medium in which transverse waves are absolutely impossible." The wily Tesla did not reveal, of course, that such scalar waves nearly always immediately pair-coupled into vector waves when produced by normal means. Tesla himself was working with longitudinal scalar waves.

Table 4. Rogers' Undersea and Underground Communication System

- **SECRETLY USED BY U.S. IN WWI**
- **COMMUNICATED TO SUBS UNDERWATER**
 - ANY DEPTH, UP TO 30 KHZ
 - REDUCED DEPTH, >30 KHZ
- **COMMUNICATED TO EXPEDITIONARY HQ OVERSEAS**
 - 5,000 TIMES STRONGER THAN AERIAL
 - STATIC-FREE
- **DECLASSIFIED IN 1919**
 - TO REVOLUTIONIZE COMMUNICATIONS
 - TO END ALL SURFACE ANTENNAS
- **MYSTERIOUSLY "LOST"**
- **REDISCOVERED AND "LOST" THREE TIMES AFTER WWII**

[continued](#)



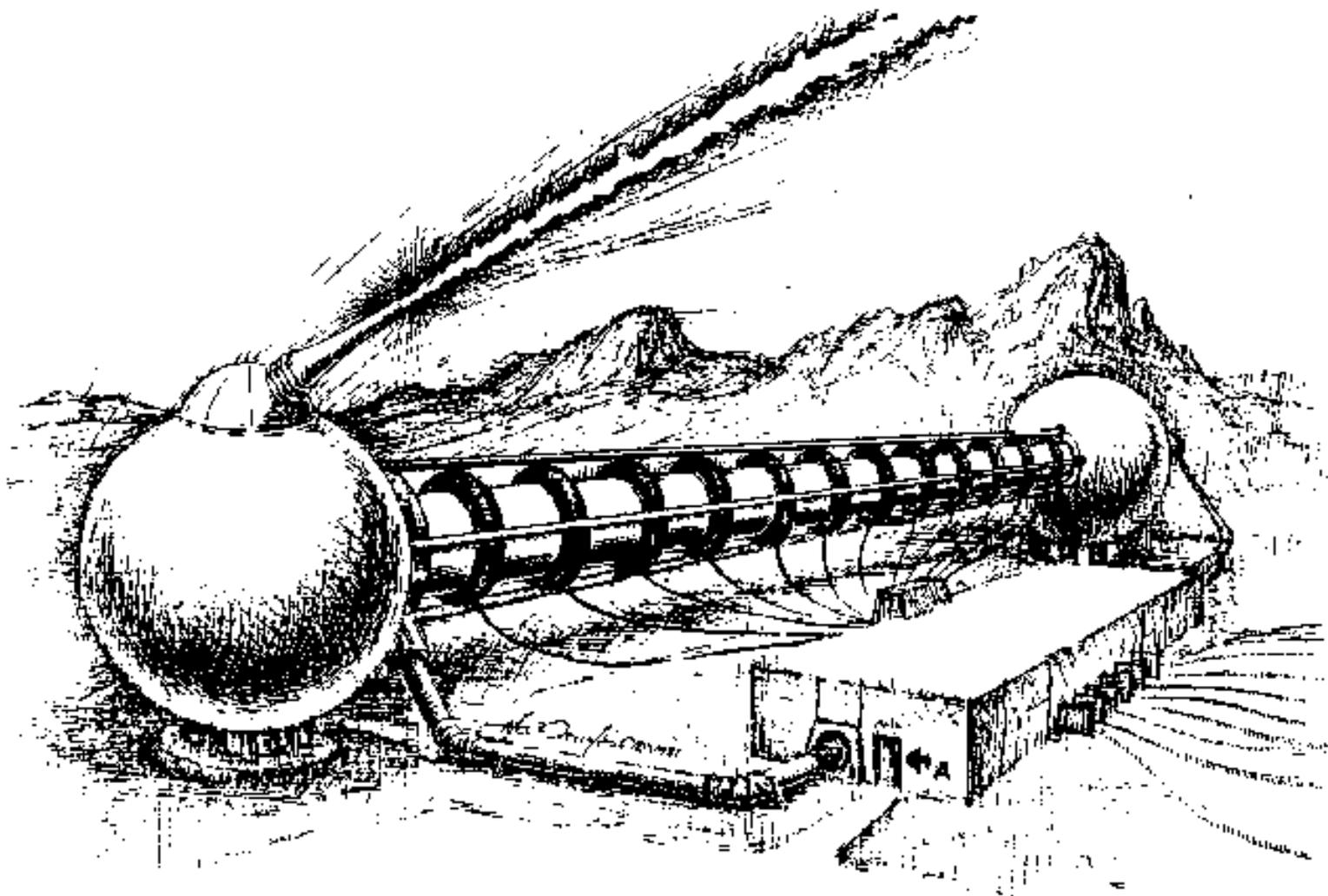
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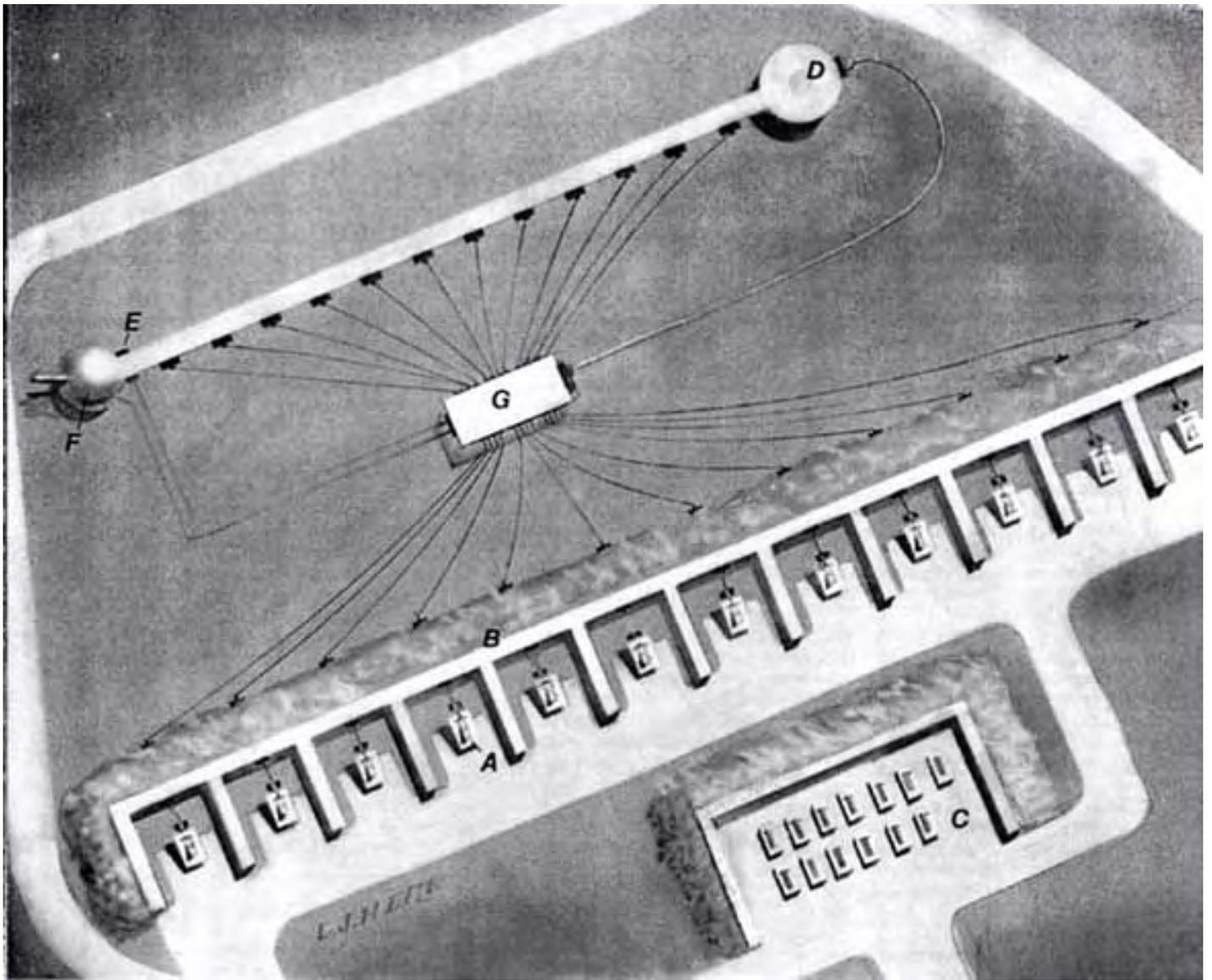


Scalar Potential Interferometer

Figure 6. Multimode Tesla Weapon

In the 1930's Tesla announced other bizarre and terrible weapons: a death ray, a weapon to destroy hundreds or even thousands of aircraft at hundreds of miles range, and his ultimate weapon to end all war -- the Tesla shield, which nothing could penetrate. However, by this time no one any longer paid any real attention to the forgotten great genius. Tesla died in 1943 without ever revealing the secret of these great weapons and inventions.

Unfortunately, today in 1981 the Soviet Union has long since discovered and weaponized the Tesla scalar wave effects. Here we only have time to detail the most powerful of these frightening Tesla weapons -- which Brezhnev undoubtedly was referring to in 1975 when the Soviet side at the SALT talks suddenly suggested limiting the development of new weapons "more frightening than the mind of man had imagined." One of these weapons is the Tesla howitzer recently completed at the Saryshagan missile range and presently considered to be either a high-energy laser or a particle beam weapon, (See Aviation Week & Space Technology, July 28, 1980, p. 48 for an artist's conception.)



Aviation Week & Space Technology July 28, 1980

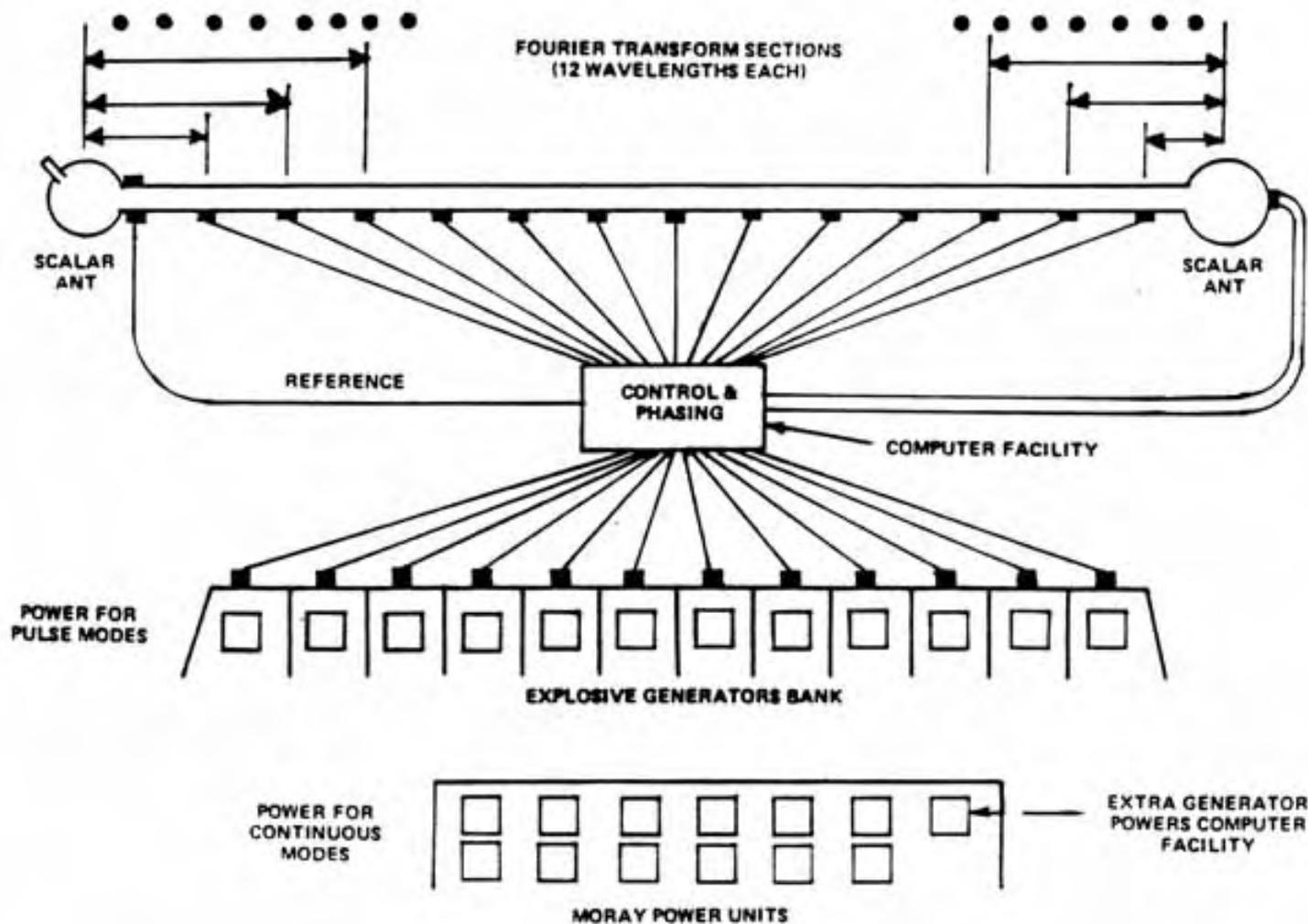


Figure 7. Tesla Weapons at Saryshagan

The Saryshagan howitzer actually is a huge Tesla scalar interferometer with four modes of operation. One continuous mode is the Tesla shield, which places a thin, impenetrable hemispherical shell of energy over a large defended area. The 3-dimensional shell is created by interfering two [Fourier-expansion, 3-dimensional scalar hemispherical patterns](#) in space so they pair-couple into a dome-like shell of intense, ordinary electromagnetic energy. The air molecules and atoms in the shell are totally ionized and thus highly excited, giving off intense, glowing light. Anything physical which hits the shell receives an enormous discharge of electrical energy and is instantly vaporized -- it goes pfft! like a bug hitting one of the electrical bug killers now so much in vogue.

If several of these hemispherical shells are concentrically stacked, even the gamma radiation and EMP from a high altitude nuclear explosion above the stack cannot penetrate all the shells due to repetitive absorption and reradiation, and scattering in the layered plasmas.

In the continuous shield mode, the Tesla interferometer is fed by a bank of [Moray free energy generators](#), so that enormous energy is available in the shield. A diagram of the Saryshagan-type Tesla

howitzer is shown in figure 7. Hal Crawford's fine drawing of the interferometer end of the Tesla howitzer is shown in figure 6. Hal's exceptional rendition of the Tesla shield produced by the howitzer is shown in figure 8.

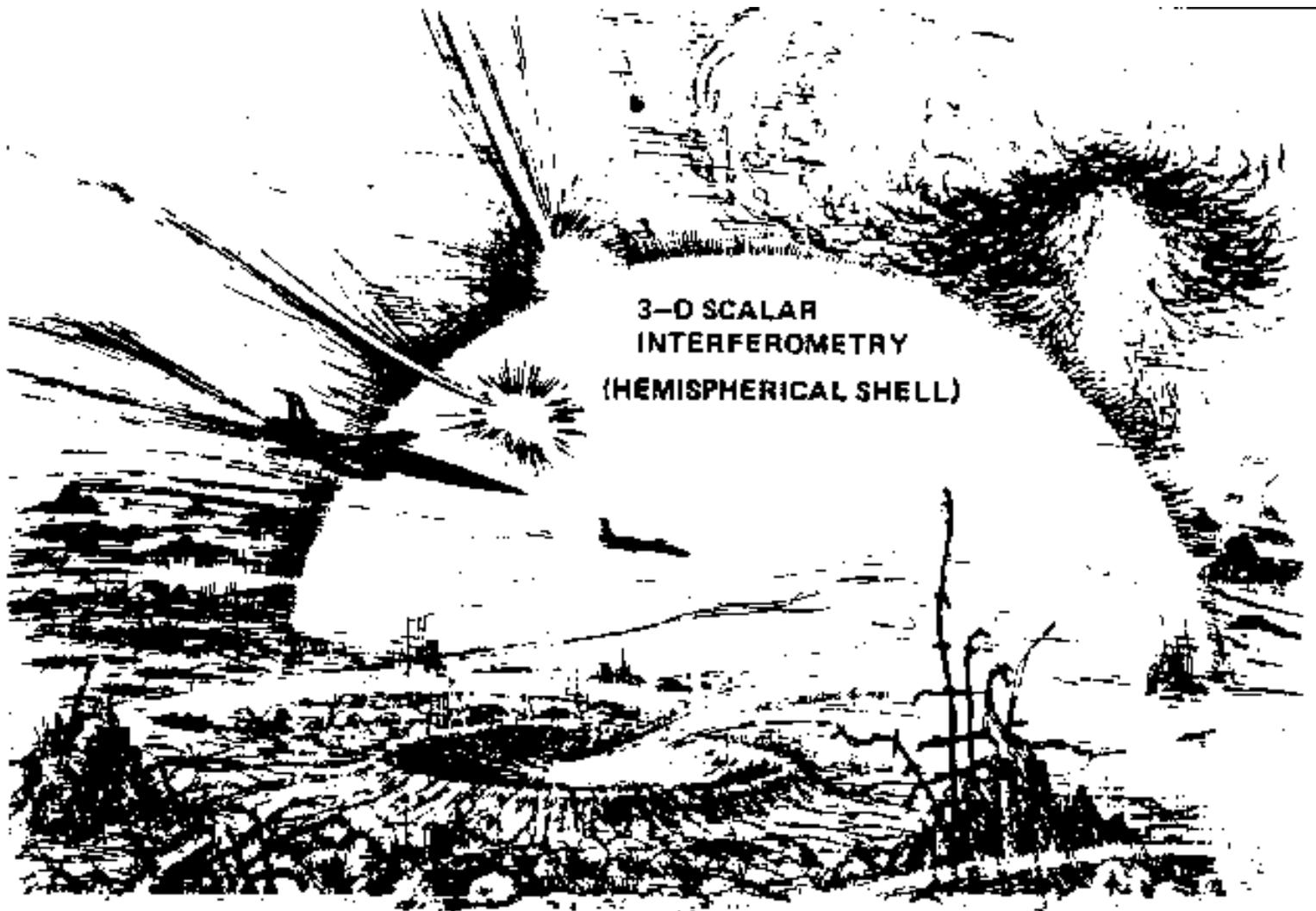


Figure 8. The Tesla Shield

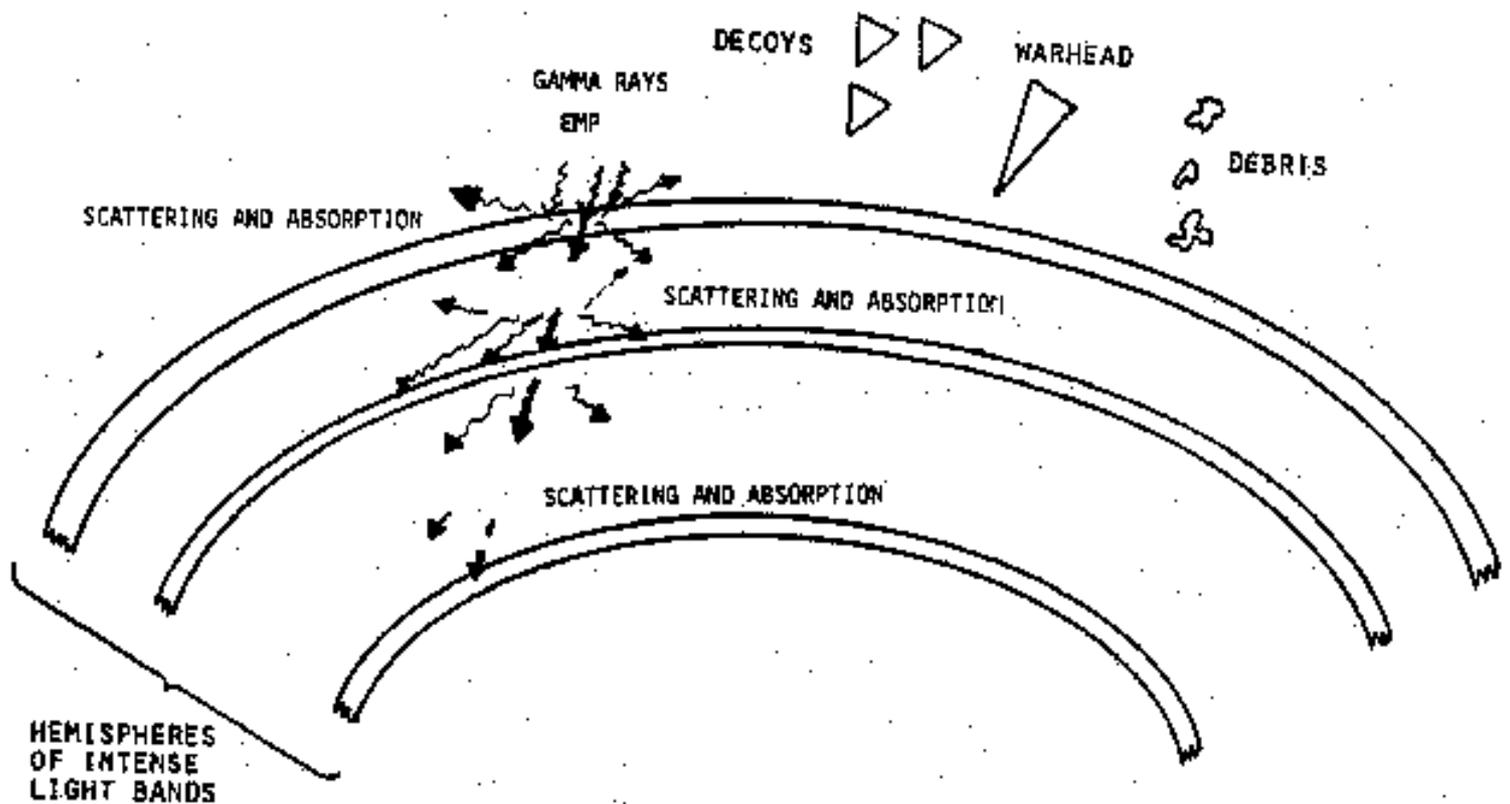
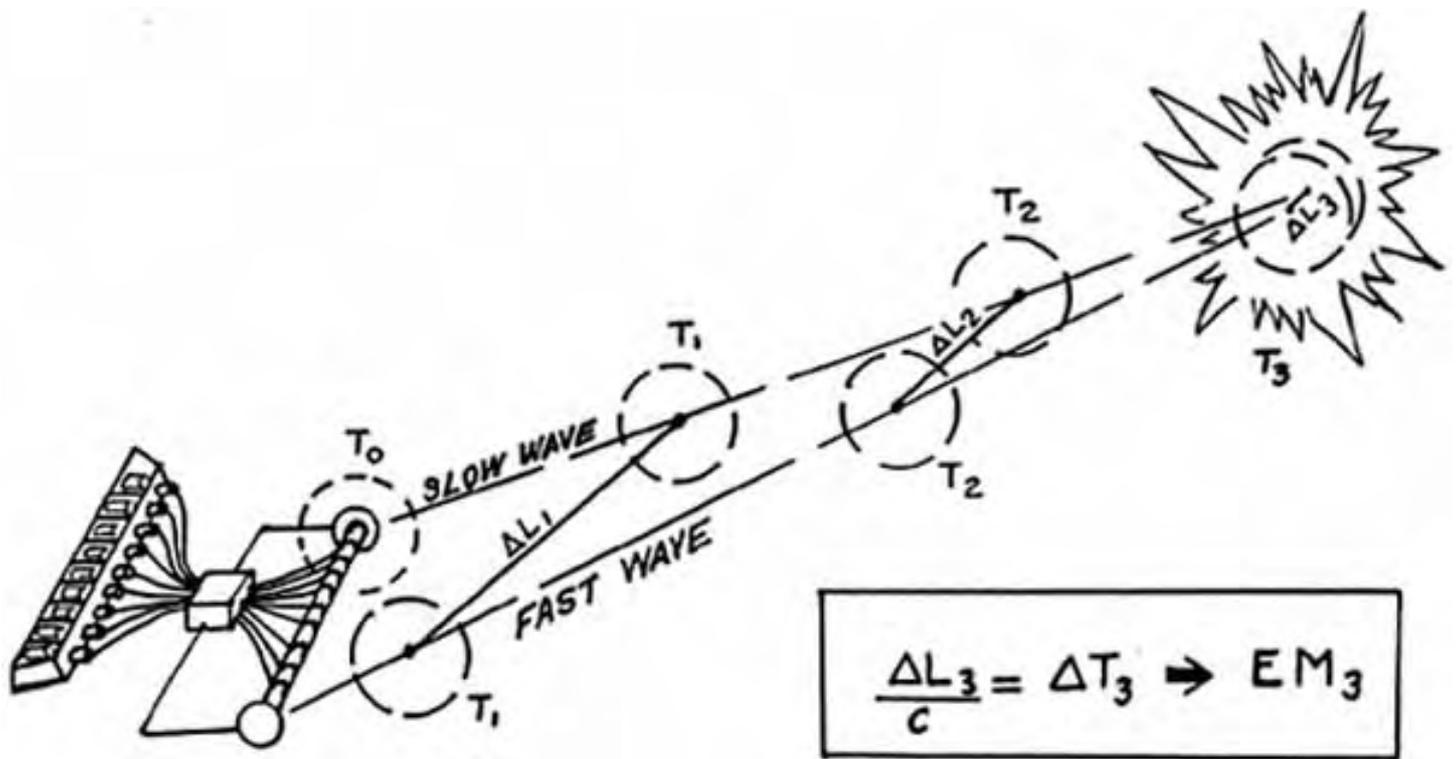


Figure 9. Tesla Terminal Area Defense System

In the pulse mode, a single intense 3-dimensional scalar phi-field pulse form is fired, using two [truncated Fourier transforms](#), each involving several frequencies, to provide the proper 3-dimensional shape (Figure 10). This is why two scalar antennas separated by a baseline are required. After a time delay calculated for the particular target, a second and faster pulse form of the same shape is fired from the interferometer antennas. The second pulse overtakes the first, catching it over the target zone and pair-coupling with it to instantly form a violent EMP of ordinary vector (Hertzian) electromagnetic energy. There is thus no vector transmission loss between the howitzer and the burst. Further, the coupling time is extremely short, and the energy will appear sharply in an "electromagnetic pulse (EMP)" strikingly similar to the 2-pulsed EMP of a nuclear weapon.

This type weapon is what actually caused the mysterious flashes off the southwest coast of Africa, picked up in 1979 and 1980 by Vela satellites. The second flash, e.g., was in the infrared only, with no visible spectrum. Nuclear flashes do not do that, and neither does superlightning, meteorite strikes, meteors, etc. In addition, one of the scientists at the Arecibo Ionospheric Observatory observed a gravitational wave disturbance -- signature of the truncated Fourier pattern and the time-squeezing effect of the Tesla potential wave -- traveling toward the vicinity of the explosion.



**TESLA HOWITZER
(SCALAR INTERFEROMETER)**

Figure 10. "Nuclear" Flashes off the Coast of Africa



**Lithuania - 10 Sep 1976 - British European Airways Flight #831
between Moscow and London**

CIA Report Released under FOIA

Figure 11. Continuous Tesla Fireball

The pulse mode may be fed from either [Moray generators](#) or -- if the Moray generators have suffered their anomalous "all fail" malfunction -- ordinary explosive generators. Thus the Tesla howitzer can always function in the pulse mode, but it will be limited in power if the Moray generators fail.

In the continuous mode, two continuous scalar waves are emitted -- one faster than the other -- and they pair-couple into vector energy at the region where they approach an in-phase condition. In this mode, the energy in the distant "ball" or geometric region would appear continuously and be sustained -- and this is Tesla's secret of wireless transmission of energy at a distance without any losses. It is also the secret of a "continuous fireball" weapon capable of destroying hundreds of aircraft or missiles at a distance. An example of a Soviet

test of this mode of operation is shown in figure 11.

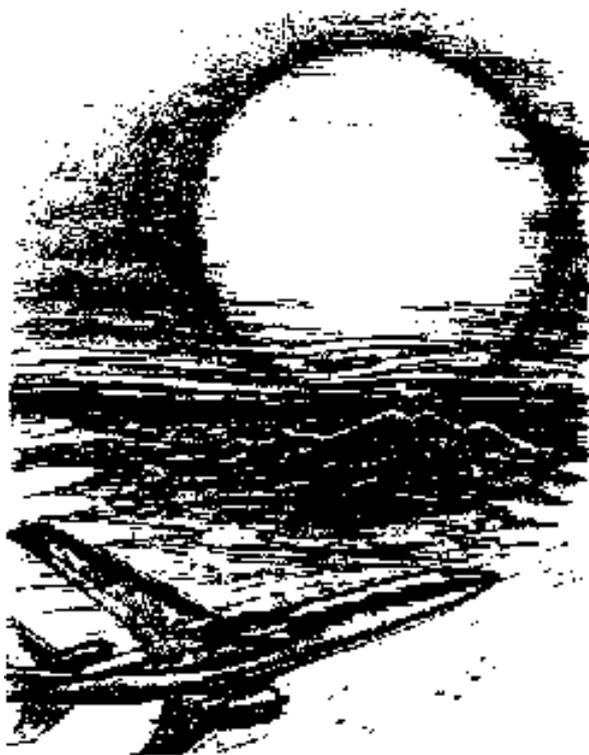
Witness to a super weapon?



Nick Downie describes the strange lurid glow that flared silently over the Hindu Kush

THE SUNDAY TIMES, 17 AUGUST 1980

(Multiple incidents in Sept., 1979)



**TEHERAN,
IRAN 17 JUNE
1966**

**SEEN FROM
NEAR
MEHRABAD
AIRPORT**

**OBSERVED 4-
5 MINUTES**

**SEEN BY 2
AIRCRAFT**

CIA REPORT RELEASED UNDER FOIA

Figure 12. Tesla EMP Globe

The volume of the Tesla fireball can be vastly expanded to yield a globe which will not vaporize physical vehicles but will deliver an EMP to them to dud their electronics. A test of this mode is shown in figure 12. (See also Gwynne Roberts, "Witness to a Super Weapon?", the London Sunday Times, 17 August 1980 for several other tests of this mode at Saryshagan, seen from Afghanistan by British TV cameraman and former War Correspondent Nick Downie.)

If the Moray generators fail anomalously, then a continuous mode limited in power and range could conceivably be sustained by powering the interferometer from more conventional power-sources such as advanced magnetohydrodynamic generators.

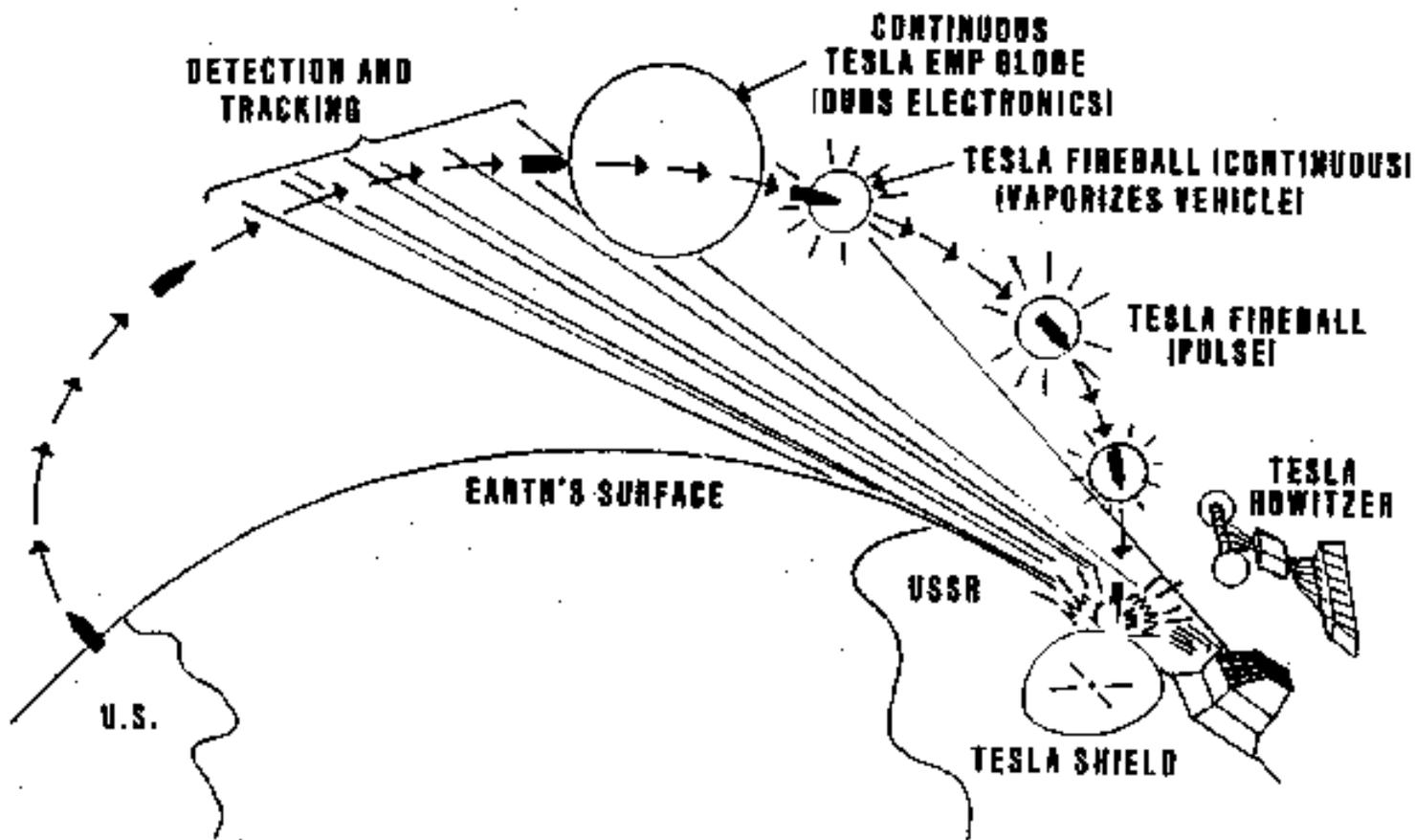


Figure 13. Tesla ABM Defenses

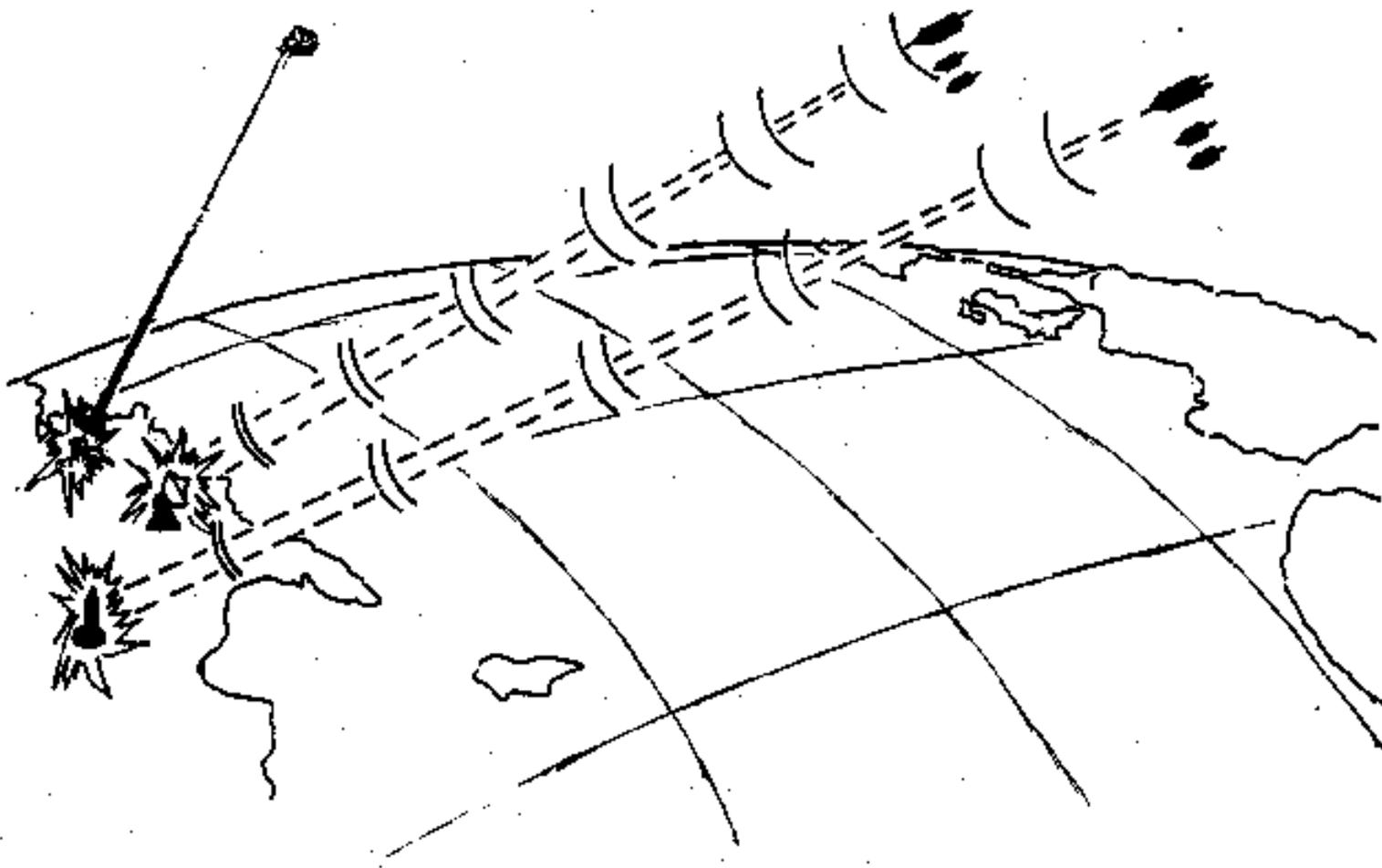


Figure 14. Moray/Tesla Technology: Star Wars Now

Typical strategic ABM uses of Tesla weapons are shown in figure 13. In addition, of course, smaller Tesla howitzer systems for anti-tactical ballistic missile defense of tactical troops and installations could be constituted of more conventional field missile systems using paired or triplet radars, of conventional external appearance, in a scalar interferometer mode.

With [Moray generators](#) as power sources and multiply deployed reentry vehicles with scalar antennas and transmitters, ICBM reentry systems now can become long range "blasters" of the target areas, from thousands of kilometers distance (figure 14). Literally, "Star Wars" is liberated by the Tesla technology. And in air attack, jammers and ECM aircraft now become "Tesla blasters." With the Tesla technology, emitters become primary fighting components of stunning power.

The potential peaceful implications of Tesla waves are also enormous. By utilizing the "time squeeze" effect, one can get antigravity, materialization and dematerialization, transmutation, and mindboggling medical benefits. One can also get subluminal and superluminal communication, see through the earth and through the ocean, etc. The new view of phi-field also provides a unified field theory, higher orders of reality, and a new super-relativity, but detailing these possibilities must wait for another book.

With two cerebral brain halves, the human being also has a Tesla scalar interferometer between his ears. And since the brain and nervous system processes

avalanche discharges, it can produce (and detect) scalar Tesla waves to at least a limited degree. Thus a human can sometimes produce anomalous spatiotemporal effects at a distance and through time. This provides an exact mechanism for psychokinesis, levitation, psychic healing, telepathy, precognition, postcognition, remote viewing, etc. It also provides a reason why an individual can detect a "stick" on a radionics or Hieronymus machine (which processes scalar waves), when ordinary detectors detect nothing. Unfortunately there is not room to develop the implications of this human Tesla interferometry in detail, for that must wait for yet another book, presently in its initial stages, that Hal Crawford and I are writing.

Table 5. Orders of Reality

- **PHOTONS ARE**
 - > **PAIR-COUPLED SCALARS**
 - > **VELOCITY-LIMITED TO C**
 - > **CARRIERS OF T**

- **PHOTON INTERACTION**
 - > **IS UBIQUITOUS**
 - > **PRODUCES $\dot{T} = C$**
 - > **YIELDS 1st ORDER REALITY**

- **SCALAR O WAVES**
 - > **NOT VELOCITY-LIMITED**
 - > **YIELD HIGHER ORDER REALITIES**

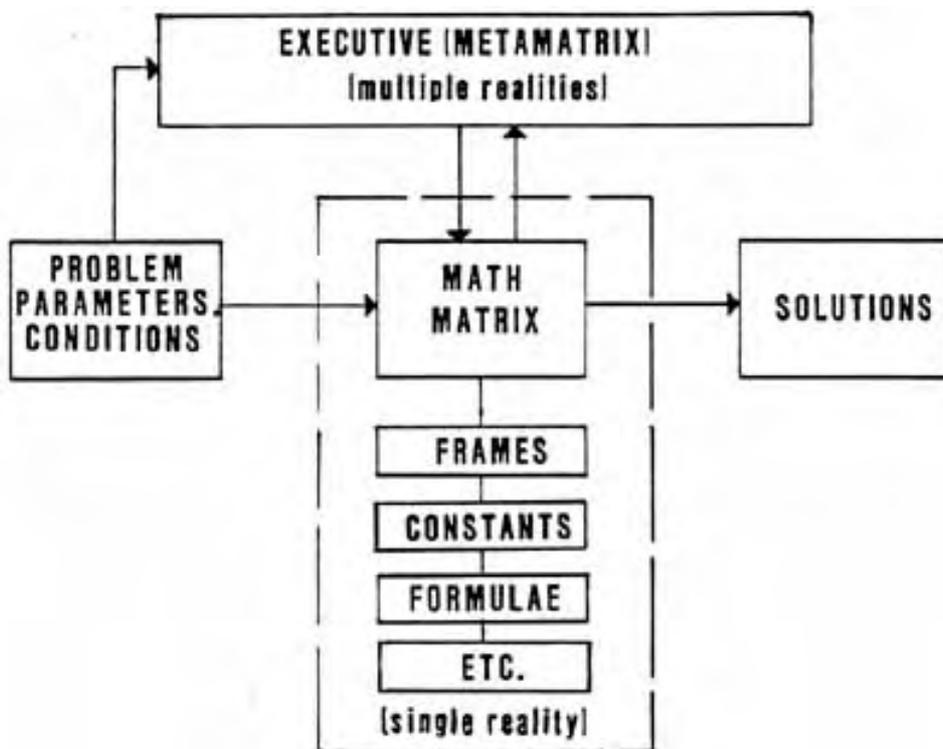


Figure 15. Implications of Tesla Potential

At the July 1981 U.S. Psychotronics Association's Annual Conference in Dayton, Ohio, I presented the first rough paper on the Tesla secret and scalar

interferometry. A videotape of the presentation was made and will shortly be available. I am also scheduled to make a special presentation at the Alternate Energy Conference in Toronto, Canada in latter October, 1981. A professional, videotaped two-hour presentation on this subject is also being prepared. Wide distribution of the material through the international underground physics and technology network has already been made. This time, God willing, Tesla's secret will not be suppressed for another 80 years!

And perhaps it is not yet too late. The material has cost me (now) some 16 years of agonizing labor and nearly \$100,000 of my own personal funds. No orthodox university, scientific group, foundation, or governmental agency would support such an effort, either financially or otherwise. Indeed, most ordinary journals will not even accept material on such matters. Nonetheless, the area is of overwhelming importance and I truly believe Tesla's lost secret will shortly affect the lives of every human being on earth.

Perhaps with the free and open release of Tesla's secret, the scientific and governmental bureaucracies will be shocked awake from their slumber, and we can develop defenses before Armageddon occurs. Perhaps there is hope after all -- for even Brezhnev, in his strange July, 1975 proposal to the SALT talks, seemed to reveal a perception that a turning point in war and weaponry may have been reached, and that human imagination is incapable of dealing with the ability to totally engineer reality itself. Having tested the weapons, the Soviets must be aware that the ill-provoked oscillation of timeflow affects the minds and thoughts -- and the very lifestreams and even the collective species unconsciousnesses -- of all lifeforms on earth. They must know that these weapons are two-edged swords, and that the backlash from their use can be far more terrible to the user than was the original effect to his victim.

If we can avoid the Apocalypse, the fantastic secret of Nikola Tesla can be employed to cure and elevate man, not kill him. Tesla's discovery can eventually remove every conceivable external human limitation. If we humans ourselves can elevate our consciousness to properly utilize the Tesla electromagnetics, then Nikola Tesla -- who gave us the electrical twentieth century in the first place -- may yet give us a fantastic new future more shining and glorious than all the great scientists and sages have imagined.

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[The Tom Bearden Website](#)

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15. "Tesla's Controlled Earth Quakes Power Through the Earth, A Startling Discovery," N. Y. American, July 11, 1935, Section 2. (Announces the successful passage of an induction current with a varying flux through a circuit without the use of a commutator. Cosmic ray studies indicate many tenets of theory of relativity to be fallacious. Possible to convey mechanical effects to any distance.)
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in which intensity does not diminish with the square of the distance.)

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22. Bird, Carol, "Tremendous New Power Soon to be Unleashed," Philadelphia Public Ledger, Sep. 10, 1933, Magazine Section, p. 6. (Revolutionary power project by Tesla, who is also completing process for thought photography.) (Note: Here we have a possible clue that the same principle may be used both in Tesla's energy device and in Tesla's approach to thought photography.)

23. "Tesla 'Harnesses' Cosmic Energy," Phila. Public Ledger, Nov. 2, 1933. (A principle has been discovered to derive cosmic energy which operates the universe. Power is "everywhere present in unlimited quantities." Will eliminate the need for coal, oil, gas, or any of the common fuels.) (Note: Was Tesla referring to what we today call "zero-point energy of the vacuum"? His principle will tap it.)

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32. "Tesla, 76, Reports His Talents at Peak," N. Y. Times, July 10, 1932, p. 19, col. 1. (New invention in tapping tremendous and unused source of energy. One invention to permit generation of all kinds of rays of almost unlimited intensity.) (Note: By scalar interferometry, electromagnetic waves of any frequency -- and hence of any "type" can be assembled by coupling the appropriate scalars together. A Hertzian wave is just two coupled Tesla scalar waves.)
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Transmission of power without wires is not a theory, but "a fact demonstrated by Tesla." Mode of propagation of currents from transmitter has mean speed 57% greater than Hertz waves.) (Note: a faster than light, non-Hertzian type of wave is involved. The Tesla wave is not a normal Hertzian wave.)

35. Secor, H. Winfield, "The Rogers Underground Wireless, Electrical Experimenter, Mar., 1919, pp. 787-789, 832-835, 839. (Rogers system does away with aerial wires.)

36. Gernsback, Hugo, "Underground Wireless," Electrical Experimenter, Mar. 1919, p. 762. (Development of James H. Rogers. Receives messages from Europe during thunderstorm. Tesla agrees that messages are not Hertzian waves.)

37. Tesla, Nikola, "The True Wireless," Electrical Experimenter, May 1919, pp. 28-30, 61-63, 87. (Tesla says Hertz wave theory is a delusion. Signals must be from earth currents. Note again that Tesla does not like Hertzian waves, but himself has something more fundamental.)

38. Tesla, Nikola. "The Effects of Statics on Electrical Transmission," Electrical Experimenter, Jan., 1919, pp. 627, 658. (Tells of defects in Hertz waves. System devised by Tesla releases energy at infinite velocity.) (Note: electrostatic potential is already known to be able to travel at infinite velocity. See Jackson, Classical Electrodynamics, 2nd Edition, 1975, p.223. This is strong evidence that Tesla used scalar potential waves or \emptyset -fields.)

39. Bot tone, A., Nikola Tesla's New Wireless," Electrical Engineer, London, Dec. 24, 1909, p. 893. (Experiments conducted on Long Island have resulted in principles of transmission which are direct opposite of Hertzian wave transmission.) (Note: In other words, using uncoupled scalar waves -- Tesla waves instead of pair-coupled scalar waves -- Hertzian waves?)

40. Tesla, Nikola. "Electrical Control of the Weather Will Soon Be an Accomplished Fact," St. Louis Republic, Nov. 15, 1908, V, p. 3. (Tesla concurs in concept of electrical control of weather.)

41. Swezy, Kenneth M. , "Nikola Tesla, " Science, May 16, 1958 , pp. 1147-1158. (Electricity today is generated, transmitted, and converted to mechanical power by means of his inventions.)

42. Ramsay, Jack, "Cableless Power, " Electronics (Digest) , July 22, 1960, pp. 6, 8. (Soviet attempt at development of wireless power transmission, but a failure according to Swedish observers, and the idea having been bandied about in the U. S. since Tesla.) (Note: Establishes that the Soviets were at least trying to work with the Tesla techniques.)

43. Anderson, Leland I., "Correspondence: Sub-Surface Communications Systems," Proceedings of the I.R.E., Mar., 1961, p. 645. (Reference to subsurface or "earth current" communication systems. Pioneering work by Nikola Tesla and James H. Rogers.)
44. Rebert, Edwina, "Fireballs For Defense?", Christian Science Monitor, Feb. 7, 1962, p. 9c. (Feature article on possibility of using ball lightning as defense weapon -- may be inspired by early experiments of Tesla at Colorado Springs.)
45. Matsch, Lee and Rice, Warren, "Potential Flow Between Two Parallel Circular Disks with Partial Transmission," Journal of Applied Mechanics, Trans. ASME, Mar., 1967, Vol. 34, Series E., No.1, pp. 239-240. (Reference article -- bladeless turbines.)
46. Lagus, George W., "The Use of Ground in High-Frequency Circuits," Radio-TV Experimenter and Science and Electronics, June-July, 1969, PP. 71, 72. (Tesla gave several demonstrations of feasibility of electrifying large areas of land by ground propagation of high frequency currents.)
47. Jamison, S. L. , "Life Energy, " Probe. The Unknown, June , 1973, pp. 3,4. (Letter to editor -- report that vitamins and minerals could be impressed on the body using a Tesla coil.)
48. Jueneman, F. B. J. , "The First Law of Thermodynamics, " Industrial Research, Feb., 1974, pp. 17-18. (Nikola Tesla, at Colorado Springs in 1899, found that the earth was a large electron sink, and electrical storms generated standing wave potentials.)
49. Puharich, Andrija, "The Work of Nikola Tesla Ca. 1900 and its Relationship to Physics, Bioenergy and Healing," paper read at the International Inter-disciplinary Conference on Consciousness and Healing, Oct. 13, 1976, University of Toronto.) ,
50. Golka, Robert K. and Bass, Robert W., "Tesla's Ball Lightning Theory, a BKG-Wave, The Ransworth Effect, and the 'Hydrotron' Electrostatic-Inertial Self-Confined Plasmoid Concept." (Paper presented at the Annual Controlled Fusion Theory Conference, San Diego, California, May 4-6, 1977.)
51. Popovic, Prof. Vojin, "Research of Nikola Tesla in the Light of His Diary From Colorado Springs," 10 pp. (Diary contains details of investigations for determining nodal points in the earth as a conductor of waves. Comments on "fire globes.")

52. Curtis, George D., PhD, "An Electromagnetic Radiation Pattern Over the Ocean," Undersea Technology, Vol. 5, no.8, August 1964. Curtis reports the presence of a previously unknown weak electromagnetic radiation pattern over the ocean. When all known effects are accounted for, the anomalous pattern still remains.

53. Santilli, R. M., "Partons and Gravitation: Some Puzzling Questions," Annals of Physics, Vol. 83, No.1, March 1974, pp. 108-157. In this paper Santilli proved that one of the cornerstone assumptions of physics -- that electric field and gravitation are separate things -- is false. One is therefore left with only two alternatives: either they are totally the same thing, or they are partially the same thing. (Comment: Note that the ~4 Tesla potential provides the unifying connection.)

54. Science News, Vol. 113, No.1, January 7, 1978, p. 3. A photograph by T. Kuribayashi of the earthquake lights involved in the Matsushiro earthquake swarm (1965-1967). This is the only known photo of earthquake lights.

55. Wiedemann, C. Louis, "Results of the N.J. 'Spook Light' Study," Vestigia Newsletter, Vestigia, RD 2, Brookwood Rd., Stanhope, NJ 07874, May 1977, pp. 1-3. This article describes an ongoing Vestigia experiment in which a nocturnal light or "mystery light" was scientifically photographed in conjunction with visual sightings and instrumental recordings of data. Various later issues of the Vestigia Newsletter contain other update articles on the phenomenon.

56. Moray, T. Henry, The Sea of Energy, fifth edition, History and Biography by John E. Moray, Foreword by Tom Bearden; Cosray Research Institute, 2505 South 4th East, Salt Lake City, Utah 84115, 1978. In addition to his free-energy device, Moray also built a special radio which he used to clearly listen to Admiral Byrd at the South Pole. No static was experienced on Moray's radio, showing he was not using ordinary electromagnetics. In addition, he built a device which he could tune to listen to persons several miles distant, so that their voices sounded as if they were immediately nearby. Both these devices were demonstrated to a visiting Russian Colonel/PhD.

57. I. Procaccia, J. Ross, Science, 198, 716 (18 Nov 1977). Describes Prigogine's Nobel Prize-winning work on thermodynamics of nonlinear systems far from thermodynamic equilibrium. Prigogine's work shows that such a system can indeed demonstrate negentropy. Out of unrestrained disorder can and does arise order, contrary to the old thermodynamics.

58. "Persinger's 'Earthquake Lights' ...Ho-Hum," Frontiers of Science, Vol. III, No.3, March-April 1981, p. 15-16. Gives cogent and "fatal" objections to

Persinger's "earthquake light" scheme for explaining UFO's. Mentions Dr. Brian Brady's experiments obtaining fast, short electrical lights or sparks from crushing quartz-bearing granite cylinders. (Comment: Brady's experiments are certainly repeatable, so it is true that "earthstress lights" can be produced at a distance, although the piezoelectric effect alone in no way explains the production of the phenomena outside the piezoelectric crystal. The fact that UFO's occurring near a fault zone are not necessarily repeatable simply means that at least one other major factor must be involved in the production of UFOs than is involved in the production of earthstress lights. UFOs may sometimes involve scalar interferometry from a fault zone, but other causative factors must also be involved. Earthstress lights, on the other hand, need have no additional causative factors than what lies in the earth itself.)

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60. Roberts, Gwynne, "Witness to a Super Weapon ?", The Sunday Times, London, 17 August, 1980. Article deals with a strange semicircular phenomenon seen inside the Soviet Union from Afghanistan in September, 1979 by Nick Downie, a former member of the SAS who has established a considerable reputation as a war cameraman. Downie saw the phenomenon twice, and later met an Afghan who had seen it several months before. A possibly related phenomenon is reported in Brackenridge, M., "Unidentified Phenomenon," Marine Observer, 48: 21-22, 1978. Note the first "nuclear flash" was detected by Vela satellite on September 22, 1979 - close in time to Downie's sightings.

61. Bearden, Tom and Crawford, Hal, "Possible Soviet Test of a Tesla Weapon," Specula, Journal of the A.A.M.S., Vol. 3, No.2, April-June 1980, p. 29. See also Specula 3, 2, 30-32 by Bearden and Crawford. These reports are from CIA reports released under the Freedom of Information Act.

62. Bearden, Thomas E., The Excalibur Briefing, Strawberry Hill Press, San Francisco, 1980.

63. Muldrew, D. B., "Generation of Long-Delay Echoes," Journal of Geophysical Research, 84: 5199-5215, 1979. For anomalous long delays of electromagnetic signals in the atmosphere, Muldrew favors a rather complex interaction between signals from separate transmitters that (theoretically at least) can create a long-lived electrostatic wave that travels in the ionosphere -- a sort of natural memory device. The coded signals could then be read out much later when the proper natural conditions developed. Delays of up to 40 seconds might be possible with this "ionospheric memory."

64. Zhugzhda, Yu. D., Institute of Terrestrial Magnetism, Ionosphere and Radio Wave Propagation, "Magnetogravitational Waves in a Conducting Isothermic Atmosphere," Moscow ASTRONOMICHESKIY ZHUGZHDA, Vol. 56, No.1, 1979, pp. 74-83. Among other things, the paper indicates the possibility of transforming longitudinal waves into transverse waves in the region of a strong magnetic field.
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66. Don Moser, Photographs by Blair Pittman, "Big Thicket of Texas," National Geographic, Vol. 146, No.4, October 1974, pp. 504-529. The author photographed a "ghost light" or nocturnal spooklight -- i.e., an earth's tress light. The photo is shown in the article.
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68. Gintsburg, M. A., Institute of Terrestrial Magnetism, the Ionosphere, and Radio-Wave Propagation, Academy of Sciences of the USSR, Astron. Zh. 51: 218-221, Jan-Feb 1974, English translation in Sov. Astron., Vol. 18, No.1, July-August 1974, pp. 128-130. Among other things, the article points out that thus far a Fourier analysis in mass electrodynamics has not been made. One property characteristic of mass electrodynamics is the existence of longitudinal electromagnetic waves in vacuo, i.e., longitudinal photons. They have not yet been discovered but theoretically they are entirely possible.
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