

An Introduction to the Mysteries of Ground Radio

by Gerry Vassilatos

GROUND Radio is a subject which has remained on the periphery of engineering discussions for decades. It has maintained its elusive and mysterious poise because of fundamental anomalies observed when its methods are utilized, anomalies which manifest when signals are both transmitted and received directly through the ground. The inability to adequately address the associated anomalies has produced a remarkable impasse among conventional engineers. Many highly qualified such persons are quite sure that the Ground Radio phenomenon is adequately explained through classic theoretical propagation models. Experimental findings however, have brought to our attention several anomalous features of this form of Radio propagation.

Only an extensive and deliberated exploration of Ground Radio will prove our several discoveries in the art. Rudimentary and inexpensive in requirement, experiments with Ground Radio provide an endless source of anomalies. Experimental investigations of these methods may begin with as little equipment as a shortwave receiver, a copper pipe, and a length of wire. The rest remains in the strangely lost art of interpretation. The accurate interpretation of the findings derived through such experimentation requires familiarity with the pertinent bibliography. We hope that the reader is encouraged to duplicate and surpass these methods, as those who do so will not be without their due reward. The discovery of new and unfamiliar phenomena can be yours . . . when you take the first step.

Telluric Currents

The metaphysical earth currents were both observed and described in great detail by Fr. Athanasius Kircher. His writings preserve an ancient knowledge which concerned itself wholly with the vitality of the earth. The metaphysical telluric currents were known to permeate the world, the energies which mediating vitality. Maps of telluric currents were the prized possessions of geomancers, permitting the knowledge of vitality control on earth. It is said that wars were fought by the selective elimination or exaltation of specific veinworks in the telluric circulatory system. The science of Geomancy thus formed the mysterious historical backdrop against which a wide variety of natural observations were subsequently made.

With time, the experiential appreciation for the metaphysical earth energies was systematically lost. The more qualified scientific observers replaced their sensitive experience of telluric energies with a merely superficial observation of geoelectric currents. This schism has provoked the controversial thesis upon which our present discussion is therefore based. While some will be defiantly confident that experiential telluric energies are resolved into geoelectrical currents, we remain just as adamant in our absolute conviction that the experiential telluric energies precede and define the observed geoelectric patterns. This schism has not, and will never be resolved. So long as there are those who insist on observing the superficialities of natural phenomenon, completely obsessed with the kinematics of otherwise experience-filled phenomena, there will be a scientific conflict.

The filtration of highly selected portions of natural phenomena characterizes contemporary quantitative science. Until the scientific community becomes willing to admit the greater part of their experience, all considerations of natural phenomena will remain for them a blank wall of intensities and numerical values. Ancient Science connected its pursuants with an experience, one gained through direct physiological contact with the telluric currents themselves. It is in the active contact with these ground-derived currents alone that we recognize the true and fundamental continuum in which our world is set,

an expansive experience by which we access and learn the ancient arcanum.

The discovery that various signal species could be both transmitted [7] and received directly through grounded terminals, forms the fascinating subject matter of a largely forgotten historical record. In this regards, we find a technical bibliography replete with remarkable instances of early successful experimentation in the art of drawing power and signals directly from the ground. Completely ignoring the fact that a large bibliography of anomalies had been compiled by research predecessors, engineers of the time developed communications systems which relied entirely on electrical currents. As a carrier of code and voice, electricity was "reliable". But with increasing engineering emphasis on electricity and electrical technology, the subject of geomantic energies was driven into forgetfulness. Thereafter, those who confused geomantic energy with electrostatic effects were the cause of the numerous controversies by which Late Victorian Science is characterized; endless confusions in terms and identifications.

When the subject of long-distance communications was compelled to shift thematic emphasis away from the vitalistic foundations, it lost touch with an energy which did not cease exerting strong influences on the developing electrical technology of the time period. Only a few, now legendary researchers, continued the geomantic tradition. From the very first moment in which ground connections were established in a telegraphic signalling line, inventors and operators of electrical systems noticed anomalous energetic behaviors in the ground. The very first attempts at long distance telegraphy involved the burial of highly insulated double lines (Morse and Vail). Upon first closure of the telegraph key, the signalling components became so thoroughly suffused with charge that the exchange of signals became an impossibility.

In truth, the art of wired and wireless communication began in a reawakened appreciation of geomancy and geomantic energies. This remarkable reminder came about with the replacement of the original 2-wire telegraph line (Reusser, 1794) by the 1-wire method (Aldini, 1803), the latter requiring far less wire and several ground plate terminations. The telegraph stations of Morse used grounded plates, a means by which engineers imagined the "necessary return current . . . through the ground". Wired code on a single overhead wire was thus "matched" by an opposed ground return of charge, a condition which fulfilled the prevalent model of electrical closure.

Geomantic Incursions

As none of these researchers actually measured the elusive "ground current", many engaged an imaginative freeplay in the artistic description of the same. Several patent drawings reveal a curiously geomantic flair, the meandering "return currents" flowing over land and stream to their terminals. Here we find remarkable evidence that these inventors were in fact engaging in a form of geomantic vision, describing an entirely different and more agile energy species than electrical current (Farmer, Ader, Frow). Toward the peak successful operation of telegraph and telephone systems, the proper placement of terminal plates was an absolute requirement. As this art demanded special ability, the first telegraph linesmen used the methods familiar to dowsers. The very placement of ground plates, poles, and junction boxes was, for these linesmen, completely predicated on the strong presence of upwelling energies from the earth. Empirical evidence proved these methods superior to "resistance surveying" in the placement of station plates and other components.

Telegraph lines so constructed were possessed of a noumenous and suffusive quality. Natural geomancers had provided the means. Here was evidence that another energetic stratum was governing the development and limiting the establishment of long-distance electrical communications systems. The subjective experience of linesmen was ample indication that such a mysterious energy stratum was indeed present and active. Thus, the invasive energy demonstrated its ability to enforce certain restrictions on the establishment and operation of Telegraphy and Telephonic systems. The communications technology, which engineers imagined to be completely independent of natural agency, was being subverted by an

everpresent geomantic influence.

Besides the obvious geomantic incursions, those which influenced the decisions of workmen and designers, the energetic presence made itself known in several other ways. Power literally appeared "from the ground" in many stations, a condition which Alfred Vail reported (1839). He found it necessary to progressively remove batteries from the first long-distance telegraph line, reporting this remarkable manifestation of energy to his elder partner, Samuel Morse. Lines operated on an energy which exceeded the battery supply, and ground-connective communications systems were especially prone to bizarre energy manifestations.

Hoping to save the finance of excessive wire line, many telegraph systems implemented the discovery that code could easily "pass through water". To this end, engineers experimented with the use of widely separated groundplates, a means which proved strangely successful. Experiments with ground-conduction established telegraphic contact through an isthmus (Morse, 1842), through streams (Vail, 1843), wide rivers (Lindsay, 1843), canals (Highton, 1852), across a bay (Meucci, 1846), through the earth (Stubblefield, 1872), and between distant islands (Preece, 1880). An accidental discovery proved that one longline system continued operating with great strength of signal, despite the fact that the line had been literally broken in several places. The realization that code signals could actually enter and traverse the ground for several hundred yards, and then reenter a grounded line, triggered a new revolution.

Thereafter, combined wired and wireless links formed the greater portion of telegraph exchanges across the miles of North American countryside. Ground plates launched code signals into predetermined land tracts and waterways, signals being conveyed along specific subterranean routes. Signals passed "into and through the ground" to each next ground plate of a series. When reentering the next groundplate, signals continued through the overhead lines to their appointed destinations. Stations received very strong signals in this method, signals with great clarity and force. Here were the early beginnings of the conduction wireless methods, and relied on the mysterious nature of ground conduction and ground energy for their successful operation.

It was clear to linesmen and operators that the signal energy could not possibly be maintained over such long ground and water conduction paths without amplification. Some external agency was somehow augmenting and modifying the applied signal impulses. The anomalous functioning of these largescale regional signalling systems proved again that the geomantic agency was literally wending its way through the line networks. Not every such line operated in this manner, the geomantic currents selecting very specific paths for its operation. This topographic selectivity hailed [8] attention back to the maps once treasured by geomancers. The augmentation of applied electrical energy was obvious. These specially placed telegraph and telephone lines operated for years without batteries at all. Station operators took this phenomenon for granted. Despite the "long dead and corroded Edison Cells", telegraph station operators continued the powerful exchange of "fat blue and sparking" signals for decades (Lehr).

Other researchers corroborated the fact that usable amounts of current could actually be derived from the ground, currents whose powerful displays permitted the elimination of battery cups and generators. The failure of all reductive electrical models to satisfactorily address these energetic characteristics became especially evident with the development of the "earth batteries", an outgrowth of these telegraphic observations (Bain, 1849). These simple material composites, made to be buried in earth, produced currents not explained through electrolytic action. Small buried earth batteries developed sufficient power to charge storage batteries. They were also employed to provide telegraphic (Bryan, Cerpoux, Dieckmann, Jacques, Bear), and later telephonic systems (Stubblefield, Strong, Brown, Tomkins, Lockwood) with uninterrupted operating power. Neither decomposing nor failing with months of buried use, the mysterious earth batteries contain an essential mystery which electrodynamic models cannot adequately explain.

Those who doubt these facts may attempt the simplest of experiments. Place two identical copper rods into the ground however distant your skepticism demands. The ground can be dry. Connect a galvanometer to each rod by means of thin wire. An anomalous positive reading results. This simple fact illustrates the concepts taught by Nathan Stubblefield, who stated that earth batteries do not generate electricity: they intercept and receive ground flowing telluric currents. If you wish to find strong telluric currents by this means, place one of your two ground rods into a tree root. The galvanometer should be wired close to this base. The other rod is wired and can be placed in sequentially different spots. Readings can literally "pin" the meter, holding it there for weeks.

Telluric incursions continued to "interrupt" all electrical communications methods which employed the ground as a medium of exchange. These incursions revealed aspects of the geomantic nature as each new technology was connected to the ground. The mere appearance of additional power was greatly outperformed when, just prior to the advent of Telephony, a shortlived revolution swept the Telegraphic World. Certain telegraph companies replaced all of their electromagnetic systems with the Chemical, or "Automatic Telegraph" of Alexander Bain (1849). The Chemical Telegraph regime utilized the electrosensitivity of special chemical papers to register incoming signals. Code impulses made their dark blue marks on the rolling strip of sensitive paper, the task of decoding having thus been made "automatic". Because of the low power requirements typical to their method, the Automatic Telegraph lines were successfully operated across much greater distances than their electromagnetic counterparts.

From the very first, some such Chemical Telegraph systems operated on ground power alone. Not only did these systems produce strong signal markings in complete absence of batteries, but partly coherent signals spontaneously appeared in absence of operators as well! The mystifying appearance of fragmentary sentences and geometric patterns was continually observed in idle Chemical Telegraph receivers, a phenomenon which has been discussed in a former treatise (Vril Compendium Vol. 3). Perceptive investigators clearly perceived that incursions of geomantic energy were dynamically modifying and augmenting every ground application of electrical energy. Such anomalous energy manifestations, which often revealed a perplexing time-periodicity, found no plausible explanation among the theoreticians.

With the introduction of Telephony, the use of simple buried terminal plates was soon replaced by a great number of special articulate ground components. Again requiring geomantic sensitivity for their proper ground placement and orientation, these remarkable interleaved and multivented forms literally launched and received signals along selective topographic directions (Taylor and Muirhead, Lugo, Smith). Besides those anomalous power observations in telegraphic and telephonic systems, anomalous observations were noted with the development of wireless communications. The relevant bibliography is filled with instances of geomantic power incursions in wireless systems. These incursions, clearly understood by early wireless pioneers as effects of the earth connection, made their impact on the engineering community.

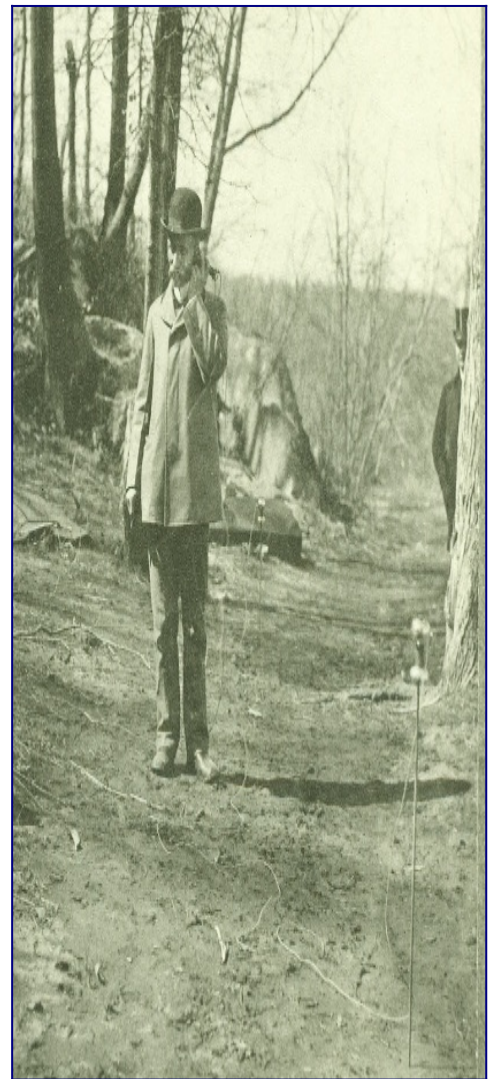


Photo: Nathan Stubblefield, receiving messages by Wireless Telegraph (1902).

Groundwave Radio

The late part of the Nineteenth Century was a rich and productive time for the empirical researchers, those who explored the deep [9] mysteries of ground conduction radio. Such investigation produced a new world of possibilities in the Wireless Arts. Experimenters found distinctive differences when varieties of geometric shapes were simply buried, a series of discoveries having no satisfactory conventional explanation. A great many highly specialized ground "antennas" were developed and patented during this time period, a technology which provoked both disbelief and criticism on numerous counts.



Photo: Nathan Stubblefield with his son, Bernard.

The very first vocal radio broadcast was engaged by Nathan B. Stubblefield (1872). Mr. Stubblefield employed special "earth cells" and long iron rods to transmit strong vocal signals "with great clarity". These signals traversed a mile or more of ground, a coordinated conduction wireless system providing telephone service for a hardworking farm community. The Stubblefield Radio Method represents an essential technological mystery. His "earth cells" never wore out, never produced heat in their telephonic components, and provided "signal ready" power at any given instant of the day. Being neither activated or assisted by additional battery power, the system was fully operational around the clock.

Later critics attempted the reduction of the Stubblefield Radio System to mere "subsoil conduction" mode of transmission, but remain completely unable to reproduce the performance to this day. Mr. Stubblefield repeatedly stated confidence in the fact that his Radio System was performing an act of modulation, not a transmission of signal power. The preexisting "electrical waves in the earth", he firmly stated, were the real energy carriers for his Wireless Telephone Exchange. The special "earth cells" were connective terminals, not power antennas; a means by which direct connection with the geomantic energy stratum was obtained.

In an entirely different regime of exploration, a regime having nothing whatsoever to do with waveradio energies, Dr. Nikola Tesla directed the construction of a massive radiating structure on the northshore of Long Island. His previous years of experience taught him the secrets concerning radiant energy and its effective propagation through the air and space (1892 to 1900).

Understanding the means by which radiant energy may be more effectively beamed down through the ground, Dr. Tesla established the magnificent Wardencllyffe Station (1901). Tesla intended Wardencllyffe to be the first of a series, stations for the

subterranean beam transmission of radiant energy. Propagation of very large diameter radiant energy beams had been found more effective for given power purposes, when conducted through solid rock. Tesla found that the earth was transparent to these penetrating straightline beams, and planned the use of deeply imbedded ground terminals in order to direct and launch his special radiant energy.

Dr. Tesla took special pains to establish the extensive underground conducting system in order "to get a grip of the earth". This most complex construction operation, necessarily executed long before the great

tower was erected, took place below the Power Broadcast Station. Tesla stated that this was the most difficult part of his construction operation at Wardencliff, the drilling of long iron pipes having first been driven down to more than 300 feet into the foundation rock. At a depth of 120 feet, Tesla excavated several radiating shafts, long hallways whose internal walls were covered with pitch and surrounded with iron pipeworks. These shafts extended outward at this horizontal depth for several hundred feet in all directions, a formidable ground projector. Beneath the central chambers of this Magnifying Transmitter, the deeply embedded terminals actually formed the primary beaming structure; a bizarre conception which was literally rediscovered in legal documents provided by Mr. Leland Anderson, and has since been experimentally verified by Eric Dollard.

Fr. Josef Murgas (1906) produced a remarkable series of articulated monopole terminals. These coaxial coil monopoles were deeply drilled pipes, filled with mineral oil and activated by radioimpulses. With these designs, Fr. Murgas exchanged extremely powerful and static-free signals to great distances with very little applied power. The later proliferation of ground aerial designs included double grounded arches (Tesla, Collins, Ducretet, Musits, Pickard), underwater and underground coils (Jones), underground loops (Beakes), "bent-L" inversions (Appleby, Knoll), and underground channel-loops (Hanson). Of these buried ground systems, none were as prolific as those developed by James Harris Rogers (1913). Most properly categorized as buried dipoles, Rogers antennas rested across the subsurface horizon of the ground, and were relatively easy to establish.

Desirous of creating VLF and ELF transmission sites for oceangoing surface and submerged fleet vessels, ground antenna designers attracted the attentions of the NRL and other military research laboratories. In the effort to establish failsafe communications between command centers and distant fleet, ground surface, or [10] submerged forces, military engineers explored both Rogers buried antennas and Murgas drilled monopoles. To the thrift-minded military engineers, the buried Rogers Antennas were more accessible than the more effective and world permeating Murgas designs. Placed into long plowed furrows, the various Rogers antennas provided clarified signals. Compared with the large overhead aerials of other designers, Rogers buried antennas performed in a remarkably constant and dependable manner. Producing strong signals, of both greatly depressed static and equivalent reduced distortion levels, the Rogers designs were prized by Naval Radio engineers.

Rogers buried antennas were buried dipoles, a method application to an old design. Because the Rogers Antenna series were buried dipoles, their performance theoretically completely depended upon their compass orientations. The polarization of transmitted or received signals necessitated that Rogers Antennas be properly placed in the ground with respect to compass bearings, a restriction nonexistent with the superior Murgas Monopoles. But Rogers Antennas were admirably suited to the developing Naval Radio hardware. Driven by sinewave generators, rather than Teslian aether pulses, the Rogers designs operated in the Hertzian wave mode adequately enough to win military support. Few military experts bothered to recall that these designs were all purloined from directly from the Tesla patents, a fact which the genteel Tesla never bothered to cite.

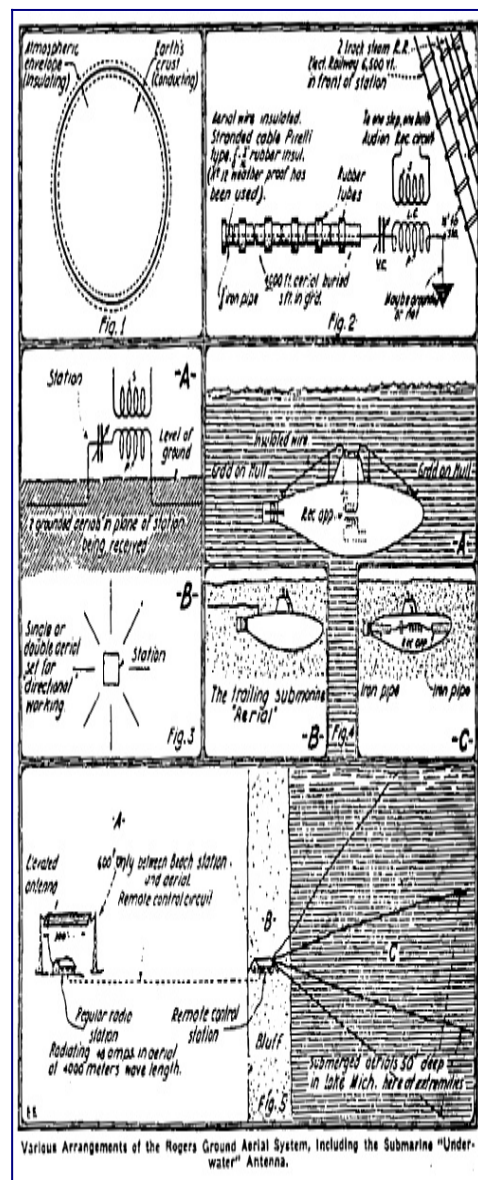
Periodically classified and declassified, the Rogers designs and their modifications have formed the core of the military VLF and ELF communications arsenal. But most of the researchers instinctively sought out those monopoles which Fr. Murgas developed, and which the military had overlooked. Throughout the early part of the Twentieth Century, a great variety of ground antennas made their sudden appearance in the commercial radio market. Experimenters everywhere were discovering that different shapes and materials were capable of providing extraordinarily strong radio transmissions and receptions when simply buried.

Ground Terminals

Attempts of devising newer and more effective ground antenna designs provoked several intriguing explorations. The most amazing discoveries included those made with relatively small buried metal forms. Radio rules changed completely when buried antenna were employed, the complete elimination of Hertzian dimension restrictions being the first observation. Unlike their aerial counterparts, buried terminals were not bound by those exacting requirements of wavelength. One did not require lateral dimensions equal to the normal shortwave aerial yardage, the first feature recognized by radio amateurs.

It was indeed during this time period that the customary use of old iron radiators and large metal bedsprings, scrap metal surplus, became an experimental vogue with radio amateurs. These buried, highly articulated iron forms, provided powerful evidence that the ground antenna principle actually worked. In the classic models, the burial of any aerial structure represented immersion in a conductive medium. The burial of conductors in the ground was viewed as reduction to a uniform, neutral electrical gradient. This condition sufficiently neutralized all of the geometric differences within an isoelectric horizon. Electrodynamics theory stated that any buried metal composite, however "variegated" or "articulated" in form, would simply behave as a "lumped" resistance.

While the use of variegated antennas posed no threat to the existing paradigm, academicians considered the concept of buried variegated antennas a theoretical impossibility. Indeed, those who examined ground aerial patents found completely problematic the notion that highly variegated geometric structures could demonstrate differing degrees of transmissive or receptive advantage. Electrical engineers insisted that the net surface areas of these buried "articulate" forms alone determined their resultant excessive



Illo: Various Arrangements of the Rogers Ground Aerial System, including the Submarine "Underwater" Antenna.

performance. In this consideration, material composition did not matter. Conductivity was the prime factor. Differing only in their various surface areas, the only theoretical differences among buried geometries, in addition to those of mere surface area, were thought to be factors of electrolytic corrosion. The [11] more pitted the ground contact surface, the more likely a buried object would become better conductive to signals. The microsurficial increase of surface contact through corrosive pitting was called to explain the "additional gain".

Since the electrical merits of buried materials were supposedly the simple result of surface area and the effectively moved electrical volume, the result of this inherent surface area, no special discovery was acknowledged among the authorities. But empirical determinations proved that different geometric shapes and (more unbelievably) different material composites, actually did effect an enhanced "launching" of radiosignals far in excess of their calculated surface area. Solid plates of calculated equivalent surface did not perform as magnificently as the buried radiators or bedsprings, the articulated exposure for potential conduction increasing to or from the surrounding ground.

But empirical research consistently overturned each of the theoretical contentions, proving by incontestable demonstration the superior signalling characteristics of articulate ground terminals. Anomalous signal strengths were both transmitted from and received through ground transmitting systems far in excess of intensities or topographic distances declared possible by theory. This was particularly true when the ground transmitting antennas were powered by spark-generated, asymmetric impulse currents. Signals were somehow being "collimated and constricted" within the ground proper. This constrictive action did not explain all of the observed signal intensities. Evidence had again suggested that the ground was "leaking" a non-electrical component up into both the electrical systems and their emerging signals.

In fact, several widely advertised and highly successful designs included the "Yale Ground Hog", the "Subtenna", the "Aerolimator", and the "Subaerial". These few representatives demonstrated the superiority of ground antennas, a validity which literally emptied the stock rooms of each ground antenna distributor. Dr. F. L. Satterlee, an X-Ray specialist, developed several "tuned ground" radio receivers. Implemented by The Moon Radio Company, these radiosets placed their performance boasts on a remarkable "antenna-free" operation. The principle advantage of these ground antennas was their static-eliminating nature. The ease of their installation and maintenance combined great signalling efficiency. Several of the commercial units needed only to be connected with a cold water pipe, their powerful and "static-free" reception being unequalled by the more conventional "aerial receivers". Additionally, waveradio receivers produced by The Moon Radio Company operated during normally impossible meteorological and geophysical conditions; a condition well described by Nikola Tesla. A great many inventors continued producing truly amazing diversity in the "ground antenna" format. Throughout this time of amazing and anomalous discoveries, the empirical method led the way.

Natural Amplifier

It had been clearly observed by a number of experimenters that the environment exerted strong and dynamic action on transmitter signals. It was long known that this mysterious energy species could actively charge ground-connected radio systems in absence of applied power, the early experiments of Loomis having established this principle (1862). This agency was very obviously possessed of an inherently superior articulate nature, being able to distinguish and energize buried material composites and varied geometric forms. In addition, the energetic ground agency seemed able to selectively seek out, constrict into, and intensify the incoming signal power of distant stations. There were obviously other influences which determined the nature of ground-traversing signals.

Experimenters realized that these effects differed with both the methods used in obtaining the spark energy, the manner in which disturbances were launched into the environment, the grounds into which

Amazing NEW Ground Antenna

Gets Everything but Static!

Brings in Far Away Stations Loud and Clear Regardless of Static Conditions

Two everywhere are replacing their troublesome and static gathering up-in-the-air with the marvelous new GROUND ANTENNA-Aer-O-Limiter. Both engineers and hundreds of users testify that Aer-O-Limiter puts better tone than tube reception, almost undetectable freedom from outside noise, far greater selectivity and marvelous tone, clear over any quality.

John H. Christensen, Radio Engineer, Chicago, writes: "I have tested and thoroughly approve the Aer-O-Limiter. I find it increases selectivity and volume without distortion, practically eliminates static, gives good clear tone, both on local and distant stations. I would recommend the use of the Aer-O-Limiter to every radio owner to get the best reception from his set."

FREE TRIAL
Make this thrilling test at our risk!

Install an Aer-O-Limiter (Ground Antenna). Leave your old overhead aerial up. Try out on a night when static is bad. If you do not get a wonderful improvement in freedom from static, greater selectivity and clear sweet tone without interference, return it to us. If you do get good reception, we will send you a new one. (We will not return the old aerial, you need not pay for a new one for this old aerial.) Send coupon as soon as possible for explanation. Send coupon as soon as possible for explanation of performance and our complete free-charge guarantee and remarkable Free Trial Offer—Mail Coupon TODAY!

EASY TO INSTALL
Just dig a small hole about 6 inches in diameter and drop Aer-O-Limiter into it.

Aer-O-Limiter (Ground Antenna)

Endorsed by Foremost Engineers and Dealers

CURTAN MFG. CO.
154 East Erie Street
Dept. 27-E Chicago, Ill.

Rush This Important Coupon

CURTAN MFG. CO.,
154 E. Erie St., Dept. 27-E,
Chicago, Ill.

Please send me at once complete description of Aer-O-Limiter, with details of guarantee, scientific proof, and FREE TRIAL OFFER.

Name.....
Address.....
City.....
State.....

Advert: **Aer-O-Limiter**, as seen in Radio News for April 1928.

and presence. VLF signals which were not applied to the special launchpaths, were simply lost in transit. The Marconi World Radio Circuit relied these very obvious environmental controls, but it was quite impossible for engineers to follow the exact pathways of these suboceanic signals. It was first thought that the phenomenon had much to do with the submarine ground itself. By assuming the existence of special highly conductive marine geostrata, it was imagined that a simple geological survey could codify the selection of Marconi Station sites.

But no such geological formula or pattern was ever found, to the great consternation of engineers and theoreticians alike. Directed along identical suboceanic geostrata, the very same VLF signals encountered unexpected and unexplained high signal resistivity; a frightful realization for those whose labor was expended in the building of several Marconi Stations. What was the strange "absorptive potential" by which a launched signal could simply be drawn across a specific launchpath? If not in the material strata of submarine geology, where then was this mysterious "absorptive potential" contained?

Several sites were quietly abandoned by the Marconi Company, the matter being privately considered for

signals were launched, and the specific directions along which they were launched. The spark applications of small experimental [12] radiotransmitters produced signals of unexpected large volume at great distances, empirical evidence of an unexplained signal "amplifier" in the natural environment (Appleton and Barnett). VLF amplification effects had been empirically recognized among radio engineers on both sides of the Atlantic. In fact, the very first historical Transatlantic Signals of Marconi were problematic from every engineering standpoint. The calculated losses, theoretically expected of these signals, were far too great to account for his first claimed successes (1901). This was a fact which provoked many to doubt and criticize Marconi's claims in the venture. Later repeatable demonstrations of the VLF amplification effect evoked few suggested explanations from the engineering community.

The concept that signals could acquire additional energy from an unacknowledged geomantic source was not readily received by the academic community. Some experimenters initiated dialogue on the possible gain of signals which had traversed the geomagnetic field (Prentice). These gains were not the simple result of "standing waves", nor the result of Hall Effect intensifications provoked by launching signals across the geomagnetic field. The perplexing effect was noted across the entire radiofrequency spectrum, from VLF radiotelegraphic to shortwave radiotelephone services. Unlike the identical phenomena which took place in wired telegraph and telephone lines, these effects were taking place in complete absence of wire. But what dynamic agency was literally magnifying each relatively small initial signal?

With the installation of multiple Marconi Transatlantic Stations, it quickly became known that transoceanic VLF magnification phenomena were only obtained when signals were launched along highly specific "launch paths". Conformity with these "launch paths" produced undistorted signals of unexpected great power

very obvious business reasons. The prospect of statistical failure in the "scientific" selection of VLF launchpaths displeased Marconi greatly. The use of dowsing methods would be very "bad for business" if the fact became known to the scientific community at large. These factors eventually drove Marconi deeper into a study of shortwave aerial phenomena. Other radio station engineers found it necessary to select station sites [13] through "alternative" or "geomantic" means. This renewed awareness of geomantic energy, as well as the role of special points and pathways in effecting long distance communications, provoked a hostile and derisive reaction among conventional engineers.

Shortwaves

The advent of shortwave radio systems however, produced intriguing anomalies, which found neither immediate theoretical models nor solutions. Unable to account for the divergent signal strengths noted between separate aerial or ground contacts, fact-finding empirical research was again engaged. The models which theoreticians developed postulated that a loosely linked "skywave" and "groundwave" were responsible for the anomalous reception effects. In this analysis of waveradio transmitters, a conduction wavesignal "through the ground" was selectively either neutralized or intensified by an aerial signal "through the sky" (Breit and Tuve).

With the newly discovered ionized atmospheric layer neatly providing "skipping" reflectivity for transmissions, the model was complete. Accordingly, the proper phasing of skipped skywaves and groundwaves produced resultant signals of unusual strength. Improper phasing produced received signals were weak or even absent. It was then easy to comprehend the varying nature of shortwave signals whenever encountered. One could find reasonable explanation for variable signal strengths throughout the day, month, and year. "Skipping" skywaves met with continuous groundwaves to produce all of the observed signal receptions. Phase shifting explained all of these variations. Or did it?The use of very long, close-ground antennas was early implemented by those who sought the development of special aerial-ground hybrid antennas. The "double ground" aerial employed an elevated line with grounded ends. This format was limited by its orientation requirements, often acting as an excellent directional detector of distant stations. Extremely low aerials were developed and used in 1911 (Kiebitz), often extending to nearly 1000 feet in length and being poised to within a yard of ground level. In 1918, a similar system (A. Hall) placed 2700 feet of insulated cable along the ground surface, and claimed excellent reception characteristics.

The famed "Beverage Antenna" (patent 1,381,089), was the result of experiments with several thousand straight feet of wiring on tall insulating posts, a design which attracted the fortune-aimed attentions of RCA. Wishing to break the existing market on special beam aerials, this design formed the means by which Marconi monopolies on the "bent-L" aerials were broken. The receptive clarity of this design increased with proximity to ground. RCA could not infringe on the Rogers designs, or those of others, whose buried ground antennas produced better signal strength.

These horizon-hugging aerials provoked controversy because of their supposed necessary "management" of a mixed sky and ground wave complex. Experiment proved that increasing elevations of the Beverage Antenna resulted in a pure and noisy skywave signal, with [14] the greatest signal intensities being derived with the line placed as close to ground surface as possible. In some cases, these ground-parallel aerials were poised on insulators 12 foot or less for best effect. Being the design which represents the theoretical midpoint, between the buried Rogers dipole and the Marconi "bent-L", the Beverage Antenna reveals that ground currents and ground signals are indeed distinct in origin and species. These results helped to convince many that the proposed "nearzone-farzone" radio principles were absolutely mistaken. In fact, a special theory was developed to "explain" the superior operation of the Beverage Aerial. [All of these patents and articles are found in Vrtil Compendium Volumes 9 and 10].

A great many popular radio magazine articles were devoted to the unusual reception of signals through the ground alone (Volume 8, Vrtil Compendium). To the amateur experimenters of the time, it was all too apparent that the theoretical assessments lacked reality. Those who studied radio propagation phenomena for military applications could not account for the fact that far too powerful ground signals continued with increasing range from their sourcepoint. By comparison, their aerial signal counterparts were far too weakened by the journey. Experimenters found that the "skywave-groundwave" model did not explain the continued magnification of signals "received through the ground". When compared to signals "received through the air", the ground signals were persistently more powerful, and far less eroded by static.

SUBANTENNA

UNDERGROUND ANTENNA SYSTEM

Be Sure to Tune In
KYW
1500 Meters
Every Wednesday Eve
7:30 to 8:30 P.M.
The Subantenna
is a new type of
aerial that gives you
the best reception you
can get.



Not only does SUBANTENNA make signals heard that are 100% clearer, but also it makes reception of distant stations in the winter season. Many SUBANTENNA users are on call in locations where the weather is so bad that they are unable to receive any signals at all.

Gets Distant Stations Clear and Loud—
Summer and Winter—Right thru Static

NOW—you can get the most accurate and clear distant stations, no matter how far away they are—almost like local! The marvelous new device illustrated above makes this possible. STATIC is no longer a nuisance.

Engineers have long known that the ratio of static strength to signal strength IN THE AIR, varied little. But that in the GROUND, the ratio of static strength to signal strength favored the static 100 fold. They knew that if interference could be perfect, a steady broadcast would be taken out of the GROUND instead of from the air, that all-year-round distant reception would become a reality. SUBANTENNA is the answer. It completely cuts away with the old 4000 up-to-date aerial. It picks up clear, filtered waves from the ground—delivers a strong signal—waves so powerful that they contain in themselves the performance of SUBANTENNA is nothing short of marvelous. It will amaze you—just as it has amazed laboratories and thousands of critical fans.

USER SAYS "GREATER DISTANCE"
"Told you that I received a program from Station WGN in Havana, Cuba, I enclose herewith a verification card from that station. On January 20th, I received a program on my set transmitted from Havana, Cuba, South America, at 10:15 in the evening. Many other long-distance stations have been heard on my set after installing the Subantenna. I never could receive any distance on my outside antenna." W. C. F., Chicago, Ill.

ELIMINATES LIGHTNING RISK
SUBANTENNA is a safe antenna. It is completely insulated from lightning. Many SUBANTENNA users are on call in locations where the weather is so bad that they are unable to receive any signals at all.

FREE TRIAL

USER SAYS "GETS MORE STATIONS"
"I get plenty of stations with my Subantenna, on the long speaker that I have never been able to reach with my outside aerial. It absolutely cuts down interference to the minimum, cuts static out, too—and just partly out—but out." H. S. M., S. Car.

USER SAYS "Cuts Out Interference"
"Have had Subantenna some months and it beats my antenna. I have cut out by half my noise. Have a few tube sets and get New York City, Atlantic City, Atlanta, New Orleans, Fort Worth, Denver, perfectly clear, and best to an elevated train with equal interference. Cuts it all out." C. H. Y., Chicago.

CLIP AND MAIL AT ONCE

USER SAYS "STATIC IS NO MORE"
"I have received the Subantenna. My antenna just had a static 100 noise. As well as that, I can hear a program I have not heard on the air for some time. I had a big aerial." A. E. W., Boston.

USER SAYS "MORE VOLUME"
"We have been receiving stations that formerly did not receive on the outside antenna. A radio house is taking on business and Subantenna has been sold."—Cops. E. W. F., Ill.

CLOVERLEAF MANUFACTURING CO.
2715-R Canal Street CHICAGO, ILLINOIS

Cloverleaf Mfg. Co.,
2715-R Canal St., Chicago, Illinois
Tell me all about SUBANTENNA, your
unparalleled, unconditional guarantee
and your FREE TRIAL OFFER.
Name.....
Address.....
City.....

Advert: Cloverleaf Mfg. Co.
Subantenna Underground
Antenna System.

Of the many energetic interactions occurring in and among spark discharges, Hertz chose but two for analysis (1887). Convention has agreeably restricted its considerations to the same, affirming that only two fields of influence make themselves manifest at close distances from a spark. The induction field, and the "radiowave field". Induction field effects rapidly fall away with the inverse square of distance from a spark center. The "true radio energy" is that wave energy which loses intensity with the inverse distance from a spark center. This difference of intensity with distance from the spark center defines the radiofield. Radio texts described the "nearzone" (induction field) and the "farzone" (radiofield). Patent examiners used this model to eliminate all but the Marconi claims for wireless transmission of signals, a tragic reduction. Far more important demonstrations proved the superiority of geomantic radio principles. Certain highly qualified experimenters disagreed with the simplistic Hertzian view, and contradicted the views of a growing mainstream (Stubblefield, Tesla, Massey, Moray).

Some thought that the induction field was the source of the unusual ground signals, the electrostatic influence which induced electron oscillations in the rock immediately beneath transmitter towers. Much improved ground configurations were thought to provide additional power to these relatively weak induction oscillations. Large area copper screens or grids were pre-buried long before transmitting towers or aerials were erected. These conductive screens extended outward from the central transmitting axis for several hundred yards in some instances. Thus directly applied, ground currents were given enormous impulse, a possible reason for the strong and predominating reception of local stations in neighborhood receivers. Theoretically, these induction sources were incapable of propagating beyond one quarter of a wavelength from their tower centers. Deep VLF ground currents of 10 kilocycles were therefore not to be received beyond 15 kilometers from their source. The transmission of 3 megacycle signals would, according to these expectations, produce ground currents undetected beyond 250 feet from their source.

These "nearzone-farzone" models did not explain the true signal strength received through ground antennas. Why for example, could VLF signals be received from distances much further than [15] 10,000 miles from their aerial gantries? Why were shortwave signals routinely received from distances surpassing 15,000 miles? Nevertheless, the ground antenna made such signal reception possible. One may yet demonstrate these dynamics with rudimentary ground rod antennas, a technique which will shortly be described. The "nearzone-farzone" model does not explain why VLF signals are only received along specific constrictive paths, a mystery which deepens when it is realized that such conductive ground paths are never found along strictly geodesic sections. Field distribution experiments show the meandering nature of VLF signals across regions of ground, a fact which correlates their much-amplified propagation with geomantic current paths.

There were, in addition, several remarkable reversals of these same theoretical expectations. Why, across

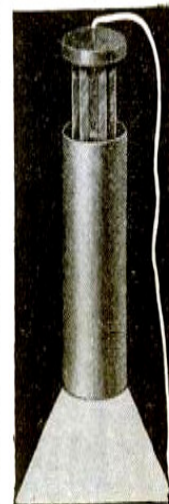
Ground Out Static

with **SUB-AERIAL**

Let Ground Waves Bring You Amazing Distance, Crystal Clear Tone Quality, and Greater Volume and Selectivity without Distortion.

Sub-Aerial has brought a new epoch in Radio. No need long to bother with troublesome overhead Aerials. Why risk breaking your neck to put up roof aerials only to have the first storm blow them down? Forget your Aerial troubles. Why not use the whole earth as a static and noise filter with Sub-Aerial?

Costs No More Than An Overhead or Loop Aerial



Can Be Installed in a Few Minutes

and less than many. Hook your set on to the newly discovered Ground Waves that bring practically static-free reception. Don't stand for the squawks and tin pan reception you get from Air Waves when you can step right out and leave that stuff.

If you don't believe us, try it yourself. If you do not find we're right—absolutely right—you don't pay us a cent for the test.


TRY IT FREE

We know so well the surprising results you'll get that we'll let you

put in a Sub-Aerial entirely at our Risk. Don't take down your overhead Aerial. Pick a summer night when static and noise interference on your old Aerial are "Just Terrible." If Sub-Aerial doesn't Sell Itself to You Right Then on Performance—you needn't pay us a cent. Send for "all the Dope on Sub-Aerial." You'll be surprised. Do it NOW.

UNDERGROUND AERIAL SYSTEMS

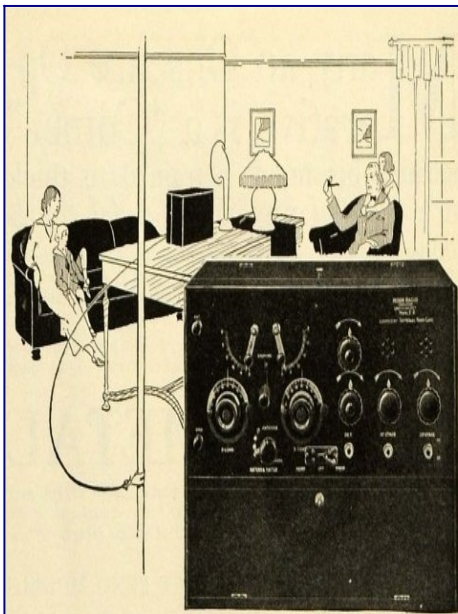
St. Clair Building
Cor. St. Clair and Erie Sts.

Dept. 8-H
Chicago, Ill. 

Advert: **Ground Out Static with SUB-AERIAL.** (Underground Aerial Systems)

certain locales, was it impossible to receive the powerful shortwave transmissions of a station some several hundred yards away in plain sight? "Radio blindspots" could not be explained on the basis of earth conductivity or geophysical characteristics alone. These glaring propagation discrepancies posed neither problem nor threat to the empirical researchers, who formulated their own naturally accurate models. The anomalous "blindspots" and "freak transmissions" which they routinely observed, were exceptions to the theoretical models. Such notable and unexplainable instances, while continuing to plague the modelmakers, provoked far too little academic interest (Hollingworth, Quack).

This experimental example offered a most startling clue to the mode of transmission actually responsible for the operation of buried antenna designs. The "skywave-groundwave" model presupposes that a singular radiosource will produce a singular radiating wave, half of the wave propagating through an aerial route, the other half being immersed in ground. Passage through the atmospheric route gathers static signatures and other distortions which are supposedly induced throughout the wavefront. This aerial noise is transferred and distributed throughout the advancing wavefront. Being absolutely tied to its aerial portion, the ground wave of any signal must therefore contain each acquired noise signature. The same holds true when the ground signal acquires static and distortions along its earthen propagation path. Then, the aerial portion receives new static signatures as a coequal distribution from the ground up. But all too many occasions prove the absolute contradiction of this model, and ground antennas provided the incontrovertible evidence.



—hook it to the waterpipe

Moon "Satterlee Antennales" Radio will produce wonderful results simply connected to a waterpipe. No antenna, loop or indoor wire is necessary.

Stations within a conservative 1000 mile radius are regularly received with a non-power loud speaker on this set.

It is the ideal set for use in apartments, automobiles, yachts or railroad trains where an antenna is not practical. Extremely sensitive, unusually selective, yet simple to operate.

Clear Reception

Dealers:
Ask about our franchise

Write today for our folder
"California or Newark"

MOON RADIO CORPORATION
501 Steinway Ave. Long Island City, N. Y.

In Canada, Continental Equipment Co., Ltd.
New Birks Bldg. Montreal, Quebec

MOON
Satterlee
antennales
—RADIO—

Buried terminals gave the clearest proof that aerial signals and ground signals were of completely different origin, those of the ground having the most obvious source in a powerful autodynamic matrix. Aerial waves were so obviously dissolved and "digested" in transit from their distant sources, while ground currents often demonstrated anomalous intensification in transit. It was furthermore quite obvious that electrical currents were not responsible for the ground currents beyond the theoretical quarterwave limits. Signals received through the ground were clarified and strong, even when aerial sampling proved that there should be only a static "hiss". Experiments have shown that the sometimes "wavering" behavior of ground received signals are the result of completely different origins, a dynamic response to completely distinct causes.

Added articulate dimensions made their appearance in a regime of improved ground antennas. Some designs employed chemical [16] saturations to produce greatly clarified and intensified signals. The revolutionary approach began as a chemical treatment to existing ground terminals, a treatment giving superior empirical results. Chemically treated terminals brought a complete eradication of static. The chemical of choice for these "treatments" was copper sulfate, the watery solution being liberally poured upon the buried terminal until the soil became a slurry. Allowed to dry out, these terminals displayed their enormously improved outputs. In other such experimental arrangements, copper sulfate solution was placed in a large porous cup. Contact was made with the solution with a metal rod. This design completely eliminated common static and other crackling noises, a significant improvement which also provided new insight into the nature of ground signals themselves.

The performances of chemically treated ground antennas was not well comprehended, it being simply assumed that the earth-permeating solutions projected a conductive horizon beyond the antenna itself. Poured into the ground and allowed to dry in situ, such solutions were thought to extend a wonderfully articulate matrix of "fingerlets" beyond the metallic antenna framework. Crystalline, complex, and replete with dendritic projections, such arrangements became 'woven into the earth". How did such an underground crystalline complex manage to multiply signal conductivity, while depressing all of the expected levels of static? Ensheathing the metallic framework, the crystallized solution represented a non-conductive envelope. How conductive was the crystallized "matrix" at all? Electrically unresponsive in its dried crystalline form, any such copper sulfate sheath should have blocked the entrance of all purely electrical currents. What carrier was then delivering its obviously improved signals?

Advert: **Satterlee Antennales Radio** from Moon Radio Corporation of Long Island City, NY.

This case study was completely corroborated in the simpler instance of an insulator-ensheathed copper rod, where clarified

signals of great strength continued to be received in obvious absence of the electrical carriers (Lehr, Theroux). Examples such as these actually challenge common notions concerning the nature of ground signals, obviously not the result of electrical waves at all. When compared with the accompanying aerial signals, a contradiction in theoretical prediction was obtained. Aerial signals would prove to be replete with static signatures. Were the skywave and groundwave each coequals, linked energetic expulsions from a common source, then each should have delivered the identical static events. But the addition of chemical solutions to the ground amplified and clarified the incoming signals, proving that ground signals are of an entirely different class and species of signal . . . having nothing to do with their aerial mirror-partners. How then did the addition of an electrically non-conductive crystalline matrix actually produce better reception through the ground antenna?

Biodynamic Interaction

The exchange between electrical signals and geomantic currents produced remarkable transformations, energy exchanges yet requiring exhaustive study. The manner in which articulate messages actively relate with their electrical carriers is improperly understood. In the biodynamic model, intelligent expressions constrict toward the center core of their carrier streams, becoming a tight thready current. The electrical carrier streams themselves expand away from this central thready core, losing integrity with distance. It was well known that certain geomantically densified regions were notorious eradicators of electrical signals, the legendary "blindspots" which characterized certain subequatorial districts. In these biologically active zones, where jungle growth was most highly accelerated, radio signals encountered impossible distortions and indefinable interruptive influences.

The significant distinctions of ground-derived currents from electrostatic or electrical currents required analytical methods not willingly engaged by the convention. Nevertheless, the incursions of unknown or forgotten energy strata refused to disappear. These manifestations, which became complicated with electrical applications, made their presence continually known. These pure geomantic currents possessed distinctly biological attributes of catabolic growth. Geomantic energy perpetually overpowered and dissolved every electrical application into the ground (catabolic reaction), while automagnifying its own potential (growth behavior) against the invasive electricity (immune response). In this process, communications signals were very apparently amplified. The bizarre amplifications most occurred when signals traversed regions of high geomantic current densities. This is why so many experimenters observed the topographically determined signal magnifications across specific locales.

In 1904, one experimenter rediscovered that the bioactivity of thriving trees can provide an astounding source of radiosignals, a method referred to as "floraphony". When connected to specific spots on tree trunks, the use of a simple nail probe resulted in the anomalous powerful reception of radiosignals from 18,000 miles distance (Squier). Indeed, the interactive relationship between electrical and geomantic energies has remained singularly mysterious. For those who do not comprehend the fundamental differences and distinctions between the energies involved, only the futile shuffling and reshuffling of the "four forces" remains: an academic card game which, very unfortunately, will never produce a completely satisfying explanation. The associated list of anomalies continues to assert its presence, one which manages to topple the house of cards with every new deal.

The general social lack of sensitivity to bioenergies has contributed to the malaise of the scientific research community, a malaise which motivated Eighteenth Century experimenters to forsake their roots in Vitalism. The unfortunate consequent fixation on the discovery of currents and energetic influences, abnormal to the bionatural environment, has enslaved civilized humanity to an inferior technology, a degenerate mindstate, and a completely irrelevant world model. The interaction between geomantic and electrostatic current is the result of antagonism between two completely opposed species. Geomantic currents are far more powerful in their technological potentials, an energetic foundation which sensitives have long anticipated. The accumulation of phenomena, by which geomantic energies are transformed

into the utilitarian needs of our world, are all that is lacking in this regard.

By far not confined to qualitative methods, geomantic energy was quantitatively found to be possessed of biological characteristics not normally attributed to either electrostatic fields or electrical currents. From archaic times, geomantic currents were known to flow through the ground in meandering pathways. The geomantic matching of large VLF aerials became common practice for the launching of signals along the mysterious magnifying paths, paths which meandered and "wandered" across continental topographies. [17] The veinlike "woivres", formerly identified and mapped by medieval geomancers, were associated with uncertain geophysical associations (Charpentier).

Direct connection with aerial, elemental, and ground-sourced energies produced a wide range of otherwise unexplained effects. These effects were repeatedly reproduced in apparatus requiring only monopolar ground terminals and variable tuning capacitors. The discoveries made by the Chemical Telegraph proved that the ground emergent energy actively organizes the chaos of sensitive emulsions into distinct patterns. These mystifying patterns and hunting fragmentary messages, revealed the literal "dark structure" of the ground, a structure which completely dominated every ground-launched electrical signal. The geomantic structure ruled and governed every wired, ground-wired, or radio signal which electrotechnology had applied to the ground. Signals were shunted, interrupted, magnified, reduced, constricted, redirected, divided, and recombined as each encountered the geomantic structure. The distinctly biological nature of the geomantic structure was thus clearly revealed. It is the same structure which ancient geomancers saw in the pure mode, a radiant and multicrystalline form which permeates and sustains the geological matter of earth. Fluidic streams form the facets of this black radiant structure, the "geomantic" currents of which we have spoken.

Explorations of the pure geomantic energies required very simple equipment. Researchers found it possible to extract enormously potent geomantic currents. Employing little more than a grounded rod or plate, and in the complete absence of additional (electrical) energy, geomantic energy was drawn up to the surface and selectively entuned. The grounded instruments used in these wonderful explorations were the simple and familiar diagnostic tools of the telegraphic and telephonic engineers: Wheatstone Bridges, decade resistors, and variable capacitance batteries. The strange and cyclic activation of chemical telegraphs was tested and proven, the results mystifying. When these components were connected to one or more buried plates, the apparatus became strangely charged with a neutral energy. The Patent Archive is pleasantly "interrupted" with the occasional exceptions provided by these research purists, who insisted that geomantic potentials were far more potent and capable than electrical energy.

Those ground-oriented systems, which derive their operative energy directly from articulate environment, have experimentally proven their worth. Reproductions of a great many such devices has produced the surprising success by which we have experienced a personal Scientific Renaissance. Geomantic energy is capable of marking sensitive chemical papers and plates (Bain, Edison), of stimulating auric emissions from elements and chemicals (Reichenbach), of marking photographic plates (Dobler), of stimulating plant growth (White), of vivifying otherwise incapacitated patients (Abrams), of impressing and modifying sensitive crystallization processes (Kolisko), is able to seek and reveal deeply buried ore bodies (Drown, Rogers), and is capable of more astounding displays. Its preeminent potentials dwarf those achieved through the use of electrical charge.

Demonstrating a distinct bioaffinity, geomantic currents evidence selective preference for biological matter and for bioorganisms (White, Abrams, Lahovsky). Possessing articulate "behavior", whose definition exceeds that crude behavior of electrical currents, geomantic currents are able to selectively seek and locate specific widely distributed tuning targets with complete precision. Non-inertial, and characterized by innate properties which may only be termed "biological", geomantic currents represent an energetic stratum at the most fundamental level. The world foundation. Was it any wonder that ground antennas performed in excess of all the electrodynamic predictions?

Radionic Ground Entunement

Discovered during the years when the communications sciences of Telegraphy, Telephony, Conduction Wireless, and Aerial Wireless were being developed, the isolation and implementation of Geomantic Energy has founded the core of a new Science. Having thoroughly accepted the objective existence of Geomantic Currents, the Radionists extended the known list of attributes and potentials germane to these energetic species. Radionists developed instruments, methods, and technologies beyond the expected conventional limits.

Their diagnostic instruments become recognized as "tuners" or "filters" of the geomantic currents. With refined entunement components, the effects became more pronounced and defined. The now familiar use of resistance or capacitance bridges in Radionic Technology has not been significantly changed since the days of telegraph line diagnostic instruments. Considered to be "electrically dead" by other academes, and therefore supposedly incapable of dynamic activity, the diagnostic apparatus of Radionists were derided by those who refused the acceptance of vitalistic energy on conditions of personal prejudice alone. But the natural phenomenon defied the edicts of those who refused to know. Radionically entuned radio receivers became enormously powerful sites into which impossibly distant signals of exceedingly weak intensities simply pour. To experience the numerous phenomena typical for reception through ground antennas is to experience the technically "impossible".

Utilized in a great variety of investigative purposes, the acquisition of geomantic energies was fortunately chronicled in a great number of patents and articles. Radionists discovered that Geomantic energy is neutral, being possessed of an ability to modify and organize chemically chaotic systems (Littlefield, Morley-Martin, Kolisko). Pure geomantic energy articulates and transforms mineral solutions into prebiological organizations (Crosse, Bastian, Reich). The characteristic which draws geomantic currents into bioorganisms has been explored for use as a therapeutic stimulant (White, Drown). Greatly increased vitality is the result of exposures to these ground derived currents, an echoing reminder of truths early discovered by Mesmer and Galvani.

Ground derived energies were used in demonstration of agricultural stimulation (White, Lakhovsky), sensitive medical diagnosis (White, Abrams, Hieronymus), medical therapies (White, Mellon, Drown), anatomical scanning (Drown, DelaWarr), wireless biological communications (Abrams, Hieronymus, Drown), chemical reactivity (Kolisko), power acquisition (Stubblefield, Strong, Brown, Tomkins, Lockwood, Prentice), meteorological modification (Baigorri), remote sensing and surveying (Beasse, Glazewski, Billington, Ash, Rogers, Moray, Maby, Drown), and mineral prospecting (Beasse, Rogers, Drown). Despite these profound discoveries, the widescale acceptance of geomantic energy or geomantic phenomena [18] was methodically shunned and eliminated from the academic dogma.

Despite the vindictive treatment, that displayed in the purgative fury of several national agencies, the legendary Radionists developed a wondrous new technology which yet holds the future survival of humanity. This superlative Radionic Technology, capable of stimulating and engaging the very deepest of human potentials, has neither been glimpsed or considered since Medieval times. In the secrets of Radionic Science are the means by which the very deepest dreams and desires of humanity find technological expression. Implementing pure geomantic energies, Radionic Instrumentalities operate at the very level from which dreams and desires emerge.

With the energies obtained up from the ground, we have discovered a sequence of distinct, irreducible, and articulate attributes, to which both our thoughts and efforts have been continually directed. The all too numerous experiments which Borderland Sciences researchers have conducted remain forever framed in this biodynamic perspective. With each attempt at duplicating the supposed fraudulent claims of our qualitatively inclined predecessors, we continue to rediscover spectacular anomalies. Providing us with a continual stream of scientific epiphanies, we have enjoyed remarkable success. Moving in and among such strange scientific topics, you may also venture among deep roadways untravelled by most. In truth,

these deepest of studies prove the existence of a superlative visionary world-reality, one whose thralldom society must again admit.

Coupled with the most elementary of ground antennas, any ordinary shortwave receiver becomes a powerful diagnostic tool. With very simple equipment, one obtains a glowing window on the innermost world processes whose biodynamic activities rule our very being. The diagnostic use of ground radio antennas, has permitted the acquisition of wonderful and mind-elevating secrets. One continually learns the lost details inherent in our throbbing world. The geomantic structure, whose pulsing streams and ebbing tides govern our consciousness, is suddenly revealed through the turn of a radio dial. Unreconciled audio "observations" provide compelling evidence that ours is a world alive, whose meandering flowlines display both emotive reactions and intelligent behavior. Careful interpretation of ground radio phenomena has permitted us to add new details to the evergrowing biodynamic world thesis.

Indeed, with every experiment we have performed, there is a vast and oceanic flood of new facts and equally new associations. It is with these revelations we find ourselves wonderfully occupied. Now comprising a formidable and growing treasury, we recognize that the duplication of such past methodologies well serves our willingness to seek. Ground-connected shortwave receivers are radionic interaction chambers, where pure geomantic power meets with electricity. Employing the receiver components as surreptitious radionic instruments, we have found an astounding sequence of corroborative facts in a singular theme.

BIBLIOGRAPHY

- Ader, Clement. "Telegraphy", Patent 377,879 (February 14, 1888) [[VC 3](#)].
- Anderson, Leland. "Tesla Lecture Before the New York Academy of Sciences: April 1897."
- Appleton (and Barnett). "Signal Deviation in Transmission", Proceedings Royal Society 109 A, p. 621, 1925.
- Appleton, Dr. E. V. "Shortwave Signals", Proceedings Cambridge Philosophical Society 23, p. 155, 1926.
 - — "Retardation of Short Wave Signals", Wheatstone Laboratory, Nature 122, 8 December 1928
- Austin, L. W. "Radiotelegraphy", Bureau of Standards, Journal Washington Academy of Sciences, Vol 16, pp 398-410: August 1926.
 - — "Radiotelegraphy", Bureau of Standards, Journal Washington Academy of Sciences, Vol 16, pp. 457-460: October 1926.
- Braun, Ferdinand. "Signals Over Surfaces", Patent 750.429, (January 26, 1904) [[VC 8 Ground Radio](#)].
- Baigorri. "The Rain Wizard", Jorge Resines (Translator), Borderlands, No. 4, 1993.
- Bain, Alexander (with R. Smith). "Automatic Telegraph", Patent 6837 (October 30, 1849).
- Bear, Simeon. "Telegraphic Circuit", Patent 192,856 (July 10, 1877).
- Breit (and Tuve). "Signals And Transmission Paths", Physical Review 28, p. 554, 1926.
- Brown, John. "Magneto-Electric Signalling Apparatus", Patent 238,212 (March 1, 1881).
- Bryan, James C. "Earth Battery", Patent 160,152 (February 23, 1875).
- Cerpaux, Jules. "Electric Piles", Patent 182,802 (October 3, 1876).
- Charpentier, Louis. The Mystery Of Chartres Cathedral, Avon Books, New York, 1975.
- Crosse, Andrew. "Andrew Crosse", Scientific American, December 18, 1869, p. 386.
 - — "The Morley-Martin Experiments", "Crosse's Acari", p. 18-21, Borderland Sciences Research Foundation Reprint, 1986.
 - — "[Crosse's Acari](#)", Borderlands, p. 32, Number 3, 1996.
- Dieckmann, George F. "Electric Earth Battery", Patent 329,724 (November 3, 1885).
- Dolbear, Dr. Amos. "Mode of Electric Communication", Patent 350.299, (October 5, 1886).

[Dolbear newspaper articles in [VC 7 Dendritic Ground Systems](#)]

- Dollard, Eric.
 - - "[Dielectric and Magnetic Discharges](#)", Borderlands Publications, 1985
 - — "[Generalized Electric Wave](#)", Borderlands Publications, 1986
 - — "[Tesla Transformers](#)", Borderlands Publications, 1985
 - — "[Theory of Wireless Power](#)", Borderlands Publications, 1986
 - — "[Tesla's Longitudinal Electricity](#)", Borderland Sciences Video, 1985
- Farmer, Moses. "Method of Sending And Receiving Messages Simultaneously Over the Same Wire", Patent 6,296, (February 16, 1875).
- Frow, William. "Means For Transmission of Intelligence", Patent 1,016,003 (June 30, 1912).
- Heising, Raymond. "Directive Radio Transmissive System", Patent 1,562,961 (November 24, 1925).
 - — "Oscillation Generator", Patent 1,240,206 (September 18, 1917). [[VC 11 ELF Devices](#)]
- Highton, Henry. "Telegraphing Long Distances", London Society of Arts, 1872, [Biographic Sketch from Pioneers of Wireless, Ellison Hawks], [[VC 8 Ground Radio](#)].
- Hollingworth. "Longwave Signals", Proceedings Institute of Electrical Engineers 64, p. 579, 1926.
- Littlefield, Charles W. "Bio-Genesis" (extract from "The Beginning And Way of Life", 1919), Borderland Sciences Research Foundation Reprint, 1986.
- Lockwood, Robert and William. "Transmitter For Telephones", Patent 239,519 (March 29, 1881).
- Loomis, Mahlon. "Improvements In Telegraphing", Patent 129,971 (July 30, 1872) [Personal Papers and Drawings, Government Documentation, Historical accounts], [[VC 7 Dendritic Ground Systems](#)]
- Lugo, Orazio. "Electric Telegraphs" Patent 235,159 (7 December 1880).
- Marconi, Marquese Guglielmo. "Directional Radiation of Waves", Proceedings Royal Society, March 1906. [[VC 10 Ray Transmitters](#)]
 - — "Transmitting Electrical Signals", Patent 586,193 (July 13, 1897). [Biography], [[VC 9 Aerial Radio](#)]
 - — "Variations of VLF Signals", Proceedings Royal Society, Volume 77, June 1906.
- Meissner, Alexander. "Oscillations By Shock Excitation", Patent 1,007,733 (November 4, 1913). [[VC 9 Aerial Radio](#)]
 - — "Directional Antenna System", Patent 1,740,950 (December 24, 1929). [[VC 11 ELF Devices](#)]
- Mellon, John. "Electro-Therapeutic Appliance", Patent 412,196 (October 1, 1889).
- Morley-Martin. "The Morley-Martin Experiments", Borderland Sciences Research Foundation Reprint, 1986.
- Morse, Samuel. "Conducting Power and Galvanic Power of The Earth", Silliman's Journal, Volume 35, 1839, pp. 253-267.
 - — "Mode of Crossing Broad Rivers", Dr. Morse, Letter to House of Representatives, 23 December 1824. [all accounts collected in [VC 2 Telegraphy](#)]
- Muirhead, John. "Condensing Resistance for Electric Telegraphs", Patent 208,665 (October 1, 1878).
- Murgas, Fr. Josef. "Constructing Antennas", Patent 860,051 (July 16, 1907).
 - — "Wireless Telegraphy", Patent 915,993 (March 23 ,1909). [Biography and Patents], [[VC 8 Ground Radio](#)]
 - — "Ground Telegraphy in War", H. Gernsback, Electrical Experimenter.
 - — "Radiation And Reception With Buried Antenna", IEEE AP-11, Number 3, pp. 207-218 (Relates Murgas to PANGLOSS).
 - — "Subsurface Radio Propagation Experiments", Tsao and deBettencourt, Raytheon Company, 1965, [[VC 11 Military ELF](#)].

- Musits, Sigmund. "Apparatus For Wireless Telegraphy", Patent 777,216 (December 13 , 1904). [[VC 8 Ground Radio](#)]
- Preece, Sir William. "Recent Progress In Telephony", British Association Reports, 1882.
 - — "Electrical Induction Between Wires", British Association Reports, 1886.
 - — "Signalling Through Space Without Wires", Proc. Royal Inst. London, 1897.
 - — "Aetheric Telegraphy", Society of Arts, 3 May 1899.
 - — "Aetheric Telegraphy", Inst. Electrical Engineers, 22 December 1898.
 - — "Aetheric Wireless Telegraphy", Proc. Inst. Electrical Engineers London, 1898. [Collections [VC 8 Ground Radio](#)], [Collections [VC 9 Aerial Radio](#)]
- Prentice, Frank Wyatt. "Wireless Train Control System", Patent 843,550.
- — "Electrical Power Accumulators", Certified description (Private publication September 18, 1923), will be available through BSRF.
- Quack. "Zeitschrift fur Hochfrequenztechnik" 30 (2), p. 41, 1928.
- Rogers, Mr. and Mrs. Stanley A. Harris. "Radiology In The Field Of Mineral Deposits", Journal of The Electronic Research Association, Missouri, 1932 [[VC 4](#)].
- Rogers, James Harris. "America's Greatest War Invention", H. W. Secor, Electrical Experimenter, 1919.
 - — "Ground Wires and Shortwaves", Lieut. Comm. H. A. Taylor, Proceedings Institute Radio Engineers, Vol. 7 (4), 1919.
 - — "Longwaves and Strays on Rogers Antennae", Lieut. Comm. A. H. Taylor, Electrical Experimenter, 1920.
 - — "Radiosignaling System", Patent 1,303,730 (May 13, 1919).
 - — "Submarine Signaling System", Patent 1,395,454 (November 4, 1921).
 - — "Submarine Wireless", P. R. Coursey, Wireless World, 27 November 1920.
 - — "The Rogers Underground Aerial for Amateurs", J. H. Rogers, Electrical Experimenter, 1920.
 - — "Underground Wireless System", Electrical Experimenter, March 1919. [Patent Collection], [[VC 8 Ground Radio](#)]
 - **SANGUINE/SEAFARER**
 - — "Earth Conduction Experiments", H. W. Dodge.
 - — "Finding Mines By Radio", Popular Radio, September 1924, pp. 238-245.
 - — "Grounding System For New High Power Stations", The Marconigraph, September 1919, pp. 548-549.
 - — "Subterranean and Submarine Antennas", A. H. Taylor, Institute Radio Engineers, August 1919.
 - — "Underground Radio Telegraph", S. R. Winters, Popular Radio, May 1924, pp. 490-492. [Articles in [VC 8 Ground Radio](#)]
 - — "ELF Propagation Measurements Along A 4900 Kilometer Path", L. Ginsberg, IEEE, December 1973.
 - — "Wisconsin Test Facility", Bannister et al, IEEE, December 1973. [SANGUINE Article Collection in [VC 11 ELF Devices](#)]
- Smith, Gerritt. "Duplex Telegraph", Patent 238,448 (March 1, 1881).
- Snow, William. "Earth Batteries for Generating Electricity", Patent 155,209 (September 22, 1874).
- Steinheil, C. A. "On Telegraphy and Galvanic Craft", Munich, 1898. (Steinheil account taken from) History of Wireless Telegraphy, Fahy. [all accounts [VC 2 Telegraphy](#)]
- Strong, Henry. "Relay Telephones", Patent 235,658 (December 21, 1880).
- Squier, George. "Tree Telephony and Telegraphy", Patent 1,549,032 (August 11, 1925).
 - — "Tree Telephony and Telegraphy", Journal of The Franklin Institute, June 1919.
 - — "Talking Through The Trees", Electrical Experimenter, 1919.

- Stubblefield, Nathan. "Electrical Battery", Patent 600,457, (March 8, 1898).
- — "Stubblefield Personal Papers, Patents", [[VC 4 Archeforms](#)].
- — "Earth Batteries" [Patent Collection [VC 4 Archeforms](#)].
- Taylor, Herbert (with Muirhead, Alexander). "Telegraphic Accumulators and Condensers", Patent 206,366 (July 23, 1878).

- **TELLURIC CURRENTS**

- — "Abnormal Earth Currents", Grandy, Electrical Engineer, June 1892
- — "Auroral Disturbances", Nature, 29 April 1886
- — "Earth Currents", B. Grandy, Electrical Engineer, March 1893
- — "Earth Currents", W. Finn, Electrical Engineer, November 1892
- — "Earth Currents", W. H. Preece, Nature, April 1894
- — "On The Electrical Currents Of The Earth", Mateucci, Smithsonian Institute. [[VC 1 White Ray Conductors](#)]
- — "How the Aurora Affects Telegraph Lines", H. Gernsback, Electrical Experimenter, January 1918, [[VC 1 White Ray Conductors](#)].
- — "Registering Apparatus for Earth Currents", Science, June 1883.
- — "Recent Observations on Earth Currents", Electrical Engineer, August 1894.
- — "Telegraphs, J. D. Caton, Scientific American, September 1862
- — "Terrestrial Electricity", Nature, 1874. [All above taken from [VC 1 White Ray Conductors](#)]
- Tesla, Nikola. "Transmitting Through Natural Mediums", Patent 787,412 (April 18, 1905).
- — "Transmitting Electrical Energy", Patent 1,119,732 (December 1, 1914).
- Tomkins, Cornelius. "Telephone Relay", Patent 238,459 (March 1, 1881).
- Trowbridge, John. "The Earth As A Conductor of Electricity", American Academy of Sciences, 1880. [[VC 9 Aerial Radio](#)]
- Vail, Alfred. [Diary Accounts: anomalous telegraphic currents, VC 3]
- Von Arco, Count Georg. "Aerial Conductor", Patent 959,100, (May 24, 1910), [[VC 9 Aerial Radio](#)].
- — "Radiotelegraphic Station", Patent 1,082,221, (December 23, 1913). [[VC 8 Ground Radio](#)].
- White, Dr. G. S. Cosmo-ElectroCulture, Los Angeles, 1929.
- — [New Light On Therapeutic Energies](#), M. L. Gallert, Borderland Sciences.



[About BSRF](#) • [BSRF Print Editions](#) • [Legalese](#)

Borderland Sciences Research Foundation
P.O. Box 6250 • Eureka, CA, USA • 95502
+1 (707) 497-6911 • borderlandsciences.org