

A Cosmic Pipe Update . . . Farming the Atmosphere

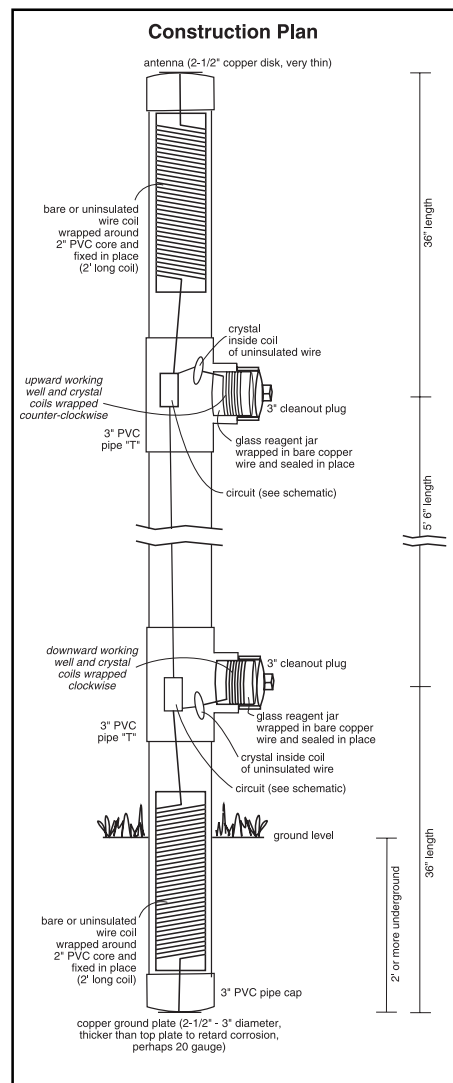
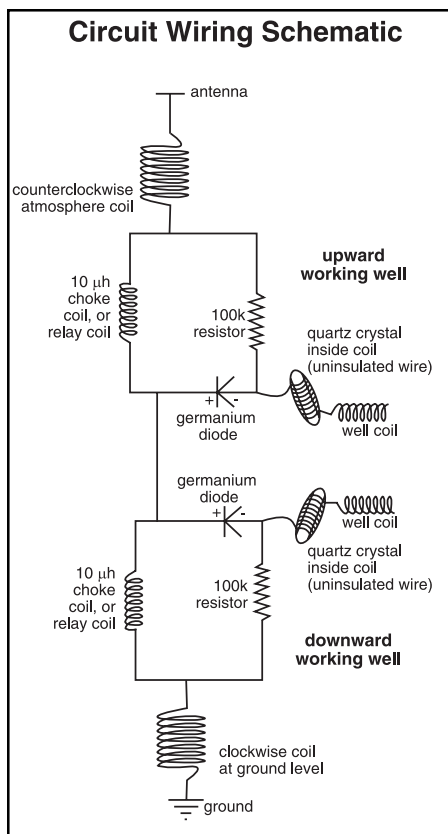
by Hugh Lovel

Biodynamic agriculture grew out of the work of Rudolf Steiner who was a superb scientist as well as a gifted clairvoyant. He not only made a study of the tangible world, but also the unseen realities interpenetrating it. Consequently, his views of nature differed from the materialism of his times, especially when it came to life force.

Rudolf Steiner's agriculture course was heavy on the issue of life force. Force is the essence of compulsion, or that which compels. Life is characteristic of organisms exhibiting ongoing metabolism, reproduction and the like. Therefore, life force drives living organisms and makes them live. It is associated with oxygen, respiration, and circulation of vital fluids such as sap or blood. Without knowing how life forces work in farm environments, one cannot achieve lasting agricultural productivity either in quantity or quality. Steiner's agriculture course speaks to the quality producer of one acre of ginseng just as much as to a 50,000-acre cash grain giant. And today, more than 70 years after Steiner's death, the enumerable biodynamic farms worldwide, both large and small, stand as examples.

In his view, force arises between opposite polarities. Electricity arises between the positive and negative polarities. Magnetism arises between north and south polarities. And the third force, a cohesive or formative force, arises between point and periphery, or up and down. Like gravity (part of this force) before Sir Isaac Newton, this third force currently is unrecognized and has no name. Yet, it is of the greatest importance to agriculture.

The opposite streams of this formative force are gravity and levity. Who has seen gravity? No one. And no one sees levity. But this is the way with forces. All we see are effects. Gravity, which is lifeless or material, works toward the point pole; while levity, which is living or spiritual, works toward the periphery. Both foster organization and are formative.



However, gravity works on substances while levity works on ethers. The ethers interpenetrate physical substance, so it is not just that physical substances respond to gravity while etheric forms respond to levity. Living organisms, with both physical and etheric bodies, respond to both gravity and levity.

SUBSTANCE & ETHER

Given time agreement will be reached on the nomenclature associated with the formative forces arising between point and periphery. For now the subject matter is new in Western scientific circles and the names presented in this article may or may not endure. Regardless, the manifestations of formative force plumbing the depths of substance or heights of ether need names to be talked about. The states of substances relating to the point polarity associated with gravity should be compared to the states of the ethers and

the peripheral polarity associated with levity. With substance these states, from the least to most intense, are the radiant, gaseous, liquid and solid states. Correspondingly the four states of the ether, from the least to the most intense, are the warmth, light, sound and life ethers. These two, substance and ether, do not act independently of each other. Rather they interpenetrate and work in tandem. Radiant substance, the most rarified substance, is virtually indistinguishable from warmth ether, the most rarified ether. This is the crossover point. From there gases are permeated by light ether,

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liquids by sound ether, and solids by life ether. As previously stated, levitational force works on the ethers toward the periphery. But just as centripetal and centrifugal force (both well-respected motional forces, centripetal force presses things together, while centrifugal force flings them apart) influence material substances, there are both downward and upward influences on the ether — downward when organic forms break down, and upward when organic forms build up.

The warmth and light ethers, along with the fire and air elements they permeate, belong to the upward stream that moves forth from within the earth. While the sound and life ethers, along with the water and earth elements they permeate, belong essentially to the downward stream that seeks the center. This may be seen in the tendency for gases and energies to rise while liquids and solids sink. These are the elemental forces working.

With living organisms, just as with mechanical bodies in motion, both streams of force interact. The digestive (transformative) stream sinks into the earth and is absorbed in the clay-humus complexes, the protoplasm of the soil. Whereupon the fruiting (formative) stream rising up from the earth, brings with it what soaked into the soil from the digestive stream. The ethers carry with them the substances they permeate.

Forms disintegrate and soak into the soil only to sprout forth again, transformed. Consider the apple that, in dying, fell out of the tree, hit Sir Isaac Newton on the head and inspired him to formulate his law of gravity. In living, it defied gravity to take shape and weight in the branches.

The most concentrated ether, the life ether, permeates the solid clay-humus complexes, the soil's protoplasm. From there it springs forth to bear fruit. Soluble fertilizers with their watery nature convey sound ether out, not life ether to plants. Thus hydroponically grown vegetables, which grow out of the liquid state, cannot build up the vitality of vegetables grown in solid, living soil. Truly vital foods grow from the soil up.

NATURAL RHYTHMS

These streams of formative and transformative force follow natural rhythms. In the morning, dew evaporates and fogs burn off as etheric formative forces rise. In the evening, the dew falls and fogs

settle as etheric transformative forces sink. Likewise in spring and summer etheric plant forms burst forth, and in fall and winter they subside to be transformed into renewed protoplasm in the soil. These daily and yearly etheric cycles indicate why the rhythms of the ethers are so important to agriculture.

In biodynamic agriculture these polarities are called the earthly and cosmic (or point and periphery) polarities. The forming/transforming cycles of life force flowing between these extremes work via the opposite agencies of lime and silica. Clay, which contains both, mediates. These are concepts which deserve to be thought on again and again.

SUN, MOON, PLANETS & CONSTELLATIONS

Who in our present time would think to explain the function of a compass by taking a compass apart? Everyone agrees that forces on a grander scale are at work. It is not so different growing a radish. Great forces direct seeds to send their cotyledons upward and their tendrils downward. The best signposts for the interplay of these forces are the positions of the sun, moon and the solar family of planets against their background constellations.

Not only are we used to the daily and yearly cycles of the sun, we are used to seeing the moon work on the tides. These same influences work upon plants. Excavators who move earth know the moon influences how much they must move and how easy refill will be. Hospital workers know to watch out for full moons when, "everything busts loose."

The moon is the nearest of our celestial family. The other planets, though their influence is more subtle, have similarly profound effects. How may we know the importance of this for agriculture? Biodynamic growers use a sidereal (true to the stars) planting calendar.

The sun stands in the middle and works with both the outer and the inner streams of force. The forces of the outer, expansive, growing planets (Mars, Jupiter and Saturn) work upward out of the earth via the light, clear, transparent silica. These forces express themselves as anything that grows fat, edible and delectable, the refreshing radish, the juicy

lettuce, the sweet melon, the fat ear of corn. This direction of forces tends towards fruiting and finds its expression in foodstuffs.

Meanwhile, the forces of the inner, contractive, digesting planets (the moon, Mercury and Venus) work downward into the earth via the heavy, opaque, cement-like lime. These forces express themselves in digestion, excretion, soil building, and in reproduction, which brings many weeds to mind. Not only are weeds reproductive, but they often contain superlative medicinal properties. They are the natural compliment of cultivation and should be considered as medicine. Though biodynamic researchers have spent decades exploring the nuances involved with these two streams of formative force, they have only scratched the surface.

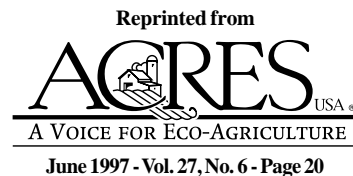
Help would be appreciated, by all means. The difference between biodynamically grown products and the rest, organically grown or whatever, is so unusual that nobody smelling the herbs in a jar can argue. For the best life forces to be present, producers want to know when and how the preps were applied for their quality of yield to harvest. Smell is one of the biggest indicators of quality, though abundance also indicates what grows best where.

THE THIRD FORCE

Agriculture, the cultivation of the land, is devoted to whatever it takes to win life and vitality from the soil. Clearly soils contain life force, and agriculture brings this life force to our tables. Quite literally, farming is a process of harvesting life ether from the earth and getting it to consumers. Our biology does the rest by extracting life force and recycling wastes.

Agriculture, in our times, has lost sight of this reality. Today farmers try to make enough bushels and bins to pay the interest on the bank loan. There is little thought about how much life force a crop contains.

Biodynamic growers may realize how serious this is, as they know the importance of raising food on the solid soil. But for the most part society is stuck with chemical fertilization, which is no way to vitalize plants and animals.



BIODYNAMICS

Briefly, biodynamic farmers view their farms as living persona — beings. Insofar as possible, biodynamic farmers keep purchases at a minimum by supplying most of their own fertility, stock, seeds, etc. Biodynamic growers work to build up the forces within the farm organism so that each year finds the farm healthier and more resiliently alive. This requires skillful work with the opposite streams of lime and silica as mediated by clay in the soil. Biodynamic agriculture acknowledges that growth is cyclical and at some point all growth must decay and be digested back into the (clay) earth. Usually what is digested is caught by the clay and held, rather than falling out the bottom, so to speak. Then from the siliceous rocks below the upward force that makes plants spring into form, wells up again, forming a new round of growth while drawing nourishment from the clay.

BD PREPS

With these facts in mind, biodynamic farmers use special homeopathic preparations to catalyze and enhance these streams of force. Biodynamic horn manure (cow manure packed in a cow horn and buried over the winter) enhances the lime stream. Biodynamic horn silica (finely ground quartz crystal packed in a cow's horn and buried over the summer) enhances the silica stream.

The horn manure is sprayed in large droplets on the ground in the evening so that it soaks in along with the dew. The horn silica is sprayed as a fog into the atmosphere in the morning as the dew rises and evaporates. Essentially, the horn manure treats the soil, while horn silica treats the atmosphere.

Supporting these two horn preparations are six composting preparations plus a foliar Equisetum decoction which is used to harden plants, making them resistant to disease when conditions are too moist. In addition any number of specific preparations for control of weed, insect and animal (vertebrate) pests may be made along biodynamic guidelines.

USING THE COSMIC PIPE

While there is more to biodynamic agriculture than summarized above, it should be clear that biodynamic farmers work with the forces which are channeled

by cosmic pipes. Biodynamic preparations make ideal reagents for cosmic pipes. And because these forces involved work both upward and downward, it is important for cosmic pipes to work both ways. This means a cosmic pipe with both an upward well, and atmosphere coil, and a downward well, and ground coil.

All biodynamic preparations can be applied with superb effectiveness via cosmic pipes, providing attention is paid to which preparations go in the up well and which in the down well. Myself, I have sold my spray rig, and do not anticipate ever manually spraying the preps again, as I've had so much success broadcasting the preps with the cosmic pipe. With biodynamic preps in the reagent wells, a cosmic pipe applies them day and night all year long and really gets them out there. Also, because the preps are so compatible with the earth it broadcasts them more strongly than any other reagents. A cosmic pipe, properly placed, can cover up to half a square mile. I haven't found a more effective method of applying biodynamic preparations in my experience. Depending on farmer acceptance, cosmic pipes may render obsolete the fuel/machine technology required to spray large acreages. Special applications, such as using preps to prevent insects, frost damage, etc., may still require spraying, though with radionic treatment instruments these special applications may be dealt with too.

CAVEAT

While the preceding method of utilizing preps is easy and machine lean, it still has the drawbacks of mechanical devices. Machines are extensions of the human organism. To various degrees they perform automatically and without attention. As such, they occasionally get applied inappropriately. While use of a cosmic pipe may make mechanical spray rigs obsolete, it pays to be suspicious of machines. There are good reasons to pay close attention to the functioning of any automatic/mechanical device, even one so simple as a cosmic pipe. Putting BD507 in a pipe overnight to prevent frost damage, for instance, and then forgetting it there for a month, can cause serious imbalances on a farm.

SOIL & ATMOSPHERE

When he built the first cosmic pipes, Galen Hieronymus, like most of us, thought in terms of improving the soil. Hardly anyone thinks of improving the atmosphere. Galen built his pipes to receive cosmic energies and convey them into the soil. He made no provision for carrying the upward, silica stream into the atmosphere.

Because these early cosmic pipes worked downward, they ended up unbalancing the forces on most farms. Most people who installed these devices dug them up again. Who knew what else to do?

I endured six straight years of tomato crop failures before I realized I had to have a cosmic pipe that worked equally in both directions, down into the soil with my horn manure, and up into the atmosphere with my horn silica. My revised design was published in the October 1996 issue of Acres U.S.A. It resulted in my first tomato crop in seven years. Yea, howdy! But it wasn't enough.

NEXT STEPS

The October 1996 issue of Acres U.S.A. published an article entitled, "Ten Years With A Cosmic Pipe." Since then, a few more things have come to light. In particular, the cosmic pipe must have an atmosphere coil, analogous to the ground coil depicted in the schematic published with the original article (see revised illustration). Also, in this article some further insights are elucidated about the forces and their interplay in the biosphere.

I described why and how to build an improved version of the Hieronymus cosmic pipe. Now, additional developments should be shared.

To briefly summarize the previous article, Galen Hieronymus' original version of what he called a "cosmic pipe"

worked exceedingly well to bring the downward, digestive, nutritive stream of formative force into the soil. But over ten years (now 11), I found it was not good

at leading the complementary upward, fruiting stream out from the soil. I realize that Hieronymus did not look at life energy as moving both ways, and he used all reagents in his pipes as though they worked only in the direction of the soil.

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Construction Notes . . .

How to Build Your Own Cosmic Pipe

The following instructions and plans update and correct the plans published in the October 1996 issue of Acres U.S.A. The major difference between this and the previous design was the addition of a second main coil, working upward. There are minor clarifications regarding the materials, wire types, etc. The previous design will work, however. Look at this as an improvement and a clarification.

BUILDING MATERIALS

To make my cosmic pipe I went to Radio Shack and bought a pack of 100k resistors (RS 271-1347), a dual general-purpose PC board (RS 276-148A) and a pack of germanium diodes (RS 276-1123). Since Radio Shack no longer sells a 10µh choke coil. I had to order these (I wanted two per pipe) from All Electronics, P.O. Box 567, Van Nuys, California 91408, phone 1-800-826-5432.

At the hardware store I got a roll of 24-gauge bare copper wire (for wrapping all coils), a roll of double-faced carpet tape, insulated wire (for connecting circuits), a roll of masking tape, and three packs of hot-melt glue sticks. I bought about 12 feet of three-inch schedule-40 PVC pipe, two T's, two caps, two clean-out plugs, two two-foot lengths of two-inch schedule-40 PVC pipe, and a bottle of PVC cement. They didn't carry copper sheeting. They directed me to a sheet metal shop for this.

I happened to have a couple of quartz crystals about an inch long, and I went to the grocery store and bought a couple of jars of 99¢ Cate's bread and butter pickles because the jars were the right size (2-1/4" diameter and 3-1/2" high) for making reagent wells. I had a soldering pencil, high-tin electronic solder, hot melt glue gun, electric drill, tin snips, PVC glue, mill bastard file, etc.

CONSTRUCTION

For my reagent wells I glued a cleanout plug socket into the arm part of each T. I wrapped my pickle jars (washed clean, no labels) with a width and a half of double-faced carpet tape. Starting at the open end of the jar, I spiraled my 24-gauge bare copper wire around the sticky tape on each jar so there were seven full wraps with about 1/4" spacing between wraps. I had the option of wrapping clockwise or counterclockwise, so I wrapped one jar one way and

one the other. The downward working well (bottom) uses the clockwise-wrapped well coil; the upward working well (top) uses the counterclockwise-wrapped well coil.

As I finished wrapping the wire, I covered it with masking tape to secure it in place. I left a couple of feet of extra wire at the bottom of each jar and cut this loose from my spool. These were my reagent well coils. I hot-melt glued them inside my clean-out plugs so that the plug covers would screw in nicely over them and the wire at the bottom of the jar came out the bar of the T.

For my top and bottom caps I took a jar with a 2-1/2 inch lid, placed it on the copper sheeting and scribed two circles with a marker. Then I cut out the discs with my tin snips and filed their edges smooth. The caps were domed, so I put each disc inside a cap and bounced the handle of my large screwdriver around on it until I had it beaten into a nice dome shape. Then I coated the undersides with hot melt glue and stuck one on the outside center of each cap. Later I would drill a small hole in each and solder my main circuit wire on, sealing the hole with hot-melt glue to prevent moisture from getting in.

It was fussy work to make the two main-coils. I spiraled carpet tape down the length of the two-foot-long two-inch PVC pipes, stretching it as tight as possible and never leaving gaps or lapping it. I left about an inch of PVC pipe clear at either end. I did not peel off the backing strip as I would have a long, sticky tube to work with. Instead I only peeled a couple wraps. With my 24-gauge bare copper wire I started wrapping, with a couple of feet of extra wire at the beginning, I kept my wire tight and rotated my pipe so that I wound my wire at about half an inch spacing between each turn of the spiral. Once I got about three inches wrapped with wire I covered this with masking tape. The routine was peeling off a couple of turns of backing from the carpet tape, wrapping eight or ten turns of wire, and then covering this most of the way with masking tape before uncovering any more of the carpet tape backing. By the time I was through I had a good, clean job. I left a couple of extra feet of wire at each end.

For my well circuits I wrapped my crystals, first with carpet tape. Then I spiraled on my bare wire, making seven complete turns, which I covered with masking tape.

THE WELL CIRCUITS

As stated previously, Hieronymus must have envisioned the energies going only downward. He designed his wells so that the energy crossed a diode (from cathode to anode), picked up the well coil, went through the resistor and down to the base coil.

My lower well coil works similarly. The diodes (which allow current to flow in only one direction) allow both upward working and downward working energies to share in the same circuit. So my bottom well (which works downward) connects the top antenna disk through the base coil to a split between a 10µh choke coil and a germanium diode. The well coil ties in between the diode and a 100k resistor, and rejoins the main on the other side of the choke coil.

More specifically, the cathode (positive) side of the diode comes off the main, which comes down from the top antenna, while the anode (negative side) faces the well. The well coil picks up whatever reagents are in the well, and channel this energy through a coil wrapped around a quartz crystal and into the circuit between the diode and the 100k resistor. From there the energy goes through the 100k resistor and rejoins the main circuit.

Since with a diode energy only goes from cathode to anode (but not back), this means only downwelling energies pick up the reagents in this downward well. The energy comes down, crosses the diode, picks up the reagents, goes through the resistor and rejoins the circuit above the choke coil.

The choke coil is there simply to screen out radio frequencies or other static. It is insurance to keep the circuit clear. Who knows what might be picked up by a cosmic pipe?

The upper well is set up in mirror reverse of the lower well. From the bottom antennae the circuit splits between a 10µh

choke coil and the cathode of a germanium diode. Since energy flows from cathode to anode, this catches up-flowing energy. The reagent energies from the well coil

go through a coil around a quartz crystal and enter the circuit on the anode side of the diode, go through a 100k resistor and rejoin the main, which goes to the top coil and the antenna of the cosmic pipe.

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However, as a biodynamic farmer I work with biodynamic preparations to renew both streams of force. I've become keenly aware that the etheric forces in our world work in both upward and downward directions.

It is clear that I didn't go far enough with the redesign published in that issue. The biggest changes were that I needed to make the pipe a little taller and put an atmosphere coil (similar to the ground coil) in it to get the silica stream of energy out into the atmosphere the way the calcium stream went into the soil. And I incorporated both streams of force into one pipe, since the use of diodes on the up and down wells allow this. The upward energies simply bypass the lower circuit; the downward bypass the upper circuit. The accompanying diagrams should be utilized by anyone wishing to build their own cosmic pipe.

As an aside, Bruce Walton of Frankfort, Michigan built the first double-circuit, double-well pipe, so I don't claim credit, but it was a step in the right direction. For his top and bottom plates he used an inner copper disc and an outer copper ring. I have made pickup antennas for a circuit be the discs and my outlet antennas be the rings, so for each circuit I have one disc and one ring. By having two distinct circuits (vs. the single circuit as used in this article), the upward and downward forces can flow simultaneously. Since the sun so dominates our environment, however, the flow tends to upward during the day and downward at night, so the simpler single-circuit design functions well and is much simpler for amateurs to construct. Of course, anyone is invited to experiment and share experiences.

MODIFYING EXISTING PIPES

I've had a lot of questions about how existing cosmic pipes can be modified. At this

point, I think modification is a waste of time. Galen's old design and most of the takeoffs from it are perfect for getting the lime stream into the soil. Keep your existing pipe. Use it with horn manure, barrel compost, and anything else that should go into the soil to build it up.

But such an existing pipe should be paired off with an additional pipe that works with the silica, upward stream. If you're into finding optimum locations for your pipes I'd suggest finding an in-vortex for the downward pipe and an out-vortex for the upward pipe and installing two pipes. Keep in mind that balance is essential. And don't throw away your old Hieronymus, Mattioda, etc. pipes. They work fine so long as you balance their activity with another pipe working with the counter stream of forces. If you don't want to make your own, ask someone who can.

REAGENTS

No matter how well designed a cosmic pipe is, it is only as good as the reagents it has in it, just as a radio station is only as good as the programs it airs. So the question of putting appropriate reagents in your pipes is a most important one. To date I've found that using all the biodynamic preparations (at homeopathic potencies, determined by dowsing) is a very effective approach. I like to dowse from an aerial photo of the

area to be covered with the pipe. Any additional reagents besides the preps may have to be tailored to the situation. In regard to this, as well as obtaining biodynamic reagents for cosmic pipes, readers are free to contact me.

I am working in this new field with a manufacturer to mass produce pipes and reagents. There are no secrets we won't explain to you. But this opens up a whole new can of worms that people have not been

aware of. Sometimes, and it's up to the individual, this can be a little hard to grasp.

I foresee, that for a while, we will have some of the most advanced cosmic pipes, with options such as color or herbal reagents, or even sophisticated insect and disease reagents. There's no lid on this technology. Anyone with a sure savvy can access it or create new versions, according to their muse. This is something on the forefront of greatly simplified farming.

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