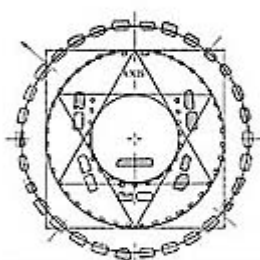
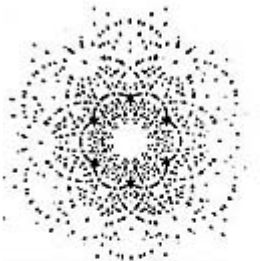
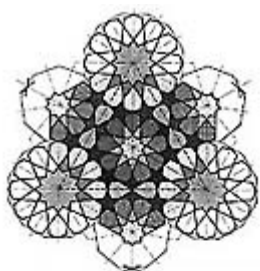


THE ORIGINS OF SACRED GEOMETRY



Is there a connection here?
Islamic geometry in mosque,
X-Ray fractal pattern of
beryl, Stonehenge ground
plan and Sri Yantra share same
sacred geometry now found
in crop circles.

Illustrations © Keith Critchlow
Lane Eastman, John Michell
British Museum

Our experience and our reaction to all things beautiful is made possible by our unique ability to subconsciously recognize geometric order from transitory chaos. At this level, the perfection inherent in a Greek temple or a painting by Da Vinci is not simply because it is made of a particular material or hue but because the harmonic proportions contained in their design are bound by the laws of sacred geometry, which is itself the embodiment of harmonic waves of energy, melody and universal proportion. What our senses respond to is the geometrical and proportional harmonies and wave forms created through the application of sacred geometry.

As stated in Islam, and echoed in all Abrahamic and Hindu religions, sacred geometry provides the means to see the vestiges of God and Its multiplicity in the universal order of things. Remarkably, the arabic religion still contains at its core one of the last unadulterated vestiges of primordial truth. Its mosques and art forms, as well as its latter-day architecture still incorporate many of the keys to the structure of the cosmos, symbols of the archetypal world as a creation of God.

Indeed, intellectual Islam is to be commended for the way in which it has preserved a mathematical philosophy "akin to the Pythagorean-Platonic tradition of antiquity but in a totally sacred universe free of the nationalism and rationalism which finally stifled and destroyed the esoteric traditions of Greek intellectuality." Therefore it is not by accident that we see in Islamic art the very symbols which reflect the heart of matter.

As the last of the universal revelations- or religions- it is important to note that Islam has served as the curator of sacred geometry rather than its originator. It's not certain where the terrestrial origins of this knowledge stems from but its forms are evident throughout the yantras and mandalas of Hindu, Tibetan and Buddhist art, Celtic carvings and book adornment, even in native North American sand paintings.

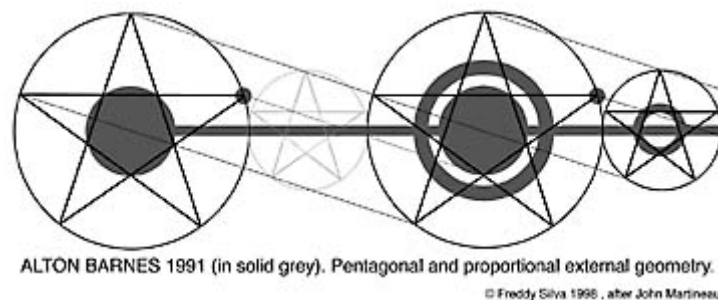
The earliest known proprietors of sacred geometry were the Egyptians who embedded its secrets in the ground plans of their temples, their frescoes and, most blatantly, in the Gizeh pyramid which single-handedly contains most of the fundamental universal laws that many a tortured schoolchild now attributes to Pythagoras. Although these enlightened people used geometry for all manner of terrestrial applications- hence the word 'geo-metry' or 'measure of the earth'- the aim was metaphysical in nature.

Because sacred geometry reflected the universe, its pure forms and dynamic equilibriums shared a higher purpose: the attainment of spiritual wholeness through self-reflection, thereby giving structural insight into the workings of the inner self. In other words, a way for the intuitive mind to find a reason for its existence: by journeying inwards, away from the three-dimensional world and towards fewer and more comprehensive ideas and principles. As the renowned geometer Robert Lawlor observes, " the implicit goal of this education was to enable the mind to become a channel through which the 'earth' (the level of manifested form) could receive the abstract, cosmic life of the heavens. The practice of geometry was an approach to the way in which the universe is ordered and

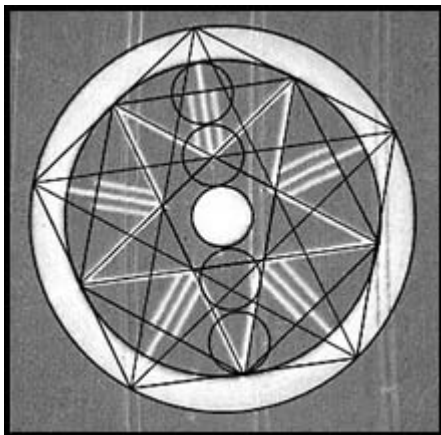
sustained. Geometric diagrams can be contemplated as still moments revealing a continuous, timeless, universal action generally hidden from our sensory perception. Thus a seemingly common mathematical activity can become a discipline for intellectual and spiritual insight."

As a mirror of the heavens sacred geometry was liberally applied across the Egyptian landscape for millennia as a way to bestow universal order on Earth, as reflected in their Hermetic maxim 'As Above, So Below'.

Consequently the practice of maintaining concrete records of this knowledge for posterity was reenacted throughout Europe in fabulous structures such as Chartres cathedral, one of the most impressive hymns to sacred geometry, and whose dissection alone has filled entire books.



That this knowledge made its way as far north as the British Isles can be clearly seen in the ground plans and blueprints of megalithic monuments, mediaeval cathedrals, and the plethora of stone circles. It is clear, therefore, that whatever lies behind sacred geometry was important enough for scholars to go to enormous lengths to preserve it for future generations.



With the advent of X-ray photography science has discovered that the physical structure of elements are governed by a patterned array of intervals surrounding a central node. The general assumption that the nature of matter is fundamentally composed of particles is rapidly giving way to the concept that the underlying patterns of the material world are geometric wave forms. The irony here is that by choosing to examine reality through geometry many ancient cultures find themselves close to the stance now adopted by modern science, and vice versa.

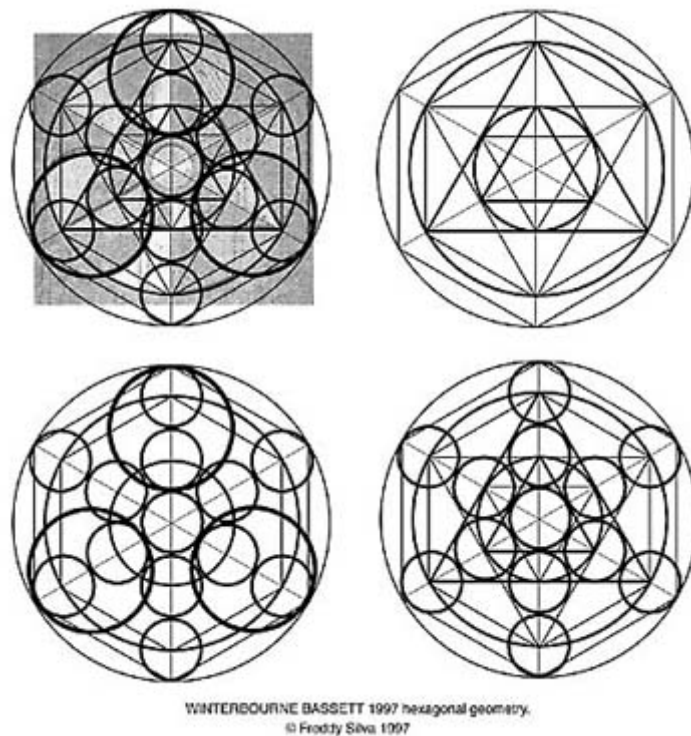
Little wonder, then, that sacred geometry was so important to the temple builders. And since the universe was created by God it theoretically followed that to embed physical structures with the ratios of creation the universe could be mirrored. In so doing, temples became doorways into the inner workings of the physical world and the inner world of consciousness. This interface would enable anyone so predisposed to integrate oneself with the gods.

Sadly, as these temples have fallen by the wayside so too has our wonder of the unseen and our connection to it, presumably why the very fabric of our present society lies rudderless and bankrupt.

There are several major events which have led us to this sad reversal of thought. As Robert Lawlor understands it, "modern thought has difficult access to the concept of the archetypal because

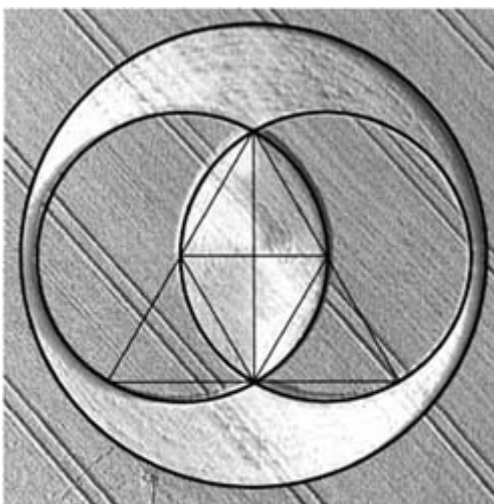
European languages require that verbs or action words be associated with nouns. We therefore have no linguistic forms with which to imagine a process or activity that has no material carrier"

The Renaissance saw the last great works based on sacred geometry which had been kept alive via Plato, and philosophies that survived suppression by the emerging Catholic Church. With the implementation of the Inquisition, the rise in secularism and a general move toward a rational and analytical view of the world, connections to holistic and metaphysical practices were severed. By the time Newton and the scientific secularism of the 17th century prevailed rational logic had gained such a dominance that all esoteric knowledge was inevitably condemned as occult (literal meaning, 'that which is hidden').



CONNECTING SACRED GEOMETRY AND CROP CIRCLES

It is significant that as our alienation from all forms of spiritual and universal wonder increases, symbols bearing the hallmarks of an ancient, harmonious philosophy have suddenly begun manifesting in cereal crop.



Vesica Piscis in 1996 with triangular geometry.
(small distortion at centre is from photo correction)

© Freddy Silva 1997

Even to the hardened skeptic crop circle designs reveal a facility by their makers of creating a visual harmony that is pleasing to the eye, much like an ancient temple or a classical painting. The proportions are balanced, the shapes rhythmic, their outlying elements forming part of an unseen whole. Upon close scrutiny even the small 'grapeshot' circles that flank certain formations lie at their given remote locations not by fluke but by engineered and premeditated design, markers and clues for the observer to follow and uncover. Not surprising, then, to find sacred geometry lying at the heart of the fundamental blueprints of many formations, sometimes blatantly, sometimes veiled like a secret waiting to be uncovered only by the most persistent of

minds.

But just as with sacred geometry and other esoteric principles, crop circles have been marginalized by practically the entire scientific community since they challenge the current worldview simply because science is at odds to explain them.

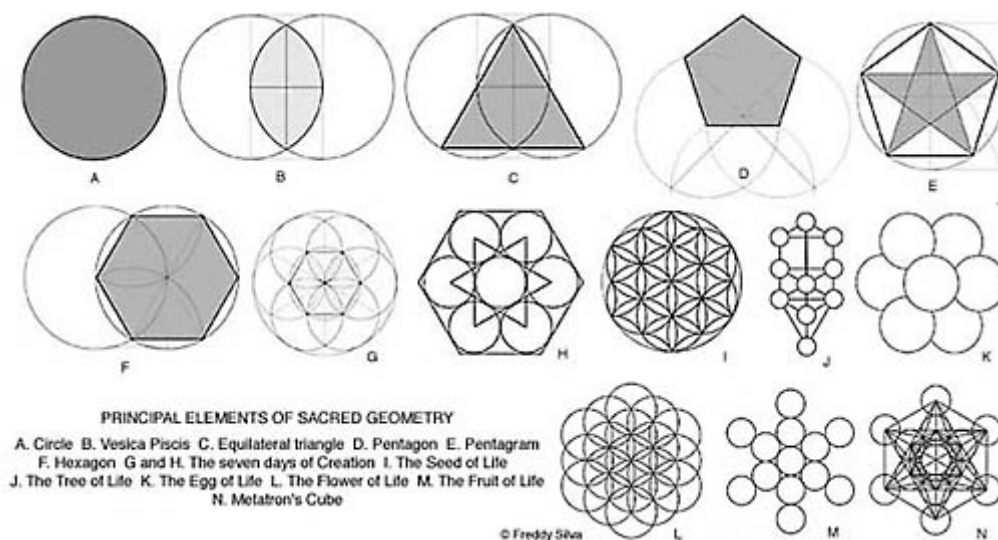
According to science, crop circles don't exist.

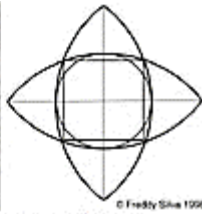
Yet, as these examples demonstrate, crop circles, through their complicated geometric structure, are worthy of being ranked alongside the greatest creations of mankind. Perhaps even higher.

When analyzing crop circle forms through the precise and unalterable practice of sacred geometry one cannot help but appreciate that a mind of scholarly intelligence is involved, just as the great masters of Islamic and Egyptian art, as Keith Critchlow remarked, "were motivated by and versed in spiritual disciplines that gave content and meaning to their work and placed it in the tradition of aiding the viewer to raising his or her spiritual understanding."

That these symbols are occurring primarily in wheat, the very symbol of the Earth Mother, is significant in itself. Perhaps they are here to draw us as a race together by this interaction with our symbol of life? Maybe their geometric symbolism acts as a mandala which like its Buddhist counterpart contains the very vibrations that aid one in achieving inner transformation at this most vulnerable moment in our history?

If neither of these apply then what we have strewn in fields across the world is nothing more than the highest form of cosmic art. Perhaps all of the above are true, and perhaps other explanations remain elusive. But one thing is certain- it is a lot of trouble for a bunch of individuals to go to, turning out during every night of the English summer for a quarter of a century, wading through muddy fields, and working with a brittle and imprecise canvas just to show the world they simply remained conscious throughout geometry lessons!





The Squared circle- a complex geometrical model and the foundation of Indian temples.



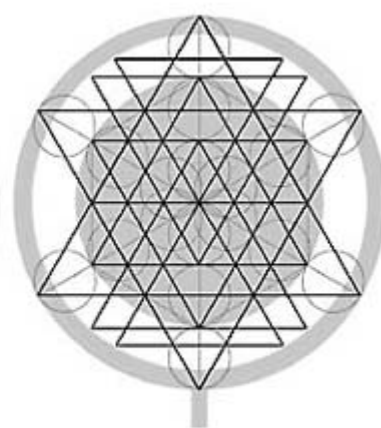
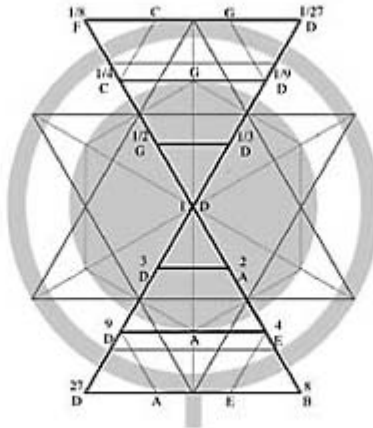
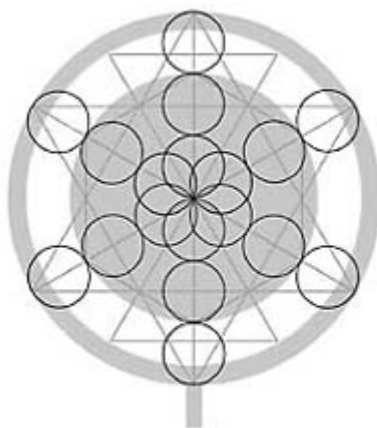
The Flower of Life and the Egg of Life as crop circles.

In the selected range of crop circle designs we see recurring themes that are for the most part generated from within a circular form and continue, through proportional expansion, to develop well beyond the boundaries of the design. This is consistent with the principle of sacred geometry where the circle is the principal element since it lies at the heart of the creative principle. It's the representation of cosmic life, from the smallest atom to the largest planet. All things are divided from within itself so, paradoxically, all things are contained within it. It is therefore the symbol of the unknowable, of spirit and of heaven.

The symbolic opposite of the circle is the square which is considered material and of the earth. Both forms, when given equal areas and superimposed, become a symbol of the fusion between humanity and the universe, of spirit and matter. It is the first symbol and the one on whose proportions whole cosmological cities were founded

The division of the circle into two equal size circles, with the centers of their respective circumferences touching each other, gives birth to an overlapping figure of profound symbolism: the vesica piscis. It is from within its vagina-like center that the symbols of sacred geometry are born.

From the vesica we can create the simplest of polygons, the equilateral triangle. The two triangles contained in this 'womb' are themselves symbolic of the world above and the world below, just as the left circle can represent spirit and the right one matter. It is symbolic to Christianity as representational of Jesus Christ and the Piscean age; as the Holy of Holies it carries the number 2368 in gematria, the number also equated with Jesus Christ.

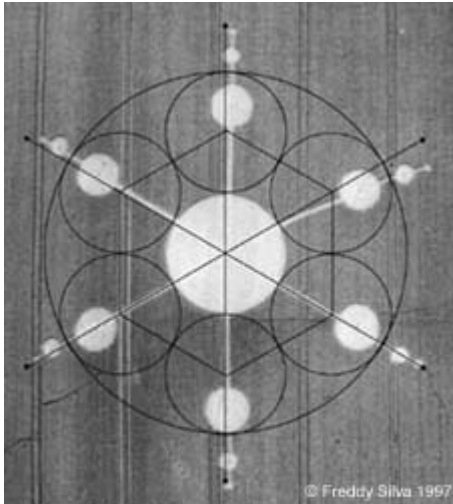


WHITEPARIISH CROP CIRCLE 1987 (in grey), hexagonal/circular alignment; the Drum Of Shiva illustrating harmonic ratios of music; incorporating elements of sri yantra.

© Freddy Silva 1998 from survey by Andrews/Delgado



The overlapping of both triangles produces the hexagon, also referred to as the Star of David. The characteristics and symbolism behind this figure are immense. It is also through the natural division of a circle into six parts which allows six circles to fit exactly around the circumference of an equal seventh. John Michell has studied the implications of the hexagon at length and further adds that it is "symbolic of the order of the universe in the fact that twelve equal spheres can be placed around a thirteenth so that each touches the nucleus and four of its neighbors, producing the geometer's image of twelve disciples grouped around the master. Christ, Osiris and Mohammed are among those who are represented as a central sphere with twelve retainers." It is also a common symbol in Islamic geometry, and its qualities are rational and solar, as evidenced by its 6x60-degree triangles which reflect the solar number 666.



OLIVERS CASTLE HOAX 1997. Note poor alignment to basic hexagonal framework.

Another symbol of great fascination to ancient and modern geometers is the golden mean since it gives rise to a spiral form which occurs in many natural forms and patterns of plant growth which, as Michell points out, "gives support to the tenet of traditional philosophy that number preceded creation and determined its development."

It is from the golden mean that we also extrapolate the pentagon and the five-pointed star, and with it the association with humanity since the human figure with outstretched limbs is similar to the pentagram. This was the symbol of the Pythagorean's humanistic science and consequently worn as a talisman of good health. Its symbolism frequently pervades native American philosophy, just as Christians associated the pentagram with Jesus. The pentagon is lunar and psychic; the angle between two sides of a pentagon is 108 degrees, 1080

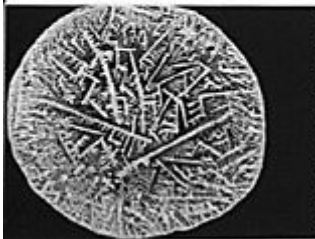
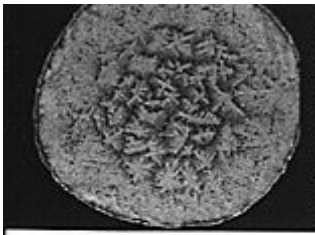
being the characteristic lunar number.

These primary geometric forms, along with their 3-dimensional counterparts, the Platonic solids, were thus observed by many ancient cultures to be the crystallizations of the creative thoughts of God as they emerge from the circular Unity. As a metaphor of universal order, sacred geometry is pervasive in imagery throughout history, from circular mandalas to sacred temples. And now, crop circles.

CONCLUSION

It is interesting that today we find ourselves at the final crossroads in our evolution. Since that day when we decided to abandon our faith in the universal way and follow the mechanical codes of science our consciousness has shifted from one of reverence for all things sacred to the worship of abstract materialism. Consequently, our change of attitude has endangered our living, breathing celestial sphere and it's perhaps why crop circles, with their foundations based squarely upon sacred geometry, have chosen to appear at this particular point in time, reminding us that if only we observe the fundamental laws of the universe we may still be in time to discover the secrets of universal harmony and salvage our very own symbol of eternal life, the Earth.

If an artificial or electromagnetic energy source is interacting with the natural cycle of plants, it is perfectly natural to assume the effect is verifiable at the microscopic level.



Plant chromosomes:
top, control sample;
bottom, crop circle

In 1988 Andrews and Delgado sent plant samples from crop circles, together with controls, to Signalysis laboratory in Stroud, England. The samples were processed by Kenneth and Rosemary Spelman in accordance with a procedure approved in the German Government's "Pharmacopoeia for Homeopathy" for spagyric preparations- a process normally used in the diagnosis of human blood samples. The method allows for the crystalline structure of fluid to be examined under a microscope.

Their results revealed how the irregular pattern in control samples had taken on a strict structuring pattern inside crop circles - energy of some type had changed the plants' crystalline structure. A separate barrage of tests on samples from a crop circle in Argonne, Illinois, by molecular biologist Kevin Folta, even showed that the plant DNA was considerably more degraded than the controls.

After the Spelmans' tantalizing report was published, Pat Delgado was contacted by another interested party, this time from Michigan, hoping to follow up on what the initial UK experiments had started.

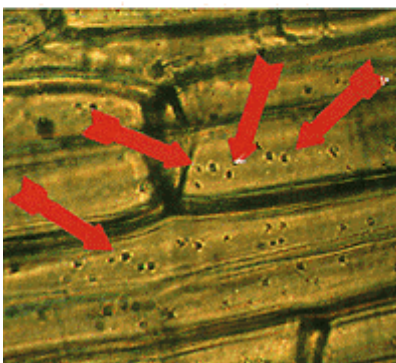


Barley seed heads showing stunted seed growth in crop circle sample (right)

Dr. W. C. Levensgood is a respected biophysicist. Over the course of his multi-disciplinary career he has conducted investigations into such areas as the effects of solar and cosmic rays on the reproduction of living organisms, and the relationship between ion transport and vigour selection in seeds. In addition to his worldwide reputation he holds six patents and has written fifty peer-reviewed papers.

Levensgood's curiosity led him to investigate the possibility of molecular changes in crop circle plants. After thousands of hours of field work and laboratory studies on hundreds of crop circles, as well as controlled man-made scientific experiments and tests on control samples, a series of statistically significant anomalies were detected.

One of the first puzzles Levensgood came across concerned the seeds. Seed heads collected from the 1991 Barbury Castle formation appeared normal, until they were compared to control samples and found to be considerably stunted. Contrary to nature, they were also totally devoid of seeds. Yet control samples taken at various distances away from the formation contained seeds as normal. But true to crop circle fashion this was not to be the rule: in other cases where the seeds were present, they were often severely stunted, malformed, lower in weight and/or reduced in size. Levensgood attributed this to a premature dehydration of the seeds, their development arrested at the time the crop circle was created.



Pits in cell walls of bract tissue, possibly due to sudden heating of plants.

The critical time for alterations appears to occur early on in the seed's development, the effect becoming less visible relative to the seeds' maturity; when mature, an increase in seed growth occurs.

To see how the seeds reacted when germinated, closely-monitored 14-day laboratory trials were conducted to compare their growth cycle with controls. Levensgood noted that the crop circle seeds reacted variably, depending upon the intensity of the crop circle energy as well as the age of the plants when affected.

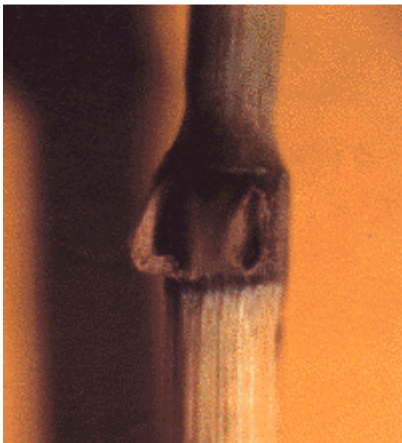
The results show an inconsistency with natural plant development: in some of the immature plants the seeds failed to germinate; in young plants they did germinate but with grossly depressed development in roots and shoots; plants affected in the late life-cycle by crop circle energy developed in a manner inconsistent with seeds of that species, revealing accelerated germination and increased vigour in the more mature plants, the latter exhibiting a growth rate 40% faster than normal, with a healthier root structure to boot.



Discrepancy in node length and angle of crop circle plant (right)

But what kind of energy was capable of altering the plants' natural cycle? To find out, Levensgood tested a sample of plants in a commercial microwave oven. The results revealed that the closest similarities to crop circle samples- even at the microscopic level- occurred when the plants were subjected to 30 seconds of microwave, not a far cry from the range described by eyewitnesses; evidence of this rapid heating was corroborated by a superficial charring of the plant tissue which left deeper layers unaffected, thereby indicating the brevity of the action.

In his first peer-reviewed paper on crop circles, *Anatomical Anomalies in Crop Formation Plants*, Dr. Levensgood states that "the affected plants have components which suggest the involvement of rapid air movement, ionization, electric fields and transient high temperatures combined with an oxidizing atmosphere. One naturally occurring and organized force incorporating each of these features is an ion plasma vortex, one very high energy example being a lightning charge."



Double expulsion cavity in node, due to escaping super-heated water inside stem.

Another conundrum revolved around the plant's nodes. These fibrous protuberances are the hardest portions of the stem, allowing a plant to support its weight and maintain its upright posture. Levensgood found the nodes in crop circle plants grossly enlarged and expanded, much more than could be accounted for by trauma, exposure to chemicals or infestation. And although both phototropism and gravitropism both play a role in the bending of nodes, these natural processes take time to develop and do not account for the massive node bending observed in new crop circles; incidentally, slight node length extensions in man-made formations proved statistically insignificant.

But by far the most important discovery in his research centres around the nodes' bract tissue- the thin membrane supporting the seed head that enables nutrients to be supplied to the developing embryo. What Levensgood found here was an abnormal enlargement of the tissues' cell wall pits- the minuscule holes that allow the movement of nutrients.

Here, a series of expulsion cavities, or 'blow holes', were discovered, as

if internal liquid had been forced out from inside the plants. Again, this is not found in normal crop under any circumstances.

In a dramatic comparison to the control samples, the elongated scars clearly show how a rapid expansion has taken place inside crop circle plants, a result of the water in the cell walls being suddenly heated. With nowhere to escape, the water forces its way out by exploiting the weaker sections of the tissue thereby creating the scars.

Levensgood concluded that "the energy mechanism producing quantitative alterations in the plant stem nodes falls within the framework of a straight-forward and widely applied principal of physics [Beer's Law] dealing with the absorption of electromagnetic energy by matter," strongly suggesting that an energy source "originating in the microwave region" had boiled the water inside the plants' nodes, effectively transforming it into steam.

Michael Chorost reached similar conclusions in his published report for Project Argus: the phenomenon induces radiation anomalies, heats plants rapidly and briefly through a rapid pulse of unknown energy, sometimes scorching them; it swells their cell wall pits and interacts with the development of the seeds, and leaves radioactive traces in the soil.

One experiment carried out in June 1995 put Levensgood's research to the test. Without knowledge of its creators, Levensgood's team took home samples from a crop circle which had been deliberately man made. Yet despite the usual tests, no discrepancies were found between the formation's samples and the controls.

X-RAY DIFFRACTION STUDY OF CANADIAN CROP CIRCLE

After constant delays (mostly due to financial constraints) the X-ray diffraction study of clay minerals in crop circle soils, which was begun in 1999 and completed in late 2001, is now available on the BLT Research Team Inc.'s web-site at: <http://www.bltresearch.com/xrd.html>. BLT is most grateful to Mr. and Mrs. Lyman D. Rogers of Newtown, Connecticut, whose financial support made this possible, and to web-site personnel Kim McDonald Gazecki, William Bombardier, and Abby Lewis who did the actual work of transferring the study to the web.

This study, funded by Laurance Rockefeller, examined specific clay minerals (those which are called "expandable" clays and which are most sensitive to heat) in crop circle soils, in an attempt to gather further data which might inform us regarding the hypothesized presence of microwave radiation at crop circle sites. Multiple scientists were involved (see "Study Personnel"), most of whom were totally unacquainted with the crop circle phenomenon at the time they carried out their individual work on the project. These scientists were carefully chosen, not only for their specific expertise, but because they were unaware of the phenomenon, thus ruling out any potential assertions by skeptics of "experimenter bias."

The results are startling. Specific clay minerals (illite/smectites) are shown to exhibit a subtle, but statistically significant, increase in degree of crystallization....a change heretofore seen only in sedimentary rock, which has been exposed to the massive pressure (called "geologic" pressure) of tons of overlying rock and to heat from the earth's core over hundreds, or thousands of years. To our knowledge this increase in degree of crystallization has never been reported previously in surface soils (as is the case here).

If "geologic" pressure had been present, obviously the plants would have been obliterated. And, of course, they were not. Further, if the intense heat required (a minimum of 6-800 degrees C, over a period of many hours) to produce the crystalline change (in the absence of such geologic pressure) had been present, the plants would have been incinerated. And, again, they were not. The plants did show the well-documented changes (elongated apical nodes, presence of expulsion cavities) regularly found in crop circles which are not created by mechanical flattening (i.e., with planks and boards). What is MOST interesting is the fact that both the documented plant changes and the increases in clay-mineral crystallization occurred at the SAME sampling locations. A regression analysis found that the node-length increases in the plants were correlated with the increase in crystallization of the clay minerals in the soils at the 99.2% level of confidence, a truly extraordinary result.

So the data appear to indicate that whatever caused the plant changes, also caused the soil changes at the same sampling locations. And yet we realize that the intense energy situation required to produce the soil effects would have destroyed the plants altogether. As Dr. Reynolds, the Dartmouth mineralogist and recognized authority on clay minerals and the XRD technique whom we asked to review our study stated, we are apparently dealing with an energy currently unknown to science.

As is often the case in science, new and intriguing questions have been raised. The notion of mechanical flattening, however, is without question ruled out.

We hope that all interested members of the crop circle community will take the time to examine the new study. All of the data and personnel involved have been included on the web-site. BLT welcomes comments and/or questions. Please note, also, that many other changes and additions have been made to other pages on the site, including the following pages: "Home," "Plant Abnormalities," "Clay-Mineral XRD Study," "Other Facts," "Professional Consultants," "Lab Reports," and "Contact."

by Nancy Talbott

BLT Research Team Inc. <http://www.bltresearch.com>

The long-awaited XRD study focusing on the seven-circle barley formation at Edmonton, Alberta in 1999 is now available at <http://www.blresearch.com/xrd.html>

Origin of Crop Circles Baffles Scientists

by Leslie Kean

from THE PROVIDENCE JOURNAL, San Francisco, 16 September 2002

SINCE THE RECENT release of the movie Signs, crop circles have been thrust into the limelight. Such major publications as Scientific American and U.S. News and World Report have echoed the common belief that all crop circles are made by stealthy humans flattening plants with boards. This assumption would be fair enough if we had no information suggesting otherwise.

However, intriguing data published in peer-reviewed scientific journals clearly establishes that some of these geometric designs, found in dozens of countries, are not made by "pranks with planks." In fact, a study about to be published by a team of scientists and funded by Laurance Rockefeller concludes "it is possible that we are observing the effects of a new or as yet undiscovered energy source."

In the early 1990s, biophysicist William C. Levengood, of the Pinelandia Biophysical Laboratory, in Michigan, examined plants and soils from 250 crop formations, randomly selected from seven countries. Samples and controls were provided by the Massachusetts-based BLT Research Team, directed by Nancy Talbott.

Levengood, who has published over 50 papers in scientific journals, documented numerous changes in the plants from the formations. Most dramatic were grossly elongated plant nodes (the "knuckles" along the stem) and "expulsion cavities" -- holes literally blown open at the nodes -- caused by the heating of internal moisture from exposure to intense bursts of radiation. The steam inside the stems escaped by either stretching the nodes or, in less elastic tissue, exploding out like a potato bursting open in a microwave oven.

Seeds taken from the plants and germinated in the lab showed significant alterations in growth, as compared with controls. Effects varied from an inability to develop seeds to a massive increase in growth rate -- depending on the species, the age of the plants when the circle was created and the intensity of the energy system involved.

These anomalies were also found in tufts of standing plants inside crop circles -- clearly not a result of mechanical flattening -- and in patches of randomly downed crops found near the geometric designs. These facts suggested some kind of natural, but unknown, force at work.

Published in *Physiologia Plantarum* (1994), the international journal of the European Societies of Plant Physiology, Levengood's data showed that "plants from crop circles display anatomical alterations which cannot be explained by assuming the formations are hoaxes." He defined a "genuine" formation as one "produced by external energy forces independent of human influence."

A strange brown "glaze" covering plants within a British formation was the subject of Levengood and John A. Burke's 1995 paper in the *Journal of Scientific Exploration*. The material was a pure iron that had been embedded in the plants while the iron was still molten. Tiny iron spheres were also found in the soil.

In 1999, British investigator Ronald Ashby examined the glaze through optical and scanning electron microscopes. He determined that intense heat had been involved -- iron melts at about 2,700 degrees Fahrenheit -- administered in millisecond bursts. "After exhaustive inquiry, there is no mundane explanation for the glaze" he concluded.

In another paper for *Physiologia Plantarum* (1999), Levengood and Talbott suggested that the energy causing crop circles could be an atmospheric plasma vortex -- multiple interacting electrified air masses that emit microwaves as they spiral around the earth's magnetic-field lines.

Some formations, however, contain cubes and straight lines. Astrophysicist Bernard Haisch, of the California Institute for Physics and Astrophysics, says that such "highly organized, intelligent patterns are not something that could be created by a force of nature."

But Haisch points out that since not all formations are tested, it is unknown how many are genuine. Nor is it likely that such complex designs could evolve so quickly in nature. "Natural phenomena make mountain ranges and form continents -- they don't learn geometry in ten years," says Haisch, who is the science editor for the *Astrophysical Journal*.

In 1999, philanthropist Laurance Rockefeller made possible the most definitive -- and most revealing -- study to date. The BLT Research Team collected hundreds of plant and soil samples from a seven-circle barley formation in Edmonton, Canada. The plants had both elongated nodes and expulsion cavities, and the soils contained the peculiar iron spheres, indicating a genuine formation. The controls showed none of these changes.

Mineralogist Sampath Iyengar, of the Technology of Materials Laboratory, in California, examined specific heat-sensitive clay minerals in these soils, using X-ray diffraction and a scanning electron microscope. He discovered an increase in the degree of crystallinity (the ordering of atoms) in the circle minerals, which statistician Ravi Raghavan determined was statistically significant at the 95 percent level of confidence.

"I was shocked," says Iyengar, a 30-year specialist in clay mineralogy. "These changes are normally found in sediments buried for thousands and thousands of years under rocks, affected by heat and pressure, and not in surface soils."

Also astounding was the direct correlation between the node-length increases in the plants and the increased crystallization in the soil minerals -- indicating a common energy source for both effects. Yet the scientists could not explain how this would be possible. The temperature required to alter soil crystallinity would be between 1,500 and 1,800 degrees F. This would destroy the plants.

Understanding the possible ramifications of these findings, Talbott sought the expertise of an emeritus professor of geology and mineralogy at Dartmouth College, Robert C. Reynolds Jr., who is former president of the Clay Minerals Society. He is regarded by his colleagues as the "best-known expert in the world" on X-ray diffraction analysis of clay minerals.

Reynolds determined that the BLT Team's data had been "obtained by competent personnel, using current equipment."

The intense heat required for the observed changes in crystallinity "would have incinerated any plant material present," he confirms in a statement for the Rockefeller report. "In short, I believe that our present knowledge provides no explanation."

Meteorologist James W. Deardorff, professor emeritus at the College of Oceanic and Atmospheric Sciences at Oregon State University, and previously a senior scientist at the National Center for Atmospheric Research, states in a 2001 *Physiologia Plantarum* commentary that the variety, complexity and artistry of crop circles "represent the work of intelligence," and not a plasma vortex. "That is why the hoax hypothesis has been popularly advocated," he says.

However, he points out, the anomalous properties in plant stems thoroughly documented by Levensgood and Talbott could not possibly have been implemented by hoaxers. Deardorff describes one 1986 British formation in which upper and lower layers of crop were intricately swirled and bent perpendicular to each other, in a fashion that "defies any explanation."

"People don't want to face up to this, and scientists have to deal with the ridicule factor," he said in a recent interview.

Adding to the puzzle, professional filmmakers have documented bizarre daytime "balls of light" at crop-circle sites. Light phenomena were observed by multiple witnesses at the site of the Canadian circle so meticulously examined under the Rockefeller grant.

Eltjo Hasselhoff, a Dutch experimental physicist, has taken on the study of what he describes as "bright, fluorescent flying light objects, sized somewhere between an egg and a football."

Scientists face real and serious questions in confronting this mystery. Could this be secret laser technology beamed down from satellites? Is it a natural phenomenon? Is there a consciousness or intelligence directing an energy form yet unknown to us?

"To look at the evidence and go away unconvinced is one thing," says astrophysicist Haisch. "To not look at the evidence and be convinced against it . . . is another. That is not science." It's not good journalism, either.

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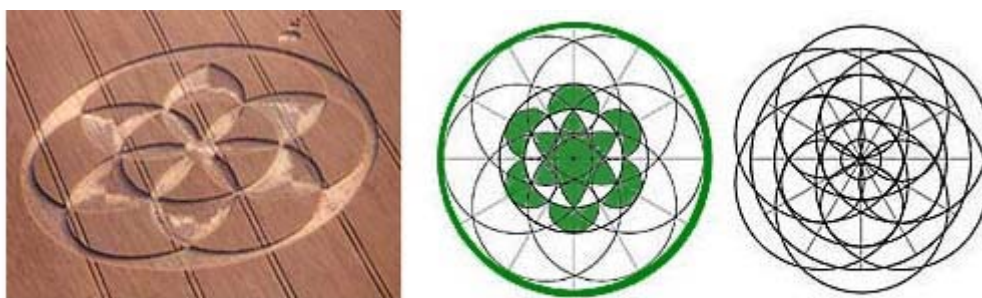
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During the twilight days of December 1998, small articles tucked away in the nether regions of the British press quietly announced 'Unknown Force Was Behind Corn Circles, Claims Hoaxer'. This dramatic U-turn by the surviving member of the infamous Doug & Dave duo- who since 1991 have misled the world with tales of their crop flattening prowess with planks of wood- illustrates that the hand of man materialized in crop circle lore long after the real phenomenon manifested.

Latterday hoaxers claim that they applied boot to wheat in 1978, yet crop circles have appeared throughout the world since the early 1900s, with dozens of eyewitnesses even reporting crop circles forming in a matter of seconds as far back as 1890; several descriptive accounts were even documented in 1678 by Robert Plot, then curator of the Ashmolean. If hoaxers are responsible, then, they appear to have mastered the art of time travel, in which case it is they who should be under scientific scrutiny.

To date some 10,000 crop circles have been catalogued worldwide, and their anomalous features continue to be irrefutable: plants bent an inch above soil and gently laid down in geometrically-precise patterns with no physical signs of damage, light burn marks at the base of stems, altered cellular structure and soil chemistry, discrepancies in background radiation, alteration of the local electromagnetic field, depletion of the local watershed, and dowsable, long-lasting energy patterns, not to mention measured effects on the human biological field. So much, then, for two guys and a piece of wood. But thanks to a virtual embargo on research coverage throughout the media, a popular myth has developed that all crop circles have been nothing more than a prank with a plank.

By definition, hoaxes are forgeries, and forgeries require originals from which to copy. So what is this 'unknown force' that creates genuine crop circles? One answer may lie with sound.



Formations at Froxfield (left) and Harwell (middle). These Hindu mandalas, basic to sacred geometry, are wave patterns of sound frequency which are also found in the molecular structure of matter.

Echoed in all the world's faiths and traditions, Universal matter was created by sound: 'In the beginning was the Word, and the Word was with God', St. John reminds us. Hopi and Navajo traditions even assert that in ancient times shamans would utter words onto sand and create patterns, a concept not dissimilar to the Hindu mandalas which are said to be expressions of the vibration of God. Consequently, the Eastern faiths- Islam in particular- chose sacred geometry to express the image of God, a technique later used in those hymns to sacred geometry, Gothic cathedrals.

Modern science now shows that these geometric rhythms lie at the centre of atomic structures. When Andrew Gladzewski carried out research into atomic patterns, plants, crystals and harmonics in music he concluded that atoms are harmonic resonators, proving that physical reality is actually governed by geometric arrays based on sound frequencies. Even that primeval Hindu sound, the OM, from which is derived our modern term 'hum', when sung into a tonoscope produces the very geometric shapes attributed with 'sacredness'. Perhaps the most important of these shapes is the hexagon, upon which the Egyptian matrix named the Flower of Life is based. This series of outwardly-rotating divisions of the circle accommodate the branches of the building blocks of life, the amino acids. This Flower of Life has subsequently manifested as a crop circle.

As the expression of number in space, geometry is inextricably linked to music since the laws of the former govern the mathematical intervals that make up the notes in the western music scale- the diatonic ratios- hence why the ancient Egyptians referred to geometry as frozen music.



One of Hawkins' many Euclidean theorems that fit crop circles with snug precision. His discoveries also prove they contain diatonic ratios.

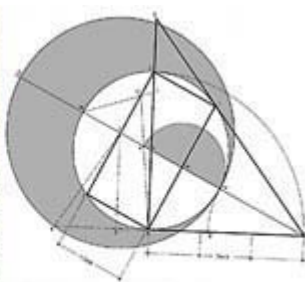
In the February 1992 edition of Science News, Prof. [Gerald Hawkins](#) used the principles of Euclidean geometry to prove that four theorems can be derived from the relationships of elements in crop circles. More significantly, he discovered a fifth theorem from which he could derive the other four. Despite an open challenge, over half a million subscribers have been unable to create such a theorem, which Euclid himself only hinted at twenty-three centuries earlier in his thirteen treatises on mathematics. So it came as a slight surprise when its equilateral version materialized as 160,000 sq. ft. of flattened barley at Litchfield, Hampshire, in 1995.

Since Hawkins' Euclidean theorems also produce diatonic ratios, a link exists between crop circles and musical notes, themselves the by-product of the harmonic laws of sound frequency. Soon, crop circles bearing unmistakable associations with sound then began to appear. One contained a curious ratchet feature from which is constructed a musical diagram also dating to the Egyptians, the Lambdoma. Also known as the Pythagorean Table, it defines the exact relationships between musical harmonics and mathematical ratios.

In 1996 another crop circle demonstrated the combination of two important figures: the 3-4-5 triangle and the Golden Mean, producing the geometric diagram necessary to produce musical



A harvested formation at St. Neots clearly exemplifies the 3,4,5 triangle and the Golden Mean, the formula that produces musical ratios.

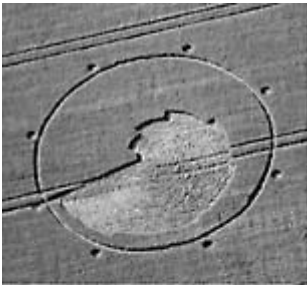


ratios. But it was a convincing formation at Goodwood Clatford- which had its plants bent six inches from the top- that gave the proverbial nod to sound, for here was a representation of a cymatic pattern etched in 5000 sq ft of barley.

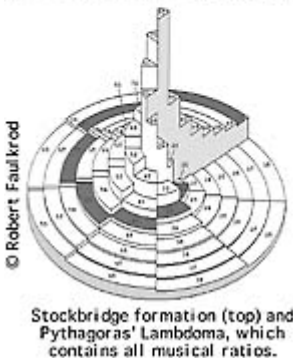
Cymatics is the study of vibrational wave patterns. One of its earliest pupils was

Margaret Watts-Hughes who, in 1891, captured precise geometric patterns on film as she sang sustained notes into a device containing lycopodium powder. But it would be another seventy six years before Swiss scientist Hans Jenny published the first of his painstaking studies on the transmission of sound through physical mediums, this time in the shape of monitored electronic frequencies.

He observed how sound vibration created geometric shapes- a low frequency produced a simple circle encompassed by rings, whereas a higher frequency increased the number of concentric rings around a central circle. As the frequencies rose so, too, did the complexity of shapes, to the point where tetrahedrons, mandalas and other sacred forms could be discerned. Like Margaret before him, Jenny enabled humanity to observe 'frozen music'. ...[CONTINUE](#)



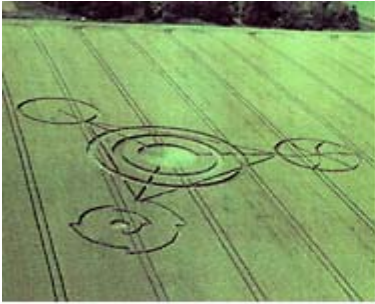
Jenny also provided a physical connection to the creation of crop circles since many of the vibrational patterns found in his photos mimic their designs. Some are blatant imitations, such as the circle surrounded by concentric rings typical of early 80s patterns, the tetrahedron at Barbury Castle in 1991, the spider's web mandala at Avebury from 1994, even the highly structured star fractals of 1997. Other photos demonstrate the construction geometry encoded within the crop circles' skeleton.



Visually, then, there is little room to deny the connection. But what evidence is there of sound in crop circles at a physical level?

Many accounts exist of a trilling sound heard by people prior to witnessing crop circles forming. The reports describe a sudden stillness in the air, the morning birdsong superseded by a trilling sound and the banging together of wheat heads despite an absence of wind. A whole section of crop then lays down in spiral fashion, the whole episode lasting less than fifteen seconds. Circles researcher Colin Andrews came across the trilling noise himself when, in mild frustration during his search to find a single answer to the phenomenon, he beseeched the heavens, "God, if only you could tell me how these things are created". The reply he received was eventually captured on magnetic tape. Subsequent analysis at Sussex University and NASA's Jet Propulsion Lab concluded the noise was mechanical in nature and beating at a frequency of 5.0-5.2 kHz.

Whilst recording an interview inside a crop circle the same sound was heard by a BBC cameraman shortly before it rendered a £30,000 TV camera obsolete. Interestingly, when the sound made another appearance during group research inside another formation it exhibited qualities of non-linear movement, and behaved in tandem with specific requests, sometimes on a psychic level. Since it also has the ability to transmit on radio frequencies and interfere with electronic equipment, birds and insects can be ruled out; and although skeptics are quick to accuse that the recorded sound is, in fact, the grasshopper warbler, stroboscopic analysis of both voice prints revealed vast differences between this bird and the bizarre noise. Besides, these birds frequent marshes, not vast, open fields of cereal crop.



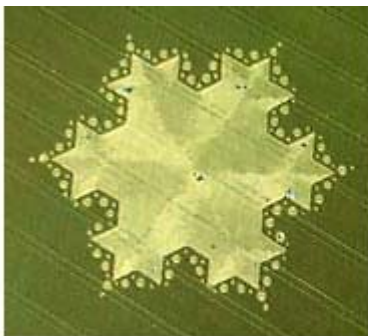
The famous Barbury Castle tetrahedron and its counterpart as a harmonic frequency in water.

Interestingly, the Aborigines relate to this trilling sound. During their ceremonies to contact- in their words- the sky spirits, a 'bora' consisting of a specially-shaped piece of wood is attached to the end of a long string and whirled, creating a noise practically identical to the crop circle hum. One has to wonder where the inspiration for this device came from, who these sky spirits were, and what on earth made the

timeless Aborigines associate this noise with them. That was until it was discovered that not only have crop circles appeared in Australia, many throughout the 1960s, but their manifestation figures in Aboriginal lore, just as their geometries appear in rock paintings.

In 1998 sounds of a more melodic kind were heard and recorded inside a formation by three witnesses (or is it earwitnesses?); the design was founded on sevenfold geometry, a representation of the intervals in the diatonic music scale. Several months later I came across a diagram called the Web of Athena, in which all the points of the heptagon are connected. Despite the jumble of lines the diagram consists of just three line lengths, and by juxtaposing these onto a stringed instrument, the exact same notes were recreated.

But perhaps the greatest connection linking sound to the manifestation of crop circles lies in their greatest anomaly: the permanent bending of the plants' stems. In Canada during the 1960s, laboratory experiments measured the effects of music on plants by subjecting them to different tones. Exposure to heavy metal music made the plants tilt in the opposite direction, whereas classical music lulled the plants toward the speakers. But in the case of Hindu devotional music- and the songs of Ravi Shankar, in particular- the stems bent in excess of 60° to the horizontal, perhaps the closest any human has ever come anywhere to achieving that right angle common to genuine crop circles.



Hexagonal geometry created by sound as seen in a crop circle and laboratory.

Further experiments at Annamalai University applying Indian devotional song generated additional effects: the number of stomata in the experimental plants was 66% higher, the epidermal walls were thicker, and the palisade cells were longer and broader than control specimens, sometimes by as much as 50%. Similar biophysical changes are known to occur in plants collected from

crop circles. Tests performed since 1989 by American physicist Dr. W. Levengood consistently show how the energy creating crop circles is able to affect seed embryo and plant growth, elongate the plant's nodes, even alter the pattern of the chromosomes themselves.

Yet the effect extends beyond plants. Agricultural researcher George Smith found that exposing corn to sound frequencies produced a higher heat content in soil, as well as a slight burnt appearance in the plants. The effect is consistent with the slight 'baking' regularly observed in crop circles, where the affected area appears noticeably drier than the rest of the field despite overnight rain; the same applies to the 'slight burning' at the base of crop circle stalks. Oddly enough, Smith speculated at the time that sound energy also increased molecular activity in plants, three decades before it was found in crop circle samples by Levengood.

Since a sudden and abnormal burst of growth is also known to occur in crop circle plants it was postulated that microwave was the culprit behind the creation of crop circles. However, microwave has the ability to render biological systems sterile, and a certain dose will even kill organisms. Yet the crop circles plants are alive and well. After four years of experiments on regular wheat at the University of Ottawa, Mary Measures and Pearl Weinberger found accelerated growth in laboratory samples, and postulated that the sound frequency they applied had produced a resonant effect in the plants' cells, thereby affecting their metabolism. The frequency Measures and Weinberger applied was identical the crop circle trilling noise.

Sound as one energy source capable of creating crop circles now becomes very feasible. But what type of sound coaxes plants to bend and lie down, applying firm and gentle pressure and, given the intricacy and complexity of latterday patterns, with a fine degree of control?

Interestingly, ultrasound is capable of interacting with physical elements to such an incredible degree. It can be aimed, focused and reflected almost like a light beam, and specific frequencies can be focused to cause certain kinds of molecules to vibrate while others nearby are left unmoved. The higher the frequency of ultrasound, the greater its ability to be directed. This requires frequencies in the high MHz range, such as those detected in crop circles by Paul Vigay. His empirical data shows how the level of background readings drop abruptly when he crosses the threshold of a formation. Close to the centre, readings hover in the vicinity of 260-320 MHz.



Hackpen Hill crop circle is based on Pythagoras' Tetractys, a collection of points relative to the music scale.

However, just as crop circles have made a quantum leap in mathematical complexity over the past two years, so readings have recently jumped to 540 MHz. Incredibly, this coincides with Jenny's experiments which show that a relationship exists between the rising complexity of cymatic geometries in proportion to the rise of dispensed frequency. In other words, the level of frequency, whether in a laboratory or a field, correlates with the increase in design intricacy.

Such extremely high frequencies are known to affect the state of awareness and consciousness in humans. Interestingly, people visiting crop formations often notice this, where even simple left brain functions such as counting are affected. When tuned in the MHz range ultrasound also prevents damage to sensitive tissues, so its healing properties are used in treating muscular ailments, and cases of people reporting healings when inside crop circles are becoming commonplace. One long-time sufferer of Parkinson's Disease reported being cured overnight.

Below 20 Hz sound becomes infrasonic, and such frequencies are directly involved with biological processes. It is well known that long exposure to infrasound can cause unpleasant conditions such as fatigue and nausea, and such symptoms are reported by visitors to crop circles. When combined with high-pressure, the acoustic power created by infrasound is in the order of kilowatts. In the case of plants, this pressure boils the water held inside the stems in a nanosecond. As water heats it expands, and a close look at crop circle plants reveals tiny holes in their nodes where this superheated water has escaped. With a hollow cavity near the base, and the stems made subtle like molten glass by the heat, the now top-heavy plants collapse into their new horizontal position.

Since this 'vapour cavitation' also creates local temperature increases of hundreds of thousands of degrees for a fraction of a second it is not now difficult to see why millions of gallons of groundwater disappear within the area of a crop circle, or why the plants have a cooked, malty

odour. Combine this with Levenson's discovery of microscopic blow-holes in the plants' cell wall pits (indicating the rapid boiling of water inside the plant), and everything starts to fall into place.



Goodwood Clatford: a cymatic pattern as a crop circle in barley with plants bent inches from the top.

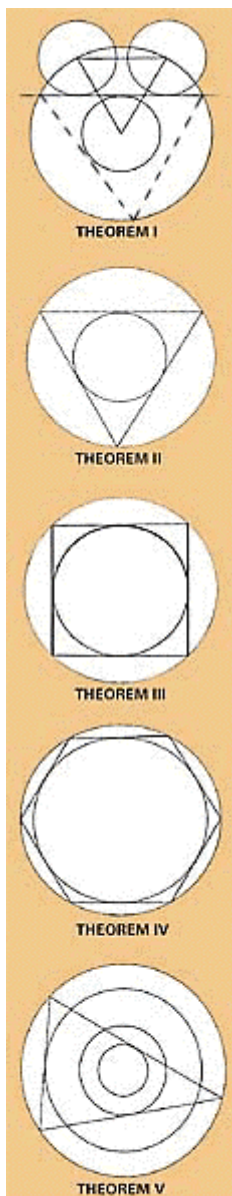
This infrasonic/ultrasonic process also creates a hissing sound, and if you are fortunate enough to visit a crop circle within a few hours of its appearance you will find yourself surrounded by this. Since infrasound is also capable of atomizing water molecules and creating a fine mist, it should be mentioned that in 1996 a farmer out harvesting his field at Etchilhampton saw what he describes as 'a series of columns of mist rising like cannonshot from the field next door'. Mist looks very out-of-place in a wheat field, in mid-afternoon on a dry, summer's day. Yet shortly after the incident a series of thirteen circles connected by a three quarter-mile long avenue and a Sanskrit-type glyph appeared in the very same field.

Finally, vapour cavitation is accompanied by a sudden spark of light called sonoluminescence, caused by the production of electrical discharges as the water/vapour is ionized. And the lower the operating frequency, the greater the effect. In a laboratory, 18 Hz has been used as the lowest safety threshold below which the pressure formed by infrasound is known to produce disruption to chromosomes. Every summer, crop circle plants of every variety are sent blind to Dr. Levenson, and some inevitably show unmistakable disruption to their chromosomes. Yet give him samples deliberately produced by field forgers and he'll find something really unusual-perfectly normal plants.

The musical scale, constructed on the harmonics of sacred geometry, and now found within the framework of crop circles, represents the mathematical structure of the soul of the world because it embodies the essence of the Universe. So it's no coincidence that a large percentage of crop circles can be identified with and by ancient cultures, who to this day honour their histories through song and music, their healing rituals performed with sound or rhythm. This relationship is further extended in Buddhist mandalas, whose elaborate geometries are used to alter states of consciousness. Perhaps it is not by coincidence that crop circle designs mirror these intricate patterns, just as they bear an uncanny familiarity to Jenny's materializations of sound.

If sound vibrations are both encoded into and generated by crop circles, is it not possible that they, too, can arouse the individual at a spiritual level? After all, it's through music that whole human experiences are celebrated and carried from generation to generation. It is very probable that it is for this reason that the very shape of the human ear- more specifically the cochlea- is a spiral constructed according to the harmonic laws of tone, just as the same spiral forms the primary basis from which thousands of crop circles have sprung.

Music is a carrier for social change. The effects of Handel's music is believed to have reversed the state of morality in Victorian England, just as the anarchic overtones of Punk corralled disillusioned youth into fighting an establishment that held no tolerance for those who stepped outside the system. The effects in people's states of awareness through contact with crop circles is similarly documented. In 1990 a pictogram at Alton Barnes sported the trident of Shiva the Transformer. Ironically, it was through exposure to this crop circle that millions around the world were transformed, just as images of crop circles today continue to enlighten the awareness of those who come into contact with them.



(V) As the triangle changes shape the circles expand and contract to touch the sides, and the diagram generates the four crop circle theorems.

If sound is one of the formative principles behind crop circles, it is not surprising that they are leaving psychological impressions on those whose antenna is extended and receptive to their tune.

Gerald Hawkins' work on crop circles and their relationship to Euclidean geometry and diatonic ratios.

Several years ago, astronomer Gerald S. Hawkins, former Chairman of the astronomy department at Boston University, noticed that some of the most visually striking of the crop-circle patterns embodied [geometric theorems](#) that express specific numerical relationships among the areas of various circles, triangles, and other shapes making up the patterns (Science News: 2/1/92, p. 76). In one case, for example, an equilateral triangle fitted snugly between an outer and an inner circle. It turns out that the area of the outer circle is precisely four times that of the inner circle.

Three other patterns also displayed exact numerical relationships, all of them involving a [diatonic ratio](#), the simple whole-number ratios that determine a scale of musical notes. "These designs demonstrate the remarkable mathematical ability of their creators," Hawkins comments.

Hawkins found that he could use the principles of Euclidean geometry to prove four theorems derived from the relationships among the areas depicted in crop circles. He also discovered a fifth, more general theorem, from which he could derive the other four (*see diagram, left*). "This theorem involves concentric circles which touch the sides of a triangle, and as the [triangle] changes shape, it generates the special crop-circle geometries," he says.

Hawkins' fifth crop-circle theorem involves a triangle and various concentric circles touching the triangle's sides and corners. Different triangles give different sets of circles. An equilateral triangle produces one of the observed crop-circle patterns; three isosceles triangles generate the other crop-circle geometries.

What is most surprising is that all geometries give diatonic (musical) ratios. Never before have geometric theorems been linked with music.

Curiously, Hawkins could find no reference to such a theorem in the works of Euclid or in any other book that he consulted. When he challenged readers of Science News and The Mathematics Teacher to come up with his unpublished theorem, given only the four variations, no one reported success.

In July 1995, however, "the crop-circle makers . . . showed knowledge of this fifth theorem,"

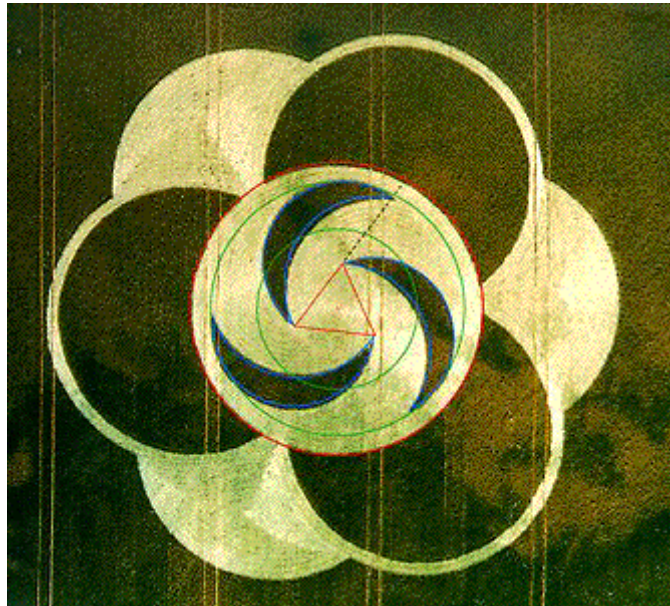
Hawkins reports. Among the dozens of circles surreptitiously laid down in the wheat fields of England, one pattern fit Hawkins' theorem based on the stringent definitions, on the rules established by the circles over the period 1980 to the present.

The Circlemakers responsible for this old-fashioned type of mathematical ingenuity remain at large and unknown. Their handiwork flaunts a facility with Euclidean geometry and signals an astonishing ability to bend living plants without cracking stalks, and to trace out complex, precise patterns, most under cover of darkness, with a few notable exceptions during daytime.

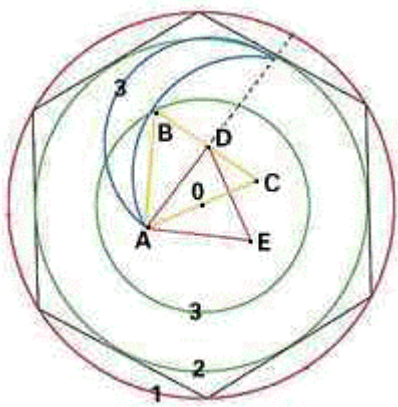
NOTE: The circlemakers' fifth theorem has been published in the Mathematics Teacher, the magazine of the National Council of Teachers of Mathematics. Get it through your local library, or order it for US dollars by e-mail Attention "Kay Reuter/Customer Service Dept"

orders@nctm.org Ask for information on how to order page 441, volume 91, Number 5. the issue for May, 1998.

Part 1



T 448 (Andrews Catalogue)

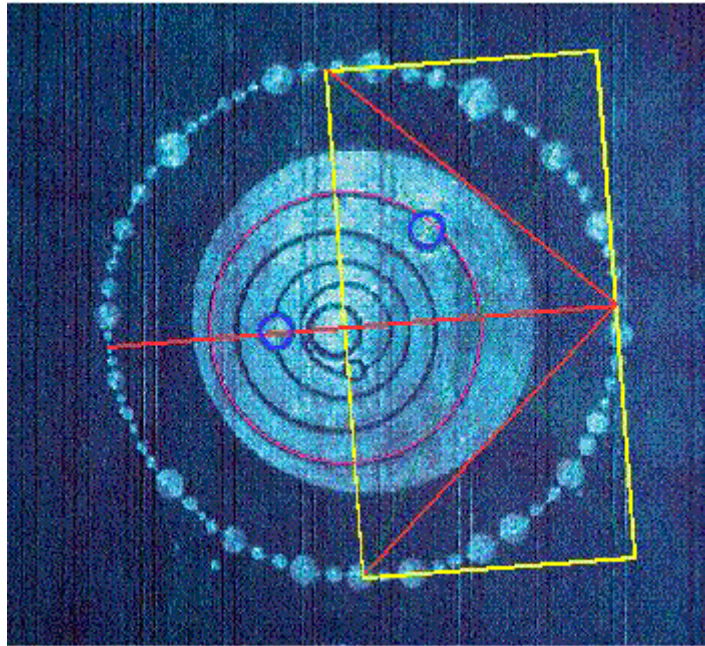


O is the center of circles 1,2,3, and the center of equilateral triangle ADE. ABC is also equilateral with height AD. The moon has center D, radius AD. But OB is also a height of triangle ABC, therefore circle 3 with radius OB is the same size as the moon. Circle 2 is tangent to the moon on OD produced, and circle 1 is the exterior circle of the hexagon tangent to circle 2. This construction fits the crop formation to within the limits of measurement, and we can find the areas of the circles exactly. They give diatonic ratios. From 1 to 2 we get a ratio of $4/3$, and from 1 to 3 we get closely a ratio of $10/3$.

This geometry is repeated three times by rotating 60° and 120° . The terminator or shadow-line of the moon is an arc of radius CB centered on C. Point B is exactly at the middle of the terminator, and exactly where circle 3 intersects the terminator. The circle of the disc of the moon also passes through E, that is why it touches circle 2 on OD produced. This makes the tip of the moon in the crop formation curve-in slightly from the outer circle. Is this all an artistic accident, or is it clever design? Are we supposed to discover where the triangles are, and the exact sizes of the three circles, 1,2, and 3? Is it confirmation of our work that when we get the answer the circles give diatonic ratios?

The six outer loops are embellishments giving a hint of the hexagon. The formation gives the rotational geometry, accurate to a few inches on the ground. The music notes are F and A in the second octave.

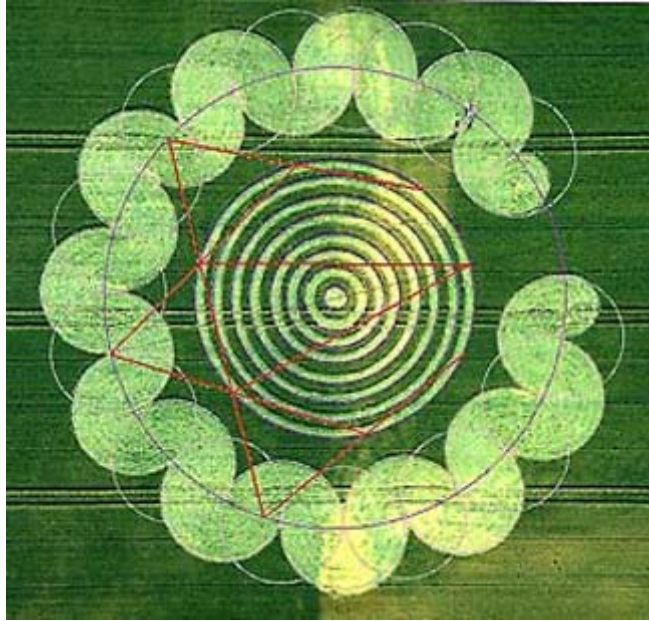
T367 (Andrews catalog)



Does this represent the sun and planets? The orbits are exact circles with slightly different centers and diameters of 0.5, 0.7, 1.4, and 2.6. Mercury, Venus, Earth, Mars, and the Asteroids have actual values of 0.4, 0.7, 1.5, and 2.8 --a pretty good fit. If so the nearest date indicated is 11 July 1971. One of the next dates is 30 August 2033, years away because we have to match the motion of three planets, Mercury, Venus, and Mars. By computer graphic measurement the Asteroid circle and the edge-circle beyond Mars give a diatonic ratio of 9/4, note D in the second octave. ([See CPRI Newsletter, Autumn/Winter 1995/1996, and 1996/1997](#)).

In astronomy, angles are measured counterclockwise from the over-size Sun at the center. The closest approach of Mercury to the Sun (perihelion) is at 75 degrees, and the angles for Mercury, Venus, and Mars are 189 degrees, 76 degrees and 303 degrees. The Asteroid belt is symbolic and does not give the position of any Asteroid in its orbit.

T370 (Andrews catalog)



This shows the equal-ring branch of theorem five. Eight equally-spaced rings are needed before you get to a non-equilateral diatonic triangle. It fits with the vertices on ring 8, and sides touching rings 7 and 2. It's an 8-7-2 triangle, diatonic ratio 16, note C in the fifth octave. Measurements in the field by Dowell and Vigay are in agreement with this photogrammetry.

Is this confirmed by the outer loop of circles? Perhaps so, because tangents to ring 7 exactly intersect at the ring of the outer loop, and the circles on this ring have diameters of 7 units.

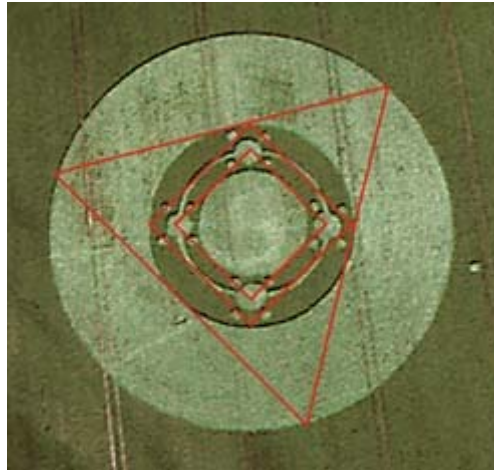
Part 2

T4 (Andrews catalogue)



Theorem I is the first crop theorem found, June 8, 1988. By rule 2 (see [Definitions](#)), the DIATONIC RATIO of the areas of the outer and inner concentric circles is $16/3$, note F in the 3rd octave. By rule 1, the ratio of satellite diameter to center circle diameter is 1:1, note C. Since there are 3 tangents the geometry is repeated by rotation 3 times. Field measurements by Andrews and Delgado agree with this photogrammetry.

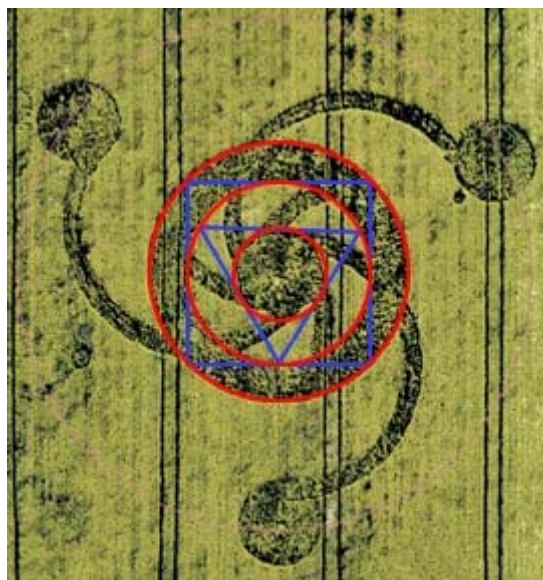
T359 (Andrews catalog)



Crop theorem II and then two applications of theorem III make the area of the outer circle 16 times bigger than the area of the inner disc. $4 \times 2 \times 2 = 16$, which is note C in the 5th octave. Are the circle makers confirming these theorems with the embellishment of the 16 small satellites?

Part 3

Andrews Catalog T287



This pattern contains crop theorems, but it is embellished with 3 paws, 3 legs and 6 spokes. Because of the fitted square, the ring gives a ratio of 2 by theorem III. The equilateral triangle and central circle is theorem II.

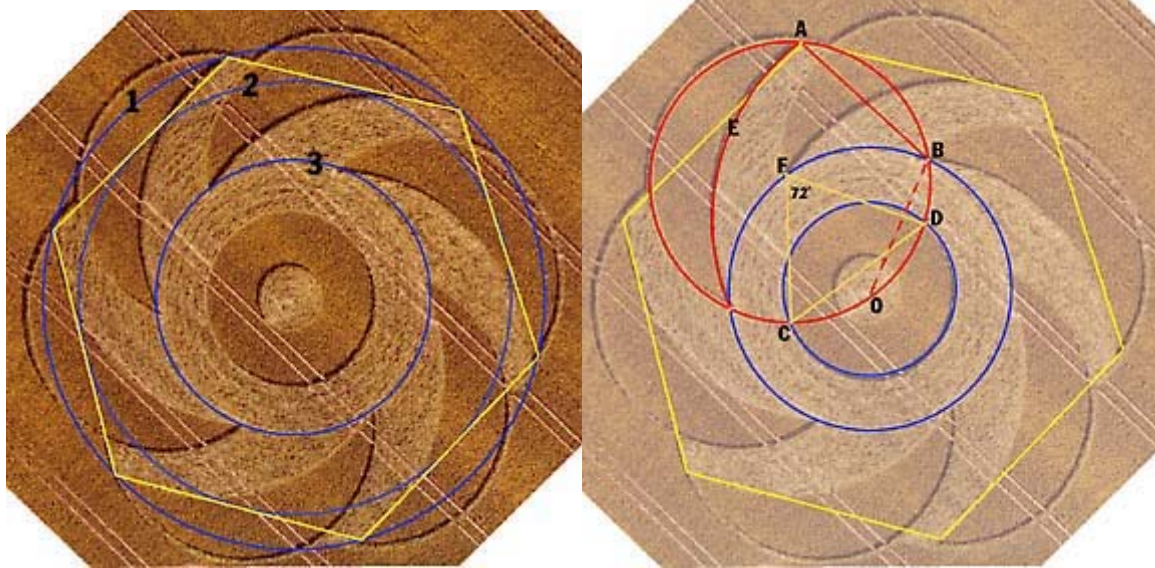
Andrews Catalog T340



Because the inner circle is inside a pentacle, which is also inside a pentacle, the outer circle and inner circle give a DIATONIC RATIO within less than 1% for note D in the 7th octave ([see rule 2, DEFINITIONS](#)). The exact ratio by Euclid is 4 times the golden mean raised to the 6th power, a value of 71.8. The loops in the Web Pattern are equally spaced concentric circles, starting with #4 and ending with #8. These give a DIATONIC RATIO of 4, note C in the 3rd octave.

Part 4

Andrews Catalog T482

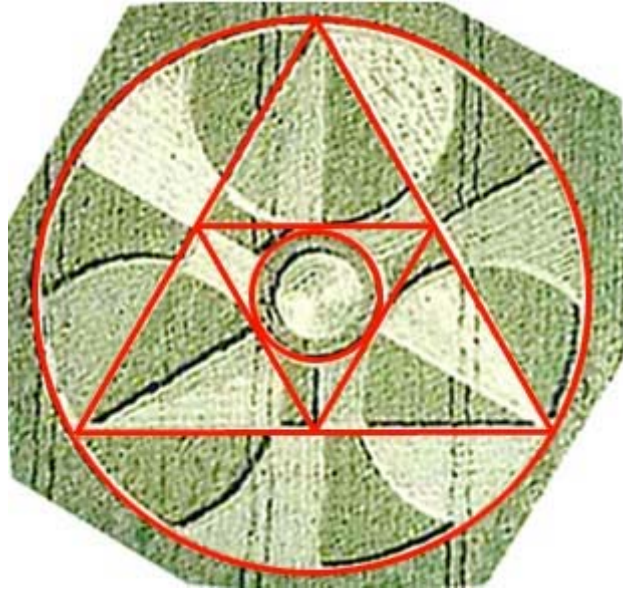


This combines the side of a hexagon, OB, with the side of a pentagon, AB, to get the radius of circle 1, OA. From Ptolemy's theorem of chords, with G equal to the golden mean and $OF=1$, we can prove that: $2OA = G + AB$ (square root 3), or $OA = 1,82709$. Therefore by Rule 2, circles 1 and 3 give a ratio of 3.338, note A in the second octave. By crop circle theorem 4 the hexagon circles 1 and 2 give a diatonic ratio of $4/3$, note F.

Is the raised circle a clue? D is the center of the arc of the crescent E. Angle CFD is 72 degrees, so CD is also the side of the pentagon.

This example of mathematical art gives the same diatonics as T448, notes F and A2, but the design is better. The diatonic circles now go through the tips of the moon, not the center, and the accuracy is 0.1%, not the previous 0.5%. Artistic as it is, the pattern contains math, and no previous artist has used mathematics as a theme. Ptolemy's theorem of 150 AD is a prehistoric landmark, because it is the foundation of trigonometry.

T487 (Andrews Catalog)



By rule 2, the area of the outer circle is four times the area of the inner circle, giving a diatonic ratio of 8/1, note C^{'''}, and letter C by the crop circle code. It is a double application of crop theorem 2, one equilateral triangle drawn inside another.

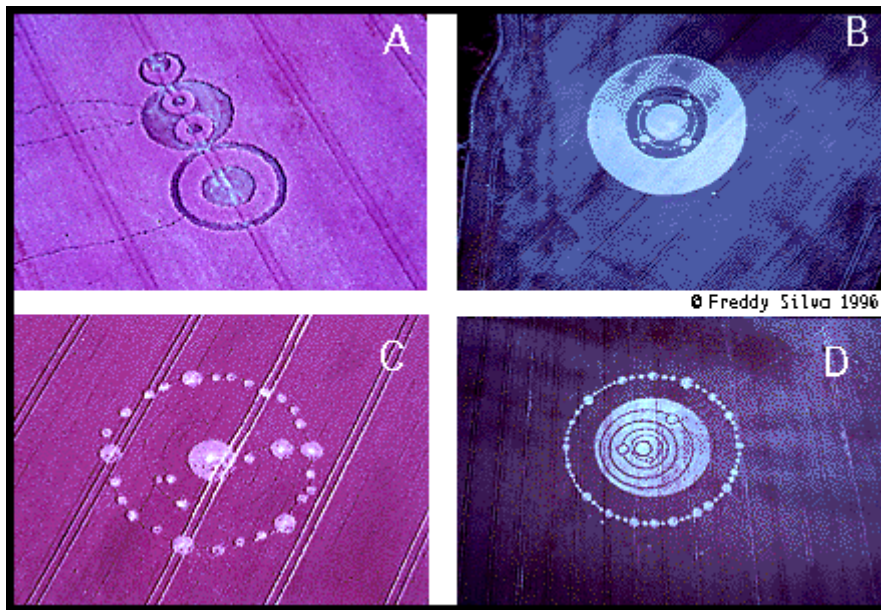
Infra red tests on crop circles.

By Freddy Silva

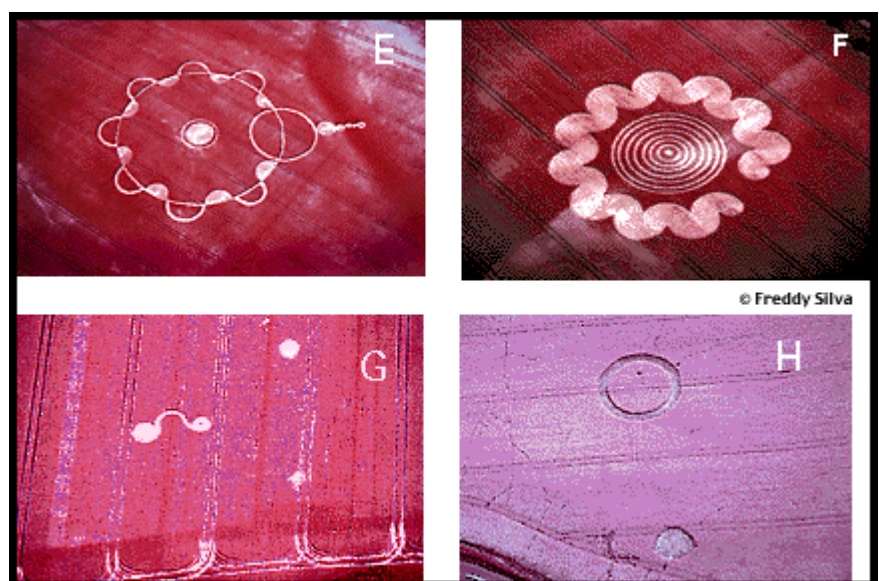
Several years ago Colin Andrews pointed to an interesting anomaly in crop circles: the appearance of crop circles atop watersheds or aquifers and the subsequent displacement of large volumes of water. This observation led to the suggestion of microwave energy as a prime motivating force behind the creation of crop circles.

Tests were subsequently done in Japan where stalks were placed in microwave ovens and baked to achieve similar physical effects found on the fields. Unfortunately, after about thirty seconds, the plants blew up and caught fire. This led me to believe that the reason why there was so much watershed displacement in the first place was that the water was literally being sucked out of the ground to counteract the burning affect of the microwave. After all, how could you explain that the ground inside a new, genuine formation is bone dry while the night despite heavy rain overnight? And that when cut, the bottom of the affected plant stems smells of a cooked, malty odour?

This is where I came in with the idea of using infra red film to help prove or disprove this theory. I had worked with infra red film years ago in college, mostly as an art form, but I was aware of the film's scientific capacity to capture heat in plants. In a nutshell, infra red film penetrates just below the surface of objects to retrieve heat-sensitive information. Consequently it is not too distracted by surfaces warmed by sunlight (the tarmac of a road surface, for example, will always show as black regardless of its surface temperature because the medium itself is lifeless). Its trademark is the bright red colour denoting the high chlorophyll heat dissipation present in foliage. It is a very contrasty film, so bright sunlight tends to wash out some of the results, so it is hard to scan properly onto a computer, so I apologize for the discrepancy of the quality of pictures here. Most annoying of all, it is very expensive to shoot.



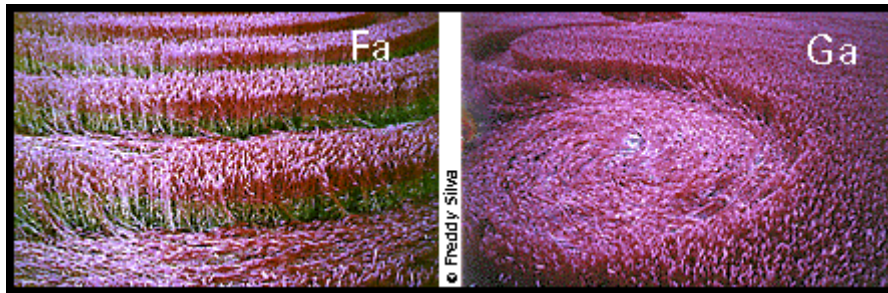
On July 7, 1995, Colin and I set out to cover a batch of formations from the air. These photos were shot within an hour of each other under similar weather conditions, so the protocol is consistent. First off was image A (Overton, 12 May), already decimated by visitors after almost two months on the ground. The flatness of this image denotes no unusual activity. Next was B (Telegraph Hill, 11 June); here I thought I had picked up something as the watershed was seriously disturbed. However, upon cross-referencing my standard film shots it was obvious that the patches were actually caused by passing clouds and not anomalous to features below the soil. The results in C (Alresford, 21 June) showed very minor patches of water displacement. However, D (Longwood Warren, 22 June) showed immense displacement moving towards the central area of the formation; this formation was just two weeks old when shot.



Then things began to get very interesting. At E (Cheesefoot Head, 4 July), the watershed was seriously disrupted, especially at the

point where the formation began- the tip of the tail. Then came F (Litchfield, 7 July), where not only was there serious disruption but the central strip actually showed up the dry chalk. Interestingly, a planned hoax at Whitchurch (G) on the same day showed no watershed disruption, as did another, older hoax near Andover (H).

Close-ups of the two most recent formations- Litchfield and Whitchurch- revealed a difference in the heat distribution of the plants. Similar in age and crop, shot under identical conditions, the Whitchurch (Ga) formation exhibited normal distribution of heat throughout the plant stems, as one would expect of a plant in its normal growing phase. At Litchfield (Fa), the heat pattern was disturbed from the ground up, as if the lower portion of the plants had been 'cooled down'.



By no means a conclusive discovery, these results nevertheless set up two interesting possibilities for future observation. Shot from the air, genuine formations show disturbance of the watershed within 48-hours of creation which, after a couple of weeks, gradually revert to normal. Hoaxed formations, on the other hand, reveal nothing unusual, regardless of the time period. On the ground, the difference was also obvious. [...continue](#)

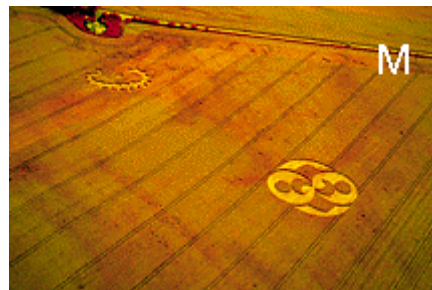
I was actually able to spend a little extra time in England in 1996 which meant that I could adopt better protocols based on the previous years' results. The availability of flights- actually, make that the unavailability- made overhead analysis very hard. As if by design, it turned interesting aspects of the research were discovered instead at ground level.

As expected, the Windmill Hill triple Julia (J) showed up the watershed nicely, even though it was 48-hours before we could shoot it from the air.

On the ground, the stems showed a nice burst of uneven heat dispersion, even after 36-hours. It was interesting to note that this time, the crop was shot when it was very mature. This has serious implications for infra red film: where as last year the crop was immature and showed up as red if normal, this year it would appear as yellow because it had stopped growing. Therefore, any bursts of red would indicate that something had augmented the plant's normal growth cycle. In photo K, you can clearly see that the Triple Julia was manipulated.



At the same location a week later (L), the heat levels had greatly dissipated and the plants were reverting to their normal pattern.



The same results were found at Chiseldon (M); both formations at this site lay along a clearly defined section of where a burst of heat appears to have increased in the plants.

At ground level (N and M.a), the plants showed an incredible burst of infra red, possibly due to our presence within just 12-hours of its appearance.



Now compare the same position a week later (M.b), under identical circumstances. Much reduced activity.

And now for the fun part- the Olivers Castle snowflake crop circle. I was very fortunate to have been one of the first people at the site the next morning, so that some form of uncontaminated evidence could be secured. This aerial shot (P) was taken around 7 AM, hence the mist (the halo is from the sun). But it shows, nevertheless, that there has been no watershed disruption consistent with genuine formations.



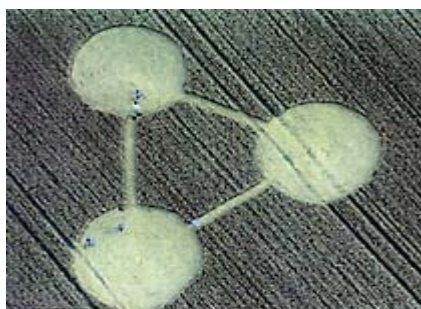
At ground level, the formation was disappointing for such a new arrival. The ground shots in fact reveal that there has been no disruption of the plants' heat structure (P.a), as was the case at Chiseldon and Windmill Hill. In fact, the only red in the picture is from a healthy weed.



It is important to note that these results are not conclusive by any means. That would require frequent photographic documentation of many formations over a period of at least two months. Every year. Sadly, unless I find a wealthy benefactor who is willing to accommodate me for that amount of time it just won't be possible to do. The alternative is for other photographers to get involved so that results can be pooled (although personally I wouldn't mind the first alternative!).

Subconscious communication in crop circles.

Images © Freddy Silva, Richard Wintle, Colin Andrews



While most of the information on this site has so far dealt with left-brain evidence, the most fascinating area of research involves the psychic connection between people and the Circlemakers. In terms of credibility it is perhaps the most controversial area of research, but I include it because we must be open to all possibilities if we are to figure out this incredible phenomenon. Laboratory science represents one end of the crop circle spectrum and it's only fair to balance this with channeling work at the other.

I am aware of the implications when I connect the word 'psychic' to this phenomenon due to what I call 'the kook factor'. Clairvoyance is a subject that has over the years attracted a large number of detractors. Credibility problems have compounded over the last three centuries by the rise in our mechanistic, Newtonian way of thinking; as a race we stopped connecting to the subconscious flow of universal life, relying instead on rational/scientific explanations. This has inevitably led us down a dangerous cultural cul-de-sac which has left us divorced from the unseen forces of nature. Ironically, at a time when church attendance is at its lowest, crop circles have begun to manifest.

Much scientific work by both the American and Russian military concludes that psychic ability exists; the CIA is known to use remote viewing/influencing; the Czech Army went as far as to print a book on ESP, remote viewing and dowsing. Today, psychics are enjoying a resurgence as more people with intuitive abilities are used to help the police and industry solve problems when 'normal' methods failed to do the job.

If we look at the human mind as a collection of waveforms and frequencies, it is possible to see how people have the capacity to see beyond normal limitations. The typical 'awake' brain works at a frequency of 30 Hz; when a psychic's brain is at work it has a frequency of 7.5 Hz. Interestingly, stone chambers and Gothic cathedrals produce frequencies which act on brainwave patterns and effectively drive down the brain's frequency towards the 7.5 Hz range. Such facilities are also present within crop circles. And since it has been established that crop circles are sited upon the same electromagnetic energy grid as ancient churches, cathedrals, stone circles, dolmens and other Neolithic sites, there is clear evidence that the effects upon the brainwave states of visitors has a pre-designed affect. So when crop circles visitors report heightened states of awareness, even a development of psychic ability, they should perhaps be taken more seriously.

In the early eighties, when the phenomenon was still presenting itself in simple circular shapes, it was observed how the phenomenon reacted to the thoughts of researchers. In one notable incidence, researcher Colin Andrews recalls how, after a day spent in a circle and pondering its cause, he cried out in frustration, "God, if only you'd give me a clue as to how these were formed." Within seconds, a high-pitched trilling sound surrounded him in ever-increasing volume. The same sound was witnessed and taped on several occasions at other locales, the most famous case involving the BBC cameramen who succeeded in capturing the sound on tape before a £35,000 camera fried. This sound was eventually confirmed by NASA's JPL as mechanical in nature, and containing a harmonic of 5.2 kHz.

In two separate incidences both Colin and pilot Busty Taylor predicted actual events; Colin had dreamt of a Celtic cross pattern, never before seen. The following morning a local farmer telephoned him to report a Celtic cross crop circle had materialized in a field beside Colin's home. In Busty's case, he had been doing aerial reconnaissance with a colleague when he remarked, "all we need right now is to see all the designs that have appeared so far rolled up into a Celtic cross." The next day he flew over the exact same field where 24 hours earlier he had uttered this remark and below lay a perfect Celtic cross. Coincidence?



They were not the only ones to have predicted designs before they appeared in the fields. Noted author Barbara Hand Clow vectored an unusual design as she began to work on a new book related to consciousness. The next day, the same design appeared beneath Barbury Castle- the most complex design to date (*right*), one of the most important esoteric, philosophic and Qabbalistic symbols and certainly not an archetypal symbol.

In 1992 a scientific experiment was conducted to see if some type of subconscious communication was indeed going on between certain individuals and the Circlemakers. In a closed experiment by Steven Greer/ C.S.E.T.I., four researchers, and psychic Maria Ward, the team agreed to project a design. Sitting at night at the summit of Woodborough Hill in Wiltshire (which coincidentally stands on a geodetic line connected to Avebury stone circle), the group spontaneously agreed to project a pattern consisting of three circles arranged in triangular fashion. Maria suggested adding straight lines to the center of each circle at the last minute. Upon agreement the thought sequence began.



The following morning a report came in of the projected image having materialized some miles away as a crop circle, below Oliver's Castle (also on a major geodetic line). The match was identical. Mathematician Gerald Hawkins, who had already proved that certain crop circles contained geometrical theorems based on Euclid, proved this crop circle contained a diatonic ratio, a mathematical relationship never found in hoaxed patterns. But the story doesn't end there. Across the Atlantic, a gentleman in New York State had previously contacted CPRI about a dream on June 28 that a crop circle consisting of three circles connected by three paths within an equilateral format would appear in England on the 23rd July. This was indeed the same pattern that was discovered on the morning of the 24th during the CSETI/CPRI operation.

A similar experiment was carried out a year later by members of the Mars Mission, Collette Dowell and Carl Munck, along with a small group of researchers and highly respected channelers. The basis of Project Mind Link was to create the crop circle, then sit inside it and project the design- made according to specific mathematical equations. A month later a formation bearing a striking similarity to the projected design appeared in Guildford, Surrey. The design rearranged the circular features and placed them within the triangle. Some would see this as simply too coincidental, yet consider that this crop circle was itself a mathematical theorem, one of Gerald Hawkins' Euclidean-based new crop circles theorems. The group had projected a mathematical idea and received one in return. The size of the crop circle was exactly 100 times the size of the one made by the group, and used an obscure system of measurement, the Megalithic Yard.

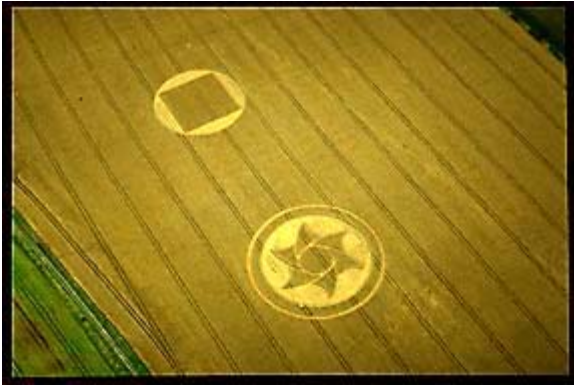
One person who has repeatedly been in contact with crop circles energies is Isabelle Kingston. The gifted daughter of a doctor, Isabelle had a successful career in banking and finance before getting the call to develop her channeling skills. She is a modest, self-effacing person who readily admits she is the unlikeliest person to have had any kind of dealings with the supernatural, let alone the Circlemakers. Today she is world-renowned for her sensitive abilities. She shuns that self-appointed ego which surrounds many mediums; she plays down 'mysterious powers', and makes no outrageous claims. She is a normal human being, straightforward and honest.

Since 1984 she has received detailed accounts from the Circlemakers concerning events prior to their unfolding: she has consistently predicted the physical appearance of each year's designs, their locations and their timings. Her work is done both lucidly and in a state of trance but never inside crop circles since, she claims, the energies are simply too strong for her. Her communications are often witnessed and taped.

The bulk of her communication comes from a group consciousness named The Watchers, who have guided humanity for thousands of years. A reference to these beings can be traced back to the Egyptian Gods, the Neteru (literary translates as the Shining Ones, synonymous with the Watchers). They were behind the construction of many of our sacred sites, especially Silbury Hill (coincidentally, Sil-bury means 'hill of the shining ones').

These sites were erected as an insurance policy at a future time when humanity would be in need of help. And that time is now.

According to the channeled information, crop circles are places of power which are linked to natural elements for the purpose of charging the energy grid, which will enable the environment and humanity to overcome the present crisis. It is a stabilizing process. Some formations are linked with higher forms of universal consciousness (presumably why people react emotionally to genuine formations and not with hoaxes).



The crop circles were predicted to produce certain physical effects on people, and hundreds of people have experienced healings, unusual clicking sounds, and unusual metabolic effects when visiting the sites.

Most revealing about the channelled information is how the crop circles are created using a combination of thought processes, electromagnetism and acoustics, and encoded within a light beam. Light beams have been verified by eye-witnesses, who've taken photographs, even filed police reports. Again, it is

important to note that both these facts were not being made public at the time so the chances of collusion are very remote.

The Watchers went on to describe how individuals can communicate with the energies present in crop circles through meditation and projecting thoughts of love. Also, by opening the self to the elemental energies, anyone can develop the ability to tune-in when and where a crop circle will appear. In 2000, I was driving past West Kennett long barrow with Isabelle Kingston, when I remarked to her how the field beside 'was ready to pop'; Isabelle concurred there was an energy build up, and a formation was imminent. Twelve hours later, a new crop circle appeared.

Most telling of all are the messages declaring the intention of the Circlemakers. I leave you to ponder these brief statements with an open mind: "How we would like you to understand the mysteries in true clarity- but the minds of many have yet to open fully, and thus the work is painstaking and slow. We regret that much {frivolous} interest has been shown, and in some ways this is contravening the energies. Seek not in the physical, but seek in the spiritual, for this is where the imbalance lies. You also must realize that the energies being transmitted at this time are a combination of all elements and all elemental beings as well as inter-planetary information. There is a coming-together, therefore one source is not the whole picture, and many varying types of information might well be given. It is a time for all to work together- thus all must pool their information and find that a vein of pure gold will run through. There is a new code of understanding being transmitted. Seek not to accept the barrier {of rationality}. It is a blueprint of a new energy-coding {that is} coming on to the planet. We have communicated before many times: it is usually through thought-processes, but now it needs to be seen. Changes are occurring in all people- this sometimes stirs up anxiety and strife before the operation is complete."

Interestingly, recent measurements of energy levels in plants show how their vibrational level has risen over the decade; blood samples from children born in the last fifteen years are showing new strands of DNA being activated. It seems that changes in organisms are already underway.

In 1997, a colleague of Isabelle's, an American channeler (an accountant by trade!) successfully predicted nine out of ten crop circle designs, months before the season began. This person has been psychically gifted since childhood and has directly channeled information from the Circlemakers too. She predicts events, locations and specific details of designs, but receives direct information from specific entities involved in each design (it's not just the Watchers who are involved) which has on many occasions been later corroborated by in-depth research into obscure mathematical and esoteric sources.

In 1998 this person again received important information regarding crop circles in England.

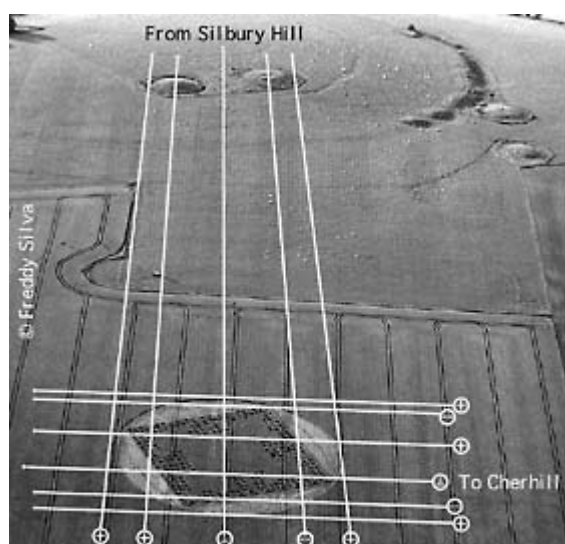
It appears that as the energy used in making crop circles increases over the years (now verified by special detection equipment) so too is the residual energy felt in and around them. Not only did I witness this toward the end of the season but also felt an unusual and severe discomfort. A third witness who was traveling with us- a novice to crop circles research- corroborates this. A large number of 1998's crop circles inevitably contained energy levels of a disruptiveness. This was necessary, according to the Circlemakers, to shatter certain energies on Earth and within certain individuals. Individuals should have been able to detect a sharp pain in the cranial area, especially behind the eyes. While this energy will not be harmful it, would have disrupted the body's systems as these were realigned, brought into resonance with the new energies at work. This is of special concern to all those who in the past have experienced healing energies in the circles and feel that they have 'been worked with'. Extra-sensitive people will feel the errant energies well outside the perimeter of new crop circles.

One description of a crop circle late in the 1998' season was the resemblance to shards of glass. This turned out to be the double-pentagram at Beckhampton (see 1998 Crop Circles), whose energy could be felt up to a quarter of a mile away by many sensitive people. We were barely able to stay inside the crop circle for fifteen minutes before having to leave with severe headaches and mass dehydration, something that has never happened to us before despite hundreds of incursions into crop circles of all ages. Such symptoms are usually attributed to infrasonic exposure, or microwaves.

A number of reports have also been compiled concerning strong energy pulses along geodetic lines, disrupting nearby electrical connections and making people who happen to cross them feel tremendous pressure in the body.

Tracking crop circles through dowsing and psychic ability.

by Freddy Silva, © 2000

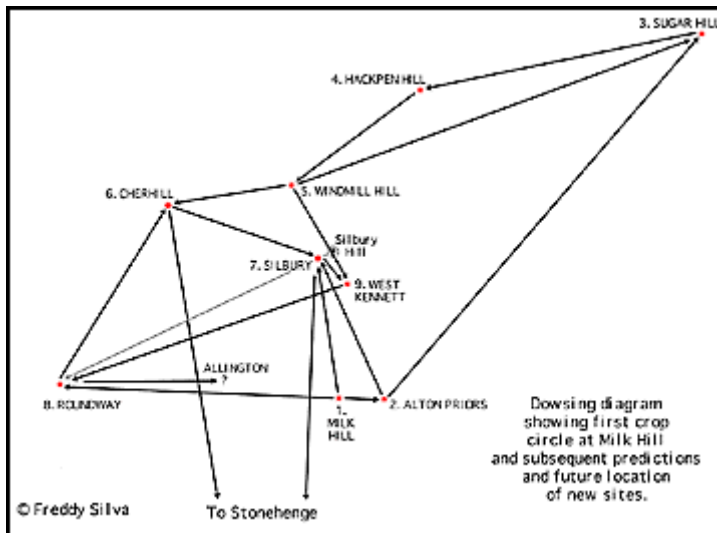


Crop circles appear on the same EM energy lines as Neolithic sites, even sharing the same polarities. This example at Windmill Hill also shows how one crossing line predicts the site of the next formation.

During the 1999 crop circle season I undertook a closed experiment to track forthcoming crop circles via dowsing. Since crop circles have been proved to materialize at intersecting lines of the Earth's electromagnetic currents, the aim was to see if a correlation existed between one event and subsequent manifestations, or whether the crop circles were simply appearing at random. Four people, mostly in America, were kept informed of this confidential experiment as it progressed, so as to prove the findings and predictions.

The test area was based on the groupings of circles around the Avebury stone circle, since this is perhaps the world's most active crop circle location.

The first crop circle below Milk Hill generated a line that extended eastwards to the East Field at Alton Priors, a standard location for crop circles in prior years; the other line ran off in the direction of Roundway but was not active at the time.



When a serpent design appeared at Alton Priors it did so upon the said east/west line from Milk Hill (a second formation nearby later proved to have been hoaxed, and it did not register any EM energy). The serpent design carried within its tilted head a third line that extended northeast towards the Neolithic hill fort at Uffington.

Nailing the precise location along these lines where the next formation was to appear was problematic at first- particularly since these geodetic lines encircle the entire globe. That was until the next crop circle appeared at Sugar Hill. By dowsing back at

Alton Priors and establishing the length in miles to the following pattern, a protocol was established which, as the season progressed, could be fine-tuned to the degree that predictions became less than two fields away from actual manifestation.

Given this route, the Sugar Hill formation gave precise coordinates for the next crop circle below Hackpen Hill. This pattern followed for the rest of the season (see diagram *right*). Although many more crop circles appeared throughout this 40-mile radius, very few dowsed for EM energy or contained physical evidence particular to genuine crop circles; while it is believed a good number of formations were hoaxed, a number of genuine designs could not be included in this diagram due to logistics of keeping track of all crop circles that season.

The biggest problem of this exercise revolved around timing. Time is a purely human invention which seeks to delineate a point of reference on this third dimensional world. Dowsing or intuitive faculties, however, connect with a realm in 4-D, where time is not relative to the 3-D world (this is already an established theory in quantum physics. When accessing these faculties it is almost impossible to predict any event with perfect accuracy with regard to time simply because the two frames of reference are incompatible; even the most prominent psychics- some of whom have 100% track records helping police solve murder cases or finding missing persons- find pinpointing future events difficult, at best. Isabelle Kingston, the channeller who has for two decades predicted crop circles with remarkable accuracy, acknowledges this, even though she is rarely more than 24 hours out in her predictions.

During this summer, however, I linked up with another psychic, Jane Ross, who has on many occasions predicted formations with remarkable accuracy. Together with Isabelle Kingston and researcher Paul Vigay, I shared my prediction that the major formation of 1999 would materialize at Roundway, a fact that all three unanimously agreed with.

When Jane arrived from America I took her one afternoon to the prominent hill at Roundway and showed her the field most likely to contain the upcoming formation. Using her abilities, Jane felt the energy was actually swirling two fields away. We could see this whirlpool of liquid air rotating counterclockwise a few feet above the wheat. Jane felt that the formation was already programmed into the spot and would materialize Friday night/Saturday morning, so we felt we should set up watch that night, particularly as the lookout point was some 300 feet above the field and provided an excellent opportunity to capture a crop circle forming. I took the extra step of booking a plane to fly over the formation at the first available opportunity on Saturday morning (the site was not revealed to the pilot).

When Friday night came we were ready to drive to Roundway Hill, complete with cold weather gear, flasks, and the sheer excitement of finally being witnesses to a crop circle forming. But as the moment of departure approached, a sudden tiredness overcame us, and as much as we wanted to go and stake out the event, we were simply overpowered by an overwhelming desire to sleep.



At eight o'clock on Saturday morning I kept my appointment with my pilot and instructed him to fly over Roundway. He didn't see the point as he'd flown over the site at 9 PM the previous evening, and said that the area in question was devoid of crop circles. But as the mist cleared below, a massive imprint revealed itself- a double heptagram which easily dwarfed the nearby electricity tower (*above*).

Later I asked the farmer for permission to examine the formation. We lasted about seven minutes inside it before succumbing to severe dehydration and nausea. The [dowsing](#) pattern of energy was also the highest ever recorded, with hundreds of ripples emanating from the epicentre. This was corroborated by Jane's channel who said that we had been deliberately made to avoid the area in question that night because the energy used to generate the crop circle would have been extremely detrimental to our physical health.