# CRYSTALLINE CANOPY THEORY

Crystalline canopy theory

*crystalline canopy theory*



“he hath made the earth by his power, he hath established the world by his wisdom, and hath stretched out the heavens by his discretion” (jeremiah 10:12).

*Abstract:*

In this paper the firmament (*raqiya*) that was divinely made on day two is held to extend throughout space as a universal *macrocosm* expanse of lattice structure consisting of charged subatomic particles. These particles formed the structure that would later stabilize the universal arrangement of stellar bodies and various atomic elements. Recent analysis of astronomical polarization data demonstrates that the universe has an optical axis, and the universe appears to behave in a similar way as a crystal with optical activity.

Simultaneously, in order to focus the benefit of universal radiation, the firmament is held to be localized as a thin *microcosm* complex of crystalline structure suspended directly above earth; this structure consisted of strong magnetic flux lines holding *silicate sugilite*, hydrogen, water molecules and possibly various metallic colloids in its force field. Water in earth’s spherical mass was utilized in its solid form in making the localized crystalline firmament, and was simultaneously distributed throughout space in its various molecular forms in the establishing of the firmament as a universal expanse. Earth’s local crystalline canopy in its physical design would uniquely absorb and transfer the radiation of the stellar bodies that were later placed in the universal expanse. These stellar bodies were made to be an orchestrated symphony of mass, energy and radiation, specifically designed to benefit planet earth and its inhabitants.

The firmament as a universal expanse, and its localized crystalline structure suspended above the earth in the original pre-flood creation, are viewed as one seamless whole in the concept and usage of the hebrew word *raqiya*.

*Introduction:*

Writing in *nature*, secular author colin russell announced the unexpected research discovery that “science is deeply indebted to christianity” for scientifically consistent concepts involved in its basic tenets.[1] in keeping with reliance on the scriptures and attendant reports in the scientific literature, this research paper is offered.

The biblical statement in the introduction of the creation event affirms that god spoke, and the universal energies were materialized. “and god said, let there be light, and there

was light."[2] "for he spake, and it was done: he commanded, and it stood fast."[3] physical laboratory experiments have now demonstrated that sound, in the presence of water, can materialize full spectral light.[4]

Observing that the biblical record describes the watery earth as the first entity created in the space-time dimension (*shamayim*) on day one, the planet would be central in the mind and purpose of the creator, and would uniquely benefit from the universal design. It logically follows that stellar bodies made later in the creation week would be structured with energies that bathed the universe, and specifically benefited planet earth. We should give attention to the subtle, but definitive, distinctions in the hebrew meanings of the words "create" (*bara*), "make" (*asah*), "form" (*yatsar*), and "establish" (*k/quwn*). To this end the firmament is seen as a major construct in the efforts of the creator.

*Hebrew definition of raqiya:*

Various commentaries and study bibles represent the firmament as simply the expanse of space and the heavens. However, the hebrew word *raqiya* (translated "firmament"), while including the dimension of space, requires a structural crystalline lattice in its literal definition. *Strong's hebrew and chaldee dictionary*:

> 7549. *Raqiya*, from 7554; an expanse, i.e. The firmament or (apparently) visible arch of the sky: - firmament.[5]
> 7554. *Raqa*, a primary root; to pound the earth (as a sign of passion); by analogy to expand (by hammering); by implication to overlay (with thin sheets of metal); - beat, make broad, spread abroad (forth, over, out, into plates), stamp, stretch.[6]

*Theological wordbook of the old testament*:

> *Raqia*, firmament. Literally "an expansion of plates," i.e. Broad plates, beaten out.[7]

Of significance is the passage in job 37:18: "hast thou with him spread out the sky (hebrew, *shachaq*), which is strong, and as a molten (hebrew, *yatsaq*) looking glass?" *Strong's hebrew and chaldee dictionary*:

7834. *Shachaq*, from 7829; thinness.[8]

7829. *Shachepheth*, a primary root; to emaciate, i.e. Make (become) thin.[9]

3332. *Yatsaq*, a primary root; to pour out; by implication, to melt or cast as metal;

By extension, to place firmly, to stiffen or grow hard: - cast, cleave fast, be

(as) firm, grow, be hard, lay out, molten, overflow, pour (out), run out, set

Down, steadfast.[10]

*Ancient firmament concepts:*

The jewish historian *josephus* gave a concise description of the hebrew conception of the firmament: “after this, on the second day, he placed the heavens over the whole world, and separated it from the other parts; and determined that it should stand by itself. He also placed a crystalline firmament around it, and put together in a manner agreeable to the earth, and fitted it for giving moisture and rain, and for affording the advantage of dews.”[11]

The hebrew *targums and rabbinin literature* offer further details: “and god made the firmament, its thickness being three fingers between the limits of the heavens and the waters of the ocean.”[12]

The hebrew *midrash rabbah* sheds further light: “and god said: ‘let there be a firmament in the midst of the waters.’ it is written, ‘who roofs thine upper chambers with water, or who layest the beams of thine upper chambers in the waters’...when the holy one, blessed be he, ordered, ‘let there be a firmament in the midst of the waters,’ the middle layer of water solidified, and the nether heavens and the uppermost heavens were formed.”[13] in this passage we have the jewish distinction between the “solidified firmament” (in which energies would be received to bathe earth) separating the “nether- heavens” (in which the birds would fly under the firmamental canopy), and the “uppermost heavens” (in which stellar bodies would be placed). Scripture holds to three (and only three) “heavens” (2 corinthians 12:2).

Egyptian, greek, and roman ideas erroneously envision a “vault” in which the celestial bodies were located.[14] in contradistinction, the hebrew concept refers to the *earth (josephus)*, the crystalline *firmament (josephus, targums, and midrash)*, and the expanded *heavens (josephus, targums, and midrash)* as being distinctive entities, yet each interrelated and each containing water from the first day of creation. Of notable distinction was the crystalline firmament whose structure would benefit the earth by stimulating the production of moisture and heavy dews (dews that sometimes condensed as light rain).

It is interesting to note that a parallel representation of these three distinct entities in hebrew literature is found in ezekiel’s vision of heaven. The first distinction is that of the stretched-out crystalline firmament upon the heads of the living creature(s): “and the likeness of the firmament upon the heads of the living creature[s] was as the colour of the terrible crystal, stretched forth over their heads” (ezekiel 1:22).

The second distinction is that of the abode where the worshipping creatures resided: “and under the firmament were their wings straight, the one toward the other: every one had two, which covered on this side, and every one had two, which covered on that side, their bodies” (ezekiel 1:23). A description involving acoustical effects is attributed to the crystalline firmament above the heads of the worshippers: “and there was a voice from

the firmament that was over their heads, when they stood, and had let down their wings" (ezekiel 1:25).

The third distinctive is that of the expanse above the crystalline firmament – the expanse in which god's throne was suspended: "and above the firmament that was over their heads was the likeness of a throne, as the appearance of a sapphire stone: and upon the likeness of the throne was the likeness as the appearance of a man above upon it" (ezekiel 1:26).

Ezekiel's summation of the visual effects involving the three distinctives is found in chapter 10, verse 1: "then i looked, and, behold, in the firmament that was above the head[s] of the cherubim there appeared over them as it were a sapphire stone, as the appearance of the likeness of a throne" (ezekiel 10:1). It is possible that the radiation from the throne in the expanse was transferred through the crystalline firmament, visually and acoustically affecting the worshippers below.[15]

*Scientific feasibility of canopy model*:

Our discussions here will encompass the universal expanse and the canopy above the earth, both entailed in the hebrew use of *raqiya*.

*Firmament as the universal expanse...*

The definition of *raqiya* and the hebrew concept of its substance involve the total expanse of the heavens. In keeping with this concept, the expanse of space fabric and the mass within its construct are, in fact, now perceived by astrophysicists to be an all-encompassing cosmic web. *Science* reports that "[r]esearchers now realize that [the stars] are embedded in a filamentary structure of matter both dark and visible, called the cosmic web...galaxies are distributed not randomly but along the tendrils of the cosmic web."[16] "the universe is permeated by a network of filaments, sheets, and knots collectively forming a 'cosmic web.' "[17]

Actually, the vacuum of space is not empty, but is a seething sea of virtual particles.[18] the space vacuum influences the atom,[19] and the expanse is a "single seamless whole."[20] in this expanse of influencing energies a consistent structure has emerged:

> Carl david anderson discovered in 1932 a particle, having the positive charge of the proton, and the mass of the electron. The particle, named the positron, is therefore a "sister-particle" of the electron: both particles have equal masses and equally opposed electric charges which can neutralize each other.
> Anderson's experiments showed also, that when a gamma-ray energy amount, or quantum, of no less than 1.02 million electron volts (1.02 mev) is absorbed in any point of space, a free electron and a free positron emerge out of this point.
> Inversely, when a free electron meets a free positron, the two nuclear particles may disappear in a point of space, out of which will then emerge two (at least) gamma-ray quanta, of combined energy equal to 1.02 mev.[21]

Physicist m. Simhony of hebrew university has introduced a very insightful thesis. In keeping with these physical observations and measurements, professor simhony has calculated an *electron-positron lattice* permeating the entire fabric of space.[22] this lattice pairing of subatomic particles in space is illustrated by the positive-negative atomic lattice pairing of charges in the sodium chloride crystal.[23] physicist dietmar rothe has enlarged on simhony's original thesis, and has suggested the lattice pairing to be more like 10,000 times farther apart than originally estimated, due to the bare charge of an electron being "masked" by its induction in the vacuum. This makes the electron-positron lattice essentially transparent to the passage of nuclei and electrons of ordinary objects as they move through space.[24]

Further corroboration of the crystalline structure of space has been provided by the research of borge nodland and john ralston, and has been reported in at least three peer-review scientific journals:

> "in 1997, borge nodland and john ralston found in their analysis of astronomical polarization data that the universe had an optical axis: it was circularly birefringent. The universe appeared to behave in a similar way as a crystal with optical activity: it rotated the polarization direction of linearly polarized light. This cosmic 'quartz crystal' had an optical axis parallel to the direction aquila-earth-sextans."
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> Nodland, b., and j.p. ralston, "indication of anisotropy in electromagnetic propagation over cosmological distances" *physical review letters*, 78:3043-3046, april 21, 1997.

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## Universe's optical axis of rotation

The universe might be behaving like a birefringent crystal in which light moving in one direction behaves differently from light traveling in another direction.

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> "the team made the finding by studying the polarization (orientation of electric fields) of radio waves from 160 distant galaxies as measured in previous experiments by astronomers around the world. Nodland and ralston found that the plane of polarization of the light rotates like a corkscrew as the light travels through space, and that the orientation of the universal axis that they've discovered is key to the amount of rotation. The rotation of polarization depends on the angle at which the light moves relative to the axis and on the distance the light travels before being measured. The effect is crudely analogous to that of a crystal that twists light depending on the direction light is

traveling through the crystal. ... the data indicate that light actually travels through space at two slightly different speeds."

"all space is not equal: physicists find axis that gives the universe orientation," *university of rochester news*, april 17, 1997.

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"surprisingly, we [borge nodland of the university of rochester, ny, and john p. Ralston of the university of kansas] found that a wave's polarization plane undergoes an additional rotation that is very different from faraday rotation. The amazing thing is that the new rotation depends on the *direction* the wave moves through space. This is reminiscent of how a birefringent –or electromagnetically *anisotropic*- crystal changes the polarization plane of light passing through it in a way that depends on the direction the light travels through the crystal....

Since the new rotation we find has such a systematic directional dependence, it is implausible that it is generated by cosmic ions and field via some mechanism similar to the faraday effect. One may therefore surmise that it is the vacuum itself that flaunts a form of electromagnetic birefringence, or anisotropy – similar to the birefringence exhibited by many crystals."

*Physics news graphics*, american institute of physics.
Www.aip.org/png/html/birefrin.htm

So space itself is essentially occupied by a crystalline lattice of subatomic particles, and transports light as a crystal with optical activity, thereby meeting the "expanse" definition of *raqiya*. This lattice supports the "tendrils of the cosmic web" and provides orientation for the physical components of the universe. As would then be anticipated, "...all of the masses, charges, and other properties of subatomic particles arise from a uniform chorus of violins playing a symphony of different notes."[25] "...as if by a chain, our planet's surface is connected intimately with the space environment."[26] scripture anticipated this universal interconnectedness in hosea 2:21,22: "and it shall come to pass in that day, i will hear saith the lord, i will hear the heavens, and they shall hear the earth; and the earth shall hear the corn, and the wine, and the oil, and they shall hear jezreel."

*Firmament as the localized crystalline canopy...*

*Earth's magnetic field necessary to suspend the canopy*. On the first day of creation the spirit of god moved (or fluttered) upon the face of earth's spherical waters. Water molecules are designed to function in random motion under normal conditions; however, these molecules can be constrained to align if sufficient energy is imposed upon them. In turn, the small magnetic field of each molecule is shared with the total magnetic moment of the water volume, temporarily generating a field of large moment corresponding to the

sum total of the individual magnetic fields (the actual physical agent primarily contributing to this field of energy would be the hydrogen nuclei[27]). In modern science this is known as the "magnetic domain theory."

Depending on the volume of water, an independent magnetic field of significant moment would be produced over the watery planet.[28] in the process, copious amounts of free oxygen and free hydrogen in gaseous form would be released above the surface of the waters, due to the effect of electrolysis.[29] these free gases would naturally collect in the flux lines of force in earth's newly-generated magnetic field. Astrophysicists have actually discovered a wall of hydrogen gases around the earth and another around the solar system.[30]

Upon cessation of the fluttering activities of the spirit of god, the water molecules would naturally return to their designed random motions. The powerful magnetic field suspended through, and above, the watery earth would begin its natural decay, unless a mechanism was put in place to maintain its moment of electromagnetic energy. The crystalline canopy (attended by earth's stabilizing core that was established on the third day) provided just such a mechanism.

*Crystalline candidate #1: silicate sugilite lattice.*

In the interest of scientific inquiry at least eight candidates for the localized crystalline canopy have been considered. The first of these, *silicate sugilite*, offers the most promise, and is supported by rigorous scientific calculations.[31]

Dr. Edward boudreaux (professor emeritus, university of new orleans, ph.d., ms, bs, chemistry and chemical physics) and eric baxter (ms [physics], ms [theoretical physics], bs [physics], research associate, university of new orleans) have produced a monumental work in creation science.[32] their work demonstrates that, given water to be the first material substance of creation (genesis 1:1-3), all naturally occurring chemical elements appearing in the periodic table of the elements can be derived from water per se in less than three days.[33] their work introduces the possibility of selecting elemental candidates from which to run calculations for the crystalline canopy.

Their work demonstrates that a 2-cm-thick silicate sugilite crystalline canopy could be suspended eleven miles above the pre-flood earth.[34] the model envisions a 95% radius to the earth under pre-flood conditions. In further consideration, if we propose a 1-cm-thick canopy suspended ten miles above a pre-flood earth with a 95% radius, the energy required to keep it suspended is appreciably less.

Geologists have offered various suggestions regarding the origin of the vast amounts of silica deposited worldwide. If our model is correct, the collapse of the canopy at the time of the flood could explain the origin of these deposits. The additional chemical elements in the sugilite would readily absorb into adjacent soils, and the silica would be left to form the vast deposits we find on earth's surface today. Sugilite in its composite form has been

found in south africa, southwest japan and central provinces in india.[35]

*Crystalline candidate # 2: canopy as metastable hydrogen lattice.*

If it were assumed that hydrogen and oxygen (atomic elements in the vast volume of water created on the first day) were the primary elements the creator used to make the firmament on the second day [see also 2 peter 3:5] we must at least consider the possibility (however unlikely) that a thin, metastable, superconductive lattice of hydrogen (interlaminated within thin layers of ice in the flux lines of earth's magnetic field) might have comprised the crystalline canopy of genesis, chapter one.

Free hydrogen is usually understood to be a gas, but it is specifically listed as a metal at the top of the periodic table of elements (group 1a – alkali metals). Metastable hydrogen has been discussed among physicists as theoretically holding the potential to maintain its crystalline metallic structure following the metastacizing process.[36] this potential is illustrated similar to diamond carbon atoms maintaining their crystalline structure after extreme pressures and high energies have been released.

Laboratory experiments have confirmed that, even in tiny amounts, solid hydrogen becomes superconductive.[37] a superconductive material levitates when suspended in the flux lines of a magnetic field.[38] in most of the physical experiments with metallic hydrogen performed to date, extremely cold temperatures are required. However, "pressurized hydrogen would become a superconductor and remain one even under temperatures as high as...200 degrees kelvin (minus 73 degrees celsius).[39] in 1979 mao and peter m. Bell created the first solid hydrogen at room temperature by raising a sample to a pressure of 57 kilobars [equals 57,000 atmospheres of pressure].[40] *such extreme pressures would be impractical in the structuring of earth's crystalline canopy; however, this difficulty could be overcome if the magnetic flux lines were extremely intense.*

Under specialized conditions pressure and magnetic intensity are interchangeable: "pressure has the same units as energy...the two should be equated."[41] it is to be remembered that "[o]ne tesla (t) is 10,000 gauss (g). Earth's magnetic field is about 0.5 g [on the surface]."[42] "...[t]he interplanetary magnetic field has the value of 5 nt."[43] "a magnetic field exerts pressure on the material producing it. At 100 t, the pressure [would be] in the range of 100,000 atmospheres or nearly 1.5 million pounds per square inch."[44] so, in theory at least, the calculations permit intense energies equating with extreme pressures, and a solid metallic hydrogen canopy remains a theoretical option.

*The creator certainly possesses the potential to perform such a feat, if that were his desire. However, additional physical procedures not suggested in the genesis text (or the rabbinical literature) would conceivably be required. Additionally, such a metastable canopy would be difficult, but not impossible, to collapse at the time of the genesis flood.*

*Crystalline candidate # 3: canopy as phase vii ice.*

To properly understand the unique relationship between water and a magnetic field we turn to a work published by harvard university press. “hydrogen nuclei in water molecules reorient themselves in an external magnetic field as the strength of the field is altered.”[45] in research with water and an imposed magnetic field “five energy states were discovered.”[46]

A *nature* editorial staff writer explains that

> Ice phase vi transforms to ice phase vii at around 22,000 atmospheres. Ice vii is really hot ice: you can heat it to well above $212^0$ f without melting it, provided that the pressure is stepped up, too. Release the pressure and ice vii melts.[47]
> With ice vii...as the oxygen atoms get squeezed closer together and the hydrogen bonds between them get shorter, the hydrogen atoms ...eventually take up residence exactly midway between the two oxygens...hydrogen here is bonded equally to two oxygen atoms...[a] hydrogen-centered state.[48]
> Water can form a glass...if melted and then cooled rapidly.[49]

It is evident that ice phase vii, being hydrogen-centered, would meet the physical requirements of earth’s suspended canopy.

*Crystalline candidate # 4: canopy as $h_2o_2$ solid.*

*Nature* reported that chemists

> [f]ound that oxygen and hydrogen carefully pressurized in a diamond anvil container to 76,000 atmospheres at room temperature resisted explosive condensation into droplets of water.
> Instead, the gaseous molecules appeared to cluster quietly into a 14-atom compound containing three molecules of oxygen and four molecules of hydrogen... [t]he spectroscopic measurements made of the pressurized oxygen-hydrogen mixture “are almost identical” to those of the separate elements in solid form.[50]

As discussed previously, the extreme pressures required could be compensated by intense magnetic energies. This candidate, too, remains an option.

*Crystalline candidate # 5: canopy as “warm ice”.*

Chemists at korea’s national university trapped microscopic layers of water between two layers of a conductive material (gold in this instance) with an energy source equal to the spark generated by taking off a wool sweater. The water molecules froze to a crystalline solid at room temperature. At a critical gap distance – as small as the height of two water molecules – the field coerces the water molecules into the regimented alignment of a solid.[51]

Assuming that additional atomic elements were generated from water on the first day of creation, various thin layers of conductive materials would be available to use within the

flux lines of the magnetic field. The gaseous elements of water were readily available from the electrolysis event. A canopy of "warm ice" is a feasible candidate.

*Crystalline candidate # 6: canopy "interlaminated" or "filmed-coated" with additional chemical elements.*

*Professor emeritus edward boudreau* of louisiana state university has demonstrated from the technical literature that, with appropriate energy, pressure, and radiation gradients, all the elements known to science can be transmuted from water by nucleosynthesis.[52]

This opens the possibility that additional elements could have been transmuted when the "spirit of god moved upon the face of the waters" within the first three days of creation. These additional elements were later brought to the surface of the earth-bound waters on the third day in causing the dry land to appear. Attendant to this thesis are the publications in the secular literature showing that all the natural elements can by transmuted from the energies resident in light.[53] [54]

An appropriate selection of these elements could have been used by the creator to interlaminate with hydrogen and oxygen in the canopy lattice on the second day. Such "doping" would dramatically raise the temperatures necessary to keep the structural lattice intact, as well as correspondingly reduce the electromagnetic energy necessary to maintain the structure. Laboratory physicists report that dispersing non-superconducting elements in a superconducting material greatly increases levitation.[55] [56]

> The non-superconducting elements create what are called pinning centers that channel, or pin, the magnetic flux at the surface of a superconductor. ...with flux pinning, a magnet can be levitated above a superconductor and held in a stable horizontal position...the levitating force can be further increased by clustering a number of the superconducting disks...[57]

Elements as simple as iron on thin layers of nanometer-sized ice particles that occur at altitudes between 82 and 87 kilometers in the high-latitude summer mesosphere[58] clearly verify that thin layers of ice and metallic layers occur in concentrated magnetic flux lines, even today. Other ice cloud layers have been reported at lower altitudes,[59] as close as 11 miles above the earth.[60]

With this mind it is interesting to note that "cuprates" have offered a feasible explanation to high temperature superconductivity. Doped with thallium, the cuprate $hgba_2ca_2cu_3o_8$ has the highest known superconductivity temperature at atmospheric pressure, 138 k. At high pressure it superconducts up to 164 k.[61] physicist hideo hosono discovered that strontium iron arsenide ($srfe_2as_2$), known as an "iron pnictide," superconducts not only when doped with cobalt but also when the undoped compound is exposed to water vapor.[62]

*Scientific american* reports that "a high-temperature superconductor can be configured

as a squid (a superconducting quantum interference device) using platelike grains of bscco ceramic...[a] combination of deformation and thermal processing aligns the grains, laying them flat on top of one another. Electricity proceeds unimpeded from one grain to the next."[63]

In this category falls the research done with thin films. "researchers have explored the possibility that the superconducting properties of thin films may be superior... as the thickness of a film is reduced to the nanometer scale, the film's surface and interface confine the motions of the electrons, leading to the formation of discrete electronic states known as quantum well states... silver films prepared on certain substrates exhibit enhanced electron-photon coupling."[64]

Researchers have discovered that graphite nanofibers can store significant amounts of hydrogen. At the molecular level, the fibers consist of graphite disks stacked like dinner plates and connected at their edges by oxygens. The hydrogen diffuses into the space between the plates.[65]

Discussions regarding filming or doping of the crystalline canopy with exotic chemical elements necessarily involves the question of opaque or transparent qualities of the structure, specifically relating to its reception and transfer of radiation from stellar sources. *Science news* reports that thin films of a gadolinium-magnesium alloy possesses a curious property: when hydrogen diffuses into the material, the shiny reflective metal turns as clear as a piece of glass. A thin layer of liquid potassium hydroxide covering the alloy sends hydrogen to the metal and takes it back in response to changes in voltage.[66]

This concept offers numerous attractive features as a crystalline canopy candidate.

*Crystalline candidate # 7: canopy incorporated with molecular catalyst.*

A novel water tape consisting of fused cyclic water pentameters has been observed in a supramolecular compound. The researchers grew crystals of bpedo (a molecular catalyst) in an aqueous solution, a molecule that readily forms hydrogen bonds. The water structures interacted with the bpedo to extend the structure in a three-dimensional lattice.[67]

This research opens possible areas of identification with the crystalline canopy.

*Crystalline candidate # 8: canopy incorporated with super atoms.*

It is to be remembered that the definition for *raqiya* involves "thinness." Working with very small nanostructures of substances like gold, carbon or aluminum, often in conjunction with hydrogen, researchers observed that small numbers of atoms often form structures as symmetrical, and almost as intricate, as snowflakes. When assemblages of specks made of a few million atoms or less, properties often began to change.

A material such as silicon, which is usually brittle, can become as ductile as gold.[68]

additionally, a team created an intricate cluster with precisely 102 gold atoms. To this were added sulfur-based molecules called thiols, which bind easily to gold. What resulted was a supermolecule with a core of 79 gold atoms arranged into a truncated decahedron. Around the core, more gold atoms formed an unusual pattern, joining the thiols. Electrons properly orbited the atoms; however, more electrons orbited the cluster as if it were a single atom.[69] the structure had been anticipated earlier as a crystalline solid.[70]

These, and other, thin atomic superstructures may well have been used by the creator in the formation of earth's unique canopy. Universal radiation assimilated by the canopy would indeed be tailored for specific benefits to the inhabitants of the earth.

Any, or all, of the foregoing candidates would meet the technical requirements for the local crystalline canopy in the hebrew definition of *raqiya*.

*Benefits to planet earth*...

*Recharging the emf*. The crystalline canopy suspended within the flux lines of energy approximately ten miles above earth's surface offers the solution to a major problem regarding our planet's magnetic field. Living systems depend on the energy of this magnetic field; it affects everything from molecules to man.[71] in view of the fact that cosmic energy squeezes and strengthens the emf, and sends electrons toward the poles,[72] an appropriate recharging of its energy would sustain its optimal moment. Short-wave radiation would be assimilated into the charging mechanism, while mid-range and long-wave spectra would be transferred through the canopy to the benefit of systems below. The crystalline canopy provides the mechanism to perennially sustain the field. Physical evidence indicates that our emf was at least ten times as powerful in the past.[73] having lost the recharging mechanism at the time of the flood, our emf is now left to natural decay.[74] [75]

Other models, including the "vapor canopy" model, offer no sustaining mechanism for the field. The "expanse firmament" also leaves the field to its natural decay from creation to the present time, with depleting events enhancing the decay at the time of the genesis flood. Both "vapor canopy" and "expanse firmament" postures essentially mandate that the creator wrote decay of the magnetic field into the creation event. This is inconsistent with the genesis description of man being created to live forever and the promise of earth's inhabitants living forever on the restored planet.

*Filtration of most uv radiation*. Radiation at the longer uv wavelengths of 320-400 nm, designated as uv-a, play a helpful and essential role in the formation of vitamin d by the skin, but is harmful in extended exposure. Radiation at shorter wavelengths of 290-320 nm, designated as uv-b, causes dna damage at the molecular level. Overexposure to uv radiation can change the flowering times of some kinds of plants and thereby will affect the animals that depend on them.[76]

Uv-b radiation strips oxygen of an electron, and thereby causes the formation of free

radicals. These harmful free radicals affect the entire food chain, and are assimilated directly into the blood stream, thus compromising living systems and their longevity.[77] the appropriate construction of the crystalline canopy would control this radiation and provide designed benefit.

*Enhancement of signals from starlight*. The physical features of the crystalline canopy would give the structure potential as a photomultiplier. In the photomultiplier, dopants or impurities are denser than ordinary ir-sensitive material. More impurities mean electrons move more freely from ion to ion. The higher the field, the higher the probability of an electron ionizing another pair, setting off an avalanche until a single electron has set in motion 50,000 or more additional electrons. Using this effect in exploring the heavens, astronomers have detected galaxies in the deepest regions of space.[78] since the crystalline canopy would have a rather rigid structure, a problem of lens focusing has been anticipated. However, the eye of the trilobite created on day five possessed a fixed internal crystalline "optical-doublet" structure that corrected focusing problems, both near and far.[79]

One can readily reflect on the visual effects in viewing the night sky under the crystalline structure. The canopy would be dominated with a magenta hue, due to the chemical makeup of the sugilite and the energizing of hydrogen in the adjacent water. This magenta filter would render the stars, and other heavenly bodies, viewable in their myriad colors. The stretched-out heavens were actually somewhat closer to earth from creation to the time of the flood, and they were expanded further out in space during the year-long deluge.[80] so, in the original creation the galaxies and their motions in the deepest heavens would be seen and appreciated. Closer to earth, planets in their orbits could be seen as "waltzes" against the starry background.[81]

*Influence of magenta light on plants*. The spectrum of magenta light produced by the energizing of hydrogen has a significant effect on plants and switching of their growth genes.[82] the use of a magenta cover over greenhouses often induces more than 30% additional growth for various plants. (pink [magenta] light benefits plant growth:

"earth almanac" *national geographic*, may 1991) (influence of magenta light:

Phyllis b. Moses and nam-hai chua, "light switches for plant genes," *scientific american*, april, 1988, p. 88)

It is proposed that the elements of *sugilite* may have been present in the pre-flood crystalline canopy suspended approximately 10 miles above the earth. If so, a distinctive magenta due would have bathed the earth in beneficial radiation. Due to the concentration of flux lines in the earth's pre-flood magnetic field at this specific 10-mile distance, and due to the fact that a "heat sink" also exists at that elevation, the crystalline canopy would have been suspended at approximately that distance above the pre-flood earth.

*Radio frequencies transferred through canopy*. Radio receivers are composed of a

crystal, an antenna, and a magnetic field tuned to specific frequencies. Water can be structured to function as an antenna. All these components can be found incorporated in the crystalline firmament. The pulsars and the planets often emit actual acoustical energies transferred by radiofrequencies that could be enhanced by the canopy. Radiofrequencies beneficially interact with living systems,[83] and coherent music specifically encourages the growth of plants.[84]

Discoveries in carbon nanotube radio structures made by physicist alex zettl and his colleagues at the university of california, berkley, were reported in mainstream scientific literature.[85] the team found that carbon nanotubes measuring approximately 500 nanometers long and 10 nanometers wide could be directly grown by a technique called chemical vapor deposition, in which layers of carbon precipitated out of ionized gas. Astoundingly, the tiny structures performed all four essential functions of a radio: an antenna that picks up the electromagnetic signal; a tuner that selects the desired frequency; an amplifier that increases the strength of the signal; and a demodulator that separates the informational signal from the carrier wave on which it is transmitted.[86] potential for carbon atoms to be incorporated in the crystalline canopy were discussed in candidates #5 and #7 of this paper (pp. 9, 10 & 11).

*Sound amplification*. Research by a group of french physicists has produced a saser - a device that amplifies sound the way lasers amplify light. Attached to one end of a cold glass rod are piezoelectric crystals. These crystals emit a sound vibration when an electric current flows through them. Phonons (sound quanta) travel through the rod, hit excited atoms and force the atoms to release phonons of their own. The phonons multiply and the sound is intensified.[87] the physical parameters of the canopy hold such potential.

It is of interest to note that scripture refers to “the morning stars singing together.”[88] modern research has determined that the entire universe is in “vibratory song.”[89] technical researcher david lines has demonstrated that the physical parameters of the crystalline canopy held the essential components of a radio receiver.[90] it is possible to envision the appropriate alignment of the canopy’s components for a brief time each morning, since these components are capable of transferring radio signals from space. Such brief alignment could actually play the music of stellar bodies.

*Optimal use of emf by living systems*. Proper cell division is primary in the optimal function of living systems, and this delicate procedure is synchronized by earth’s emf.[91] dysfunction of this precision-based procedure spells certain death. All life, including the human body, is under the influence of this field.[92] additional paramagnetic application encourages growth with systems such as plants in their contact with naturally occurring magnetic substances, such as soils. Researcher malcolm beck has demonstrated significantly enhanced plant growth with the use of such soils.[93] a wide range of peer-reviewed experiments and publications verify such enhanced benefits to plants.[94] [95] [96]

In support of the importance of the sustained electromagnetic field under discussion, it has been further demonstrated that cells in plants communicate with electric signals.[97]

in fact, all cells receive electrical signals from the outside world and other cells.[98]

*Enhancement of atmospheric pressure.* After the flood the earth expanded in diameter during the days of peleg.[99] this expansion was due to the continued disruption of radioactive elements in the planet's structured interior.[100] in an attempt to determine earth's original size, our environmental engineers have approximated the planet's original radius to be 95% of its current measurement.[101] using these parameters the total mass would remain the same; however, the planet's volume was originally 5% less. This would render greater gravitational attraction of the atmospheric gases at sea level, and would increase the absolute atmospheric pressure to approximately 22 psi, compared to today's 14.7 psi.[102]

Higher ratios of oxygen[103] and carbon dioxide[104] in the enhanced atmospheric pressure further multiplied the benefits under these optimal conditions. Hyperbaric oxygen specialist william fife (texas a & m university, a.p. beutel health center) has run extensive laboratory experiments using enhanced atmospheric pressure. Applying appropriate oxygen under these conditions, the entire blood plasma is quickly saturated with oxygen.[105] [106] *national geographic* reports the phenomenal overnight healing of an aquanaut who cut his hand during long-term exposure to elevated atmospheric pressure and elevated oxygen.[107] living under these conditions human beings would receive adequate oxygen supply to the fetal brain, providing retention of all 200 billion brain cells that are genetically produced during fetal development. Normal humans would thus be provided with optimal functioning abilities, as well as the phenomenal gifts of the savant.

Elevation of oxygen ratio, and its saturation in a fluid medium, explains the large size of some insects in the fossil record.[108] this further solves the long-standing dinosaur mystery of their small lungs being able to sustain tremendous bulk sizes.[109] due to the effects of boyles law, the water table was saturated with free oxygen. Anaerobic bacteria would not thrive under these conditions, and marine life could grow to gargantuan sizes, such as those found in the fossil record.

Research physicist sherwood idso has found that plants, when enriched with more $co_2$, "grow bigger and better, much like the plants of past geological epochs of biological prominence...[t]he efficiency with which plants use water to produce organic matter, essentially doubles with a doubling of the atmospheric $co_2$ concentration. Moreover, for a tripling of the amount of $co_2$ in the air, it nearly triples!"[110] researcher suan-chin wong grew cotton plants under normal ambient partial pressure of $co_2$, and under enriched partial pressure of $co_2$. Thirty-five days after planting, the total dry weights of high $co_2$-grown plants were 2 to 3.5 fold greater than plants grown in normal ambient $co_2$.[111]

We are only now beginning to realize a measure of the orchestration involved in the universal creation event. Interdependence among all forms of life is now recognized as common in nature.[112] one contextual benefit would be the natural healing of the human body.[113] global traditions of a primordial paradise persist to this day.[114]

*Mechanism for the flood*...

We have seen that the crystalline canopy existing from the creation event until the time of the global flood sustained living systems in an optimal environment. Disruption of this designed structure would require extraordinary forces. We now consider the two greatest natural forces at hand as instruments in the mechanism for the flood. These two forces are: thermonuclear reactions and moving water.

The scripture states that god uttered his voice, and the earth melted.[115] this brings into play the first great natural force: *thermonuclear reaction*. Geophysicists are fully aware of the potential for such reactions to produce global disruption.[116] they are also aware of the evidence that the pangean crust was ruptured.[117] a plausible candidate as a trigger mechanism in disrupting earth's internal aligned nuclear elements is the interaction of simple water molecules, acted upon by microwave radiation. Vast reservoirs of water have existed, and some still exist, deep within earth's structure.[118] if god used microwave radiation of sufficient intensity in bodies of water, vast amounts of radioactive elements would be jostled from their aligned positions, and the earth would melt in designated areas while cracking at the surface like a giant eggshell.[119] this is due to the specific nature of microwaves,[120] and the unique response of the water molecule to such radiation.[121]

This brings into play the second great natural force: *moving water*. Calculations have been made, demonstrating that major disruption of the "fountains of the great deep" below earth's granite crust would send jets of steamy water ten to seventy miles high.[122] these jets of steam would be sufficient to rip the canopy and open "windows" in its crystalline lattice, collapsing its structure in the forty-day timeline given in scripture.[123] the greater volume of water, however, would be expunged from the internal "fountains of the great deep," along with vast deposits of internal elements. This eruption of elements and water continued for 150 days, providing material and mechanism for the global sedimentary deposits.[124]

Once the rupture of the "fountains of the great deep" provided sufficient water to cover the globe, a mechanism to spread out the expunged material into the omnipresent near-horizontal sedimentary layers was already available. Newton's mechanism of gravitational attraction produces worldwide semi-diurnal lunar tidal waves that could move these sediments into the layers we see exposed in canyons and roadcuts. Professors m.e. clark and henry voss have modeled these mechanisms using computer simulations, and demonstrated their feasibility in flume experiments.[125] [126] the persistent nature of these tidal waves, acting twice a day over the year long genesis flood, would account for most of the sedimentary layers; post-flood activity could account for the remainder of what is seen. Secular publications corroborate that most of the sedimentary deposits are rapid events.[127] many of these sedimentary deposits, such as the "austin chalk" (dubbed "cretaceous" by the evolutionary community) are intercontinental, essentially global, in extent.[128]

To accentuate the volatile nature of the sequence, earth-altering geological events took

place during the building of the massive deposits. Often tectonic superplumes occurred as mid-deposit eruptions.[129] massive fossil extinctions took place at the time of intermittent lava plumes.[130] as the source of the great volume of once-living creatures deposited during this year long episode, the pre-flood biosphere was capable of supplying the complete fossil record.[131] as confirmation of sufficient amounts of available water, 70% of our planet's surface is covered by some 326 million cubic miles of liquid water, enough to submerge a perfectly smooth and spherical current earth to a depth of 8,500 feet (over 1.6 miles).[132]

*Resolution of objections*...

Objections have been raised by well-intentioned individuals, alleging that there is no real need to include a crystalline canopy in the creation model. This researcher holds that the total composite meaning of the hebrew word for "firmament" must be included in any serious formulation of a creation model. Not to include a mechanism for maintaining the strength of the magnetic field as a long-term function is tantamount to blaming the creator for shortsightedness in his designs.

Others have suggested that the expanse of space and the starry heavens encompass the total meaning of "firmament." Hebrew language and the declaration of hebrew scholars closer to the creation event show a concerted view that includes a crystalline canopy, as well as a heavenly expanse.

One objection involves the "setting" of the stars in the firmament. The hebrew word for "set" is *nathan*, which means "to add and to yield." The stellar bodies were certainly set in the space of the heavenly expanse and yielded their radiation from the moment of their creation. But it is also true that the radiation from those stellar bodies upon reaching earth was "photomultiplied" in the crystalline canopy. This permitted earth-bound viewers to appreciate the creation spectra emanating from our solar system, and from deep space.

It has been proposed that a crystalline canopy could not hold together due to the brittle nature of its primary constituents. However, this paper has emphasized that the lamination features of the canopy were extremely thin in their construct. Technical references have also been cited, showing that brittle metals, when properly "doped" with selected chemical elements, can be quite flexible.[133]

Another objection centers on a mechanism to hold the crystalline firmament in place. References cited in this paper list various thin ice cloud formations observed to be currently suspended over earth, mostly near the polar regions where the emf is concentrated in stronger flux lines. Some of these ice formations actually hold metallic elements, such as iron, in suspension with thin ice clouds. Emphasis is placed on the strength of the magnetic field which could readily hold such a thin canopy in place.

The work of physical chemist edward boudreaux has been cited throughout this paper. His technical calculations using a thin *silica suailite crystalline construct* have

demonstrated the potential to hold the canopy in place.[134]

Early research on the crystalline canopy centered around the superconducting potential of metastable metallic hydrogen as a candidate. This is not currently the preferred candidate. A final objection refers to the fact that solid metallic hydrogen is opaque, therefore the planet's inhabitants would not be able to see the stars through such a structure. Solid metallic hydrogen is, as alleged, opaque, and must be held under extreme pressures (or extreme energy). This paper holds that if the creator did indeed make a metastable hydrogen canopy, the nanometer-thin hydrogen sheet would be interlaminated with the ice crystals in a photomultiplier construct. Starlight would be readily transferred to the view of inhabitants below. One reference cited in this paper demonstrates opaque alloys becoming transparent when hydrogen is added to the thin matrix.[135]

*Conclusion:*

Reference has been made to the biblical text and hebrew literature as requiring a crystalline canopy, in addition to the expanse of the heavens, during the second day of the creation week. Eight viable physical candidates have been introduced to demonstrate the plausibility of such a canopy. Candidate # 1, the *crystalline silica sugilite canopy*, is preferred due to the technical calculations demonstrated.

The mechanism that triggered the flood was the voice of god in judgmental disruption of earth's internal structure.[136] this mechanism simultaneously disrupted the raqiya in its structure as a localized microcosm (canopy suspended over earth) and as a universal macrocosm (expanse of space). "the skies sent out a sound."[137] as a consequence "the stars are not pure in [god's] sight."[138]

"the secret things belong unto the lord our god: but those things which are revealed belong unto us and to our children forever, that we may do all the words of this law."[139] only the creator knows the specific details involved in the creation, but it is a gratifying pursuit to "think god's thoughts after him."

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