Perspective

God's Hierarchy

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Abstract

Left, right and center is a self-contained stand-alone set with three parts. An analogous set with seven parts is described. Its form and function in the world is deduced from observation of straightforward features and events. How this might have been done thousands of years ago is described. Early thinkers may have realized that the seven parts describes the universe itself and this may have led to the belief that God made the world in seven days. Such knowledge may have fueled the religions of Mankind. The appearance of sets with 8, 9, 10 and 11 parts are described. A set with 8 parts correlates with the Yazidis' belief in God and seven angels. A set with 9 parts correlates with Beijing monks' belief in the nine steps to heaven. The 10 and 11 part sets correlate with the universe's 10 and 11 dimensions described by modern "M" theories. Early thinkers who believed God made the world in seven days could not point to a single display of all seven days. Today, the set can be seen as: (1) The ratios of potential and kinetic energy during the swing of a pendulum; (2) The number of elements in the first and last columns of Mendeleev's periodic table; and (3) The ranges of the four forces, gravity, the strong force, the weak force and the electromagnetic force.

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1. Introduction

A hundred years ago, Alfred North Whitehead invented relationship theory and used it to derive all of Einstein's equations. At the time, theorists debated the merits of his work but settled on Einstein's theory because it described space-time with an equation that allowed space to be empty. Relationship theory does not allow space to be empty and has no place in astrophysics today.

The nature of a self-contained, stand-alone set with seven parts is described. In the world about the individual parts occur on all scales and emerge in sequence one after the other. A determined and resourceful observer can discover them systematically one by one by advancing from one part to the next. This requires no special knowledge and how it might have been done thousands of years ago is described. The individual parts seem to correlate with religious dogma so that they may have become known as the seven days in which God made the world. Because of the religious correlations and the fact the set describes the universe itself, I like to call it "God's Hierarchy."

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When relationships are expressed as simple gradients, a range of 90° (infinity to zero) is sufficient to describe the world about. For example, an observer can recognize conditions representing "beginning or "end." These represent gradients of infinity and zero, respectively. Somewhere in the middle there will be a gradient of unity. If we include the ranges in between, we will have five gradient types. A simple nomenclature is 0, 1, 2, 3 and 4. The five terms represent the "field of view" of an observer, i.e. everything he can see. Such a field of view cannot exist on its own (suspended in the middle of nowhere as it were) because whatever happened before 0 and after 4 cannot be explained. To eliminate these conundrums, two extra terms are needed. Firstly, a term before 0 (which serves as an imaginary source for the field of view) and secondly, a term after 4 (which serves as a sink for whatever happens next). This gives a total of seven terms, say, It, 0, 1, 2, 3, 4 and 5. The first and last are imaginary and serve as a stage or platform where the field of view plays out. Altogether, the seven terms comprise a self-contained, stand-alone set that can exist all by itself without an observer.

The seven terms comprise a nesting hierarchy (like the shells of an onion) and an observer at their center can imagine the seven shells around him. On the other hand, an observer outside of the system sees the hierarchy much as a rainbow with four colored bands. The first and last bands are essentially infinite because they are open-ended with a beginning or end that cannot be measured. They represent terms It and 5. The inner bands are terms 1 and 3 and their boundaries, 0, 2 and 4. God's Hierarchy appears very differently depending upon whether one is inside or outside of it but both perspectives are needed in order to appreciate its presence in the world about.

2. The universe's classification system (God's Hierarchy)

God's Hierarchy emerges when observation collapses infinity into finite parts. This doesn't seem like a familiar process but is common enough as observation reduces the infinite electromagnetic continuum to the colors violet, indigo, blue, green, yellow, orange and red that we see in a rainbow. They are actually rather odd because the electromagnetic continuum is a smooth and featureless affair with no markings of its own. If it were examined and measured with a spectrometer no colors would be seen. We see colored bands because molecules in our eyes highlight specific wavelengths. Of course many things do this so that in the real world the fragile wineglass electromagnetic continuum is smashed into zillions of shards. They come in all shapes and sizes randomly scattered about and you can see them as patches of color in your surroundings. These patches are actually parts of infinity. When gathered together they can be reassembled into the original rainbow which is itself part of infinity.

This sort of thing can be done with God's Hierarchy. Like color, it is broken into shards of all shapes and sizes randomly scattered about. The shards are defined by gradients rather than wavelengths. Certain values - infinity, one, zero, and the ranges in between stand out and can be

recognized. Moreover, they always appear in sequence one after the other. Breaking infinity into pieces is an ordered, stepwise, process. Consider the following examples.

3. A bird on a wire

Imagine a bird perched on a telephone wire. As long as it has its balance, i.e. is at equilibrium, other birds, wind and random events can disturb it. As far as the bird is concerned, random events comprise a smooth temperature-like continuum. In practice this doesn't go on forever but ends when the bird is knocked off the wire. However, once the bird's equilibrium is disturbed, a second random event can add to, subtract from, or have no effect upon it. As a result, random events now appear as positive, negative and zero. This change in perspective is the first step in breaking infinity. Think of it as the difference between one thing and two things and it appears when electrons are promoted from a spherical s orbital to a p orbital with its positive and negative lobes.

Time can be seen in different ways. The most abundant particle is the photon. Having no mass, it zips along at the speed of light. At this speed, the flow of time is zero so that a photon cannot know how old it. To give it a half-life (the time it takes for half of the particles to decay) is meaningless. I call photons no-timers because they have no sense of time.

Particles that have mass can't travel at the speed of light. If their mass is small, they undergo changes that are reversible and proceed equally well in forward and backward directions. As a result, they sense time but they cannot distinguish between the past and the future. They can say "Nothing is happening" and perhaps "Yikes, something is happening." but they cannot say "something has happened" or "something will happen." Their lifetime is uncertain and the best we can do is assign them a half-life. I call them half-timers because they are 50% immersed in time.

Things with a decent amount of mass undergo changes that are governed by the laws of thermodynamics. They can distinguish between the future and the past because the changes they undergo are not perfectly reversible. I call them full-timers because they are 100% immersed in time.

The three views of time are quite separate from each other. We can never meet them face to face but we need them like a car needs a road or a ship needs an ocean.

The timers mark stages of symmetry breaking that resemble steps going down into a swimming pool. No-timers are on the surface and not wet, half-timers are halfway in and full-timers are 100% immersed but are still in contact with the surface. Putting this another way, no-timers cannot count-not even to one. Half-timers can count to one and no more. Full-timers can count to two and no more. The next timer would be a double-timer. He would be drowned in time. He can

see four things and can count to four. To be an observer in the universe you need to be drowned in time and count to four if only because we live in four dimensions.

Back to rainbows – rainbows have different colored bands. Observers inside the rainbow cannot recognize the boundaries between the bands. On the other hand, observers outside the rainbow can recognize the boundaries and see where they are. This is a general rule, inside observers cannot see boundaries and outside observers can. Thus, in a two band system, outsiders see three parts. In a three band system, outsiders see five parts and in a four band system, outsiders see seven parts.

Systems with an odd number of parts have a center point where an observer can reside. Three and seven part systems are self-contained, stand-alone sets. This means that, like the universe, they can exist all by themselves with no one outside.

A five part set can be a lifetime because one knows one was born, one remembers a past, experiences the present, sees a future and one will die. It is not self-contained because one cannot explain how it began or what happens after it ends. In order for it to be self-contained, two extra terms are needed. One houses whatever happened before it began and the other houses what happens after it ends. With these in place, the lifetime becomes one of an infinite number of lifetimes.

Three part systems such as left, right and center or clockwise and anticlockwise are common building blocks of the world about. Early thinkers paid more attention to the good and evil variant. The two parts are open ended (infinite) and such systems are self-contained.

A system with seven parts is also a common building block of the world about but it is not something that is familiar. We have seen it with gradients but it also works with temperature. Imagine being drowned in temperature. Now let your body temperature (98·6 °F) be a reference point. Mark this on the continuum and call it 2 because it is your reference frame. Higher and lower temperatures can be called 1 and 3. Next, mark the highest and lowest temperatures you know of on the continuum. This puts limits on regions 1 and 3 and gives a total of five categories of temperature, say, 0, 1, 2, 3 and 4. This is the body of the continuum or "field of view." 0 and 4 are its beginning and end and temperature decrease from left to right. Temperatures outside of this range are open ended and serve to hold the field of view like bookends holding books. The high temperature bookend (It) is an imaginary source from which the highest known temperature emerges. The low temperature bookend (5) serves as an imaginary sink where the lowest temperature goes.

4. How we perceive God's Hierarchy

When an observer is drowned in any continuous parameter, seven parts emerge. The parameter can be time, temperature, length, breadth, density or even the grit of sandpaper.

5. The energy states of a pendulum

The seven part system appears during the swing of a common pendulum. The first term (It) houses the imaginary assembly of the pendulum. At the start of the swing, the ratio of potential to kinetic energy is 1/0 or infinity. This is term 0. When the pendulum begins to move, the ratio becomes finite and term 1 emerges. Term 2 appears when the ratio is unity. It happens to be a perfect reference standard for measuring whatever happens next. Term 3 emerges when the energy ratio is less than one. Term 4 appears when the pendulum is vertical and the energy ratio is zero. After that, negative values emerge. As they are beyond our positive scale we can simply dump them in term 5. The seven energy states, It, 0, 1, 2, 3, 4 and 5 comprise a rainbow manifested during the vibration of chemical bonds, the motion of springs and whenever leaves flutter in a breeze.

The seven energy states can be represented by a rainbow with four colored bands. It and 5 are the first and last bands. They are open ended. 1 and 3 are the second and third bands. They are closed. The boundaries between the bands are 0, 2 and 4.

The seven terms comprise a unit in our surroundings but the terms emerge one after the other in the same way that the matter states, gas, liquid and solid emerge one after the other. Unlike matter, the terms don't need to exist in time and space because they can exist within themselves forming a nesting hierarchy like the shells of an onion or Russian nesting dolls. In order to get to know them one must search for them in the world about and gather many examples. Also, one can imagine that one is a term oneself and then note behaviors that are befitting to one's station. Once one is familiar with the term under study and it is thoroughly understood one is able to recognize the next term when it emerges. Studying gas, one would find liquid. Studying color, violet would lead to indigo, indigo to blue and blue to green.

6. What the tiers of God's Hierarchy look like

The introduction to the steps of the hierarchy will seem bizarre but bear with me and they will gradually crystallize into reality. The start of the hierarchy (term It) is especially difficult to recognize because it has no substance. I first encountered it when I noticed psychologist friends considered it an important indicator of behavior. A person in, so called, denial cannot believe something that is obviously true. Essentially, his or her mental makeup cannot support the truth.

Think of this as a hole or blind spot in the person's mental makeup or "field of view." It is a bit like a color a colorblind person cannot see. Such holes in the mind can affect behavior and sometimes an astute observer can recognize when behavior is odd and deduce the nature of the "hole." Thus my psychologist friends had a natural interest in the term.

I once asked a psychologist friend to describe "it." He said "Let's leave that alone." What he meant was that "it" refers to things we exclude from our reference frame because we are friends.

Psychologists may have introduced me to the term but gradually I came to understand it in a general way and eventually came to believe that it was the most important feature of reality. Objectively the term has no symmetries of its own and may be analogous with the group mathematicians call the identity element. The term itself is imaginary and exists everywhere all of the time but sometimes it is highlighted by events that show where it was located. Unlike subsequent terms of the hierarchy it can't do very much and its only ability (if it has any at all) is to cause surprise.

We exhibit lots and lots of reflexes that go by the name body language. Viewed in a fast forward video our reflexes are jerky and look like the Brownian movement of pollen grains buffeted by invisible water molecules. In both cases, unpredictable movement is caused by an invisible trigger. Although we are quite unaware of it, our random body language movements are often orchestrated so that we appear to be twittering away sending and receiving messages to each other. Psychologists have invented a "hidden channel operator" who brings this about by orchestrating our body language. Everybody has a hidden channel operator. Psychologists believe he has a language of his own but they have not been able to decipher it.

The actions of the hidden channel operator have been described as displaying a curious synchronicity. What this means is that he is extraordinarily lucky. Occasionally, lucky events can be such that one is tempted to believe that they are more than just luck and this has led more than one researcher to new phenomena. Examples are given in the addendum (see, the window cleaner's fall and miraculous survival). On one occasion, I was part of such an event and it was so beautifully organized that I decided it had to be organized in some way. I attributed the organization to the imaginary hidden channel operator invented by the psychologists. This gave him an identity and a mind of his own. That done, I was forced to assume he was infinite because I didn't know he wasn't. Finally, I did what the Brits did when the Romans appeared. I bowed to his might and begged "Please Sir, can I go to school?" I felt a little silly at the time but this action gave me a safe and secure platform from which to observe and study his powers. Eventually, he became 'It,' the first term of God's Hierarchy and his language, 0, 1, 2, 3, 4 and 5.

Bowing to an infinite higher power is common enough because people bow to God all the time. The trick is to be sensible about it and keep a rational perspective. Mathematicians assure us that infinity cannot be measured with finite yardsticks. This is irrefutable and means the actions of an infinite higher power must be unsigned and if they are to be recognized at all, must take the form

of events that spring from out of the blue for no apparent reason. There is no way around this so that contrary to common belief, one cannot learn anything about an infinite higher power. However, all is not lost because its unsigned actions, perforce, give rise to the world. This takes place via a pathway that begins with a random event and is followed by cause and effect. It is not too difficult to identify characteristic features and events that follow the random event and see them as stepping stones along the way. Examples can be gathered, analyzed and their essential components determined. Careful analysis reveals the terms of God's Hierarchy, It, 0, 1, 2, 3 and 4.

Our pupils dilate when we see someone desirable, our eyes blink when a moving object comes too close and our knees jerk when a doctor taps them with a rubber hammer. In each case there is a trigger and a response. These are examples of the first two terms of God's Hierarchy, It and 0. When the trigger is imaginary, the response is an event that springs from out of the blue for no apparent reason. It emerges from nothing and ends the moment we are 100% sure something has happened. This gives it a gradient of infinity (1/0). I think of it as a kind of anonymous climax state. It is always a surprise and can range from a moment of satisfaction when one finally pries that stubborn splinter out of one's finger to an event that shakes one to the core and changes one's life forever.

The third term (1) is a bond such as exists between family members or friends. In a news report (San Francisco, 2014) a dog bit a baby and the family cat attacked the dog and drove it away. The bond between the cat and the family is an example of 1. In this case it was stronger than the cat's natural fear of dogs. The terms 0 and 1 are an essential part of reality and without them our lives would be dull and meaningless.

At Ocean Beach in San Francisco, a man walked his dog. He threw a stick along the seashore. His dog chased after it, caught it with his teeth, carried it back to his owner and dropped it at his feet barking "Fetch again, please!" In the dog's eyes, the stick is 2 because it is a wonderful toy. In the man's eyes, it is 3 because it is merely a stick.

Term 2 is best of class. Term 3 is one of many or it can be something that is impure. Term 4 is last or death or end but can be, say, a desk or pocket knife that has been so reliable over the years that one takes it for granted and no longer gives it any conscious attention. Its defining feature is that it is thoroughly understood and cannot cause surprise.

7. Electron orbitals and the tiers of God's Hierarchy

As an undergraduate, I encountered quantum dynamics and learned about atomic orbitals. I remember reading somewhere that there might be features in our surroundings analogous with electron orbitals. This stems from the idea that the universe is a wave function. The world is made of solid things like pebbles and chairs but structures analogous with orbitals must be like

shadows or colors. The tiers of God's Hierarchy have features that fit the bill. The following comparison treats orbitals in the most basic way and has nothing to do with chemical bonding which is usually taken to be their most important feature.

The first clue that God's Hierarchy is analogous with orbitals comes from its overall shape and form. In our surroundings, the tiers are randomly scattered about but when gathered together and arranged in order they becomes seven shells that are wrapped around the observer like layers of an onion The observer looks out through the concentric shells much as an atomic nucleus looks out through the concentric shells of s orbitals.

The terms of God's Hierarchy and the shells of orbitals have much in common. The probability of finding the s electron is never zero so that, in some sense, it fills every inch of the universe. This is a feature of the tiers of God's Hierarchy – they fill the universe, in fact they are the universe.

When the elements are arranged systematically as in the columns and rows of Mendeleev's periodic table, the first and last columns contain seven elements. The reason for this is that only atoms with 1s, 2s, 3s, 4s, 5s, 6s and 7s orbitals exist. Apparently the forces that make atoms allow this many. The orbitals are formed when atomic nuclei interact with the infinite wave function of an electron so that in some sense infinity is broken up into seven parts. One might say that God took seven steps when making the chemical elements just as he took seven steps to make the world.

To appreciate yourself in God's Hierarchy, imagine your atoms and molecules are obeying the laws of the universe but otherwise you are completely at rest. This makes you the all-important center state 2. At 2, your position is akin to being balanced on the apex of a parabola. Looking back down one arm of the parabola you see terms 1, 0 and It stretching away to infinity. They represent where you came from. Looking forward down the other arm of the parabola you see terms 3, 4, and 5 stretching away to infinity. They show where you will go.

We see this sort of structure reflected in the orbitals of the simplest element, hydrogen. An atom of hydrogen has just one electron but its flame ionization spectrum shows transitions involving 1s, 2s, 3s and 4s orbitals, i.e. it has four orbitals. These are comparable with the first four steps of God's Hierarchy. An observer at 4s can look back and see where he came from. Quantum mechanical calculations are precise for the hydrogen atom and show that it has seven orbitals not four. Only four are seen because the depth of the 5s, 6s and 7s energy wells is zero or very close to it. Transitions involving these levels are lost in the continuous region of the spectrum. A mathematician at 4s can calculate the 5s, 6s and 7s electron orbitals but he can't see them – a bit like an observer at the center of God's Hierarchy.

When all atoms are considered there are four orbital types, s, p, d and f. Theory predicts g, h and i orbitals but they have never been observed. As with the orbitals of hydrogen the four visible and three invisible types mirror the seven steps of Gods Hierarchy.

The s, p, d and f orbitals comprise a series with an increasing number of zero nodes. A lone s orbital has no zero nodes, p, d and f orbitals have one, two and three zero nodes. We see a similar ordered sequence in God's Hierarchy. Term 2 has no zero nodes, term 3 has one (view its impurity as a point). Term 4 has two and term 5 has three.

8. Reflections, the last three steps and orbitals

The steps of God's Hierarchy emerge one after another and it is helpful to understand the process in a general way. Think of each term as observing itself. After an infinite number of observations all is understood and there is nothing new to learn. That is the end of the story but in the real world the universe can't suddenly end somewhere so something has to happen next. Careful observations can reveal what this is.

Imagine standing between mirrors on opposite walls of a posh hotel toilet. If the walls are not perfectly parallel, one's reflection and one's reflections of reflections can be seen as two never ending rows of oneself curving away into the distance like cordons of soldiers. Individual reflections are much the same and taken together they reassemble into the master copy that was reflected. In the real world, this sort of thing happens with everything. Take for example, the color green (as in a rainbow). Reality acts like the two parallel mirrors in the posh hotel toilet and makes an infinite number of reflections of the color but instead of two parallel lines, the reflections are scrambled and appear in our surroundings as patches of green that come in all shapes and sizes randomly scattered about. If we gather all these together they reassemble to the original master copy green in the rainbow. However, in the real world our gathering process is not perfect and somewhere along the line will see green changing into yellow much as a gas condenses to a liquid. Once yellow is discovered we can search the world for it and sooner or later we will discover that yellow can change to red. Although relative, each new color is an emergent state. In each case we need to make an infinite number of observations in order to be sure there are no exceptions so that in some sense the steps are dimensional. This is a perfectly general process and works with everything - gasses, liquids and solids and the tiers of God's Hierarchy.

After discovering three steps of God's Hierarchy (It, 0 and 1) we arrive at 2 where we find ourselves at the center of the universe. We always were at the center anyway but now we know it for sure we can appreciate that we are falling towards its end or what is called a heat death. Falling to a heat death takes an infinite amount of time so we are never going to get there but we can say with some certainty that if we were to get there we would not find ourselves standing on

the edge of a cliff with the universe at our backs and a void of nothingness in front. No, the universe would still be wrapped around us and we would be at its center. What this means is that right now we should be able to see things that show we are at the end of the universe.

The furthest distance we can see is called the cosmic horizon. It is not quite the radius of the universe, but nearly so. The diameter of the universe is twice this distance so that observers at opposite edges of the cosmos cannot see each other. Light has not had time to travel from one side to the other so there is an empty hole in the middle. To a casual glance the hole marks the center of the universe but if the beginning of the universe is the outside, the hole is the end of the universe. It is such an awful thing that it could be the Devil himself. The observer in the middle breaks the universe in two.

"Curiouser and curiouser" said Alice, "We are all at the center of the universe. We are all falling towards its end and we are all at the end of the universe. How wonderful it is to be middle, end and in between, all at the same time."

In this situation the observer falls as far as his reference frame allows. This is term 4 and is the end or the death of our observer. It's not necessarily the end of the universe though so we need a term for the next emergent state. This is term 5 of God's Hierarchy. The terms 3, 4, 5, are the last steps of the hierarchy and I like to call them "the last three steps." They can be found in the world about but they are rather odd because 3 is the fall, 4 is the last thing you do and 5 is done by someone else who takes over from where you left off!

Some examples may help. Consider positive, zero, negative and clockwise, zero, anticlockwise. Here positive and clockwise represent falls; negative and anticlockwise are what happens after the fall ends. A pendulum reaches point zero when it is vertical and a moment later 5 emerges. In the case of a bird balanced on a wire there is only one state but three steps appear when the bird's equilibrium is disturbed.

To get to the last step (5) from 4, there has to be a reference change because 4 is zero and 5 is whatever happens next. The empty orbitals of atoms are examples of 5 because they represent a place where electrons can go when thrown out of their orbital – a bit like Greek spears being thrown beyond the end of the world

Advances in quantum calculations of orbitals have enabled theorists to show that both principal and azimuthal orbitals form an endless series. See, The Grand Orbital Table by Manthy[1].

Clearly, Atomic nuclei support only a few orbitals just as our eyes see only a few colors. The structure of nuclei determines the orbitals that are supported just as the electronic structure of molecules in our eyes determines the colors we see. There are many more orbitals and many more colors but they cannot be seen with the tools at hand.

G orbitals are never observed so that we can say that no atomic nucleus has the necessary "oomph" to light one up and bring it into reality. We humans might be able to do it. Each of us is a huge unit of atoms and molecules with the universe around us. We don't carry charge but we make our own laws and we make machines to do our bidding. We have plenty of "oomph" and maybe, just maybe, our complex structure brings the four zero origin g orbital into reality. If this was the case it should look like a reference point of some sort. The Big Bang fits the bill. This may seem outrageous but we are talking about patterns - not the space in which they exist. If we bring the universe's wave function into reality in much the same way as an atomic nuclei brings the wave function of an electron into reality, then the s, p, d and f orbitals of atoms look like distant reflections of a countdown that leads to the Big Bang.

9. The seven tiers of God's Hierarchy

Like each color of a rainbow, the terms of God's Hierarchy are broken up by reality into zillions of "reflections." The reflections come in all shapes and sizes and if one gathers as many reflections of a given term as one can one gradually appreciate its form and function in the world about. The later terms of the hierarchy are more easily understood because their physical presence in the world about is easier to appreciate.

Our material world is a place where things have a beginning and end and much is ruled by the laws of chance. A scoop of our surroundings will always house the first tier of God's Hierarchy. However, no two observers will agree upon its nature. When pure, it cannot be seen in a mirror (a curious property we are all familiar with thanks to vampire movies). The term is housed in free energy and in systems with the capacity to surprise. It is housed in objects that cannot be superimposed upon their mirror image such as our left and right hands. It is housed in the simple asymmetric tetrahedron shaped molecule bromochlorofluoromethane. A key feature of this molecule is that it looks different from all angles and different to each observer. Religion tells us that God looks different to everyone – a key property of the first term.

The second term (0) of God's Hierarchy emerges when two observers agree upon what they see. It has more substance than the first term and can be seen in a mirror. It is perceived as an anonymous signal that emerges from out of the blue for no apparent reason. It serves as a reference point that marks where measurements begin. We call it a random event or a surprise and if it seems like a miracle, we call it an act of God.

The third term (1) of the hierarchy emerges when three observers agree upon what they see. In this arrangement, each observer can see two reflections of himself. This means that each observer can see himself an infinite number of times. This proves that he exists. As a result, the third term has more substance than the second term. However, it still has no material existence in the world about. As with all the terms, its reflections come in all shapes and sizes randomly

scattered about. All the measurements we make show that laws govern how things behave. These laws are the reflections of the third term. When they are all combined together (as was done for the color green to give the green band of a rainbow) one gets an imaginary master copy law – a kind of universal "first law." Early researchers in the field may have called this "the will of God."

The second term (0) is associated with infinities but when the third term (1) emerges from it, the infinities disappear. This happens when a pendulum poised to begin its swing begins to move and the ratio of PE/KE changes from infinity to finite. Interestingly, we can actually create the third term in the lab by cooling helium-4 to a super fluid or by making the recently discovered Bose Einstein condensates. In these states, the outer orbitals of the atoms coalesce and whisk away random disturbances (the second term) at the speed of light. What is left is the third term. As a less exotic example, try a spinning, speeding bullet where the spin quenches random disturbances that would otherwise cause it to wobble and veer from its trajectory. Guided by the will of God, one might say.

The well-known three body problem where three bodies interact under their mutual gravity[2] is an interesting analogy for term 1. The motion of the three bodies[2] is described by Newton's laws but in most cases the equations do not have an exact solution. As a result the orbits of the three bodies wander and eventually become chaotic. In contrast, the equations for two bodies in orbit around each other have exact solutions and their motion can be predicted forever. Perhaps the three body problem hints that 1 is not forever stable and is more a property of whatever is obeying it than anything else.

The fourth term (2) is made of four observers and has more substance still. It emerges from laws (1) when they are obeyed. Essentially, 2 obeys the laws of the universe and does nothing else. The term has many forms. For example, it is manifested in the world about as a unique event that occurs once and only once. It can be a condition that is permanent and everywhere such as the center of the universe. We saw earlier that it appears during the swing of a pendulum when the potential and kinetic energies are equal. Generally, the term can be thought of as "something we all agree upon." This makes clear that it can be a reference standard (actually the best possible reference standard). Thus the term is associated with purity. I like to think of it as pure gold but of course any pure substance will do. Jesus Christ is described as a universal standard of purity and excellence against which all may be compared. A good definition of 2, if ever there was one.

The fifth term (3) is characterized by a relationship or gradient less than unity. It emerges from 2, so must be discontinuous. In the case of pure gold, 3 is impure gold.

Visualizing the term as "impure" may have been important to early researchers who saw Man was not up to the task of obeying the laws of God. Essentially Jesus Christ is term 2 and man (who sins) is term 3.

Earlier we saw that the universe is broken by the observer because he resides at the center and has a cosmic horizon where imaginary observers at opposite edges cannot see each other. This configures the entire universe into the fifth term.

When we are inside the fifth term and part of it, we cannot see everything because we can't see beyond zero (point zero). We can dance clockwise or anticlockwise (or be positively or negatively charged) but we cannot be both. On the other hand, outside observers can see both parts. If spin or charge is very far away (and thus very small), symmetry is restored and the two parts appear as a unit, for example, dipoles and p orbitals. The fifth term could be described as the two thieves of the Crucifixion (view them as a unit) and the Chinese Yin and Yang (also a unit). This is not meant to be irreverent, but is pointed out to show that the fifth term has been credited with God-like importance.

The next emergent term (4) is characterized by a relationship or gradient of zero. To us on the inside, it must be our end of the road, death or, on the grandest of scales, the heat death of the universe. In the case of impure gold (3) the end condition is described as 100% impure or "no gold at all." The end condition is equivalent with "thoroughly understood." It can reveal no new information and cannot cause surprise. This is an important state for us. Consider a house key or pocket knife, etc. that you have had for many years and are now so familiar with that you no longer give it conscious attention. This makes it invaluable but at the end of the day there is not much you can do with 4 except give it love. Early researchers would see that one confesses ones sins to God and is then thoroughly understood. Thus the sixth term of God's Hierarchy is the state of forgiven.

The seventh term is on the other side of point zero and is outside of the reference frame of the observers inside. It is a feature that enables the hierarchy to be self-contained and stand-alone. The term functions as a sink to house things that happen after "end." To get to it, an observer at 4 must change his frame of reference in some way.

When Goldie (our atom of gold observing gold in the universe) arrives at 4, she can't find any gold atoms. However, if her reference frame allows her to see when gold is impure, her world of gold doesn't fade away - it just has become more and more impure.

In some sense, each of us is in this predicament because we can't find someone who is our exact double. However, we are quite different from a gold atom because we have the capacity to do things that have no precedent. For example, we can invent laws and abide by them. This cannot be predicted from inside the field of view, so such actions must reside in term 5 on the other side of point zero.

I like to think that early researchers could work this out and realized that making our own laws represented the seventh term or the seventh day. Perhaps God rested on the seventh day means we made the laws, not Him. A scribe reporting on Christ's crucifixion would take special note of

the Romans playing dice at Christ's feet and would see this as important because it represented the seventh day. The first six days are God, acts of God, the will of God, Jesus Christ, the two thieves and the state of forgiven (Jesus Christ's last words on the cross were, forgive them not for they know not what they do). The seventh term is the Romans playing dice. The crucifixion is such an awesome display of reality that it makes all kneel before it. In my mind, there is no doubt that knowledge of God's Hierarchy fueled the religions of Mankind.

10. God's Hierarchy and the Platonic solids

The universe is forever configuring itself into God's Hierarchy. Cosmological observations show that it is expanding and that the expansion is accelerating. We do not know why this is but we know that it began to accelerate when it was about half its present age. If it continues unchecked, the universe will expand faster than the speed of light. When this happens, it will decouple from itself and we, along with our part of the universe, will be left behind. Now, imagine that our little universe is packed into the larger super-expanding version. An exact fit occurs when there are 4, 6, 8, 20 and 12 of our universes. The points of contact with the larger expanding universe mark the apexes of the Platonic solids, the tetrahedron, cube, octahedron, dodecahedron and icosahedron. These identify five phases that match (at least in number) the field of view 0, 1, 2, 3 and 4 of God's Hierarchy. The time before decoupling and a time when the super expanding universe is so big that our little universe inside becomes negligible match the terms, It and 5. Together the five phases comprise a remarkable manifestation of God's Hierarchy.

We see a similar pattern mirrored in our universe which starts with a big bang then continues with four phases emerging one after the other. The phases comprise one force, two forces, three forces and four forces. The big bang and the four phases are versions of the terms, 0, 1, 2, 3 and 4.

In these three dimensional systems with their five Platonic solids, inside observers see three states (five minus two). This is because the first and last states are boundaries that cannot be seen (recall that insiders of a lifetime cannot see its beginning and end). The middleman is five states but the outside observer sees two more, or seven states. Seven states, or God's Hierarchy, can look like the energy states during the swing of a pendulum and the first and last columns of the Periodic table. It can also look a rainbow with four bands. In this case, the first and last bands are open ended and infinite in a way the inside bands are not. If we search our three dimensional world for this pattern, we find the four fundamental forces, gravity, the strong force, the weak force and the electromagnetic force fit the bill. The ranges of gravity and the electromagnetic force are infinite whereas the ranges of the strong and weak forces are finite. Thus the five Platonic solids in three dimensions lead us to the pattern displayed by the four fundamental forces and what is surely the greatest display of God's Hierarchy there is.

In four dimensions where there are six Platonic shapes, insiders will see four states (six minus two), the middle-man is six states, and outside observers will see eight states (six plus two). These are even numbers and with even numbers of states there is no center state where a point observer can reside. This condition is configured into our universe and prevents us from being the center of time and travelling about in it.

When the inside observer moves further and further away, he becomes the middle-man and when he moves away as far as is possible he becomes the outside observer. Moving further and further away is equivalent with observing smaller and smaller things so that, counter intuitively, an outside observer who is not actually far away must see the smallest things of all. In four dimensions with its six platonic solids he will see six symmetry maxima in a world of eight states. The smallest things we know of are quarks. There happen to be six of them and the forces between them are mediated by eight gluons, i.e. a world of eight states.

In dimensions higher than four, there are always three Platonic solids. Inside observers will see one state, insiders will be three states and outside observers will see five states. This is simple enough but to be honest I can't make much sense of it. Perhaps those who understand higher dimensions can.

11. God's Hierarchy and the Church

The prevalence of religion and the many churches in the world directs our thinking in subtle ways. For example, we know that God made the world in seven days but we do not know how this knowledge was acquired and we can only speculate whether it was divine inspiration or the word of God. How much better if we knew it was deduced in a logical and scientific manner?

God's Hierarchy is constructed from observations. It takes a lot of work but is not especially difficult and is perhaps comparable with the Mayan astronomer's construction of their super accurate calendars from the motion of the sun, moon and stars.

God's Hierarchy represents a substantial body of knowledge that is difficult to describe. I have not looked for records of it but knowledge of it was likely coveted, closely guarded and handed down from one generation to the next. Those with most knowledge of the field would be acclaimed and awarded high rank.

Novitiates would begin their studies with the first term. When it was sufficiently well understood, they would be able to recognize the second term and see it as something that appeared from out of the blue for no apparent reason. They could describe it as an act of God. They would then search the world for clues to help them understand it. When it was sufficiently well understood, they would see it transform into the third term. They would search the world for clues to help them understand the third term and when it was sufficiently well understood, they

would recognize its transformation into the fourth term. Step by step, they would discover the tiers of God's Hierarchy. There is nothing supernatural here. The discovery process is akin to giving an invisible gas substance and then searching the world for gasses until one is found condensing to a liquid and then searching the world for liquids until one is found freezing to a solid.

Novitiates enjoy the rank of the term under study and can discover behaviors that are appropriate for this rank. Thus, they learn what the terms can and cannot do. The emergent nature of the hierarchy forces novitiates to study in an orderly way and progress step by step from one term to the next. They see themselves as taking courses in a school run by God. A considerable amount of work is involved and it takes several years to gain a basic understanding of the seven tiers. Successful students acquire a body of knowledge that is the equal of any modern university degree. God's Hierarchy is the most beautiful sight that a mortal can behold. It is not at all supernatural and it violates no laws of physics. Knowledge of it surely fueled the religions of Mankind.

The hierarchy is emergent and there is always ample opportunity for research and discovery. A surprise awaits graduates who continue to work in the field. Let me describe how this might come about. The setting is Death Valley, California.

12. The Parable of the Prophet

The prophet hiked into the barren wastes of Death Valley. One morning, at first light, he drew symbols in the sand representing the seven holy states. He knew that the first and last states were bookends holding the field of view and he suddenly realized that because they were imaginary they could be combined into one. The result was a circle of six states. He saw that each of the six states was equivalent and they could not be distinguished from each other. He cried out, "God's Hierarchy is unified! Birth and death, beginning and end are gone. The circle could be heaven itself." Pleased with his discovery, he gazed at the desert landscape and the six states wrapped themselves around him like the colored flags of old Windows 7 on boot up. He danced and sang, "They are the six directions, north, south, west, east, the sky above, and the earth beneath my feet. Heaven is all around me! Heaven is holding me in its arms!" He returned to civilization knowing his faith in God's Hierarchy could never be broken. Much later, when he mused over what had happened, he realized that the seven holy states can only be united from the outside. He had reached the eighth day!

Restoring symmetry by forming a circle is a common mathematical maneuver. On the eighth day the prophet arranged the previous seven days into a circle to give three dimensions of space. Note that in these circumstances space cannot be empty and this is why Whitehead lost to Einstein. In a similar way, on the fourth day, an observer can arrange the first three days in a

circle of two states. The two states represent time itself or at least the half-timer's view of it where forwards and backwards cannot be distinguished from each other. The derivation of time and space from relationships is well known to theorists but is not of much interest today.

Using the terminology It, 0, 1, etc., the prophet in Death Valley is 6. He seems to have been portrayed as Number 6 in the legendary BBC's series "The Prisoner," written by, and starring, Patrick McGoohan. Key characters in the series are Number 1 and Number 2 who appear to allude to tiers 1 and 2 of God's Hierarchy. The little men on the rotating white chariots may allude to tier 3. The introduction to each episode shows Number 6 driving a Lotus 7 sports car. This possibly alludes to the seven tier hierarchy. Also in the introduction, a street sign with the word "Residents" is shown. The last two letters (TS) are covered with whitewash but can still be read underneath. It has been widely speculated that TS refers to time and space. If this is indeed the case, Patrick MGoohan, like the prophet in Death Valley, must have reached the eighth day.

13. A Row of Four States

A row of four states is highlighted by the inside and outside observers because one sees two states less and the other sees two states more than the middle-man. If these actions have any significance in the real world, a row of four states should be an important and identifiable feature.

The first and last states of the row should be able to see each other. In this perspective they are equivalent with the four dimension of Einstein's space-time and the four dimensions of our universe. A physical manifestation appears when a free electron meets a proton and is transformed into four energy states (1s, 2s, 3s, and 4s orbitals). When it meets the nucleus of a heavy atom it also becomes four energy states (s, p, d and f orbitals). On a larger scale, we see matter as plasma, gas, liquid and solid which is surely a row of four states. On the largest of scales, states with 1 force, 2 forces, 3 forces and 4 forces emerged one by one after the big bang.

The first four terms of God's Hierarchy are the first row of four states that can be. They plug into "the last three steps" to form God's Hierarchy. As we have seen, they are poised on the edge of a cliff and if they fall off they become five states. A row of five states is broken because the first and last states lose touch with each other. With this in mind, early thinkers might have seen that a row of four states was an invincible weapon-after all, it breaks everything it touches. I sometimes wonder whether it inspired the legend of Thor's hammer.

14. The lost knowledge of Atlantis

The hierarchy represents a substantial body of knowledge that I once dubbed the lost knowledge of Atlantis. The tiers of God's hierarchy correlate with the elements of the Crucifixion to such a degree that the correspondence makes one weak at the knees. Today, God's Hierarchy is the property of the Church. While this has preserved it for Mankind it has kept it from our scientists. Today, the religious correlations are taboo to science and difficult to talk about in a sensible manner.

15. Part quantum, part relativity theory

The tiers of the hierarchy are part quantum and part relativity theory. They represent portions of infinity (a feature of quantum theory) and are relative to their observer as Einstein described the speed of light. Perhaps because of this dual nature, the hierarchy often seems to be wrong - yet its terms impart a sense of order upon the world that cannot be measured and cannot be taken away. At first, the hierarchy caters for the existence of a higher power but as one becomes familiar with its nature, it looks more and more like a perfectly normal feature of the universe. The hierarchy often turns things inside out and asserts, for example, that random events are the most important events of all. Whatever the case, the tiers are wonderful building blocks that are little appreciated today.

16. A nine tier Hierarchy

If the eighth day and Manthey's grand table of orbitals are anything to go by the seven tiers of God's Hierarchy represent the beginning of a series. An observer at the center (2) is poised on a delicate threshold and the slightest misstep sends him plummeting towards the heat death of the universe. Before his fall he was a continuous observer limited to seeing one feature at a time but when he falls he can recognize two features at once and becomes term 3. When located at 2 his hierarchy is seven states, i.e. (It), 0, 1, **2**, 3, 4 and (5). To emphasize its main features I have put the bookends holding the field of view in parenthesis and highlighted the center state in bold. When he advances to 3, his hierarchy is still seven states because term 0 falls from, and term 5 enters into, his field of view. From his new perspective each of the seven terms has two components instead of one. We can write his hierarchy as (It + 0), 1, 2, **3**, 4, 5 and (6). If we look for this in the world about it will take two observers (2 + 3 or s + p) or an observer who can see both continuous and discontinuous things, to find it. Remarkably, the most abundant particle in the universe, the photon, does exactly that. It is a wave (2) and a particle (3) and all values in between[3]. Other forms of this second hierarchy might be Schrödinger's cat and optical illusions with two images in one.

If our observer takes another step along the series he arrives at 4. As before, his hierarchy is still seven tiers but now term 1 has fallen from view and term 6 becomes visible. His nine terms form a seven tier hierarchy (It + 0 + 1), 2, 3, **4**, 5, 6 and (7). The tiers have three features instead of two.

If we look for this in the real world, it will have three parts and it will take three of us observers (2 + 3 + 4 or s + p + d) to find it. Remarkably, the neutrino - and note that this is the second most abundant particle in the universe - has these features. It was first thought to be a simple particle like the photon with its particle and waves but it is now known to have three forms or flavors superimposed upon each other[4,5].

Different hierarchies are the same overall form but differ much like colors, textures or fonts. I like to think of a hierarchy as a landscape or a country of the world. The first is governed by one God or king, the second is governed by two Gods or kings and the third is governed by democratically elected leaders.

An observer plus whatever is observed combine to form the next emergent state. Half of him is made of "what-happens-next" and he sees the first day from the second day, the second day from the third day, and so on. On the eleventh day he sees the tenth day. I don't know what this is but it will take four of us (2 + 3 + 4 + 5 or s + p + d + f) to find it so that it will have four parts. I imagine this could be Einstein's four dimensions of space-time or the four forces of our universe but whatever the case, ten tiers is an even number and an even number of states is not self-contained. In order that the system be self-contained we need to move one step further along or add another term where Greek spears can go. This will give us eleven tiers or a universe with eleven dimensions. The point of all this is that our modern string theories with their M theory variants show that the universe can have 10 or 11 dimensions and they describe the 11 dimensional universe as the observer of the 10 dimensional one - just as is found with the higher versions of God's Hierarchy.

Altogether we have described three self-contained stand-alone systems. They have three, seven and eleven parts (dimensions). If we extrapolate backwards to find where everything should begin, 11 → 7 → 3 → we skip over zero and land at -1. What this means is anybody's guess but it rings a bell because the square root of -1 is an essential part of the mathematics of quantum systems.

Early thinkers believed that simple measurements would describe the universe but quantum theory came along and proved them wrong. The theory says nothing about what things are made of but only describes how one physical system affects another. Experts in the field are now beginning to believe that the universe is made of interactions rather than fundamental building blocks, see Carlo Rovelli[6]. If this is the case, the beginning of the universe is not a thing but an interaction. If one of the interacting components is taken to be "the observer" we can imagine him observing the Big Bang. If he was on the far side of it from us this would make him -1.

Curiouser and curiouser said Alice "The role of the observer is to create the universe. This means that the universe is not made of things but interactions. How wonderful it is to be an interaction and not a thing and to be fixed by the eye of the observer."

17. Religion and the eight and nine term hierarchies

I have not tried to determine how the tiers of the ten and eleven term hierarchies are manifested in the world about. However the eight and nine term hierarchies are simpler and given sufficient time, a determined and resourceful researcher familiar with the seven days in which God made the world, could discover their nature. Evidence for a belief in eight tiers comes from the Yazidis[7]. Their religion originated in Mesopotamia and is older than Islam. The Yazidis are recognized by the United Nations as a distinct ethnic group but their numbers are in steep decline today. They are monotheists, believing in God as creator of the world but also creator of seven holy beings or angels who care for the world. The angels have different ranks (presumably according to their duties). The highest ranking angel is called the Peacock Angel. For all intents and purposes he is the real ruler of the world as God is in the background and takes no part. The Peacock Angel is different from other ruling deities because he is ambivalent and does not distinguish between right and wrong or the good and bad luck that befalls individuals. This identifies him as term 3 and he is the center of the second hierarchy with the eight terms, (It + 0), 1, 2, **3**, 4, 5 and (6). These seem to be the seven angels + God described by the Yazidis. Monotheistic religions who believe in a single minded God (the first hierarchy) justify their persecution and killing of the Yazidis by equating the Peacock Angel with their Satan and calling the Yazidis "devil worshipers." About par for the course, I would say.

Evidence for a belief in nine tiers can be found in Beijing, China. Five hundred years ago Buddhist monks at the Temple of Heaven believed that the Emperor was a stairway of nine steps that led to heaven. Their belief was celebrated with the construction of the Circular Mound Altar. The altar consists of nine concentric circles carved from white marble stone. There are three levels. Do these represent three hierarchies? I think they do but as a tourist, I once stood at the center of the Circular Mound Altar but it was something of a non-event because it was too much for me to believe that the Buddhist monks knew about the nine terms that I had taken decades to untangle. If ever the day comes when I do believe it, I will probably break down and cry because of what it means we humans have done.

18. Addendum

I have tried to avoid supernatural events and miraculous acts of a higher power but, in truth, they represent an ever present element that motivates those who study God's Hierarchy. I will try to describe this aspect as best I can, but I think it cannot be appreciated by outsiders.

Matter can be infinitely organized. It can be sodium and chloride ions arranged in a perfect cubic lattice. It can be a man-made beryllium sphere spinning smoothly in a gyroscope. It can be an arrow speeding through the air before hitting the bull's-eye. In this case, should the arrow hit the exact center of the bull's eye (an impossible task) we say it was a lucky shot. Not so advocates of God's Hierarchy who believe such events are orchestrated in some way. In November, 2014 a window cleaner in San Francisco fell off his trestle and plunged eleven stories to the road below. As luck would have it, he landed on the roof of a passing car which broke his fall. He was badly injured but lived to tell the tale. Clearly, he was lucky, but advocates of God's Hierarchy believe that the event was orchestrated in some way. In some sense it was a miracle and he was saved by an act of God. Whatever the case, the event represents a state of matter with organization that cannot be explained. Let me use the term imaginary organization.

Like many scientists, I was taught to steadfastly resist the idea that anything other than chance could be involved but although awkward at first, imaginary organization can be thought about and studied in a sensible way. Those who believe in God's Hierarchy become expert at recognizing it. In fact they thrive on it and are motivated to gather data and experiment in a way that seems downright silly to the rest of us. And like children, they play games with it.

A simple game is to use the might of one's reference frame to pick a random event out from the background. The random event has no connection with the past and although occupying a finite area must begin with a point-like source that marks where it began. Picking out such an event from the background is analogous with the collapse of a wave function and should be a thrill. When studying term 0, I liked to watch the lights of vehicles at night when driving on a freeway in the rain. As long as drivers obeyed the rules of the road, no vehicle stands out, but should a driver do something unexpected, his car stood out from the background and represented a random event. On one occasion, I rather impishly invented a rule of my own and changed lanes for no other reason than to give nearby drivers something to think about. A driverless car could not do this. The maneuver constituted a phase transition from imaginary and invisible state It to emergent and visible state 0.

Students who study the concept of "It" have entered "It School." They learn they have the rank of "It" and collectively are known as "Its." They learn the adage "It is a perfect property of friends" and find it natural to greet each another with the phrase "Each It." The greeting recognizes everyone has the rank of It and pledges respect. When their understanding of It is sufficient they realize that the term is the most important feature of the world about and are impressed that this is the first lesson of the school. After I reached this understanding it seemed

that I was immediately introduced to the next term. I called it Oh! because this exclamation often accompanies a surprise.

A wonderful game is to pretend to be a link between two random events and join them together. This is a bit like holding an apple in each hand. Nothing much happens of course, but it helps reality emerge. This was so rewarding to my soul that I played the game for months before I could put it down. I learned that if I joined every random event I would be the next emergent state.

Novitiates at "It School "discover the tiers of God's Hierarchy one by one as if attending classes at college. After I had discovered the terms It, 0 and 1, I tried to extrapolate to a fourth term. I had no success at the time, but it seemed to me that the higher power was well organized (or what it did was well organized) and the stature of the imaginary school grew with every term.

One either observes imaginary synchronization from a distance (as is the case of the window cleaner's fall) or one is a part of it. In the latter case, it is usually over before one realizes what has happened and it is only recognized in retrospect. Caught by the event, it makes one feel that a slip of the tongue has got one into trouble. Essentially, something one does seems to trigger an event that emerges nearby. The event stands out from the background because it emerges in tempo and displays information that is pertinent to the circumstances. Imagine looking out of a window to your garden and wondering about the window cleaner's fall. You decide the event is organized in some way and at the very moment you make that decision, a raven swoops in front of the window, caws, and soars up into the sky. You think, Oh dear, the bird is taking my decision to God to ensure it is never forgotten. The appearance and behavior of the bird would normally pass unnoticed but here it stands out and reminds you of your new belief. This may seem farfetched but such an event can be very powerful and shake one to the core. See three or four such events and it becomes clear that they are absolutely magical and exquisitely orchestrated with not one atom or molecule out of place. One's soul marvels at the perfect organization and one feels privileged to have witnessed it.

Another game is to deliver messages like the raven. This is a rich field for an imaginative investigator but is a skill that is difficult to describe. Psychologist friends I knew could sometimes recognize when an unformulated thought was directing behavior. They would seize on the opportunity to whisper words to the individual in order to bring the unformulated thought into his consciousness. This could sometimes connect the individual with the cause of his behavior. When this occurred the individual would be startled or even shocked, but the anomalous behavior would end there and then.

Louis Pasteur said that chance favors only the prepared mind. Imaginary synchronization directs one's attention to the possibility that there may be organization in the real world that is personal and can't be proved. Usually it is destroyed in a moment by the laws of chance. When I see it, I am reminded of Einstein's spooky action at a distance. Experiments now prove that spooky

action is a part of our world[8]. (See, Quantum weirdness is reality," Jacob Aron, **8**/New Scientist, /5 September 2015). So perhaps it is not unreasonable to believe it has a real presence in the world about.

Synchronization can appear very real to someone inside and a part of it. Acts of God find you - you do not find them. When one finds you, you are stuck with it and it is not easily rejected. The Indian Mathematician, Srinivasa Ramanujan, whose axioms confound the world to this day, may have been caught in such a situation. He admitted to himself that he had lapsed on his vegetarian diet and the next thing that happened was that zeppelins bombed London. He concluded that God sent them as punishment[9]. Srinivasa called his axioms "thoughts of God." This looks like term 3 to me. I suspect he had a thorough understanding of God's Hierarchy which enabled him to sense when two mathematical elements (term 2) joined together to form an axiom (term 3).

If one is not fearful of acts of God, one can try to trigger them deliberately and cause an event to emerge from out of the blue for no apparent reason. This is a holy grail that many have sought after. We call it voodoo or witchcraft.

In all these situations, seeing events in the world is like seeing colored bands in a rainbow. Imagine that a region of your surroundings is viewed through a microscope that is badly out of focus and appears blurry and featureless. When the focus knob is twiddled, details appear and you can see things and events and when and where they begin and end. Recall the window cleaner's fall. The event emerges into focus from the background because it excites your sense of values. This is analogous with seeing a colored band in a rainbow. The event doesn't stand out to half-timers, full-timers or inanimate matter because their frames of reference are too simple to recognize it.

The excitation step is absolutely essential. It involves values in the eye of the beholder that correlate with values in the event observed. Taken together they comprise a reflection operator and without this reflection operator information cannot be said to exist. This is why theoreticians say the universe reflects. Elements and events in the universe may appear to be objective and exist all by themselves but they can only be said to exist if they excite the reference frame of an observer.

As was Srinivasa's misfortune, one can be inescapably condemned by a random event when it seems to be the universe's (God's) response to a personal decision or action. The damning cause and effect has likely brought many researchers in the field to their knees (I know it did me). In these situations, one is either condemned by God or one has to believe there is no God at all. However, there is a way out. Cause and effect is a sequence where one event follows another. When the events are simultaneous, blame cannot be apportioned.

We see simultaneous events displayed as particle pairing. Hawking radiation consists of particles that emerge in pairs from the vacuum near a black hole. The emergence of a particle pair is a

random event but imagine that the particles can reinforce each other's identity by reminding each other in some way of what has happened. I believe this sort of process is a feature of the real world where it occurs on all scales. The obvious conservation of energy laws are not violated because reflection events spring out of the blue for no apparent reason. Secondly, the process is in some sense forced because a new reference frame that emerges into the universe cannot be recognized and cannot be said to exist. To avoid this conundrum, the new reference frame is always accompanied by its reflection. Of course the reflection is not necessarily physically accurate, it only has to reinforce the new reference frame.

We all live within an envelope surrounded by a hum of random events. Normally we give this no attention because it is a waste of energy to do so. In contrast, advocates of God's Hierarchy see this hum as the most important feature of reality. They pay attention to it and sometimes recognize an event in it because the event occurs in tempo with a change in their own reference frame. They see the event as a reflection of this change. This belief creates a subtle and unthinkable feature of reality that is not provable and is not amenable to experiment. The phenomenon cannot be claimed as natural because it is obvious to onlookers that an event does not emerge out of the blue simply because one changes one's mind. Early researchers who recognized this process might have called it "the voice of God."

At one time I sped on from term to term as fast as I could. I had a sound reason because string theory says that the universe can have 10, 11 or 26 dimensions and I suspected this applied to God's Hierarchy. This gave me an edge over early thinkers as I knew how many terms to look for. I must have identified 15 or 16 terms at one point but I tried to advance too quickly and lost the trail because my understanding of the previous term was insufficient. At that time I had not realized that seven terms formed a special set. Also, I knew I was simply following in the steps of early thinkers so I decided I had gone far enough and gave up. I returned to the earlier terms of the series to better understand them.

Mathematicians have provided further evidence in support the idea that God's Hierarchy has 26 tiers. They have constructed a periodic table of groups analogous with Mendeleev's periodic table of the chemical elements. This is a marvelous achievement but the table is odd because twenty six groups don't seem to fit. These outsiders are called sporadic or renegade groups and mathematicians believe they are related to the twenty six dimensions of string theory. They have tried (unsuccessfully) to put sporadic groups and dimensions into one reference frame hoping to discover the long sought after theory of everything[0]. For the full story see[11].

Further support for 26 fixed feature of the universe comes from the Standard Model of particle physics which lists 26 fundamental, dimensionless constants[10]. I like to think of these as nails holding up the universe. They may be a manifestation of whatever it is that dimensions and sporadic groups represent. A real theory of everything might see all three cases of twenty six combined under one roof. Time will tell.

Whether the universe has ten, eleven or twenty six dimensions, the first seven are the seven days in which God made the world. The eighth dimension or eighth day has no doubt been discovered by many researchers. Recall the prophet in Death Valley and the BBC series written by Patrick MGoohan. A set of eight days was worshipped by the Yazidis as their God and seven angels. Nine days were likely discovered by Buddhist monks in Beijing who described them as a stairway to heaven. All this was achieved without mathematics or quantum theory. When I recall that God's Hierarchy has been known since ancient times and surely called the seven days in which God made the world, I marvel. When I see the hierarchy displayed during the swing of a pendulum, the number of elements in the first and last columns of the periodic table, and the four fundamental forces, I see good reason why we humans built so many churches and places of worship. I want to shout to the stars "This we humans do."

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