Empirical Science: Back to Reality!

Science is based on the principle of Cause and Effect. We observe an effect. (Something happens, or some event is observed.) **What caused it?** Then, on finding out, we want to know, "What caused that?", going from cause to cause, looking for the actual origination of things. This succession of asking the same question, at every point in the sequence, is a process which is apparently without end. (Though there may be some end-points reached eventually, in some regards.)

"What caused it?" is the **primary** and **most fundamental question in science**. What causes that observable event to happen? In fact, this question is primary to existence and to life experience. We are always asking questions in our lives, such as: Where did that come from? Why did that happen? What started it? Who started it? Why did they do that? What was the origination of that (event)?

These are all varieties of the same question: What caused it, actually? Because we know that until we find out what is the cause of some experience, the origination of it, we may be experiencing the same painful experience over and over again, until we learn to avoid the results of that cause, or cease performing that particular action. Or we may be missing the same pleasant experience, time after time, until we learn how to get it to happen again.

Cause and effect. This principle is used and applied by all Life and all forms of Consciousness, continuously. Knowing the cause of a thing or event is fundamental to existence. Nothing can live without applying this principle of cause and effect, at every opportunity. So learning about cause and effect is a natural condition, and is crucial to all Life. So, doing "science" (in terms of cause and effect) is a natural behavior.

The proverbial tale of Newton and the apple that bonked him on the head (it never happened, really) leading to Newton's discovery of the Law of Gravitational Attraction, is an example of how exploring and examining our experiences in order to find what is the origin of the given observable event, results in reliable understandings about how Reality **actually works**.

Given a known cause, we can observe that a known effect is always resulting from that same cause. What makes something a "known"? "Known" means that it is a reproducibly observable fact. For example, "Every time I do this, that happens.". Why is that?

For example, to state that the sky is blue, is a reproducibly observable fact. Moreover, this particular fact is the same for all observers who possess the same instrumentation, e.g., eyes. For an individual to state that the sky is some other color means either that they are imagining this, or that their instrumentation is faulty (e.g., color blindness). **Imaginings are not acceptable as scientific premises.** Flawed instruments lead to flawed measurements, which lead to flawed conclusions, relative to properly functioning instruments.

Now let's speak about facts. What is a fact? It is that which is **empirical**. It is that which is reproducibly experienced or observed, under exactly the same set of conditions, using exactly the same instruments in exactly the same way. For example, every time I look at the cloudless sky above me while I am on this planet Earth, I see that the sky is blue. That is observably true, unless the sun is in the process of setting, or unless the sun has gone down below the horizon, in which circumstances the observed colors are other than blue. These "**unless**" conditions are also crucial. Why does the color of the sky change when the sun is near the horizon? And why does the color of the sky become progressively (predominantly) more black as the sun passes below the horizon?

So such **observations** lead to more questions. More questions lead to more explorations, through direct experiences and direct observations. More explorations lead to more discoveries and discoveries

eventually add up to become realizations. And realizations lead to **reliable** cause and effect relationships (Laws), given numerous repetitions of the same sets of circumstances.

Let us keep in mind that the "known" is always based on the past. The "known" is what has already been experienced at some time in the past. The "known" then becomes a body of "knowledge", based on the past. However, **direct experience always exceeds the boundaries of "the known"**, since observations and experiences occur **only in the moment**, through the vehicles of the various senses and emotional sensitivities (which are best viewed as very reliable instruments).

Some "knowledge" is reliable as reproducible observations, such as the fact that the cloudless sky is blue when the sun is well above the horizon. Such observations may be considered "absolutes", being almost inevitably reliable.

Most knowledge is to some degree, provisional, or it may be **completely provisional**. This means that the given **concept** may be to some degree reliable, but it is not as reliable as a **fact**. So we put the concept in the "holding area" until it has received such sufficient and reliable confirmation so as to be accepted as a fact.

What this means is that, to all appearances, this or that might be going on, and this or that may be causing it. But we can't be absolutely certain yet that these particular observations, under these particular circumstances, will always result in that same effect, or that the same apparent event always has exactly the same sort of cause. So we put it in the "pending" status, as a provisional concept which is awaiting further observational evidence and further correlations and further corroborations.

An unfortunate habit that human beings develop is the tendency to categorize everything, and put everything into little boxes which comprise "the known", for them. What this leads to is another Whap!, "Now where the heck did that telephone pole come from? It's not supposed to be here!?", as such categorizations tend to remove people from observations of the actual facts, in the moment.

Some of what is contemporaneously considered "knowledge" is not at all knowledge, but rather it is a set of **interpretations** of the observations. Interpretations are vast in variety and number, and cannot be relied on as being at all factual. Interpretations of the given facts often lead to dismal failures and obviously wrong conclusions, when such conclusions, being based on **interpretations,** are considered after the events have transpired. ("There's another one of those blasted telephone poles again, doggone it! Now how did that happen? Oh, I see. I was thinking about such and so and not watching the road.") This faculty is often called "hind sight".

Interpretations are almost completely unreliable, but it is still tempting to ask, "When this happens, that happens. **What could this mean**?". There in that instant of interpretation, we have gone into lands of fantasy and imaginings, where anything is possible, and where there are no rules, nor are there any requirements for any factual correlations or substantiations, when ones attention is purely preoccupied in fantasy-land.

Clearly, interpretations lead to infinite numbers of imaginings, fantasies, and flights of fancy, having nothing at all to do with the reproducibly observable facts. So, interpretations most often may be viewed as fantastical and imaginary whimsies, not even being classifiable as "provisional knowledge". **Interpretations often lead to beliefs**.

What is a belief? **A belief is an unsubstantiated imagining which is often treated as though it were a fact.** Needless to say, this sort of behavior leads to all sorts of problems, when confronted with the Real World of Actual Facts. "(Ouch! Hey!, there's not supposed to be a telephone pole here! Where the heck did **that** come from!?!") Beliefs and opinions do nothing to alter the reproducibly observable facts, as our friend here found out.

Now, the word “belief” is synonymous with the word “**theory**”. In other words, a theory is a sort of belief, or an opinion, or an interpretation of the facts. **A theory is never a fact**, and is never to be treated as such! Yet there are many who want to treat theories as though they were facts, when “theories” do not even represent a kind of “provisional knowledge”. Theories are **not reliable**, and are certainly not as reliable as reproducibly observable facts!

The “scientific” blunders which have resulted from theoretical (belief) interpretations of the actual facts are countless and pitiful to behold! Such theoretically-based behaviors have led to many many pains and difficulties in our world, just like our friend above who ran into the “unexpected” telephone pole. Well, if our friend had been actually watching the road instead of being preoccupied in the “Land of Oz” of his theoretical imaginings, he would have **seen** that telephone pole, and effortlessly avoided it.

Awareness (especially of the senses and sensitivities) and attention, are the keys to Actual Factual Reality, which is always and inevitably composed of reproducibly observable and reliable **facts**. (Think your senses are not reliable? Try driving a car for an hour without them, and see how far you get!)

A **Law** is a reliable physical relationship or a reliable interaction. (A theory is a belief.) What causes such behaviors and such facts is often the source of conjecture, imaginings, and countless useless fantasy theories. The proper approach is to find out, **what causes that Law to be so**? This means that the processes of exploration and experiment and discovery must of necessity be endless. And it is good that it were so, else we would become bored. So we have suppositions, conjectures, imaginings, fantasies, beliefs, theories, and prejudiced fanaticisms. None of these conditions can be treated as reliable, nor as Laws. And regardless, exploration is an endless and wonderful process.

Scientific history is replete with instances where “anomalies” arise, which appear as exceptions to previously held convictions. History has shown that it is inevitably the case, that when “anomalies” appear, it is the “science” itself that is the **actual anomaly**, not the observed event. The unexpected appearances of “anomalies” are symptomatic of incomplete, or just plain wrong (!), scientific conclusions.

Actual Reality does not follow dogmas or beliefs or theories. The Universe does what it does, and is how it is, and it is up to us to make sense of it in some sort of reliable way. And beliefs and theories just don't cut it, by Actual Reality standards.

Here is one example of what has happened in quantum physics, due to various interpretations of the observable facts: It is commonly held that Heisenberg's Uncertainty Relation (a theoretical interpretation of the observable facts) is a factual relation, tantamount to a physical law. In actual fact, replicable experiments have demonstrated reliable evidence that Heisenberg's Uncertainty Relation does not hold under all circumstances. This means that this purely theoretical relationship has, at best, a very limited domain of usefulness and applicability.

Hans Dehmelt was awarded the Nobel Prize for demonstrating that the “Uncertainty Relation” does not hold for a single electron held exactly in one spot by Penning and Paul traps. Dehmelt was able to observe and measure both the momentum and location of the thus-fixed electron for spans of time as long as three consecutive months, with never a doubt about the validity of either of these simultaneous measurements. This means that the Heisenberg Uncertainty Relation is **not valid** in the context of an electron held fixed in a Paul trap. Thus, Dehmelt was awarded the Nobel Prize.

Later on, this writer discovered another exception to Heisenberg's Uncertainty (theory). Photons are not subjects of Heisenberg Uncertainty. For example, if one is observing coherent monochromatic light, at any point in time along the line A to B, one can easily can predict each and every one of these factors: **Wavelength, Frequency, Phase, Momentum, and Position** of the photons, at all times, with **complete certainty**.

For example, the only limitation to accuracy of the photon's position, is the time-of-emission accuracy, which is related to the accuracy of the timer. NASA has developed a timer system accurate to 10 femtoseconds, with projections of improvements into the .001 femtosecond regime. Emission time is then not an issue over a premeasured course and thus location of the photon is known to within the accuracy limits of the timer. (This is because we commonly consider that the speed of light is a "constant", even though this is not the fact of the matter. Repetitions of actual measurements of the speed of light, performed over several centuries, have demonstrated that the speed of light is not at all a constant, but is actually only an "average value". But this "average value" may be considered as reliable, for most practical purposes, under the most common of circumstances.)

We can simultaneously know the momentum of the photon with complete certainty, because the momentum of a photon is directly related to its frequency. (If you know the frequency of an electromagnetic propagation, you know its momentum.) Obviously frequency is not blatantly subject to the Uncertainty Relation, else radios and televisions and such, wouldn't work. The several other parameters mentioned above follow along similar lines.

Thus, contrary to Heisenberg, one can know both the momentum and the position (and many other physical properties and measurable conditions) of the monochromatic coherent photon simultaneously, and with absolute accuracy (for all practical purposes).

Thus, Heisenberg's Uncertainty Relation has a limited and very circumstantial domain of applicability and usefulness. One might well say that the Uncertainty Relation is rather extraordinarily uncertain!

This rather unfortunate sequence from the world of quantum physics is due to the circumstance of a theoretical interpretation (belief) taking the front seat over empirical and instrumented observations of reproducibly observable facts. Poor show! So what value is a theoretical interpretation (a belief, a conjecture) in the first place, except as trying to consider all possible alternatives, looking for that which best fits the facts?

But that's nothing compared to the vast array of fallacies and theoretical fantasies which accompany todays "officially accepted" versions of so-called "astrophysics"!

Long ago it was believed that the Earth was flat, and that if one sailed too far out to sea, one would "sail off the edge of the world". There was nothing other than the visible horizon for those folks.

Later, it was discovered that one would not sail "off the edge" of the Earth to a certain doom. This realization resulted in the belief that the Earth was the center of the universe. That was the accepted theory (belief) of the day.

With the acceptance of Galileo's telescopic observations, the prevailing belief that Earth was the center of the universe was falsified; the Sun now held that distinction. Subsequently, Newton's expressions did not refute this Sun-centered view, but simply made it much less tenable.

Then along came verified evidence that the Sun was not at all the center of the Universe, that there were vast numbers of other suns out there in the sky, called "stars", along with perhaps many other solar systems. But our solar system was now considered the center of the Universe.

Later, Einstein's flawed version of relativity theory became all the rage. This had folks in all the lands thinking that, as interpretations of Einstein's relativity theory had it, that the Universe must be a finite and bounded and limited sort of thing (and of course, centered on us). So it must have a center. And the center might very well be us.

Ecclesiastical interpretations of Einstein's version of relativity theory also had it that the entire of the Universe must have had some sort of "beginning", and then, that it must be doomed to have some sort of "an end". (So far there is no physical evidence to unambiguously support either of these assertions.)

Later came evidence that our solar system is not very likely to be the center of the Universe, so now our Galaxy became the Center, as expressed by some proponents of the “expanding Universe” hypothesis. This kind of thinking is actually not so far removed from the views expressed by the (still existing!) proponents of the “Flat Earth Society”.

The proverbial “fly in the ointment” is the fact that, given an infinite volume, any point in that volume may be considered as the center of the infinite volume, and/or that every point in the volume is **also** the center of the volume! (By definition, an infinite volume has an infinite number of centers, or any point in the infinite volume is the center of the volume.)

There is physical evidence that the Universe is infinite in volume. This lies in the experimental fact that wherever and whenever instrumented measurements have been made, so as to ascertain the local value of the “curvature of space-time”, all such measurements have met with the determination that space is asymptotically flat, meaning that there is no detectable “curvature of space-time”. This fact infers one of two things: Either the Universe is infinite in volume (since an infinite volume will exhibit zero space-time curvature), or Einstein's version of relativity theory is completely without merit. Or, both these statements are true. (That both statements are true agrees with this writer's determinations.)

So, if the Universe is infinite in volume, why do we need such unsupportable and untestable conjectures as some sort of “big bang” theory? In an infinite volume Universe, **Creation is a Continuous process**, rather than a once-in-forever event.

Some have suggested, on a relativistic basis, that perhaps there are many, more localized, “little bangs”. Well, what do we need them for? To be sure, the proposal of “many little bangs” has more going for it than the concept of a single “big bang”, because then there is some vanishingly small hope that we might eventually be able to see physical evidence which might lend some support for the notion of such “little bangs”, by some kind of new and very advanced astronomical means. But we are still left with thousands of conundrums as to what happened **before** these various proposed kinds of “bangs” and “inflations”, and what caused them and how and why they may have been caused.

Let us keep it in mind, that in all these speculative “inflationary” and “big bang” scenarios, according to the most common paradigm, all of everything was “crushed together” into a single “dot”, which somehow managed to contain in it all the matter and energy in the observable universe.

This circumstance is forbidden by Classical Mechanics. It is directly forbidden by the Maxwell equations. It is also forbidden by Einstein's version of Relativity theory, and is completely forbidden by Quantum Physics. Still, the “big bang” proponents want to say that, “All the laws of physics, as we know them today, were *suspended* inside of the Initial Singularity.”

Then they go on to say that by some undisclosed, indiscoverable, and unobservable means “a miracle happened”, whereupon the “Singularity” “exploded” or “inflated”, whereupon specific and selected various kinds of matter and the various forces and physical laws began manifesting themselves, in some sort of sequential order.

Of course all of this is sheer fantasy and has no empirical evidence supporting it. The proponents of this fantasy have been trying everything they can imagine to find some physical evidence, which might lend physical support to this fantasy, all to no avail, so far. (The attempt at the LHC facility to find the hypothetical "Higgs Boson", is just another of the many expensive attempts to try to force some mathematical fantasy fit with Actual Reality.)

What is empirical science as opposed to theoretical science? Empirical science is based on reproducibly observable facts, as opposed to theoretical “science” which is based on sets of *believable beliefs*.

By ”Occam's Razor”, isn't it so very much easier to consider that all of the Universe has always been,

more or less, the way we found it when we got here? Is it so difficult to conceive that matter and energy and the various forces are constantly being created and destroyed?

The entire concept of a "big bang" which is preceded by an impossible condition where all the laws of physics are "suspended", depends on the unwarranted assumption that the Universe is "expanding". The "expanding" Universe concept depends exclusively on the so-called "Doppler effect", which has light shifting towards the red end of the spectrum because the source of that light might be “moving away from us”, as it passes across vast distances of space, thus shifting downwards in frequency, as demnstrated by Doppler with respect to sound waves.

This physically verifiable observation is then applied to light, without proper physical verification, and then interpreted(!) as meaning that the farther light has traveled, the more it must be shifted towards the red end of the spectrum. This is interpreted to mean that all the sources of light must be “moving away from us”. This unjustified assumption is further interpreted to mean that this “red-shifting”must imply that the Universe must be "expanding".

In actual fact, there are at least a dozen additional ways that light can be red-shifted, in addition to the Doppler effect! This means that the so-called "Hubble's constant" is not a valid measure of interstellar distances, because many additional physical events and fields and forces may influence a given photon, in addition to the Doppler effect. There are **many ways** that light can be shifted towards the red end of the spectrum, in addition to the "Doppler effect", which is the origination of the "Hubble's 'constant' ". **In addition** to the Doppler effect we have:

1. **Gravitational red-shifting** (See: Misner, Thorne, and Wheeler's "Gravitation")

2. **Quantum fractional Hall impedance** (Prof. R.M. Kiehn says, for example: "...the Action 1-form, A, has the physical dimensions of the flux quantum, h/e. The 2-form, G, has the physical dimensions of charge, e. The 3-form, A^G, has the physical dimensions of angular momentum, h, and the 3-form A^F, has the physical dimensions of spin multiplied by the Hall impedance, (h/e2) = h(h/e2) = h(Zhall)." He goes on to show that fractional Hall impedance is a built-in function of the vacuum, which **shall cause** red shifting of photons.)

3. The **spin field** can cause both red and blue shifting.

4. The **torsion field** causes red-shifting.

5. The **subquantum aether** can cause red-shifting by several mechanisms, particularly when there is **a density gradient in the aether gas/fluidic media**, which will directly result in a **change in the index of refraction** of the media, as seen by transiting E/M propagations. A related mechanism would be similar to Paul LaViolette's description, having to do with the subquantum superfluidic plenum creating a very small drag on photons over cosmic distances, causing them to loose energy.

6 & 7. Whittaker and Bateman both showed red-shifting mechanisms, caused by **strong electric and magnetic fields**, early in the last century. This is directly related to the red-shifting caused by gravitation, and is also related to Delta Grad E events.

8. **Topological redshifting**, which can arise when a discontinuity is created in the vacuum by various topological means. Photons entering the discontinuity can lose energy in transit.

9. **Bose-Einstein Condensates** can red-shift the frequency of light.

10. **Quantum Scattering** (See http://www.rialian.com/rnboyd/quantum-redshift.htm)

11. Delta Grad E events: **Changes in the gradient of an Electric field** result in instantaneous and directly measurable changes in the permittivity of the physical vacuum, and thus, instantaneous variations in the speed of light in the physical vacuum are measured. In addition, simultaneous, and also instantaneous variations, are observed in the force due to gravitation, in the measured inertia of masses in the volume of the effect, and variations are observed in the pace of time. In addition, divergences are produced in the quantum potential. Also, the electromagnetic radiation patterns which arise from electromagnetic transmission antennas are observed to vary dramatically under these conditions. (This statement has been tested as valid for normal E/M, complex E/M, and symplectic E/M transmission facilities.) **Delta Grad E events are ubiquitous in interstellar and stellar plasmas, and are easily produced on Earth.**

Knowing some of these facts of optical physics, Hubble himself was completely opposed(!) to the notion that the Doppler effect was the only thing that could shift the frequency of light. Then, despite poor Hubble's decades of protestations, this so-called "constant" was named after him, posthumously.

The "expanding universe" is a fraud, a fiction, and a lie. There is no physical evidence whatsoever to support the idea, given the fact that "Hubble's constant" is correctly seen as vastly flawed, and physically unreliable.

So if the Infinite volume Universe was never "expanding", why do we need any sort of physically impossible "big bang" or "inflation"? Creation is a local and ongoing set of events. In fact, everything we are capable of experiencing is direct evidence that all things are created as a result of local process, just as you were the result of quite localized Creation events.

It is also commonly and wrongly assumed that interstellar space is isotropic (having exactly the same properties everywhere). In actual measured fact, interstellar space is exceedingly anisotropic! (Meaning that the properties of space vary dramatically from place to place, and from time to time.) This anisotropy gives us all the more reason to understand that many, or indeed all, of the possible ways that photons can be shifted towards the red end of the spectrum (or the blue end of the spectrum), might very well be directly influencing photons which are passing through vast distances and encountering vast numbers and kinds of anisotropies.

The fact that space is not "expanding", and the observable fact that Creation is a Continuous process, throughout the Infinite volume of the Universe, validate the "Steady State" cosmologies of Hoyle, Narlikar, Bondi, Gold, and many others, with the required caveat that Hubble's "constant" is a lie. And Hubble himself is thus vindicated in his strident opposition to this "constant".

In the altogether, Hubble is vindicated in his opposition to the co-called "constant" which was later attributed to him, despite his opposition to the notion. And the misnomered "Hubble's constant", is perfectly wrong. This "constant" is based entirely on a single and *intentionally narrow-minded* way of looking at cosmological red-shift behaviors. Since there are diverse additional and more reliable ways of producing red-shifts in the laboratory, the entire notion of an "expanding Universe" is perfectly ludicrous! The Universe is **Infinite** in volume, and is never "expanding".

So, did all of the observable Universe, and everything in it, happen by some blind random chance (?) due to some obscure, inert, and lifeless and mechanical mathematical considerations, such as some sort of imaginary “bang” of an impossible set of conditions, all of which conditions are perfectly denied by all of the empirically physically well-established and well-known Laws of Physics?

Such inert and mechanical concepts go back to Victorian times, when a “very predictable”, purely

mechanical, sort of “clockwork” Universe was very fashionable. In those days, the tiny and intricate pinions and gears of the fairly reliable wrist watch were the very pinnacle of advanced technology. Surely we are well beyond that state of affairs, in these days.

We've long known that this sort of “clockwork mechanical universe” paradigm is riddled with vast numbers of failings, being unable to properly describe the majority of the observable facts and being unable to make reliable predictions regarding the observable facts, particularly since the advent of quantum physics.

Well, if all this didn't happen in some sort of purely mechanical “clockwork” sort of way, then how did it manage to happen? Maybe it “self-organized” itself? How did it manage to do that then? Perhaps all the pinions and gears just kept randomly falling in an ever growing heap on the ground, where the ground itself was constantly moving, so as to keep the ever falling pieces and parts ever mixing together? Until such time as the pinions and gears and springs all “magically” happened to fit themselves together into a perfectly functioning, and very handsome, wristwatch? Very doubtful, wouldn't you think?

And there is also the issue of who designed these purported clockworks, and who manged to construct them, and by what means?

To make all these amazing things we see in the Universe all around us, several sets of guiding parameters must exist, which parameters must be guided in turn, by an inherent and Aware Intelligence which must exist at the very core of the All-That-Is, and simultaneously, pervade it everywhere. Intelligent Design has to be seen acting directly in the production of all Observables, where Creation-Information and Intention (the Quantum Potential) produces all of everything else.

Once a something has come into being, it seems that the given item, over the course of infinite time, is destined to decay and then eventually cease to be. But this natural process is not constrained to adhere to theoretical considerations which would calculate that the proton, for example, has a theoretical life-span of some 10e 33 years, based on expressions such as those found at http://hyperphysics.phy-astr.gsu.edu/hbase/particles/proton.html.

Not so! This is yet another example of how apparently air-tight theoretical results are so often completely falsified by empirical observations and the results of physical experiments, yet theoreticians are often found many years after the physical evidence has completely dismantled their beliefs, clinging desperately to their physically failed false imaginings as though they were life rafts, in a vast and empty ocean of dreams.

It was experimentally and empirically established by Gustave Le Bon of Belgium, as early as 1906, that all forms of atomic and subatomic matter cease to exist in rather short time spans, measured in spans of time between fractions of a second to mere centuries, through a process called photonuclear reactions. In a classical photonuclear reaction, when a gamma ray of exactly the correct resonant frequency of a given kind of atom, encounters that particular kind of atom, that atom vanishes, and completely and utterly ceases to be.

When the frequency of the gamma radiation is slightly off the “station frequency” of the given atom, the atom will dissociate in a shower of subatomic particles and various other kinds of radiations, and will also produce measurable events of the various kinds of forces.

Gamma radiations are ubiquitous in the Universe, especially resulting from stars and during various interstellar plasma behaviors. So atoms are being vanished by photonuclear reactions, constantly and everywhere.

Fortunately, this continual destruction activity is fairly well balanced by constant creations of new

matter, everywhere. These processes are rather more complex than destructive ones, so we will give only one example of such processes here. During plasma physics studies which were designed to attempt to keep thermonuclear plasma species around long enough to produce fusion reactions here and there in the containment system, usually composed of magnetic field structures, it was realized early on that if any impurities got into the plasma, other than hydrogen or helium atoms, that the plasma would rapidly lose energy and drop below the fusion energy threshold.

Due to this circumstance it became common practice to pump the containment volume down to produce the best vacuum they could produce, so that no impurities would be lurking there, waiting to drop the energy of the plasma below the fusion threshold. As vacuum technologies improved, the ability to make better vacuums improved. When a certain threshold of vacuum was reached, the researchers discovered, much to their dismay, that hydrogen atoms began "showing up" in the vacuum chamber.

From that threshold and beyond, no matter what they tried, they could never get rid of all the hydrogen in the vacuum chamber. Eventually, through measurements, they realized that hydrogen atoms were "popping into existence", from out of nothing, as it were, obviously violating the theoretical tenets of the conservation of energy and the conservation of matter. Rather than announcing these results to the world, it was decided that they should prevent these discoveries from ever reaching the public domains. Nevertheless, it appears that the old saying, "Nature abhors a vacuum." is really true.

Matter and energy throughout the Universe are constantly being Created and constantly being Destroyed. Interestingly, this re-discovery of the Continuous Creation/Destruction process aligns perfectly with the Hindu pantheon of Brahma, Shiva, and Vishnu. This physically verifiable assertion falsifies entirely, the ecclesiastical notions of a “beginning” and an “ending” of the Universe. Of course, the various **individual items** and forces in the Infinite Volume Universe, **do** have “beginnings” and “endings”. But this concept does not apply to the Infinite Whole, which was here before we got here, is now, and forever shall be.

The first key realization is in the fact that there do exist many varieties of faster than light events. The Mobius transformation solutions of the Maxwell equations lead to an understanding of various entities which can travel with any velocity, from zero velocity, to an infinite velocity. This understanding leads to the perception of an infinite fineness of the vacuum's structure, thus pointing to SubQuantum entities with the same propagation properties as those indicated by the nonlinear projective Mobius transformation solutions of the Maxwell equations, with individual propagations of these entities ranging from zero velocity to an infinite velocity. (As opposed to the more commonly understood Lorentz transformation solutions of the Maxwell equations, where propagation velocities are limited to the average speed of light, in the given media.)

The second key understanding is the realization that matter is infinitely divisible, so that there is no end to smallness, where the Planck scale of 10e-33 cm., is just one level of a heirarchy of increasing fineness, which apparently continues into the infinitely small. Quantum fluctuations are direct physical evidence of the existence of the subquantum, as related to Brownian motion. In the subquantum model, increasingly fine subquantum entities and structures are resulting from composites of infinitesimal particles, which are the origination of the Entire of the physical Universe, and all of its specific components.

Such compositions are orchestrated by an Innate Sentience which is contained in the general Quantum Information Field, which Sentience orders and organizes all of everything else. This realization brings about a much deeper understanding of what are the actual fundamental building blocks of our Reality.

Information systems, operating in an infinite array of implicate orders, as described by Bohm, become pre-physical “stencils”. Then as these “outlines” are filled in, there result all the observable physical

manifestations. Such manifestations are resulting from the interactive and Intelligent presets and Sentient patterns which are already inherent in superluminal information-based connections and behaviors.

These patterns and presets are originating in the SubQuantum domains. Keeping in mind that all quantifiable energy is constantly coupled into the SubQuantum, by infinite velocity, infinitesimal particle-carried Information fields, we are becoming increasingly more familiar with the foundations of Information-driven phenomena, in the physical world.

Organizing functions originating in, and evolving through, the SubQuantum realms, are the inner workings of the, actually endless, Creation Process. All apparent Quantum "randomity", as related to observable forces and matter, is then actually due to an externally induced determinism, one which is reflecting the great overarching Harmony of All, in an infinite array of manifestation layers, proceeding from the small, into our normally familiar physical world.

In this understanding, Life, the brain, and all of everything else, are directly designed and constructed by adaptive morphogenetic SQ information-field influences, which are in turn, under the direct control of Harmonious Cosmic Intelligence, rather than through some Darwinistic "evolutionary sequence", which concept has been physically proven false by the observations and experiments of the Nobel laureate, Crick, and by many other information-related experiments.

The Cosmic Microwave Background (CMB) radiation is direct evidence that Creation is an ongoing process, based on subquantum determinations arising out of studies of the Kolmogorov vortices at the scale of 10e-60 cm. The advent of the subquantum microscope has already allowed the imaging of entities as small as 10e-96 cm., according to recent results out of Serbia. Such physical observations are validating the subquantum as the actual and foundational basis of all experiencible Reality.

What is empirical science as opposed to theoretical science? Empirical science is based on reproducibly observable facts, as opposed to theoretical "science" which is based on sets of *believable beliefs*.

Let's see how Einstein's version of relativity theory stacks up, relative to the empirical approach to the sciences, as illustrated by Popper's Criteria for Reliability in the Sciences, as paraphrased below:

Popper's 1st Criteria:

"Is the scientific expression internally logically consistent? Are there any expressions therein which are obviously and instantly contradicted by previously well-proven and reproducibly observable substantiated facts?"

Einstein's version of relativity is not internally consistent, in several regards. Many of those inconsistencies are covered by Stephen Crothers in his previous writings regarding the various mathematical and logical inconsistencies and flaws contained in relativity theory, **here:**
http://www.thunderbolts.info/thunderblogs/archives/guests08/090807_sjc.htm
http://www.sjcrothers.plasmaresources.com/

As to the 2nd part of the 1st Criteria, **never before in all of history** has any human being **ever directly observed** any "curved space", nor any "curved time", nor any of the even more ludicrous "curved space-time". So, this version of relativity is directly contradicted by thousands of years of empirical human experiences.

Popper's 2nd Criteria:

Are these expressions capable of being **tested** by **direct experience, empirically**?

No, they are not. In fact Einstein himself once said, "Relativity theory can never be proved by any physical experiment.". Why would he say that? Because Einstein knew full well that his version of relativity theory lives only in ones imagination, kin to the Disney production called "Fantasia", equally physically real, and equally physically unprovable. Einstein's version of Relativity theory is **perfectly non-physical**!

So it fails Popper's second criterion.

Popper's 3rd Criteria (broken out by part):

"Does the proposed revision have fewer axioms or more?"

Einstein's version of relativity includes **many more** axioms than Galileo's original version of relativity. In addition, none of these extra axioms have ever been proved to be physically real, nor absolutely required physically, nor physically useful, under any set(s) of circumstances which have been tested to date.

"Does the proposed revision produce larger numbers of verifiable predictions?"

Einstein's version of relativity theory has produced no physically verifiable unambiguous predictions, about anything! In addition, 100 years of this version of relativity have resulted in zero innovations and zero new conveniences. (So what good is it?)

"Do the given expressions produce alternative conclusions from a differing (relative to other viable expressions) set of basic statements (predictions) which appear to be more accurate to the observable facts?"

Alternative conclusions, yes. More accurate to the actual facts? **Not in any regard.** Actually, all the premises of Einstein's version of relativity require a complete denial of all the observable facts. Are there any other viable explanations? Indeed there are hundreds of years of other viable explanations, in addition to Galileo, such as model of the **actual cause** of gravitation published by the Marquis de Laplace, during the 1850s. When asked the question, "What is the cause of gravitation?", Sir Issac Newton famously responded, "I frame no hypothesis." Laplace's model of gravitation was the first model to surpass Newton, in this regard, showing the actual cause of gravitation, a topic regarding which Einstein's version of relativity is equally as mute as was Newton.

"Does the new axiom produce any predictions which **contradict** any existing predictions which have been made (and preferably **verified**) without taking the new axiom into consideration?"

Einstein's version of relativity theory directly **contradicts** Newton's long established Law of Gravitational Attraction, by empirical measurement. Any relativist will happily agree that Einstein's version of relativity theory does not agree with the direct and empirical observations of Newton, saying. "Rather, Einstein's version of relativity theory 'corrects' Newton.". I don't buy it! Where is the physical evidence of this "correction"? Can't find any? Well then off with you and your "pig in a poke"!

Einstein's version of relativity theory fails to meet Popper's 3rd Criteria.

So, on to Popper's 4th Criteria:

“Is this scientific expression “**falsifiable**”? Can be confirmed or denied by experiments and observations?

Absolutely not. Again, Einstein himself said, "Relativity theory can never be proved by any physical experiment.". That means it is impossible to confirm or deny, simply because it is imaginary, and lives only between ones ears, as all other imaginings do. That means it is not falsifiable, it is not testable, and since it has no relation **whatsoever** to the **actual physical universe**, no possible combination of experiments and observations can ever act so as to confirm any of these expressions.

The theory fails Popper's 4th Criteria.

Einstein's theory fails all of Popper's Criteria for Reliability in the Sciences.

Some well-respected mathematical physicists, such as Roger Penrose, are aware of these difficulties with respect to Popper's Criteria, and rather than admitting to these egregious flaws, would rather have Popper's Criteria white-washed away, calling them "overly stringent" and "harsh". [See his book, "The Road to Reality", pages 1020 and 1021, for example.] To this writer, it is **vastly more harsh** be forced to live in a completely unreliable world, made almost entirely of fantasies and illusions and delusions and imaginings, producing endless difficulties and uncertainties for the normal and sane person. This writer insists that Popper's Criteria should be applied with **unrelenting stringency**, resulting in some reliable understandings regarding Actual Reality, resulting in a world which contains some degrees of certainty and reliability.

Popper once said, if a theory fails to meet all of his criteria, then that line of investigation should most properly be abandoned for all time, as being perfectly invalid, and completely useless. I agree with Popper on this, with respect to Einstein's version of relativity. Forget about it! It must be added that there are many more theories that are presently "widely accepted" which also perfectly fail to meet Popper's criteria, such as "string theory".

Now, as to all the other fantasies which are based on this fantasy called relativity theory:

“Black holes. Hey, wasn't that the show that came on TV right after "Fantasia" last year? Well, I thought they were both a bit entertaining. But Fantasia was much more fun! Besides, I didn't like the part where all those black holes went around eating all of everything else.”

Gone away are all the other imaginary figments which have arisen from the mathematical fantasy called relativity theory. Gone then is “curved space-time”. Gone then are the "black holes", the “big bangs”, the “expanding (even accelerating!) universes”, and the equally imaginary ”neutron stars”.

Gone as well, are such concepts as “Lorentz -Fitzgerald contraction”, which has a massive object growing “thinner” as the “speed limit” of the speed of light approaches. Gone as well are the “twin paradoxes”.

Gone are all considerations regarding light as the “highest possible velocity”. Gone is the idea of “traveling backwards in time.” Gone is the idea that time ”slows down” as the speed of light approaches. Gone are “wormholes”. **Gone is the idea that the speed of light is in any way physically related to Time**.

(Einstein relied on Minkowski's mathematical abstraction called "space-time", where a 4 dimensional, complex, pseudo-manifold ("pseudo" means fake or artificial or "looks like but isn't") is mathematically created, with the 4th dimension being time, which enters into the system as "*i*Ct", which term is called "imaginary time". This construction falsely links the pace of time, t, **exclusively** to the speed of light, C [This linking is a completely unwarranted assumption.], then enters time as a dimension of rank equal to the 3 normal Euclidean space dimensions, by way of the imaginary number *i*. This is the actual origination of the false assumption that nothing can can exceed the speed of light, based on the unjustifiable, untested, and unquestioned assumption of "*i*Ct", which is linking of the pace of time, with the speed of light, along with a further unwarranted and unproven assumption that time is actually caused by, or linked to the speed of light, in any regard whatsoever.)

Also gone are all the ridiculous and expensive experiments such as LIGO, which are still out looking for the legendary "dancing hippopotamus in the pink tutu", also known as “gravity waves”

In summation, there is absolutely nothing right about Einstein's version of relativity. Whether we are considering GR, or SR, every supposition that is supposed to be deriving from any completely flawed scientific expression, is equally flawed, and is more likely to be an even worse flaw, which is stacked up on top of all the previous flaws. What we're left with is a completely useless stack of garbage.

Appropriate to these circumstances, an old saying from Computer Science comes to mind, “Garbage into the system, leads to garbage out out of the system!”, often abbreviated “GIGO”, for “Garbage In, Garbage Out.”

Back to the empirical method! Back to Reality!

Robert Neil Boyd Ph. D.