The Immaterial, False Physical Implications and the GGU-model

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Abstract: Popular attempts to describe behavior within physical science, in non-mathematical terms, are demonstrated to lead to linguistic contradictions. How the General Grand Unification (GGU)-model cosmogony eliminates this difficulty is explained. Certain physical science theories often have a negative impact upon theological notions. In opposition to this, a theological interpretation for the GGU-model and General Intelligent Design (GID) have an extensive positive affect upon Biblical interpretations that are applied to the physical world.

1. What is a Religion?

Over the years, this term has been highly broadened. There appears to be ample historical and present day reasons for such an expansion. Often it is employed by individuals who should know this fact, but they falsely imply that it only refers to a supernatural God or "spirit" concept. "Well, you know what I mean" they might contend. Since this term has been broadened, then without further descriptive content it does not carry this specific meaning. The following is an example of such a broadened definition. In what follows, the term "linguistic" is broadly defined as not merely including a symbolic language for oral expression, but it includes all forms of human sensory information that is presented in an ordered manner.

> A **religion** is an organized collection of beliefs, cultural systems, and world views that relate humanity to an ordered existence within a physical universe.

This is a major example as to how "meanings" for linguistic expressions are altered and the necessity to know, at the time it was written, what a term signifies. Clearly, there is for this present day broadening, at least, one slight problem with the definition. One needs knowledge as to what the phrase "physical universe" entails.

In my articles, the term "physical" refers to a finite list of terms used by a specific science-community, which I often specify as "secular," and, usually, the list is current as of the date an article is written or revised. But, if so specified, then one can continue this and ask, "But, what does secular mean." There is considerable evidence that technically the dictionary definition for various words is circular. As an example, consider the verb "to think." Hence, the actual notions certain linguistic forms attempt to convey have in-depth "meanings" that, most likely, are not entirely linguistic in nature. Others

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have expressed this linguistic concept and have very valid reasons for this conclusion. Nobel Laurent Eccles, with Robinson, points this out.

> One feature of linguistic expression is rarely considered in depth. We can all recognize that when we are attempting to express subtle thoughts, particularly those that are novel and as yet unclear, we may tentatively try now this, now that verbal expression. In fact this is precisely what is done in writing this section. In attempting to convey some experience it is difficult to give satisfactory verbal expression to one's thoughts. One searches for the right words and syntactic arrangement so that one can have hope that one's thoughts may achieve a clear expression to listeners or readers (Eccles and Robinson, 1984, p. 117).

Although there is an extensive glossary (Herrmann, R. A. [A]) for the terms that I employ, this observation will remain a problem for an in-depth comprehension for much of the material I present throughout my writings.

2. The Immaterial.

The term "entity" used throughout this article needs to be clearly understood. Unless the context is clear, the term would need to carry a clarifying modifier.

> **Entity** is a rather general term that is associated with various philosophic systems. Relative to such a system, it is `something that exists individually`, whether actually or potentially, concretely or abstractly, physically or not. It can exist but mentally. It can be a named member of a science-communities list of what is physical or need not be so listed for that community. The name given to an entity often indicates the philosophic system to which it applies. Different entities require that they have differing lists of properties.

Newton is very careful as to how he describes behavior, behavior that we today consider as physical in nature. He very specifically stated that one first actually observes, via human senses that are mostly visual, the behavior of physical entities. It is after this that one then attempts to model mathematically the behavior. Such models were consider as "geometry." Further, physically, the term "point" takes its original definition as a "position" in space. Straight (right) lines and curves indicate observed positions in space an entity acquires over time.

> [T]herefore geometry is founded in mechanical practice, and is nothing more but that part of universal mechanics which accurately proposes and demonstrates the art of measure (Newton, 1934, p. xvii).

Newton demonstrates how his direct observations and intuitive comprehension of mechanical behavior came first. These observations are then abstracted to include the vague notion that objects have certain "capacities or potentials to do things." We are

told that it is after experimentation, observation and reflection that the mathematical structure is evoked and these "easy" capacity concepts are modeled. For Newton, such an abstraction can include "unobservable" but assumed real physical behavior.

Although hardly mentioned, these concepts remain the major procedures that lead to a mathematical structure that "models" and, hence, predicts observable behavior. However, there begins with Newton the problem of whether all the entities used to generate a mathematical structure correspond to real "physical" entities or are they all or partially imaginary. Newton claims that infinitesimal "measures" correspond to real physical behavior although no known instrument can make such measurements. After all, how could it be otherwise considering how accurately the mathematics predicts observable macroscopic behavior. But, I can find no indication, from the time of the invention of these highly significant mathematical concepts until 1979, that any serious thought is given that a rigorous mathematics approach based upon actual "non-physical" entities can possibly be applied to also predict observable physical behavior.

There are, at least, two courses of action one takes with regard to such modeling techniques. The major one is mostly based upon opinion as well as philosophic and even political concerns. One example is the use of a term like "immaterial" - a term with varying contextual meanings. In the 1960s, in Quantum Field Theory, the term is used for the concept of the quantum field.

> The most fascinating application of these rules are, however, not to any material substance but to immaterial fields, the excitation of which appears to us as elementary particles (Henley and Thirring, 1962, p. 154).

The elementary particles are listed as "material" entities. A quantum field is not a member of the list and, hence, although conjectured to be a real physical object, it is thus termed as an "immaterial" physical entity. Further, this is supposed to be a primitive quantum physical entity that does not reveal itself directly via any human nor machine sensor. Recall:

> A **primitive entity or a scientific primitive** is more general term than the usual definition of an elementary entity. It is used to avoid the logical regress. In the language used for a particular scientific theory, it is a term given to an entity which is irreducible into any constituents in that there are no terms within the theory that name any constituents of the entity. This does not preclude the development of other theories that do name such constituents.

Do all scientists use the term "immaterial" as Henley and Thirring do? Eccles and Robinson (1984) conclude from experimental evidence that there is an immaterial aspect to our ability to think. This does not appear to stem from any electro-chemical brain activity and, thus, does not follow from the conjectured properties for a quantum field, "something" used to predict aspects of such brain activity .

The term "immaterial" has meanings that do not correspond to the what physical-science would like us to believe as imagined entities. (Note: Imagined entities can be imaginary concepts that need not be mentally imaged or, otherwise, mentally perceived as assumed physically real entities.)

On 10/11/2011, one finds in Wikipedia, under the heading of Quantum Field Theory, the statement:

> In QFT (quantum field theory) photons are not thought of as "little billiard balls", they are considered to be field quanta - necessarily chunked ripples in a field, or "excitations", that "look like" particles. Fermions, like the electron, can also be described as ripples/excitations in a field. In summary, the classical, visualization of everything is "particles and fields", in quantum field theory, resolves into 'everything is particles', which resolves into 'everything is fields'.

In the 2015 version of this article, no such description is found. However, there is a link to the article on physical fields. In paragraph one, referring to various authors such as Richard Feynman, is a statement that attempts to define the general notion of a "physical field."

> In physics, a field is a physical quantity that has a value at each point in space.

This is a rather emphatic statement. But, in the very next paragraph is the statement:

> In a modern framework of the quantum theory of fields, even without referring to a test particle, a field occupies space, contains energy and its presence eliminates a true vacuum.

Is it possible for a "quantity" to occupy space? And what has happened to the "ripples" it goes through to give the appearance of a particle. As one might expect, I cannot find in the quantum field section of this article any mention of "ripples" that yield particle properties. By-the-way, try to image a **geometric 3-dimensional** entity that exists `throughout all of space` and that "ripples" or "vibrates" without thinking of it as composed of more elementary stuff. This same problem occurs for all such universe-wide primatives. Maybe the writers of these articles did not want the reader to know how the actual mathematical model for this quantum field concept is originally developed. Indeed, some of the foremost members of the quantum field society have attempted for years to convince their followers that these totally "invisible" entities, entities that cannot be directly detected, actually exist in physical reality. Referring to the electromagnetic field as a quantum field for QED, Feynman writes:

> The fact that the electromagnetic field can possess momentum and energy makes its very real . . . a particle makes a field, and a field acts on another particle, and the field has such familiar properties as energy content and

momentum just as particles can have (Feynman, 1970).

This statement is an implied counter to the established rules of the scientific method that one hopes a Nobel Laurent accepts. When an hypothesis that cannot be observed makes rational predictions that are observed to occur, then the hypothesis is stated as being verified.

> A hypothesis becomes *verified* but of course *not proved* beyond every doubt, through the successful predictions it makes (Cohen and Nagel, 1934, p. 208).

There is today an absolute alternative to accepting all such hypotheses, an alternative that establishes for all known cases that the phrase "*not proved* beyond any doubt" is fact. Further, I wonder if anyone has bothered to explain in a non-mathematical physical language, how a particle "makes" a field? Indeed, what is a "particle"? Do we suppose that this refers to what is considered as "a very 'small' real physical object"? But, Feynman calls a photon a particle and it has no spatial size characteristic. Does the term merely mean "a body whose spatial extent and internal motion and structure, if any, are irrelevant in a specific problem." But this definition implies that it has a "spatial extent." The subject is also called "particle physics" so the term must have meaning to those that specialize in this form of physics.

Relative to the actual history of these concepts, Wikipedia and Feynman give a false impression. Such fields did not occur in the minds of their discovers in this manner. The first two descriptions presented above are more relative to the actual facts. Max Planck, in 1918, won a Nobel Prize in Physics for "creating" the basic aspect of quantum physics - the discrete energy element - in his 1900 paper on black-body radiation. Notice it is composed of discrete amounts of "energy." But, later, with the introduction of the collapse of the wave-function, he was much less confident that concepts he introduced are correct.

Prior to Planck, Boltzmann apparently introduced discrete physical behavior but he also accepted the notion of "invisible" atoms as real physical entities, while much of the physics community, at that time, did not. For this reason, he introduced the revolutionary idea that such ideas could be but analogue "models." At that time, the idea of atoms was rejected since after all, if a human being or machine could not "observe" the object it could not "possibly" exist physically. But, today, does one need to accept the "invisible" entities that the secular physics-community mandates physically exist, although, they may have started as purely imagined notions? In fact, the field notion, via the lines of force notion, actually started this way with Faraday who first considered them as mere physical "possibilities."

Classical and quantum fields were not some how of other discovered and then they display their properties. They are "things" endowed with physical properties by human beings who impress upon them behavior that is modeled by mathematical

formalisms. Such entities are conjectures, hypotheses, in the sense of the basic concepts of the scientific method, which is often ignored. There is NO direct sensory evidence for their independent existence. All evidence is **indirectly** obtained via mathematical prediction. **We cannot, as yet, otherwise predict the behavior of certain physically sensed behavioral aspects of gross matter.**

Further, for technical reasons, scores of constants need to be fine-tuned, so-to-speak, to an accuracy of 32 decimal places or the famous Higgs particle becomes problematic. Also, life can only exist where there is an extreme narrowing of the range of all physical parameters. For these entities, which secularist simply **must** accept as physically real, these factors among others would be must easily explained without implied falseties via intelligent design, something that atheistic science vigorously avoids. So, supersymmetry and hypothesized "sparticles" are introduced in the hopes of avoiding the intelligent design problem, although the designers of the theories consider themselves rather intelligent.

But supersymmetry has similar problems and, after thirty years, there is no indirect evidence for the predicted "sparticle." So, enters "string" theory and a "final" solution to all of these problems. But, what does string theory predict that other theories do not? There is no indirect evidence for the existence of strings. It is claimed that there is no other approach that is viable as of today. This is a false statement. But, the purely hypothesized string notion does serve the mathematics community via, at least, "topological string theory." Such highly complex mathematical structures certain allow for many papers to be published and professorships to be assured. Then, as mentioned, there is an alternative to the notion that these entities are actually part of a real physical world. This alternative was first presented in 1979 and, if so chosen, can render the invisible world of particle physics as mere imaginary concepts.

One finds numerously many other false statement put forth by our "foremost" scientists. Richard Feynman during a series of public lectures states that "[I] am describing *how* Nature works. . . . So I hope you can accept Nature as She is - absurd" (Feynman, 1985, p. 10).

One of the major meanings for the word "absorb" is irrational. Hence, if this is what he means, he most stop at this point in his lecture series for he cannot scientifically and, hence, rationally describe how Natural works for he states that She behaves irrationally. Or if he only means She behaves in a unusual not observed manner, then rationally describing such behavior can hardly be considered as absurd. Of course, Nature does not behave as a Feynman diagram demands. Within observable Nature there are no diagrams, no words, no numbers, no Feynman integrals, no descriptions of any sort. Unless Nature is a type of mind that, some how or other, translates linguistic expressions into physical reality, then what Feynman constructs is NOT how Nature actually achieves the predicted and observed results. We are remarkably fortunate to be able to construct analogue models, linguistic representations, for **what we cannot**

otherwise comprehend, that allow us to predict observable behavior.

The above faulty attempts to adjoin rather picturesque linguistic descriptions to a collection of well-defined properties appears to be an attempt to convince us that certain scientist have a special comprehension of such matters that the "ordinary" human does not possess. These linguistic difficulties can be easily eliminated and one can still claim that the entities physically exist.

Although highly contextually controlled, for the next statement, define the term "object" as the directly observed and the defined or predicted unobservable physical members of a universe that are accepted by a specific community to exist. In all cases, one makes a list of well-defined physical properties. Then one writes "An object that satisfies this list of properties is named a . . . " and no other description needs to be considered. Often, such a list of properties can be modeled mathematically.

3. Limited Positivism.

Prior to 1945, quantum theory was used as an explanatory theory for microphysical behavior that does not follow the mathematical principles of classical physics and had little significance as a model for our everyday activities. The most used mathematical model employed in practical physics and engineering is not illustrated by an actual physical entity. The mathematical application of these entities was first considered by Newton. Today, among other titles, the subject is called the "Vector Calculus," where a "vector" is illustrated by the "directed line-segment." Such "ordered" positions in space and time yield a mental concept not directly displayed by Nature.

Even today, when one relates these geometric representations to the macroscopic physical world about us, an engineer can use the Newton geometric line-segment approach to "graph" forces that apply to a physical structure. But, an imagined rectangular coordinate system, which does not exist in Nature, is used to obtain a numerical representation, the "components," for such a force and a set of rules are introduced as to how the components should be combined in order to duplicate the geometrically obtained combined force vector. These rules may even include a rule motivated by the human right-hand. The basic rules obtained this way form an algebraic structure called a "linear (vector) space," which is even the underlying structure for quantum field theory. For the vector calculus, the modern "infinitesimal numbers," discovered of Robinson, are employed as components (Herrmann, [B]).

As mentioned, Newton considers his "infinitely small" as measuring real physical behavior. The most significant mathematical model for our daily existence within our macroscopic man made universe, which we often rely upon to predict observed behavior, is the classical and vector calculus. It is rather interesting that in his 1930 books on theoretical mechanics Max Planck writes, "[A] finite change in Nature always occurs in a finite time, and hence resolves into a series of infinitely small changes which occur in successive infinitely small intervals of time." Does Planck mean the Newton concept?

In 1826, the standard arguments employed for the Newton and Leibniz concept led to a significance contradiction. Robinson corrected this approach in 1961.

The basic idea of such infinitesimal modeling is that simple linear behavior via geometric measures or simple expressions for physical measures leads to the complex behavior we observe. These modeling ideas are still applicable today (Herrmann, [B]). Originally, a "curve" was defined as an infinite collection of "infinitely small" line segments. The classical integral that yields the length of a curved segment was considered as an "infinite" sum of infinitesimals. The modern treatment has the same general form. However, the type of "summation" was not determined for about 300 years nor was the actual algebra that governs the behavior of the infinitesimal numbers (Herrmann [B]). Introduction of the formal limit approach at the end of the 19th century not only eliminates the previous lack of a consistent infinitesimal algebra and reduces this significant modeling approach, but it also placates those who criticize and reject the "completed infinity" as a via mental concept. But, today even this criticism has now been eliminated (Herrmann, [H]).

Relative to quantum mechanics is it possible that, with our great enlightened knowledge of today, that such measures actually do correspond to measures for real behavior as it is defined by secular science-communities?

> For phenomena on a different scale, such as considered in Modern Physics, the dimensions of a particular body or process may not be observable directly. Accordingly the question whether or not a scale of non-standard analysis is appropriate to the physical world really amounts to asking whether or not such a system provides a better explanation of certain observable phenomena than the standard system of real numbers. The possibility that this is the case should be borne in mind. Fine Hall, Princeton University (Robinson, l961).

From the brief discussion above, it appears that when some attempt to describe, relative to our observation of macroscopic behavior, the primitives of quantum theory, then certain contradictory or false impressions occur. This has led to the clash between the "positivists" and the "realists."

For "positivists," the mathematics used within the physical sciences is a tool to predict observed physical behavior. But, generally, various defined underlying invisible entities are not considered as physically real. The approach is not, of course, devoid of physical content since what is calculated are physical characteristics denoted by physical units or terms. There are, of course, degrees of positivism as to what invisible entities one accepts as physically real or not. On the other hand, the realist demands that one accept what they claim are physically real although not directly observable entities. The formal definition I employ is

Positivism - (Limited Positivism). I choice the qualifier "limited" in order to differentiate this definition from others. This notion does not reject non-physical nor theological explanations for physical-system behavior, where non-physical need not refer to a theological concept. Non-physical means that the entities are not members of a list that various secular science-communities denote as physical entities. Limited positivism simply means that most, but not necessarily all, unobservable but accepted physical entities used to construct mathematical models for observable physical behavior are imaginary. Relative to the very limited number of unobservable physical entities that one accepts as real, there are various degrees of limited positivism.

A strict Biblical interpretation for the General Grand Unification (GGU)-model leads directly to an implied limited positivism.

4. Eliminating False Implications Via the GGU-model.

From February - April 1974, a group of mathematicians and theoretical physicists at Princeton University tried to solve the General Grand Unification Problem (Patton and Wheeler, 1975). They, of course, tried a statistical approach as the foundation for a cosmogony, a theory for how universes, not just our own, come unto being. Their inability to solve this major problem led to the assertion that there is no mathematical approach that can be employ to solve it. Fortunately, I was not aware of their attempts nor this pronouncement. However, Wheeler apparently continued to believe that, possibly using some results from mathematical logic, it was, indeed, solvable.

These individuals seemed not to have understood that such a solution needs to be cosmogony and, hence, physical law independent. The properties for such a cosmology were later listed by Patton and Wheeler, (1975). Such a cosmogony even needs to generate, from our view point, a "forever" chaotic universe as well as one, such as ours, with its apparent humanly comprehensible cause and effect physical laws. But, how does one construct a mathematical structure that predicts such varying results?

In 1979, the basic foundations for a solution occurs when it is realization that physical-science is not based upon any specifically defined or observed "laws of Nature," but rather upon language and a basic form of logical discourse. To obtain the solution, one additional guiding influence is considered. The Hebrews 1:3 phrase ". . . sustaining all things by His powerful word." The Hebrew translated here as "word" refers to a linguistic object.

The original solution is based upon the process that within physical-science a general language is employed to describe an event either before or after an actual observed physical event occurs. A general linguistic expression is a type of substitute for the physical event. A specific **general language** includes modes of an **ordered** presentation for human informational transmissions. Further, for all aspects of human

comprehension and for acceptance as a "scientific" solution, the solution needs to preserve the physical scientists employed rules of logic. But, for the solution, the exact language need not be specified, although a specific language is used as an illustration.

The 1979-83 GGU-model mathematically models general linguistic expressions, which are conceptual notations as they apply to ordered linguistic forms. This yields the **developmental paradigm.** The general language L is employed to described the members of a sequential slice of an enter universe, where it is acknowledged that a pure human language may not allow for the necessary detailed description. By a special technique, such forms are modeled numerically via partial sequences of natural numbers and these yield the standard mathematical entities. These standard entities are then embedded into a special nonstandard structure (Herrmann, [C, D]). This approach, although incomplete, is able to yield infinitely many distinct universes. Further, the approach rationally predicts the hyper-language ${}^*\mathbf{L}$ that is capable of giving a detailed description. In, general, the predicted existence of a hyper-language is the bases for the "lack of knowledge" model, vast knowledge we cannot possess. However, by a special technique, we can actually describe a few of these additional details (Herrmann [C], 11.1.3).

How do we linguistically differentiate between entities that are observable or not? One has a list of distinguishing properties. In modern science, most of these are numerical. In certain cases, a very clear conceptual description appears necessary. As an example consider the definition for "polarization." The importance is that, whatever the lists may contain, two "assumed" physical entities differ if they have at least one listed entry that differs.

In May 2006 (as revised), a highly refined and now complete model is constructed (Herrmann, [D], [E], [F]). The model is now in two associated parts, the developmental paradigm schemes can be considered as separate from the other GGU-model schemes now presented. A basic entity - the properton - is mathematically predicted from known properties of electromagnetic radiation via generalization. It is only considered as mathematically describable. **Distinct from quantum physics, the other refinements are based upon observed physical behavior.** An ultra-properton "represents," via the mathematical concept of "n-tuples," numerical or describable properties for the entities. Obviously, this definition is linguistically restricted. Indeed, an ultra-properton n-tuple employs one of two values in each place, a $1/10^{\omega}$ or $-1/10^{\omega}$, where ω is an infinite hypernatural number and, hence, $1/10^{\omega}$ is a modern infinitesimal. Gatherings (combinations) of ultra-propertons - an info-field - represent the characteristics of the combinations of such properties that yield a slice of a "universe" at any moment in a sequential development for such slices. Such slices are called **universe-wide frozen-frames (UWFF).**

As indicated, the GGU-model cosmogony is a collection of statements that yields the formation of many distinct universes and as such the processes that accomplish this

are considered as part of a substratum or "background universe." Various schemes from which to choose are now part of the construction. Secular interpretations yield all know secular cosmologies. A simple scheme is a pure info-field scheme, where substratum processes rationally unfold a collection of info-fields in sequential order and, in each case, a well-defined realization processes in applied. The unfolding process satisfies, in restricted form, a basic form of linguistic human deduction. In extended form, the realization also satisfies a general form for linguistic deduction. Such schemes do not require only secular interpretations.

> The above difficulties that physical science has in describing its fundamental entities are eliminated by the GGU-model cosmogony. As mentioned, a cosmogony needs to predict a universe that, from our experiences, would be described as behaving, in all respects, chaotically. That is, behavior that, for us, appears not to be guided by physical law. The GGU-model upholds this type of universe in that, generally for a given UWFF, no physical law actually alters that member of the sequence to produce the next sequential member. However, for our universe, the members of the sequence satisfy the cause and effect properties of the physical laws we use so that we are able to predict future behavior and build our man made universe. The GGU-model has two distinct interpretations relative to an invisible world of physical entities. If one chooses, such a world can be assumed as but imaginary. On the other hand, via the above definition for simply naming a list of properties, properton configurations can yield such physical-systems.

Many accepted physical theories have non-secular interpretations, which are ignored by atheistic physical science-communities. Although one has pure secular GGU-model interpretations, at least, one other interpretation is rather obvious. This interpretation is that the schemes imply various modes of creation by an higher-intelligence. The schemes can generally be described as the **changing of thoughts into various realities.** The associated developmental paradigm schemes directly yield the rational concept of intelligent design by a higher-intelligence - the General Intelligent Design (GID)-model. More specifically, there are significant interpretations for GGU-model schemes that imply the scientific rationality of a strict Biblical interpretation for the Genesis 1 through 6:13 creationary scenario that yields the earth and universe as we see it today. Each UWFF has three types of descriptive content. For a special collection of rationally obtained UWFF, Biblical statements that describe an incorporeal world are rational possibilities (Herrmann, [G]).

As mentioned, the GGU-model and GID can, generally, be interpreted as the results of an "invisible" entity that changes thoughts into various realities. Based upon observed behavior, this entity has mathematically predicted properties. Hence, the

properties are rationally predicted. These properties are not merely impressed upon this entity, as is done in particle physics, and then a mathematical model constructed. It is not the secular interpretations for the GGU-model that have caused research articles to be rejected by mainstream journals and even a major archive service, but it is the rather easily obtained Biblical interpretation and GID that must be suppressed and not presented to their audiences. Science, today, is no longer a subject that allows an unencumbered exchange of ideas even by those who are specifically trained in the subject. I, of course, have no control over such rampant discrimination.

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