Vertical Causation and Wholeness

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Philosophy of Physics, Vertical Causality, Wholeness

By Wolfgang Smith

Critiqued by Robert Sungenis

> **Dr. Smith**: Vertical causality made its appearance in the context of the measuring problem in quantum mechanics, where it could be identified by the fact that it acts "instantaneously."[1] Whereas the previously known modes of causation — subsequently referred to as "horizontal" — operate *in time* by way of a transmission through space, vertical causality operates directly, without the mediation of any such process. That "instantaneity" or lack of process came thus to be taken, in effect, as the defining characteristic of vertical causality. But whereas this criterion may serve to identify VC, it does not tell us whence it acts and what it effects. It is time, now, to broach these deeper questions: time to delve into the metaphysics of VC, in the hope that this may shed light as well upon questions of scientific significance. I begin, then, with the definitive claim that vertical causation is nothing more — and nothing less — than *the causation effected by wholeness.*

R. Sungenis: The first problem I see is that Dr. Smith's 'vertical causation' comes into play by default. That is, since Dr. Smith does not believe, for example, there exists an instantaneous 'horizontal' cause for why things in nature react instantaneously over wide margins of space, or harps on the fact that quantum mechanics cannot find the simultaneous momentum and position of an electron, this causes him to propose there must exist an instantaneous 'vertical' or other-worldly cause for all that happens in the universe – a default position, if you will. But such other-worldly causes can only be entertained if there is sufficient evidence that such a cause exists, not by default. If not, then vertical causation is no better than the horizontal causation it seeks to escape, especially when we find out later that some of the vehicles Dr. Smith suggests for 'vertical

causation' are the paranormal, miracles, astrology, dreams, *etc.*[1] Even Michael Taylor, who wrote a positive review of Dr. Smith's, *The Vertical Ascent: From Particles to the Tripartite Cosmos and Beyond*, notices the same, saying, "For, if Smith is right, common modern notions such as material evolution, heliocentrism,[2] *and even whether there is something in astrology beyond mere superstition* would need to be reinterpreted — not merely on philosophical grounds, but on

[1] As noted in Dr. Smith's book, *Physics & Vertical Causation: The End of Quantum Reality*, 2019, *pp*. 89-121. PARANORMAL: "And this entails, let me add parenthetically, that the door to the paranormal and indeed the 'miraculous' has not been closed" (p. 89); ASTROLOGY: "This bring us, finally, to the threshold of what is perhaps the deepest science ever revealed to mankind, the remnants of which have survived to this day under the caption 'astrology,' the reputed 'science of the stars.'….The first thing to be noted by astrology is that the causality upon which it is based proves to be ineluctably vertical, and derives moreover from the highest reaches of the cosmos…And it bring man, the human microcosm, into the picture by way of his horoscope as defined by the position of the planets relative to the zodiac at the moment of birth…the planets and constellations, at the moment of our birth, do actually no more than announce—in the precise language of astrology—who it is that has now made his entry into the world….I would point out that Scripture itself points to the existence of an authentic astrology, beginning with Genesis 1:14….By the term 'signs,'…the verse alludes evidently to an astrology: for where there are 'signs,' there must in principle be an art or science to 'read' these signs, to decipher them" (*pp*. 112-115); DREAMS: "It will be instructive, now, to reflect upon the dream state, in which we enter into the intermediary domain as exemplified microcosmically by the *psyche*, which, as we have noted, stands midway between the corporeal and the spiritual world in that it transcend the bound of space but not of time." (*p*. 121).

[2] As for evolution and heliocentrism, I whole heartedly agree with Dr. Smith that they are false theories. For heliocentrism, based on exchanges I had with Dr. Smith several years ago, he did not come to his rejection of heliocentrism based on empirical scientific evidence but from a philosophical basis, at least until I enlightened him to the empirical evidence in the book I gave him, *Galileo Was Wrong: The Church Was Right*. Dr. Smith praised the book as "*Dear Dr. Sungenis, Since writing to you two days ago to thank you for your letter and the gift of your two-volume treatise, I have had a chance to peruse this work (mainly chapters 10 & 16), and feel compelled to congratulate you and Dr. Bennett on this outstanding achievement! Thought I am not usually at a loss for words, I find it hard to express my admiration for this masterpiece, which has no peer and constitutes without doubt the definitive work on the subject of geocentrism. Considering, moreover, that the question at issue is absolutely fundamental in the sphere of cosmology, what can I say? You are to be congratulated not only on your erudition and command of an incredibly vast subject matter, but also on the logical clarity of your presentation and lucidity of style. At your hands this subject of virtually unimaginable complexity becomes "almost" simple, and certainly understandable (up to a point) to non-specialists. Let me now swell this letter; perhaps I will get back to you on some specific points. Today I just wanted to express my admiration for your book, which strikes me as epochal in its implications…*" April 17, 2010); "*As I told you before, I have the greatest admiration for your work. By right it should be recognized by the leading universities, and lauded by the Church. You should be invited to the Vatican, and asked to address the Pontifical Academy of Sciences…*" (May 4, 2010), which letters show that Dr. Smith recognizes the importance of scientific experiments as providing us with empirical data that, properly interpreted, can provide truth about the cosmos (*i.e*., that the Earth is fixed in the center of the universe, as Scripture testifies and the Church endorsed), without recourse to metaphysics.

empirical grounds as well."[3] As such, we are forced to wonder where Dr. Smith's theory is ultimately taking us since Scripture and the Church have been rather clear that such paranormal and preternatural vehicles to knowledge are condemned.

Second, as we shall see more later, there is reasonable evidence from modern science, both theoretical and empirical, that there exists a 'horizontal' cause for instantaneous reactions for things in nature over wide margins of space (*e.g*., including the double-slit issue); and there are logical reasons why measuring the simultaneous momentum and position of the electron remains elusive. The problem is that Dr. Smith has either rejected them in the first case and has been unreasonably critical and obtuse in the second case. Whatever the reason, Dr. Smith believes that because of these 'scientific failures,' we must have a whole new way of looking at reality in which the ultimate causes and solutions for understanding not only the enigmas in the subatomic world but all of nature, are Platonic archetypes located in some other world, that superimpose themselves on all of nature and make it operate and thus it becomes understandable. Moreover, he believes that although this imposition is continuous and instantaneous, it eludes our detection, and thus as you would expect, he presents no proof that such other-worldly phenomena are occurring. It just is. That proposition, of course, will be hard for anyone to embrace, be they scientists or metaphysicians.

> **Dr. Smith**: The first thing that needs to be clarified is the notion of "wholeness" itself. To begin with, let me remark that we must not underestimate the impact upon our intellectual culture of Russell and Whitehead's *Principia Mathematica,* which made its appearance at the close of the Newtonian era,[2] just when the universe had supposedly been reduced to inherently mathematical categories.

R. Sungenis: If, on the one hand, Russell's and Whitehead's goal was to eliminate a Creator to the universe, we can easily critique them from that perspective. If, on the other hand, Russell and Whitehead were merely pointing out that the universe can be understood partly by mathematical categories that allow it to work to mathematical precision, there is nothing wrong with that use of

[3] "Restoring Sense to the Universe: A Review of 'The Vertical Ascent,'" 15 April 2021, Book Review, Michael Dominic Taylor, *p*. 5.

mathematics, no matter how deep it goes and no matter how comprehensive it is. If not, then at what point would Dr. Smith say that mathematics suddenly stops being relevant or necessary as to how the universe operates? If it is because he can't figure out, on a horizontal basis, how an electron that is multi-miles apart from another electron can have complimentary spins (a phenomenon in physics today), the problem may be with Dr. Smith's limited scientific inquiry and not with what he sees as an inherent problem in horizontal analysis.

On the other hand, there are occasions in which Dr. Smith himself critiques quantum mechanics by delving deeper into the *physics,* not metaphysics. For example, at one point Dr. Smith cites the paper written by Barbara Drossel in which she argues that certain things occur in the subatomic world that cannot be explained by quantum mechanics.[4] Dr. Smith refers to it in his paper, "Subcorporeal Physics and Vertical Causation," saying,

> We are referring to the recognition of the so-called heat bath as the definitive structure of the subcorporeal realm which enables us to understand the measuring scenario in a far more concrete and detailed manner. One sees that the ontological cut separating the *corporeal* from the *physical* has its analogue in the physics of the subcorporeal, where it manifests conceptually as a "cut" within the heat bath itself. This theoretic discontinuity is of course invisible to physics, the empirical fact being that "below" this demarcation quantum theory applies, whereas "above" a radically different physics comes into play…. Alternatively, the conclusion follows by way of the "generalized Dembski theorem" from the known fact that the heat bath does not reduce to the sum of its parts, which itself is implied by Barbara Drossel's findings.[5]

But what Dr. Smith doesn't seem to recognize is that in his effort to undercut quantum mechanics, his invoking of "a radically different physics" means that he is still in physics, not metaphysics. Moreover, nowhere in her paper does Ms. Drossel cite metaphysical concepts, much less 'vertical causation,' to answer the apparent anomaly of the so-called 'heat bath,' and neither does George Ellis whom Dr. Smith also cites in this regard. The closest Ms. Drossel comes to another cause is when she says, "It also means that the macroscopic properties of condensed matter systems have a top-down causal influence on their constitutents [sic]."[6] But reading further, we find that her

[4] "Strong emergence in condensed matter physics," Barbara Drossel, Institute of Condensed Matter Physics, TU Darmstadt, September 4, 2019, PDF at https://arxiv.org/pdf/1909.01134.pdf
[5] "Subcorporeal Physics and Vertical Causation," 3 May 2021, *Philosophy of Physics*, Wolfgang Smith and John Taylor. *pp*. 5, 4.
[6] "Strong emergence in condensed matter physics," *p*. 2.

'causal influence' is not the metaphysical world. For Ms. Drossel the 'top' of her "top-down" causality is classical physics, not metaphysics, which we see later when she says, "In fact, together with George Ellis, I have written a paper that interprets the quantum measurement process in terms of top-down effects from the classical world on the quantum world."[7] Another example is when she says, "Thermodynamic systems are in fact a nice example for top-down causation, as they do essentially nothing else but to adjust to whatever state is imposed on them by manipulations from the outside, such as volume change or energy input."[8] Likewise, in one of her concluding statements she says, "A natural conclusion is that in such cases causal processes do indeed occur at the level of the macrostates and that the microstates merely adjust to the constraints imposed by the macrostate."[9] In other words, for Drossel and Ellis it's all natural, not metaphysical, preternatural or supranatural.

> **Dr. Smith**: What the *Principia* accomplishes — at least to the satisfaction of the *periti* — is the further reduction of these mathematical constructs to the ground-level notions of *set theory,* at which point the last vestiges of authentic *wholeness* have visibly disappeared: for once a whole has been fully reduced to the sum of its parts, *no wholeness whatever remains.* So long, then, as physics is taken to be the foundational science upon which, in principle, all others — biology for example — are based, *wholeness as such has been formally expunged.* Or better said: *excluded from scientific consideration.* And as I have pointed out elsewhere, *physics may in fact be defined as the science based on the reduction of wholes to the sum of their "atomic" parts:* the science, in other words, resulting from the *systematic elimination*[3] *of wholeness from the universe.*

R. Sungenis: For your instruction, see the footnote below on the definition of "set theory."[10] What Dr. Smith is arguing is that if one reduces the universe to particulars, then the world loses its

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[7] *Ibid*., *p*. 9. "Barbara Drossel and George Ellis. Contextual wavefunction collapse: An integrated theory of quantum measurement," *New Journal of Physics*, 20(11):113025, 2018.
[8] "Strong emergence in condensed matter physics," *p*. 13.
[9] *Ibid*., *p*. 14.
[10] Set theory is the mathematical theory of well-determined collections, called sets, of objects that are called members, or elements, of the set. Pure set theory deals exclusively with sets, so the only sets under

universality. That one can demonstrate this with math is not surprising. Except for infinity, the very nature of mathematics is on the particular side of the metaphysical fence. Be that as it may, Dr. Smith is not giving us a new discovery. The battle between viewing the universe as a set of particulars that seek a universal, or a universal that seeks particulars, is as old as the debates between Plato and Aristotle, and it continues today into modern philosophy and metaphysics. No one has been able to bridge the gap. Immanuel Kant, in his famous *Critique of Pure Reason*, basically shut the door on ever finding a bridge between the two.

On the one hand, we can appreciate why Dr. Smith says that the reduction tendency of mathematics is problematic because "once a whole has been fully reduced to the sum of its parts, *no wholeness whatever remains*." One reason for this is that science itself has taught us that some parts react a little differently when in certain internal and external environments than in others. That is, if the part is extracted from the whole, sometimes the part will have different tendencies than it would have in the whole.

But what we must guard against is the assumption what 'wholeness' disappears because one goes deeply into the whole to discover and determine how the parts interact, for if the complexity of the parts invite the observer to go deeper and deeper into the parts to see how they all work together, then the parts will show how glorious the wholeness really is! The problem for Dr. Smith is that he is assuming the parts have already been investigated as far as we can go, and because we still don't have any ultimate answers, then we should give up focusing on the parts and seek a wholly different perspective to analyze and understand nature. According to Dr. Smith, the way to analyze the wholeness that will show us what the wholeness really exists is not by examining its particulars

consideration are those whose members are also sets. The theory of the hereditarily-finite sets, namely those finite sets whose elements are also finite sets, the elements of which are also finite, and so on, is formally equivalent to arithmetic. So, the essence of set theory is the study of infinite sets, and therefore it can be defined as the mathematical theory of the actual—as opposed to potential—infinite….The notion of set is so simple that it is usually introduced informally, and regarded as self-evident. In set theory, however, as is usual in mathematics, sets are given axiomatically, so their existence and basic properties are postulated by the appropriate formal axioms. The axioms of set theory imply the existence of a set-theoretic universe so rich that all mathematical objects can be construed as sets. Also, the formal language of pure set theory allows one to formalize all mathematical notions and arguments. Thus, set theory has become the standard foundation for mathematics, as every mathematical object can be viewed as a set, and every theorem of mathematics can be logically deduced in the Predicate Calculus from the axioms of set theory. (Stanford Encyclopedia of Philosophy, first published Wed Oct 8, 2014; substantive revision Tue Feb 12, 2019).

but by using an other-worldly viewing point, otherwise known as 'vertical causation' from Platonic archetypes.

> **Dr. Smith**: Moreover, given that *vertical causation is the causality effected by wholeness,* it follows likewise that physics may also be defined as *the science based upon the exclusion of vertical causation,* or equivalently, as *the science based exclusively on horizontal causation.*[4] And this means that *VC can only manifest itself to the physicist as an interruption of its predicted trajectories, as is in fact the case in the context of measurement.*

R. Sungenis: Dr. Smith is claiming that wholeness (or universality) causes vertical causation to become a cause for the particulars we see in nature. To put it more concretely, the 'wholeness' of a material object itself is the cause for why particulars of that object exist and act as they do. It might be like saying that 'an orange tastes like an orange because *orangeness* is what gives it its taste,' as opposed to saying that 'an orange tastes like an orange because the tiny sucrose molecules stimulate the buds on the human tongue to react, which reaction is sent to the brain by electrical impulses, which the brain then interprets as the taste of an orange.'

As noted, this problem is just a rehash of the problem standing before Plato and Aristotle. Plato believed in 'orangeness' as an ideal entity, an archetype, that existed in another world apart from ours. Even if the last orange were destroyed on earth, there would still be the ideal 'orange' in this other world and thus 'orangeness' would stay intact as a universal concept. Aristotle said it differently. Things get their existence from the sum of their parts, and when we examine these parts from our 'agent intellect' we can conclude that the sum of these parts in their particular order will make what our convention calls an orange. Aristotle also added that the parts are the 'accidens' of the orange, but the orange itself, as a whole orange, has a 'substantial form' that is hidden beneath the accidens or parts, so that if the accidens were to disappear, there would still be left the invisible 'substantial form' of the orange. We might say that Plato's 'ideal image' is the counterpart to Aristotle's 'substantial form,' since both philosophies were trying to find an eternal essence behind the material object, realizing that material objects cannot exist on their own.

This merely begs the question, however, as to what, exactly, caused the archetypes to come into existence themselves. For his answer, Plato said the archetypes came from the Demiurge, which was his concept of an eternal deity, if you will. Aristotle said that his 'substantial form' came from an eternal Prime Mover who initiated the First Cause, in which the Prime Mover coupled the substantial form with accidental attributes, *e.g.*, the sweetness of an orange and the substantial form of the orange underneath it. Whether any of these metaphysical schemas are an actual reality, we have no way to prove. They are "meta-physical," that is, above or beyond the physical. As of now, however, most rely on Aristotle's view as the closest to reality.

Here's another example of the universal/particular dilemma. Let's say we have a roomful of chairs. Each chair is a 'particular' kind of chair, some big, some small, some luxurious, some plain. But the fact is, they are all chairs, and thus there is a universal concept of a chair, which we would call the 'universal chair.' But if we were asked to draw the 'universal chair,' what kind of chair could we draw? That question is rhetorical, of course, because the moment you draw a certain chair (*e.g.*, big, small, luxurious, plain, etc.) to represent all chairs, you have particularized the chair and thus it can't be a universal chair. Conversely, if you were to try to reach the universal chair by creating many particular chairs, you could never reach the universal chair because no matter how many chairs you make, you can always make another one that is different. Thus gathering particulars to make a universal is futile. By the same token, claiming that a chair is a chair because there is a universal concept of chair is equally futile, since the concept of a universal chair is merely an abstraction, or in our imagination, not in reality.

From another angle, Dr. Smith's metaphysical proposal reminds me of the story of Eve in the Garden of Eden. When Eve is tempted by the devil to eat the piece of fruit, the text says of her, "So when the woman saw that the tree was good for food, and that it was a delight to the eyes, and that the tree was to be desired to make one wise, she took of its fruit and ate; and she also gave some to her husband, and he ate" (Genesis 3:6). Notice that part of her attraction is the fruit "was good for food and was a delight to the eyes." In Dr. Smith's terms, we could say Eve looked at the 'wholeness' of the fruit, which convinced her to partake. She didn't care whether the fruit was composed of tiny little electrons whizzing around a proton-neutron center. She didn't care if the

protons themselves were composed of even smaller entities such as quarks and leptons. She didn't care that after the fruit was plucked from the tree that the tree might be communicating to the other trees that it was being attacked (a phenomenon discovered recently that actually occurs among trees). She merely judged the fruit by its singular 'wholeness.' Whether it would have made a difference if Eve had told the devil she wanted to run the fruit through her cyclotron to see what it was made of before she took a bite, we don't know. The point here is that Dr. Smith wants to retreat to the childlike Garden of Eden view of the world as the true and only perspective to judge and appreciate nature, and it is only apropos that such a perspective "come from above," as it were, away from the mundane earthly view and up to the vertical, *i.e.*, "vertical causation."

> **Dr. Smith**: Which brings us to a crucial recognition: the fact, namely, that *the very existence of VC — i.e., the causation effected by wholeness — entails that physics is not, nor ever can be, the universal or "all inclusive" science it is generally assumed to be.*

R. Sungenis: Of course, we must point out that all this talk about there actually existing a vertical causation only begs the question (*i.e.*, using as proof the very thing one is trying to prove), so it is rather presumptuous, at least at this point, for Dr. Smith to harp on the natural limitations of physics as his springboard into other-worldly causes. Metaphysically speaking, Dr. Smith is saying that because we are limited by the nature of material things to gather enough particulars to know the universal, then we must switch gears and start from the universal ('wholeness' of the thing in itself) and see it as the cause for the particulars, and thus the particulars become rather superfluous. But this is nothing more than the Platonic concept of the world, and it has long been discovered that it cannot serve as the ultimate basis to understand reality. Of course, neither can the Aristotelian focus on the particulars give us the ultimate concept to understand the world, but at least we can know something about the material objects even if we don't know all of it. Quite frankly, only God knows all of it. But for now, at least we know that the taste of an orange comes from the molecules in the orange that stimulate our taste buds, even if we don't know the constitution of an atom beyond its protons, electrons, quarks, or leptons. It does not come from 'orangeness.' Our knowledge of the particulars allows us to live and prosper in the world. On the one hand, we can make penicillin to cure bacterial infections (which means we need to know the particulars about

both bacteria and penicillin), and on the other hand, we can make an atomic bomb from knowing the particulars about radioactive decay and fission properties of Uranium 235.

> **Dr. Smith**: The very existence of vertical causation, thus, rules out such a thing as that "theory of everything" particle physicists have been laboring for almost a century to formulate.

R. Sungenis: Yes, much ado has been made about finding the equation representing the "theory of everything," but that is just the nature of modern *atheistic* physics, not physics itself. Today's atheistic physicists live under the illusion that they can replace God and make the universe exist on its own. Their motivation, of course, is that they won't have to answer to God for their sins (John 3:19).

Still, even if they believed in God, it does not mean the universe cannot be designed by God to run on one equation instead of ten equations, for that would be a distinction without much of a difference. God is certainly not adverse to mathematics. What we need to find out from Dr. Smith is just how much of God, if any, is behind his "vertical causation." So far we have seen only vague and ambiguous philosophical arguments from Dr. Smith as to the exact nature of vertical causation, one being that "wholeness" causes the vertical causation. If so, we need to see a mechanism for it, or is Dr. Smith suggesting that is just IS, and we have to accept his thesis as such? Well, that would be rather convenient for Dr. Smith, no?

> **Dr. Smith**: The appearance of VC — at the exact boundary between what I term the *physical* and the *corporeal* domains — puts an end to that expectation.

R. Sungenis: Is Dr. Smith saying that it is impossible to have God design and run the world that coincides with a mathematical equation? If so, why? The mathematical equation, if correctly formulated, would merely be a numerical representation of all the elements and forces God called into being to create the universe. When Job said that God, "measured the earth and put it in place," the measure was 8000 miles in diameter and about 93 million miles from the sun. Any different measurements and the Earth would be burnt up by the sun or freeze. All the measurements were

made to allow for biological life on Earth, whereas no other planet, near us or in other solar systems, possess such conducive dimensions to allow life. From this we naturally assume God created our world using precise mathematical equations, if you will. So it cannot be the math that's the problem. As Wisdom 11:20 says about God: "You have disposed all things by measure and number and weight." According to Dr. Smith, it is the "physical versus the corporeal domains" that is the problem, so let's see what they are.

> **Dr. Smith**: To which I would add that this boundary proves likewise to be the only juncture at which VC becomes in a sense *measurable:* for only in a transition between *two distinct ontological domains* can "instantaneity" be empirically verified.[5] It is thus at the very instant of that *ontological* transition that an undeniable footprint of VC — *the causation effected by wholeness* — can be discerned.

R. Sungenis: A lot of terms are being thrown around without being defined, and if you are ignorant on even one of them, you will not be able to comprehend what Dr. Smith is saying. First, for those who do know the definitions, again, I find it rather convenient that Dr. Smith uses the particular findings of quantum mechanics (*e.g*., that both the position and momentum of an electron cannot be discovered by conventional methods of scientific inquiry) to support his theory that the ontological domain of position can change into or communicate with the ontological domain of momentum, and do so instantaneously, and thereby prove that the transition occurred by 'the causation effected by wholeness.' Dr. Smith could not even propose such a theory unless he knew of the particulars of quantum data. Hence by the backdoor approach, particulars are being used to get to his universal. But as we saw earlier, it is impossible to create a universal based on accumulating enough particulars, since one can always find more particulars, which will, in turn, modify or destroy the universal we have claimed as ultimate.

What is really happening is that because Dr. Smith has given up hope that modern science can find both the simultaneous position and momentum of the electron, thus for him it has reached a dead end. Since there is a dead end, we must now retrace our steps and realize that the gathering of particulars has not resulted in understanding how the particulars work together, much less have

they brought us to a universal reality of electrons. Dr. Smith's solution is not to proceed any further into scientific inquiry, and that it has been the wrong course from the beginning.

This arbitrary call to an end reminds me of the person in the 1800s who claimed that all inventions had been produced and there will be no new inventions. As the story goes, in the 1899 edition of *Punch Magazine*, a look at the coming century was offered. In colloquy, a genius asked, "Isn't there a clerk who can examine patents?" A boy replied, "Quite unnecessary, Sir. Everything that can be invented has been invented."[11] Similarly, Dr. Smith thinks no one will ever be able to measure the simultaneous momentum and position of an electron, so in his view we need "vertical causation" as the proper solution. That, of course, is quite presumptuous. Even if no one in the future invents a way to know the momentum and position of an electron, it still does not give any more credibility to vertical causation. It just means science has reached its inevitable limitations.

Instead of being satisfied that empirical science has its limitations just as any human endeavor does since we are finite and not omniscient, Dr. Smith claims that the scientific method was bad from the start because it failed to see that 'causation was effected by wholeness' was the ultimate mechanism for understanding nature's actions. In essence, it is an escape to Platonism simply because Aristotelianism cannot find enough ultimate causes and effects. Unfortunately, Dr. Smith fails to see that Platonism is not going to solve the problem either, as we discussed earlier. Not only is the concept of 'causation being effected by wholeness' unproveable, it provides no concrete mechanism for how the 'wholeness' creates causes, much less particulars.

One more thing. Above Dr. Smith says, "for only in a transition between *two distinct ontological domains* can "instantaneity" be empirically verified.[5]" But we have commonly understood that a claim to being "empirically verified" means that we have found experimental evidence to support a theory, and that we have done it so many times that the theory will then advance to a fact, and thus the theory is "verified." So where is Dr. Smith's experimental evidence for the theory that 'causation is effected by wholeness'? Here is where Dr. Smith's theory becomes quite presumptuous, almost to the point of absurdity. His experimental evidence is the fact (once again

[11] https://patentlyo.com/patent/2011/01/tracing-the-quote-everything-that-can-be-invented-has-been-invented.html

borrowed from the conclusions of modern physics) that there *must be* a simultaneous position and momentum of the electron since it would be absurd to believe that an electron can have a momentum without a position in time and space, and vice-versa. He concludes that since modern physics has not been able to demonstrate the position and momentum of the electron, this is its own fault and thus it should learn never to go in that direction again.

But as Dr. Smith faults science for this mishap, at the same time, he assumes the superior position and claims that the simultaneity of momentum and position is a fact, but it is a fact because 'wholeness' has made it a fact. How convenient. Dr. Smith simply ignores the experimental enigma and jumps up to a higher metaphysical realm in which the enigma is no longer an enigma but merely the natural consequence of the metaphysical realm. Of course, this has always been the problem of metaphysical analysis. It makes grandiose universal propositions without any proof they are real, and then tries to cram as many particulars into the universal so that it can appear to be 'empirically verified' evidence that the universal is true and functional, never realizing that particulars can never prove a universal. In the end, Dr. Smith has not advanced the historical discussion any further.

But let's give Dr. Smith another chance at explaining his theory. Here I will quote from Dr. Smith's book.

> **Dr. Smith**: …vertical causation is characterized by the fact that it does not act in time: one can say that it acts instantaneously. How then can one ever 'detect' an act of vertical causation: how, in other words, is it possible to conclude that an act of causation was actually instantaneous and not just 'very fast'? That is where the distinction between ontological domains comes into play: if there exists indeed a corporeal domain—the one in which we 'live, and move, and have our being'—as distinguished from the physical accessed by way of measurement, then it follows that the act of measurement entails a transition from the one to the other: and it is not difficult to see that an ontological transition can only be achieved instantaneously.

R. Sungenis: Interestingly enough, as Dr. Smith proposes a 'corporeal domain' and a 'physical domain' in order to answer the question of how 'instantaneity' can occur without the use of time, he uses the Aristotelian method of making distinctions to get to the reality. The moment Dr. Smith makes such distinctions, however, he inadvertently shows us that the 'wholeness' theory is dependent on particulars to demonstrate the 'wholeness,' which is a philosophical contradiction.

On the other hand, since Dr. Smith says we cannot detect the vertical causation, this means it is hidden in the nature of the thing and happens automatically without us knowing it. We only know it is happening, says Dr. Smith, when we consider that it must be so because the metaphysics demands it. The metaphysics (as it is developed from Dr. Smith's extraction of it from the physical enigmas of quantum mechanics), then forces Dr. Smith to demand that the enigmatic behavior of electrons be such that there is a corporeal existence of the electron existing alongside a physical existence of the electron, and the two cannot simultaneously be observed in the natural world. Since their interaction cannot be observed in the natural world, Dr. Smith concludes they must be two separate ontological existences in some other world. As such, the two existences can now communicate instantaneously, that is, without a time factor, since ontology in this other world does not incorporate time. It just is.

In my honest opinion, these arbitrary jumps to metaphysics occur when science comes across some event in its experiments or its methodology that it cannot explain with its current understanding of physics. Instead of waiting until physics invents the tools and theories from which it can understand its enigmas, Dr. Smith feels compelled to retreat to metaphysics, but one in which he would be hard pressed to prove to anyone's satisfaction.

Interestingly enough, Einstein did something similar (and Dr. Smith and I have conversed about this and we both concur). When Einstein was confronted by a plethora of experimental evidence obtained separately by over a dozen experimenters over at least 25 years and going towards 50 years (1881 – 1930) that showed the distinct probability that the Earth was motionless in space, instead of accepting that evidence at face value as any scientist should, Einstein invented a whole new physics to accommodate his belief that the Earth was moving. It is called Special Relativity. It was invented in 1905 to answer these numerous experiments. In the end, Einstein chose light's speed as his absolute instead of the Earth as his absolute. Light became the universal yardstick instead of a motionless Earth.

But Einstein's use of light as nature's absolute caused all kinds of problems with material objects—enigmas, if you will. It was found that if light speed is made constant, then matter must decrease in length and increase in mass as it travels, and time must be dilated to compensate for these two changes. Today these same problems persist but they are conveniently obscured by putting the

changes into a mathematical equation,[12] which is then claimed to be a natural act of nature, and no one is the wiser. In other words, in Einstein we have a case in which he changed the universal so that it would dictate how to interpret the particulars to arrive at a moving Earth instead of a motionless one.

Perhaps a similar thing happened in quantum mechanics. Electrons did not seem to be obeying the laws of physics. They were assuming positions they shouldn't be. Erwin Schrodinger had invented an equation to attempt to explain the enigma of electrons, but the closest he could come to representing it in a math equation was to leave a variable, and thus there came uncertainty, and then the Heisenberg Uncertainty Principle developed and began to rule all of physics. But it is one thing to criticize science for not being able to solve its problems, at least right away, but it is quite another to totally abandon science and replace it with a metaphysical theory that has no empirical proof at all. Again, this has been the problem with metaphysics from the beginning—assuming things it can't prove.

To help prove the point, quantum mechanics has come a long way since the days of Einstein and Heisenberg. It was Heisenberg's original contention that just the act of trying to measure the momentum of an electron has a direct effect on the electron's position, and thus we will never be able to measure the electron's momentum and position simultaneously. This notion was the basis of the Heisenberg Uncertainty Principle. But it is now understood that the position of the electron is an anomaly in itself and has little to do with measurement. So, to explain, in modern quantum mechanics, physics is not understood by using natural numbers but by quantities that are "non-commuting." Paul Dirac called these 'q-numbers.' If we use conventional arithmetic to add them up we reach a difficulty because all of them cannot be assigned a q-number at the same time. So, when, for example, we assign a number to the momentum of the electron, we cannot assign a number to its position, and thus the electron has no exact position in the classical sense of the term. Hence it is not the fault of our measuring devices, it is the nature of the electron not to have an exact position. It means then that if we measure the momentum of an electron in the conventional or classical way, then we can't measure the position of the electron in the conventional or classical way. This tells us that at the quantum level, quantum properties do not necessarily follow

[12] The Lorentz transformation equation: $\sqrt{1 - v^2/c^2}$, which Einstein then used in his 1905 paper on "The Electrodynamics of Moving Bodies" to answer almost every anomaly in physics up to that time.

conventional or classical rules. Due to its smallness, it has a different set of rules. So, what physicists do is, instead of assigning the position of the electron with a cardinal number, they give it a q-number. The q-number does not tell you the exact position of the electron; rather, it gives you a set of probabilities of finding the position of the electron in different places at any given moment. It was Schrödinger's wave equation that was used to perform this process.

Still, if we use a classical measuring device to determine the position of an electron, it will be a point-like particle with a certain position and we can assign a cardinal number to it, even though at no time prior did it have what we understand as a classically understood position. So, what does this tell us? It tells us that we cannot use conventional methods to measure the position of an electron if we know its conventional momentum; and we can't use conventional methods to measure the momentum of an electron if we know its conventional position. For some reason, as yet unknown, we can only use conventional methods to determine one dimension of the electron at a time. But this handicap does not stop quantum mechanics from being a highly valued aspect of science. Quantum mechanics has produced some of the most accurate determinations of nature's properties and actions that has ever been devised, measurements that go out to at least 10 decimal places. In this sense, there are no probabilities in quantum mechanics. Everything is exact, very exact.

On the other hand, physicists must admit, of course, that there are limits to the Schrödinger equation. As Nobel laureate Robert Laughlin points out

> We know that this equation is correct because it has been solved accurately for small numbers of particles and found to agree in minute detail with experiment. However, it cannot be solved accurately when the number of particles exceeds about 10. No computer...that will ever exist can break this barrier because there is a catastrophy of dimension.[13]

Or as Barbara Drossel puts it:

> The foregoing quotations and discussions have made clear that a full reduction is never done in practice, and that it is impossible for several reasons. The more trivial reason is limited computing

[13] Robert B Laughlin and David Pines. "The theory of everything," *Proceedings of the National Academy of Sciences of the United States of America*, p. 28f, 2000.

> power, not just at the present time but for all future since the calculation of the time evolution of the quantum state of as few as 1000 particles would require more information than contained in the universe. This means that the belief in full reduction is a metaphysical belief, as it can never, even in principle be tested. In contrast, physics is an empirical science rooted in what can be measured and observed.[14]

This is similar to the three body problem in Newtonian physics. Although it is easy to figure out the gravitational force for two bodies ($F = M_1M_2/r^2$), it is quite difficult to find it for three, and virtually impossible to find the proportionate forces between four or more bodies since there is no computer that can complete the math required. This is not to say that there are no precise forces between three or more bodies, but that physics is limited in making the mathematical calculations, and thus reductionism cannot be demonstrated or proven beyond certain limits. But, in fact, all of science has the same problem, not just quantum mechanics. As Drossel puts it:

> Full reductionism could only be correct if the supposedly fundamental laws were extremely accurate. Otherwise, even minute imprecisions could become magnified in macroscopic system to the extent that the fundamental theory cannot predict correctly the properties of the macroscopic system. But we know that our present theories are not fully exact: They are idealizations that leave aside many influences that affect a system. Newtonian mechanics, for instance, ignores the effect of friction, or includes it in a simple way, which is neither exact nor derived from a microscopic theory. A large part of thermodynamics is based on local equilibrium, which is not an exact but only an approximate description. Quantum field theory is burdened with exactly the same problems as nonrelativistic quantum mechanics, namely the discrepancy between a unitary, deterministic time evolution applied after preparation of the initial state and before measurement of the final state, and the probabilities and nonlinear expressions featuring in calculations of cross sections and transition rates.[15]

Still, we must be aware, the probabilities of quantum mechanics only come in to play when we force conventional measuring devices onto a quantum field. Perhaps someday someone will invent a non-conventional device to measure both the position and momentum of the electron at the same

[14] *Op. cit.*, *p.* 11.
[15] *Op. cit.*, *p.* 12.

time. Until then, we cannot be ambulance chasers and introduce ancient metaphysical reasons why the accident occurred in the first place.

Looked at in this light, Dr. Smith's proposal to make a total upheaval of the 'horizontal' causes in nature and adopt a vertical causation from 'wholeness' is nothing more than the proverbial boy crying wolf.

> **Dr. Smith**: But whereas vertical causality was discovered in the context of quantum measurement, it proved to be ubiquitous: nothing whatsoever can in fact exist without being 'vertically' caused.

R. Sungenis: This is what happens when one invents a theory—he tries to make it fit everywhere. As such, the ink spilt from Dr. Smith's pen has promoted vertical causality to the point that it becomes the "theory of everything" for the metaphysical world.

> **Dr. Smith**: In particular, it is vertical causality that accounts for the ontological stratification of the cosmos—which the ancients understood so profoundly and present-day civilization fail even to recognize.

R. Sungenis: That's because there is no proof for it. It is all metaphysical machinations that stem from how many angels can fit on the head of a pin. Moreover, it seems Dr. Smith wants to make the cosmos into some type of semi-living entity, as it were, that does not function by one atom hitting another but by some fantastic conception of 'wholeness' that somehow makes things happen by filtering its wholeness down the 'vertical' shoot. In effect, the 'wholeness' becomes creepier than the enigmas of the atom and it becomes a brain-teaser to see how many ways one can fit together words like 'wholeness,' 'ontology,' 'instantaneous,' and 'vertical' in one sentence and still make sense to the average reader.

> **Dr. Smith**: There is the fact, first of all, that the corporeal world divides into the mineral, plant, animal and anthropic domains, which prove to be, once again, distinguished ontologically, and thus in ways physics as such cannot comprehend—for the very simple reason that, here again, what stands at issue are effects of vertical causality.

R. Sungenis: Physics does not need to comprehend the ontology of a plant in order to be a scientific discipline in its own right. Physics deals with motion (*e.g.*, the momentum and position of the electron). As such, branches of physics can explain that a plant leans to the sun because the

auxins within the leaf make the plant grow toward the sun to get the maximum light for photosynthesis. Thus there is no need for 'vertical causality' to explain why a plant leans toward the sun. Or is Dr. Smith going to tell us that the plant has some kind of consciousness with its 'ideal image' that wants it to grow toward the sun?

> **Dr. Smith**: To comprehend this hitherto unrecognized mode of causation, we need to understand that the cosmos at large proves to be ontologically trichotomous: that even as man himself is made up of corpus, anima, and spiritus, so is the integral cosmos.

R. Sungenis: And the evidence or proof for this is to be found where? Dr. Smith continually makes such absolutistic statements in his writings and expects everyone to accept them as if they are common knowledge and can be used as a basis for further argumentation. Yes, there are metaphysical theories that man is "corpus, anima, and spiritus" but there are also theories that say man is only "corpus and spiritus," and that the "anima" is merely the name given for the fusion of the corpus and spiritus. Scripture speaks in two place of a body-soul-spirt combination in man but the preponderant evidence is only body-spirit with the soul being used for one or the other or as the fusion of both.[16] But at least compartmentalizing a human being is a lot easier than doing it for the cosmos, for Scripture speaks of no trichotomy in the substance of the cosmos, nor does it compare the makeup of the cosmos to the human being. God never breathed a soul into the cosmos, yet it appears Dr. Smith thinks there is one, or something similar.

> **Dr. Smith**: Thus, as every major premodern civilization had recognized, there exist two additional ontological strata 'above' the corporeal, rendering the cosmos tripartite.

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[16] First Thessalonians 5:23 has: "your whole spirit and soul and body" (Greek: ὁλόκληρον ὑμῶν τὸ πνεῦμα καὶ ἡ ψυχὴ καὶ τὸ σῶμα). Some believe Paul is dividing the spiritual part into two parts, a spirit and a soul, some using Hb 4:12 ("the division of the soul and the spirit") as proof. In reality, the spirit is the immaterial part of man; the body is the material part; and neither can be divided. In the etymology, the Greek ψυχὴ ("soul") is not an exact equivalent to the English "soul." Whereas in English "soul" generally refers to the "spirit," in Greek "soul" can refer to either the spirit or the body, which allows the Greek to use the adjective ψυχικός (*psukikos*) referring to the "natural" or "sensual" (*e.g.*, 1Co 2:14; 15:44-46; Jm 3:15; Jd 1:19). Essentially, "soul" is the fusion of man's body and spirit as one being, which is why "soul" is sometimes used of the physical person (Rm 13:1; Ac 27:44) and sometimes of the spirit of a person (Mt 10:28; Jm 5:20). At baptism, the spirit of man is regenerated but the body remains unregenerated, thus the soul, being the fusion of both, gets its direction by both the spirit and the body, while the soul (or mind or heart) acts accordingly by siding with either the body or the spirit (Rm 7:10-25).

R. Sungenis: Since when did "major premodern civilizations" become the authority for how we understand the cosmos? This is the kernel problem with much of Dr. Smith's view of the world—he incorporates the pagan teachings of the world's major religions and pretends that their grasp on reality is virtually superior to ours. These are people with no Scripture, no microscopes, no telescopes, who did nothing to break the Platonic/Aristotelian barrier, who gave us circular concepts like yin-yang, reincarnation, and 33 million gods to worship, yet we are supposed to accept them as having received knowledge from on high? The man who wrote the Foreword to Dr. Smith's book, *The Quantum Enigma*, and gave a blurb for *Physics & Vertical Causation*, says the following about Dr. Smith's research:

> …an achievement of the utmost significance not only for physicists seriously interested in the foundations of their science, but also for philosophers and theologians—and, I might add, not only Christian but also Jewish, Muslim, Hindu, Buddhist, as well as of other faiths.[17]

This is eclecticism at its worst. It is the 'whatever will support my theory' will be used to advance my method of scholarship.

Now, this is the last paragraph I will quote here from Dr. Smith's book, *Physics & Vertical Causation*:

> **Dr. Smith**: There exists moreover a primordial iconic representation of that integral cosmos that proves to be invaluable, consisting quite simply of a circle in which the circumference corresponds to the corporeal world, the center to the spiritual or 'celestial' realm, and the interior to the intermediary. What needs above all to be understood—and may indeed be termed the 'hidden key'—is that even as the corporeal domain is subject to the bounds of space and time, the intermediary is subject to time alone while the center is subject to neither of the two bounds….Strange as it may seem so long as we picture it as something 'far away and high above,' that Apex is actually present within every being as its ultimate center. This means that every actual being is endowed with an ontological 'within' centered upon that Apex: it is as if the two center actually 'touch.'[18]

R. Sungenis: And where is Dr. Smith getting all of what he appears to consider factual data about the cosmos and the makeup of man? How does he even know there are three levels to the cosmos, much less know that the middle level is not subject to time but is subject to space? Is it because this is what the Hindus, Buddhists or Muslims believe, each posing these ideas from their own

[17] Seyyed Hossein Nasr, Professor of Comparative Religions, George Washington University.
[18] *Physics & Vertical Causation*, pp. iii-v.

imaginations with not the slightest empirical proof or divine sanction? You would think a scientist would quote his sources to at least show intellectual corroboration since these are not incidental or superfluous conclusions that Dr. Smith is trying to make. But all we get from him in footnote 7 is that Werner Heisenberg gave us the concept of the circle that Dr. Smith uses.

> **Dr. Smith**: Following upon these introductory observations, let us begin by reflecting upon the historical origins of physics in the contemporary sense. It is to be noted, first of all, that the implicit denial of vertical causation is indigenous to the Enlightenment: its very premises demand as much. The fact is that this four-hundred-year arc of history began with a relapse into Democritean atomism: the imposition, namely, of its reductionist claims as the foundation of that avowedly "scientific" *Weltanschauung.* It is vital to observe that this worldview is based upon the Cartesian postulate of "bifurcation," which maintains that the objectively real world consists exclusively of "bare-matter": i.e., of so-called *res extensae* or "extended entities." All the rest — everything thus that does not reduce to sheer *quantity* — is relegated, by fiat as it were, to the limbo of so-called *res cogitantes* or "things of the mind," leaving in theory an inherently "mechanical" world, tailor-made for the physicist. My point is that, with this *Ansatz,* the die has been cast: in a presumptive world made up exclusively of *res extensae,* horizontal causality reigns supreme — for the simple reason that, in such a stipulated world, *there are no more wholes!* Wholeness as such has been expunged, along with all the *qualities* that make up the corporeal world — the *actual world,* that is. The Cartesian myth of *"res cogitantes"* has misled and blinded us. There is actually nothing "secondary" about color, for example, as Galileo mistakenly claimed; in point of fact, qualities belong to the real world as truly as quantities do. And here too it may be said: *"Let no man sunder what God Himself has joined."*

R. Sungenis: Again, we can see the raw Platonism of Dr. Smith's worldview. We also see him sign the name of God to his theory by saying, "Let no man sunder what God Himself has joined," as if God himself has endorsed it. That's odd, since Scripture says precious little about 'wholeness' being the key to knowledge, and Tradition has forever been divided over Augustine's Neo-

Platonism and Thomas' modified Aristotelianism. In fact, we didn't even know that Aristotle wrote anything until they discovered the Egyptian libraries in the second millennium, yet we got along fine prior to that and could even distinguish *homoousios* from *homoiousios*; and that there were three Persons in one God, to the consternation of the Arians, the Sabellians, Modalists, *et al*.

But herein lies some of the problem of Dr. Smith's view—we don't know exactly what God or gods he is talking about. Is it Buddha, Confucius, Zoroaster, Jehovah, or a combination since he mentions all of them as his other-worldly source? Who knows? But we can rest assured on at least one point. Dr. Smith seems to have a complete and total aversion to particulars from which to learn the state of things. Just because some famous physicists in history have decided to make parts their be-all and end-all, parts, to Dr. Smith, suddenly become deleterious in the pursuit of knowledge altogether. The baby has indeed been thrown out with the bath water.

> **Dr. Smith**: The most that can conceivably exist in a Cartesian universe are ensembles of tiny indivisible *res extensae* termed atoms, and throughout the Newtonian era this ontological conception did hold sway.

R. Sungenis: Although the *res extensae* and *res cogitantes* are a dead end, there was little wrong with Cartesian points, since it helped Newton develop $F = ma$ and allowed us to advance beyond Aristotle's $F = mv$; and it helped us understand why falling objects accelerate, and why they fall at the same acceleration instead of the heavier object falling faster. Of course, if Descartes, Newton, or any other scientist tries to make these particulars of science into his god to worship, he has fallen off the edge, just as the Buddhists fell off the edge when they wanted to make Buddha a complete universal without distinctions, including those who were absorbed into his Oneness.

> **Dr. Smith**: Yet, with the advent of quantum mechanics, it became at last apparent that *there are in truth no such Democritean atoms:* that the newly discovered "quantum particles" — so far from being actual particles — proved in truth to be *something midway between being and non-being.*[7]

R. Sungenis: Just because Heisenberg wants to make this silly statement positing there is a state 'between being and non-being,' he does not represent science, at least science at its best. The most it could tell us is that Werner Heisenberg doesn't understand how the world works, not that something can be both existing and not existing. Why doesn't Dr. Smith press the issue? Might it be that if he doesn't hold Heisenberg up as the icon of modern physics then there is little room for his vertical causation to make a splash? This is why Dr. Smith has never a kind word for science, even if it has advanced in its quantum mechanical understanding beyond Heisenberg's, as we noted earlier.

> **Dr. Smith**: At that fateful juncture the very concept of "wholeness" disappeared from the ontology of physics — as indeed it must *de jure:* for as we have already noted, *the concept of "wholeness" has no place in physics* when that science is rigorously conceived.

R. Sungenis: Physics is not philosophy and therefore it has no obligation to finding 'wholeness.' Physics studies motion, and motion happens in particulars, such as time and distance. Even in the double-slit experiment, the sole goal of physics is to track and explain why that electron goes where it goes and forms a distinct pattern as it does. If and when the physicists goes to church, there he needs to know and learn about 'wholeness.' He will be told that Jehovah God is ONE God, the ultimate 'wholeness.' He will also be told Jehovah God is TRIUNE, the ultimate set of particulars, if you will. What the scientist is then supposed to do is understand that this one and triune God put together the universe, but he didn't do so haphazardly, and therefore there can't be "being and not-being" at the same time, since that would be a lie and God cannot lie (Titus 1:2). This tells him he must continue to search for a logical answer and perhaps invent better tools to do so, as they once invented the microscope and telescope to correct the superstitions of the past, otherwise the modern scientist will end up with even worse superstitions (*e.g.*, that there are an infinite number of universes and we just happen to be in the one that works with our specific set of physical constants).

Philosophy, on the other hand, studies how we conceive the world. Philosophy has been around a long time, much longer than physics proper, but, for all its bravado, it has changed its mind about how to conceive the world at least two dozen times and counting, at least in the west (Thales, Plato, Aristotle, Euripides, Epicurus, Augustine, Thomas, Descartes, Hume, Kant, Hegel, Kierkegaard, Sartre, Wittgenstein, et al). If we add the east, we have another dozen times, although they mostly come under religious backgrounds (Buddha, Hindi, Confucius, Zoroaster, et al). In short, philosophy's track record is dismal, at best.

> **Dr. Smith**: My point, now, is that, along with "wholeness," *being* itself disappears, and that in consequence, the quantum realm — the world as conceived by a physics "come into its own" — proves perforce to be *sub-existential.*

R. Sungenis: That is false. Although we cannot attain the universal by putting together enough particulars, we can come close enough in our world to make a hypothesis about how the thing operates. Sometimes, however, as when we examine the parts of a mousetrap, which has five essential parts, if one of the parts is missing, the mousetrap will not catch a mouse. Many things, or perhaps even all things, have an 'irreducible complexity,' which, as you can imagine, is the bane of evolution theory since it must build its new parts, even the most important ones, as it evolves (and how does it know what it is going to need?). But even if we don't know all the parts or even know how all the parts operate, we can come pretty close to knowing if we have a sufficient amount of the parts understood. For example, if someone is wounded with lacerations, we don't need to know how the brain or kidney functions in order to know that if we put antiseptic and bandages around the wound it will eventually heal because we've figured out that the heart pumps blood and the blood contains antibodies and collagen, and healing is the only thing we are interested in accomplishing. Someday we may know even more about the healing process, but for now the mission is accomplished. Physics works in a similar way. We may not yet know the simultaneous momentum and position of an electron by conventional methods of measurement, but at least we know there are electrons and how they act in various other ways. It will be just a matter of time before we figure out the so-called 'quantum enigma.' But we can depend on one thing in the meantime, that is, we won't be throwing in the towel and claiming that science will

never find a solution to the quantum enigma and therefore we must abandon the methodologies of science altogether and assume everything occurs because 'wholeness' causes it, whatever that means. And even if we don't figure it out, that doesn't necessarily mean that today's physicists are on the wrong path altogether, except, perhaps, those who think they are going to find God in some kind of 'God particle.'

> **Dr. Smith**: I will note in passing that this is something the physics community at large can neither comprehend, much less acknowledge: if not even a respectable paradigm is ever rejected in the face of contradictory evidence, as Thomas Kuhn maintains, what to speak of the presiding *Weltanschauung!* Individual scientists — a titan like Werner Heisenberg, for example (whose father, incidentally, happened to be a classicist) — may discern the ontological implications of the quantum quandary; yet collectivities, most assuredly, do not operate that way. What presently concerns us, however, is not what the presiding pundits think, but what the *modus operandi* of physics entails ontologically. For my part, I am persuaded that Werner Heisenberg, in company with a handful of his Copenhagenist associates, had it exactly right: these vaunted quantum particles — which the contemporary rank and file take to be the ultimate building blocks of the universe — prove in truth to be no more than "Aristotelian *potentiae"* — mere "probabilities" if you will.

R. Sungenis: They will be 'probabilities' in quantum mechanics until someone invents a non-conventional way of measuring the subatomic world. But isn't it ironic that, despite the 'probabilities' quantum mechanics has been able to measure things to the tenth decimal, more than any other mathematical device invented by mankind? So are the temporary 'probabilities' really hurting us? Obviously not. Moreover, from our limited human powers of observation, everything on earth and in the cosmos has probabilities, some great, some small, and that is because no one has an infinite mind to be able to comprehend nature all at once. Only God has that capability. The closet we have come is Kant's 7 + 5 = 12, and eternal truth that will be true here, there, and everywhere, for all eternity. So it is useless to criticize physics based on probabilities, especially when an unproven theory of 'wholeness' tries to replace it, yet has safeguarded itself from scrutiny

by claiming, for example, that the transition from corporeal to physical and vice-versa happens instantaneously so that we can't detect it, except for the fact that it DID happen. Again, that is simply a case of *petitio principii*.

> **Dr. Smith**: Such then is the quantum quandary which prompted Richard Feynman to observe that *"No one understands quantum mechanics,"* a recognition which obliges the establishment to "make do" with something they cannot comprehend, but tout nonetheless as the answer, in principle, to everything.

R. Sungenis: Well, that happens all the time in science because no one has the privilege of finding out about everything all at once. It takes time, something that Dr. Smith doesn't want to give science. To him, science is wounded beyond repair, and the wound shows that its methodology was wrong from the start. But physicists who are logical know instinctively that the splicing of matter cannot go on forever, otherwise matter is infinite, which is impossible. Hence there must be a final particle, one that is smaller than all others, and one that has no gaps between its particles, since 'nothing' between the particles cannot exist. We have theorized such a particle. It is called the Planck particle. As we will see later, it is the best candidate for how electrons can communicate with each other over vast distances, and do so virtually instantaneously.

* * *

> **Dr. Smith**: The resolution of the quandary, it turns out, is perforce to be found in the act of measurement: it is here, after all, that the quantum world comes to be observed, and thereby acquires a "more than mathematical" reality. Now, in the days of classical physics, it was assumed that the act of measurement is inherently *receptive,* which is to say that the measuring instrument is simply the recipient of information derived from the system it measures. Admittedly, the latter was likewise affected to some degree, yet it was in any case assumed that the physical system subject to measurement *owned its measurable attributes.* When it comes to the quantum realm, however, such proves not to be the case — which is precisely what renders that realm *sub-existential.* The nature of the measuring act, therefore, has changed drastically: instead of ascertaining the

objectively existent value of an observable, its function in quantum physics is to *actualize a potency:* to bestow objective or empirical reality upon something which does not yet exist.

R. Sungenis: What Dr. Smith means to say is that, according to Heisenberg's original theory, quantum particles are so small that we do not have any measuring devices that can take a quick measurement and leave the quantum particle unaffected by our measuring device. For example, if we were to attempt to dissect an ant with a telephone pole, the pole would obviously alter the ant beyond recognition. Thus it is Dr. Smith's plan to use this uncrossed hump in the road to declare that physics is defeated to its core, so much so that we should abandon the whole thing and start over again with a new theory of nature—the 'wholeness' theory. Thus is the reason for his statement below: "metaphysics has entered the picture." So instead of going from the bottom-up, we are now told to go from top-down.

Dr. Smith: Like it or not, *metaphysics has entered the picture:* I mean *authentic* metaphysics, as distinguished from the Cartesian kind. No wonder physicists are helpless! Since the advent of quantum theory a century ago, they find themselves trapped in an impasse created by the very *metaphysical* assumptions upon which *classical* physics was based. What renders that impasse virtually unbreakable, moreover, is the fact that these Cartesian conjectures have by now become as invisible to the physicist as the ambient air we breathe. I am referring to the fiction of *res extensae,* followed by the sleight of hand which disposes of everything else by calling it a *"res cogitans."* Early in the twentieth century already, when Alfred North Whitehead lectured the physicists at Cambridge and elsewhere on this very point, exposing the fraudulence of these Cartesian premises in the most irrefutable terms — for instance by noting that *"Thus there would be two natures, one is the conjecture and the other is the dream"*[8]— it is obvious that his message was not received. Meanwhile, in the intervening decades, adding up almost to a century, nothing has changed in that regard; now as before, Whitehead's diagnosis applies verbatim:

> The result is a complete muddle in scientific thought, in philosophic cosmology, and in epistemology. But any doctrine which does not implicitly presuppose this point of view is assailed as unintelligible.[9]
>
> In fact, the "muddle" appears to have become compounded. If, in the early days of quantum theory, Whitehead was right when he charged that physics has become "a kind of mystic chant over an unintelligible universe,"[10] what to speak then of such additions as string theory with its "11-dimensional spaces," or the multiverse with its infinity of "other universes," not to mention the latest such innovation termed "superdeterminism," which strikes me as perhaps the most "mystic" of all contemporary "chants."

R. Sungenis: If Dr. Smith thinks that metaphysics is going to solve the problem between the *res extensae* and the *res cogitans*, he is sadly mistaken. The *res extensae* and the *res cogitans* are just another form of the war between Plato and Aristotle with Plato being on the *res cogitans* side and Aristotle on the *res extensae* side. The so-called "dream" that Whitehead pointed out is little different than Plato's dream world in which we supposedly learned eternal truths, which were then brought back to earth for us to use. Aristotle is more like the "conjecture" side of Whitehead's paradigm since Aristotle kept creating (i.e., conjecturing) that he could come to know the eternal truths by consistent use of the intellect. Although Whitehead's criticism is thus appreciated, it has nothing better to offer, since philosophy and metaphysics have tried to bridge the gap for thousands of years and have not been able to do so. Likewise, there is no one who is immune from the problem of 'extension versus cognition,' and I see little hope in Dr. Smith's stress on 'wholeness' to solve the problem since it is just another form of Platonism with a few new twists and turns.

As for the physicists, they need to learn a lesson also, which is the old axiom that they are never going to gather enough particulars to understand everything, so it useless for them to search for the 'God particle' since it shows they have rejected the real God and replaced him with the idols of subatomic particles. Searching for how nature works by splicing matter into as many pieces as possible is one thing, and it is a good thing. But making those pieces into the idol that the whole

world should worship is quite another. As we learned long ago in the Garden of Eden, worshiping at the 'tree of knowledge' will not get us to the 'tree of life.'

* * *

> **Dr. Smith**: So much, then, regarding the Cartesian confusion, which to this day impedes the physics community from coming to grips with the quantum enigma and the associated measuring problem. The fact is that corporeal entities do not reduce to *res extensae,* but actually require certain so-called *res cogitantes* in order to exist.

R. Sungenis: And this is exactly why Dr. Smith's new metaphysics is not going to work. The only *res cogitantes* that the *res extensae* needs to exist and work is God's *cogitantes*. There is no innate *res cogitantes* in material objects that creates *res extensae*, but that is exactly what Dr. Smith is trying to teach, and he gets help from all the other world religions (Buddhism, Hinduism, etc.).

> **Dr. Smith**: So far from reducing to an ensemble of, say, Democritean atoms, they cannot be simply an "ensemble" of any kind: for as we have noted earlier, *to be* is perforce *to be a whole.* Wholeness, in other words, so far from being optional or dispensable, proves to be a *sine qua non* of being. What confronts us thus in its absence is at best a "mixture" as the Scholastics would say; but mind you, *there can be no "mixture" without something in the mix.* Which is to say that the corporeal realm — the world in which we live, and move, and have our being — is ultimately composed of entities that are *more than aggregates,* which in fact are themselves corporeal: identifiable, namely, as a spatio-temporally circumscribed whole.

R. Sungenis: But even if true, that doesn't give 'wholeness' any power to cause things to happen. Wholeness just *is*, by logical deduction, since the accumulation of parts is going to make a whole (considering we have all the parts). Before empirical science was discovered in the 1500s, all we had prior was metaphysics, a natural outgrowth of studying theology and creation. Thus all of nature was examined by the universal, and examples of this are seen in the battle between Nature and Grace. Romanesque and Gothic art (900 BC to 1300 BC) always made the image of the human

person take up about 80% of the painting; whereas after the discovery of science the human image is slowly but surely reduced to less than 50% of the painting, since Nature is advancing over Grace. That is because we were discovering what makes things tick, as the saying goes, and it was not because of some innate metaphysical principle that was directing the show, but the internal workings of the particulars (gravity, elements, forces, etc.) that we could see with our own eyes as they interacted with one another, hence Newton finally figured out that a force was pulling the apple to the ground as opposed to Aristotle's claim that material objects just had a natural affinity to move toward the center of the universe because of metaphysical principles.

> **Dr. Smith**: The actual problem however — as distinguished from pseudo-problems created by false metaphysical premises — resides in the fact that physics as such is restricted in its purview to aggregates; for as noted earlier, its very *modus operandi* is based upon the systematic elimination of wholeness by way of a maximal decomposition of corporeal entities into their component parts, which ultimately turn sub-existential. What *is* quantum theory, in the final count, if not *physics come into its own!* The loss of being, therefore — the fact that the quantum world proves to be "sub-existential" — should come as no surprise; the fact that *"the concept of substance has now disappeared from physics,"*[11] as Sir Arthur Eddington observed at the outset of the quantum era, was predictable from the start.

R. Sungenis: Yes, as noted above, the physicist is in a dilemma, but it is because he has rejected God, not because he forgot to add a metaphysical principle of 'wholeness' to his analysis of the particulars. The cause was that the physicist become too big for his britches and thought that his clever discovery of physical forces even to the depths of the atom could be explained as a clock without a clockmaker. In other words, he rejected divine revelation to help him figure out how to interpret the empirical evidence he was discovering. When Watson and Crick discovered the DNA molecule, the first reaction from Crick was to say, "Now I know there is no God," because he could now be confident that the medieval world's magic, alchemy, and superstition was not the

mechanism behind life.[19] Of course, those who are predisposed to the divine would say, "Now I know there is a God," because they know instinctively that such a complicated mechanism as the DNA molecule couldn't possibly come into existence by time and chance, much less magic and superstition.

As I've been saying for years now, the decisive turning point in which physics decided that God was not going to play a part in human affairs came in the aftermath of the Galileo affair. Although the world was claiming this or that scientific proof for Copernicanism, the Church decided that divine revelation was still the ultimate authority and thus maintained against Galileo that the Earth was standing still in space; and that because it was of divine origin, then science would never develop a scientific proof to the contrary, and indeed they haven't.[20] Nevertheless, Newton seemed to have solidified science's case against the Church by showing the dynamic forces that were behind making the Earth revolving around the sun. But as time went on, Newton was dethroned by Mach in the late 1800s, and everyone began to realize that the interpretations Newton put on the forces were not necessarily correct. After a series of precise experiments were performed in the 1800s that showed the distinct possibility that Earth was motionless in space,[21] Einstein went to work to reinterpret them to make the Earth move, which was summed up in his Special Theory of Relativity in 1905. All Einstein did was reinterpret that data in favor of a moving Earth, and the rest is history. However, his Special theory began to show cracks, and the cracks were so bad that

[19] After Francis Crick discovered DNA, he stated, "The God hypothesis is rather discredited....Archbishop Ussher claimed the world was created in 4004 B.C. Now we know it is 4.5 billion old. It's astonishing to me that people continue to accept religious claims. People like myself get along perfectly well with no religious views." James Watson, 74, another atheist, stated that religious explanations are "myths from the past....Every time you understand something, religion becomes less likely. Only with the discovery of the double helix and the ensuing genetic revolution have we had grounds for thinking that the powers held traditionally to be the exclusive property of the gods might one day be ours" (*London Daily Telegraph*, cited in *The Washington Times*, 3-24-2003).

[20] This was Bellarmine's plan since, after stating that if science had provided a proof for heliocentrism, then the church would adjust her interpretation of Scripture, he then led the way toward Paul V condemning Copernicanism as "formally heretical," which was then confirmed by Urban VIII in Galileo's 1633 trial. Although some think that a moving Earth has been proven, every single alleged proof has been overturned. As stated by historian and scientist, Lincoln Barnett: "We can't feel our motion through space, nor has any physical experiment ever proved that the Earth actually is in motion" (*The Universe and Dr. Einstein*, 2nd rev. edition, foreword by Albert Einstein, 1957, p. 73).

[21] Dominique Arago (1810s); George Biddell Airy (1871); Michelson-Morley (1881,1887, 1897); Miller-Morley (1904), etc.

a new theory had to be invented, which was done in 1915 and called General Relativity. It was here Einstein discovered that by the very principles of 'relativity' that were at the center of his theory, it required him to accept the possibility that the Earth was, indeed, at the center of the universe and not moving. As even Cardinal Ratzinger came to understand this principle, he concluded:

> Today, things have changed.…Among these, an important role is played by the affirmation of the existence of [Newton's] absolute space; that's an opinion that, in any event, has been cancelled by the Theory of Relativity….there's only a relative movement of bodies among themselves, and therefore the measurement of that depends to a great extent on the choice of a body to serve as a point of reference.…Then as now, <u>one can suppose the earth to be fixed and the sun as mobile</u>…At the time of Galileo, the Church remained much more faithful to reason than Galileo himself. The process against Galileo was reasonable and just.[22]

But modern science at large ignored this possibility and insisted Copernicus was right. Why? Because they knew if they had accepted geocentrism, then the Church was right about Galileo, and that meant that God existed and spoke through the Church, since no one in their right mind would think that the Earth could rest in the center by mere time and chance. It also meant that much of the physics they had developed from Newton onward for four hundred years had to be thrown on the trash heap. Not a one of them would allow all this to happen, and the result is that science is in a quandary today. Everything from the Big Bang to particle physics is nothing but patchwork to keep them both alive and convince everyone in the world how smart they are in doing so.

Physicists are like everyone else in the world, sometimes no better than used car salesman. To sell the world what they have sold them concerning the Big Bang and the Multiverse they indeed need to be great salesman. Although we will defend to the death the physicist's right to seek deep into the heart of the universe and find his particles and see how they work together, we will never defend the grid through which he invariably puts his data, which is nothing less than atheism. In truth, however, it is quite frequent that the physicists put the right interpretation on the particulars they see coming from their experiments. As time went on, the particulars began to be interpreted

[22] From a speech given in Parma, Italy, March 15, 1990, titled: "The Crisis of Faith in Science," partly reported in *Il Sabato*, March 31, 1990, pp. 80ff, and in the *Corriere della Sera*, March 30, 1990, and cited in *30 Days*, January 1993, p. 34.

as independent entities that could exist on their own and thus the physicist had no need of a God to create them, and thus the physicist rejected the one and only Universal that he needed to correctly interpret his experiments, and science was doomed from that time onward. All they had was dots (*i.e*., data), but correctly connecting the dots (*i.e*., giving the correct interpretation) hardly anyone was equipped to do, at least in the sciences in which all we have for data is light from outer space. This was the price they paid for their idolization of the particular.

> **Dr. Smith**: To repeat, physics operates reductively by decomposing corporeal objects into ever smaller parts, until one can go no further: it operates thus *by breaking down wholeness — right to the point where there is no more wholeness left to break down.* It does so, moreover, in the expectation that, in so doing, it will eventually arrive at the "ultimately real": originally conceived as Democritean atoms, these "vestiges" have become identified as the so-called fundamental particles, which as we have noted, prove to be midway between being and non-being, *which as such are reminiscent of Aristotelian potentiae!*[12]

R. Sungenis: There is nothing wrong with peering down into the rudiments of matter. God made it that way and thus we follow his lead. We have discovered many good things by doing do. As I said earlier, however, the problem comes when men reject God and search for the 'God particle,' thinking that they are going to find the rhyme and reason for their origin and existence in a particle. But this is not true just in physics but in every endeavor of man, whether it be philosophy, politics, music, or art. The solution, however, is not to ban searches into particulars but to teach men that particulars are the necessary ingredients that makeup the whole, and both are designed and created by God to work together. That means that the solution to man's penchant to emphasize the particulars is not to abandon particulars and emphasize 'wholeness.' Concentrating on 'wholeness' at the expense of the particulars is only going to create another problem, only in reverse.

> **Dr. Smith**: Yet, even so, the Democritean spell was not broken, but remains with us to this day in the apparently unshakable conviction that the "ultimate ingredients" of the universe will eventually be found by systematically breaking down whatever vestiges of

wholeness yet remains through the application of ever more drastic — not to say, ever more expensive — means. One cannot but wonder what it is about this ancient heresy — recognized as such more than two thousand years ago by the leading pre-Christian schools — that accounts for its continuing stranglehold upon the most sophisticated scientists the world has ever seen.

R. Sungenis: It's simple. As I noted earlier, since these men haven't found God in their personal lives, then they try to find God in the deep and dark recesses of particulate matter. They will always be on a search for 'God,' since, as Paul says in Romans 1:18-20, God designed man in that very way. But as Paul also says, they often reject the true God and replace him with idols, and thus the search for the 'God particle' becomes an idol. Their idols then leads to sin, and then sin leads to covering up the sin, which then leads to rejecting God who will judge their sins.[23]

Dr. Smith: Happily, however, no one fully believes the physicists — not even the physicists themselves, it turns out: if they did, they could not live a normal life, for they would in truth be stark raving mad. My point is that nothing is actually more obvious than the fact that the real world in which we find ourselves is *not* composed of "quantum stuff": it consists, rather, of the things we all perceive, and *can* perceive, precisely because it is made of *wholes!* For who can deny that what we perceive — an apple, say — is always a whole, and that even if it be only half an apple, it is still obviously "a whole half." We find ourselves thus in a world made up — *not* of so-called quantum particles — but ineluctably of what may properly be termed *corporeal* entities. And this fact is moreover believed implicitly by every sane man, woman, or child, to which one must however add the proviso *"most of the time";* for it happens that, ever since the

[23] "[18] The wrath of God is indeed being revealed from heaven against every impiety and wickedness of those who suppress the truth by their wickedness. [19] For what can be known about God is evident to them, because God made it evident to them. [20] Ever since the creation of the world, his invisible attributes of eternal power and divinity have been able to be understood and perceived in what he has made. As a result, they have no excuse; [21] for although they knew God they did not accord him glory as God or give him thanks. Instead, they became vain in their reasoning, and their senseless minds were darkened. [22] While claiming to be wise, they became fools [23] and exchanged the glory of the immortal God for the likeness of an image of mortal man or of birds or of four-legged animals or of snakes. [24] Therefore, God handed them over to impurity through the lusts of their hearts for the mutual degradation of their bodies.

> Enlightenment, our intellectuals have learned to deny apodictically — in their "enlightened" moments namely — what the rest of the time they staunchly believe.

R. Sungenis: This is a distinction without a difference. Of course we recognize things by 'wholeness.' That is how I know to pick an apple from the tree and eat it instead of eating its leaves and branches. But if I want to know the ingredients of the apple that help keep the doctor away ("an apple a day keeps the doctor away"), I'm going to discover all kinds of good things, and I can only get there by examining the particulars of the apple. I'll discover that the apple contains a good amount of salicylic acid, which is known to relieve pain and help the cardiovascular system. But I wouldn't know that fact just by looking at the 'wholeness' of the apple. Likewise, if I merely considered the 'wholeness' of a mushroom I would soon die since I will eventually come across a poisonous mushroom. I need to know the constituent parts and chemical makeup of that mushroom, not only to avoid them, but to develop an antidote if I mistakenly eat one. So, it is to our distinct advantage to go into the apple as deep as we can to find out what other ingredients it has that help us remain healthy. And if someday this ends up where we find that salicylic acid has a molecular structure of $C_7H_6O_3$, then we can make salicylic acid and put it into an aspirin pill and help a lot of people. But if Dr. Smith were my doctor, he might prescribe I could go to a Yoga instructor and contemplate the 'wholeness' of the apple, thereby putting me into a disposition of calmness that might just relieve my headache!

* * *

> **Dr. Smith**: Given then that we live in a world not made of quantum stuff, but composed rather of wholes, let us ponder the notion of "vertical causation" simply as an *act of wholeness.*

R. Sungenis: Notice how Dr. Smith argues. He hasn't proven the world is not made of 'quantum stuff,' but he assumes it nonetheless. He must do so otherwise his theory about 'wholeness' will not have a vacuum to fill. But quantum stuff *does* exist and wishing it away is not going to make it disappear. Allow me to quote from one Nobel laureate, Dr. Robert Laughlin:

> It is ironic that Einstein's most creative work, the general theory of relativity, should boil down to conceptualizing space as a medium when his original premise was that no such medium existed…. Einstein… utterly rejected the idea of ether and inferred from its nonexistence that the equations of electromagnetism had to be relative. But this same thought process led in the end to the very ether he had first rejected, albeit one with some special properties that ordinary elastic matter does not have. The word "ether" has extremely negative connotations in theoretical physics because of its past association with opposition to relativity. This is unfortunate because, stripped of these connotations, it rather nicely captures the way most physicists actually think about the vacuum.
>
> In the early days of relativity the conviction that light must be waves of something ran so strong that Einstein was widely dismissed. Even when Michelson and Morley demonstrated that the earth's orbital motion through the ether could not be detected, opponents argued that the earth must be dragging an envelope of ether along with it because relativity was lunacy and could not possibly be right…. Relativity actually says nothing about the existence or nonexistence of matter pervading the universe, only that such matter must have relativistic symmetry.
>
> It turns out that such matter exists. About the time relativity was becoming accepted, studies of radioactivity began showing that the empty vacuum of space had spectroscopic structure similar to that of ordinary quantum solids and fluids. Subsequent studies with large particle accelerators have now led us to understand that space is more like a piece of window glass than ideal Newtonian emptiness. It is filled with "stuff" that is normally transparent but can be made visible by hitting it sufficiently hard to knock out a part. The modern concept of the vacuum of space, confirmed every day by experiment, is a relativistic ether. But we do not call it this because it is taboo.[24]

The existence of ether, then, is an integral part of modern science, in spite of Einstein's equivocation.[25] In fact, it can be shown that ether is the reason the two electrons separated by vast

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[24] Robert B. Laughlin, *A Different Universe: Reinventing Physics from the Bottom Down*, 2005, *pp*. 120-121. The two chapters of Laughlin's book that deal with these issues are: "The Nuclear Family," (pp. 99-116 and "The Fabric of Space-Time" (pp. 117-126). Laughlin can speak so boldly about ether and not be afraid of suffering chastisement because, as one author notes: "…the impression of suggesting an ether theory is carefully avoided, because such can still be career suicide. Only physicists who were established beyond reproach could discuss ether-like aspects openly, like George Chapline, Gerd 't Hooft, Robert Laughlin, or Frank Wilczek, just to alphabetically list a few who did. Today, we finally witness the dams breaking and ever more people dare to 'come out.'" (Sascha Vongehr, "Supporting Abstract Relational Space-Time as Fundamental without Doctrinism Against Emergence," Nanjing University, China, Dec. 2009, p. 2).

[25] As Einstein said later in his book, *Ether and the Theory of Relativity*, "Recapitulating, we may say that according to the general theory of relativity space is endowed with physical qualities; in this sense, therefore, there exists an ether. According to the general theory of relativity space without ether is unthinkable; for in such space there not only would be no propagation of light, but also no possibility of existence for standards of space and time (measuring-rods and clocks), nor therefore any space-time intervals in the physical sense." (http://en.wikisource.org/wiki/Ether_and_the_Theory_of_Relativity,

distances can 'communicate' with each other and thus have complimentary spins.[26] But here is where Dr. Smith has ignored or rejected what modern science has to offer (and I know this because I wrote him a letter explaining it all several years ago, but I received no response from him). Perhaps the reason is that Dr. Smith wants to keep the 'communication' in ether between electrons a mysterious enigma that cannot be solved by going deeper into the particulates of nature since this would disallow his 'wholeness' theory from taking the reins.

While we are here, we should delve a little deeper into the history of ether, for it will reveal a virtual scientific war taking place in the 1920s and 1930s over this subject.

In 1928, physicist Paul Dirac predicted we would discover the positron (an electron with a positive charge). This prediction was verified four years later when in 1932 Carl Anderson discovered the positron in a bubble chamber photograph. The positron went the opposite direction that an electron did. Included in Dirac's prediction, was that the entire universe is made up of electron-positron pairs (which I will call 'electropons,' henceforth).[27] The most unique aspect of Dirac's analysis was that his equation required two sets of electropon pairs, positive pairs and negative pairs.[28] It was known as Dirac's "sea."

For the Relativists who followed Einstein, Dirac's model, although everyone knew it was very workable, raised the stakes in the ongoing 'ether-wars,' whose shots were first fired over forty years prior in the Michelson-Morley experiment (1881, 1887). In fact, in the same year that Dirac produced his equation predicting the positron's existence, Albert Michelson was doing his final interferometer experiment to detect the ether that Dayton Miller had found four years earlier. Dirac's equation would be one more proof that Einstein incorrectly interpreted Michelson-Morley,

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paragraph 23). As one physicist put it: "Einstein eliminated the ether by decree; he re-introduced it *via* a different concept with the same functions" (Paul Weyland, "Einsteins Relativitätstheorie – eine wissenschaftliche Massensuggestion," *Tägliche Rundschau*, August 6, 1920).

[26] See my book: *A Googleplex of Tiny Blackholes* (www.robertsungenis.org).

[27] Paul A. M. Dirac*, Proceedings of the Royal Society A*, 117, 610 (1928a); 118, 351 (1928b). P. A. M. Dirac, *Scientific American*, May 1963, p. 86. The equation took the form: $\sum_\beta [\sum_\mu (\gamma_\mu)_{\alpha\beta} \theta/\theta x^\mu + mc/\hbar \theta_{\alpha\beta}] \psi_\beta = 0$.

[28] This is because the energy-momentum-mass relation of $E^2 = c^2p^2 + m^2c^4$ requires both a positive and negative energy, such that $\pm E = (c^2p^2 + m^2c^4)^{½}$. Some hypothesize that the 2.7° Kelvin radiation is the interface between the negative and positive energy.

the very experiment that hung Relativity in the balance. Einstein himself admitted that if his interpretation of the 1887 Michelson-Morley experiment was wrong, then his theory of relativity was wrong.[29] Einstein's Special relativity held that ether did not exist.

Hence the reintroduction of ether by Dirac became a stench in the nostrils of the Einstein relativists, but the budding science of quantum mechanics did not much like the odor either. Werner Heisenberg did everything but hire an assassin to foil Dirac's work. He once referred to Dirac's work as "learned trash which no one can take seriously."[30] Heisenberg got into the act because the stakes were raised high when Carl Anderson experimentally verified Dirac's 1928 prediction of the positron and thus electron-positron dipoles just four years later. Something had to be done, and done quickly, to destroy Dirac's ether-based universe. For six years Heisenberg and his colleagues tried to find an error in Dirac's equation, but to no avail.

Finally, they decided to create their own fudge factor. Although Dirac's equation required negative electropon pairs to be raised to positive pairs, Heisenberg circumvented this process by claiming that the positive energy pairs were merely "created" and had no origin from negative energy. Similarly, as Dirac's equation required the positive energy pairs to go back intermittently to the negative energy state, Heisenberg reinterpreted this to mean that the positive pairs were "annihilated." If there was any inadvertent crossover between the negative and positive, Heisenberg's quantum mechanics coined the words "vacuum fluctuation" or "Zero-Point fluctuation" to label and dismiss that problem. Thus there arose the dubious origin of the "creation/annihilation" interpretation of subatomic particles. Those on Heisenberg's side claimed there was no ether by claiming that the reason Anderson found that a discharge of 1.05 million electron volts into air produced a positron was that the positron was "created" at that instant. When Anderson then put the same 1.05 million electron volts on the positron and it disappeared, Heisenberg claimed that the positron was annihilated at that instant. Thus, as far as Heisenberg saw it, ether did not exist. Heisenberg's rejection of ether (whether it be the electron-positron ether that was verified by Anderson in 1932, or the Planck ether theorized by Max Planck in 1925),

[29] Einstein made this statement to Sir Herbert Samuel in Jerusalem: "If Michelson-Morley is wrong, then relativity is wrong" (*Einstein: The Life and Times*, *p*. 107).
[30] Werner Heisenberg, Letter to Wolfgang Pauli, February 8, 1934.

allowed no mechanism or medium for the 'communication' between electrons, and thus Heisenberg was led to the dubious conclusion that, "The law of causality is no longer applied in quantum mechanics."[31]

Dirac and his colleagues flatly disagreed, of course. They said the reason the 1.05 million electron volts revealed a positron was because the positron was the other dipole of electron-positron pairs that permeated open space, and the energy of the 1.05 Mev allowed the positron to dislodge from the dipole pair and appear in a bubble chamber. And when the same 1.05 Mev was placed on the positron, this energy was enough to have the positron rejoin an electron and become an electron-positron pair once again. Thus ether existed and this was positive proof. There was now a possible way of showing how one electron communicated with another to produce a complimentary spin and for how one electron going through a slit appears as two electrons on the receiving plate.

Once it is accepted that the ether exists, we can then go deeper and search for other ethers. In this case, modern science has theorized the Planck ether as the ultimate ether. Whereas the electron and positron that make up the electropon ether are 10^{-15} meters in size, the particles of the Planck ether are 10^{-35} meters in size and the particles have no gaps (*i.e.*, a plenum). As such, the Planck ether is not perceptible by our instruments and thus its obscurity is the cause for the Heisenberg Uncertainty Principle. Whereas Heisenberg would conclude that the simultaneous dancing of electrons miles apart is an unexplained phenomenon because, "The law of causality is no longer applied in quantum mechanics," those physicists of the other persuasion would say the electrons dance as they do because they have a discrete ether medium that allows them to communicate instantaneously (in about 10^{-44} seconds). None of this is new in science. It has been kicked around for over 150 years, beginning with Maxwell's electromagnetic equations which were based on an ether medium.

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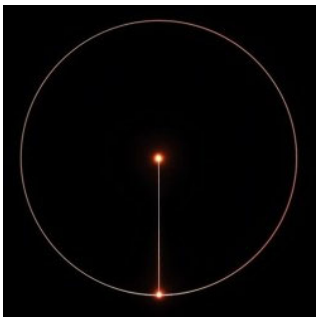
> **Dr. Smith**: The moment we do so, however, the realization dawns that a wholeness subject to the conditions of space and time will not suffice: for whether we are presently

[31] Werner Heisenberg, *Physics and Philosophy: The Revolution in Modern Science*, 1966, p. 88.

able to grasp the point or not, the ontological fact is that a corporeal wholeness — a wholeness subject to the bounds of space and time — proves to be *secondary* or derived. And let me add that this fact should not altogether surprise us, given that vertical causation acts *instantaneously:* for does this not suggest that the wholeness from which it acts is not subject to the condition of time?

R. Sungenis: This is where Dr. Smith begins to modify his theory to escape being tracked by time, that is, the 'wholeness' must be separated from time.

Dr. Smith: The fact is that primary wholeness is not to be found on the corporeal plane, but pertains rather to that Center to which Dante alludes as *il punto dello stelo a cui la prima rota va ditorno:*[13] that mysterious "Point" around which "the primordial wheel" is said to "revolve." To speak in philosophical terms, this signifies that it is needful to recover the ontological conception of the *tripartite cosmos,* which is centered precisely upon that *punto dello stelo* where space and time are no more. In the final count, metaphysics is indeed a matter of viewing the integral cosmos from the vantage of that Pivot around which time itself is said to circulate — in keeping with Plato's enigmatic metaphor of time as *"the moving image of eternity."*



R. Sungenis: So we see again the dependence on Plato. But let's be honest. Whether its Plato or Dante, there is no proof, philosophically or scientifically, for any of this conjecture. It appears that Dr. Smith makes up his own rules as he moves along, using terms and concepts that come strictly from the mind of man, as does also the eastern mysticism that Dr. Smith frequently uses as a source for his ideas.

Dr. Smith: This is not of course "philosophy" as understood innocuously in our day, but rather as it was comprehended by the wise in pre-modern times, which is ultimately a matter — not of conceptual speculation, nor of clever reflections concerning language — but of a higher *seeing.* And so long as we are obliged to see *"as through a glass,*

> *darkly,"*[14] it behooves us to employ an icon for our "glass" — which brings us back to what I have termed "the cosmic icon," upon which, in a preceding publication,[15] I based my discussion of vertical causality.

R. Sungenis: "Higher seeing"? How does Dr. Smith know they saw "higher"? He doesn't, but he seems to have a philosophical love affair with those they went before us. The real truth is that they were forced to speculate in the philosophical and metaphysical realms because they had no scientific realm to speak of. And the result was a myriad of philosophical possibilities all competing with one another. Moreover, in Dr. Smith's quote from St. Paul ("we see through a glass darkly"), he wrenches it out of context so that he can introduce us to his "cosmic icon" through which the darkness of the glass, as it were, can be mitigated. But St. Paul isn't the least bit interested in such material icons to help us see better, as if God has deprived us of such an icon and thus we have to go searching for it on our own. The only 'icon' St. Paul is interested in is 'Jesus Christ and him crucified' (1Cor 2:2; Col 1:15) since St. Paul's only goal is to get us to heaven, not to plumb the depths of the cosmos to find God, except that the cosmos radiates the glory of God (Rom 10:18).

> **Dr. Smith**: The integral cosmos comes thus to be represented by a circle which breaks into three domains: the center, the interior, and the circumference. Now the key which renders this schema enlightening ontologically relates to the cosmic bounds of *time* and *space,* which need to be assigned to the two outer regions in the correct order, the point being that *time has precedence over space.* This means that, whereas the region defined by the interior of the circle is subject to the bound of time alone, the circumference — representing our corporeal world — is subject in addition to the bound of space. And I will recall in passing that this ontological fact alone suffices to disqualify the Einsteinian notion of space-time,[16] and thus to invalidate "relativistic" physics as such at a single stroke.

R. Sungenis: Again, Dr. Smith seems to make it up as he goes along, yet he calls his mental machinations an "ontological fact." They are anything but facts. If Dr. Smith wants to hypothesize about these things he can do so, but please don't call them facts.

Moreover, as I noted previously, Einstein invented Special Relativity and its 'space-time' to counter the empirical evidence from the sophisticated experiments of the 1800s that showed the Earth was motionless in the center of the universe. Einstein proposed a new theory so that mankind could keep their Copernican universe and reject a literal reading of Genesis. And soon that theory was turned into fact by the world and thus Special Relativity has become the 'theory of theories' that runs the scientific world today. But even though Dr. Smith believes in geocentrism (mainly from a philosophical viewpoint, whereas my book, *Galileo Was Wrong*, showed him the science of geocentrism that he had not known previously), he also turns his philosophical theory of 'wholeness' and 'vertical causality' into fact, ontological fact. Yet all he has to support himself is the resolution that quantum mechanics has reached an impasse (and he has no assurance that even that resolution is true).

> **Dr. Smith**: What proves crucial for metaphysics at large is the iconic fact that the center of the cosmic icon — or better said, the ontological domain which it represents — is subject to neither bound, and corresponds thus to Dante's *punto dello stelo.* And that — to speak in inherently Platonist terms — is the Center where, ultimately, *all wholeness resides.* Its opposite — the circumference, namely, representing the corporeal world — rests, as it were, upon that Center: *for it is from thence that such wholeness as it contains is derived.* Finally, let us note that these two extremes — the aeviternal[17] Center and the corporeal Circumference — are joined by an intermediary ontological domain, which is subject to *time* but not to *space.*

R. Sungenis: Again, we see the same Platonism that overshadows all of Dr. Smith's metaphysical inventions. So let me repeat. Platonism stresses universals (or 'wholeness'). Aristotelianism stresses the particulars. This difference between the two philosophies is why in the painting by Raphael titled "The School of Athens," Plato's hand is pointing vertical while Aristotle is pointing horizontal. According to most modern philosophers, Plato is the beginning of all philosophy. Among other things, Platonism contains the philosophical concept that the material world we experience on earth has, in the other-worldly realms, an ideal image of itself. For lack of a better analogy, it is like the image in a mirror, but an image that does not disappear when the material object it is reflecting is removed.

Picture yourself being bit by a mosquito. There is one thing important to know about this mosquito, however. It is the last mosquito alive on planet earth. Nevertheless, because of the pain, you decide to smack the mosquito with your hand. Having been flattened like a pancake, the mosquito is virtually unrecognizable. But you need not lose hope that you have eliminated the mosquito entirely from existence, because according to Plato, in the other-worldly realm there is an ideal image, an archetype, of a mosquito preserved for eternity, and thus the universe shall never lose the perfect picture and essence of a mosquito.

Hence, in Platonic philosophy, it was the "ideal image" in the other-worldly realm that gave everything of the material world its real substance and operation. In fact, the concept of an ideal universal image is where the philosophical phrase "a priori" originates, for we, according to Plato, had a "prior" life in another world. From the knowledge we gained in this prior life, we possess *eternal truths* which we obtained from the ideal images – truths that will never change, whether

they are stated here or there, now or in the future. How does a seven year old know that 2 + 2 not only equals four, but will always equal four? Because these are "a priori" *eternal truths* that can never change.

The search for the origin and nature of eternal truths is behind every philosophy known to man. This has always been the most significant philosophical question: "what do we know; and how do we know it?" (Or as we find in the world of political intrigue: "what did he know and when did he know it?" :)

Aristotle answered the question differently than Plato. He held that eternal truths come from the process of abstraction, not "a priori" knowledge. We see the mosquito on our arm. We smash it. We see a wing here, a proboscis there, and even though it is hardly recognizable as a mosquito, we reason with our "agent intellect" that this mosquito, even if it were to be disintegrated into a speck on our arm, came from a long line of mosquitoes, and that which we see on our arm is only its accidens, its outward form, not the real substance of the mosquito. The real substance of the mosquito, or of being a mosquito, is hidden beneath the accidens, and thus each material object is composed of both accidens and substance. As we might expect, Aristotle's "substance" corresponds to Plato's "ideal image," but Aristotle's is in the realm of everyday existence on earth, whereas Plato's is in some other-worldly realm.

The contrast between the two schools is also one of the main differences between the overall approaches of St. Augustine and St. Thomas Aquinas, since after the discovery of the Aristotelian library by the Muslims in the Middle East at the turn of the first millennium, the works of Aristotle only then migrated to Europe, the home of Thomas Aquinas.

It is the same reason why almost twelve hundred years after the Last Supper only then did the Catholic Church dogmatically defined the nature of the Eucharist at the Fourth Lateran Council, since by this time the philosophy of Aristotle gave us at least some mental concept of what might be occurring in the transubstantiation of the Eucharist, and thus the appearance of bread was

understood as the accidens, but the presence of Christ was understood as the substance, which had miraculously replaced the substance of bread.[32]

The truth is that we cannot grasp reality, at least adequately, unless we have a balance between the universals and the particulars. On the one hand, we cannot understand reality as mere ideals without knowing its details and diversity; on the other hand, we cannot get fixated on the details without having universals to keep it all together. Where the twain meet no one has quite been able to figure out, and thus, after Immanuel Kant, philosophy has more or less resigned itself to accepting that it will never find an answer, and thus we see the rise of pessimistic philosophies such as nihilism and existentialism, which is the very reason modern art and architecture are so bizarre. Modern man has given up hope of finding a unified field of knowledge.

Although Augustine was influenced by Platonism and became sort of a Neo-Platonist, he did not believe in Plato's concept of a "prior life" in some ethereal existence before we came to earth. Being a Christian, Augustine believed we were created by God. Nevertheless, he searched Scripture for a truth that corresponded to Plato's "a priori" truths. Augustine found his answer in John 1:9 which, speaking of Christ, it says, "This was the true light which, coming into the world, enlightens every man." According to Augustine, it is Christ who gave each man the "a priori" knowledge, the eternal truths, that Plato had ascribed to "a prior life."

Thirteen hundred years later, Immanuel Kant tried to say the same thing. He held that man's knowledge of eternal truths came from the "categories of the mind," but the insurmountable obstacle that Kant faced was that he had no way of proving that what we knew in our mind corresponded to the reality of the "thing in itself" that we saw outside of our mind. As a result, our mental knowledge could not be called absolute knowledge, and thus eternal truths were limited to our mind. It was all in our head, so to speak, and Descartes' *res cogitans* became a barrier instead of a help.

[32] The only issue was that Thomas posited that the substance could take on different accidens (the body of Christ could take on the accidens of bread) whereas Aristotle maintained that the accidens of bread could only have a bread substance and the two could not be switched, otherwise it would defeat the whole purpose for saying there was substance under the accidens.

So, whereas Augustine tried to bridge the gap between Plato and Aristotle by showing that God "enlightens every man" (John 1:9, *cf.* Rom 1:18-20; 2:15), this means that plenary inspired divine revelation, particularly the revelation of Scripture, was the means by which the universal and the particular could be joined, at least as much as they could in this finite and imperfect life. So, there is no need to stress 'wholeness,' and neither are we to search for the 'God particle.' Rather, we use divine revelation to bridge the gap and then do our studies accordingly. It is as close as we will get to the truth in this life. Anything else that is propped up as a bridging vehicle will lead us away from truth. We get our eternal truths from the One who tells us that He is the only one who has them, that is Yahweh Elohim. He alone gives us universals and particulars, and they all lead back to Him. In fact, God himself is the 'ideal image,' as it were, the perfect joining of universal and particulars since he is One God (universal) in Three Persons (particulars).

> **Dr. Smith**: Now, as I have noted elsewhere, this intermediary domain — integral to the traditional schools of metaphysics, and in a way known also in occult circles — has been roundly forgotten in the contemporary world.[18]

R. Sungenis: Not quite. The rejection of other-worldly knowledge is a result of their rejection of God, Scripture, and the Church. It is really that simple. To answer the chief metaphysical question (*i.e.*, "what do we know and how do we know it"), we know what we know because God told us, and he gave us a mind that could comprehend it. We then take the foundation of knowledge He gave us and build on it by using our telescopes and microscopes.

> **Dr. Smith**: No *bona fide* metaphysical comprehension of the corporeal realm is possible, however, without a recognition of that intermediary world: for it happens that corporeal entities do not stand alone, but derive such wholeness as they embody from the aeviternal realm *by way of the intermediary.* The fundamental fact — upon which all authentic metaphysics rests — is that *cosmic reality is inherently tripartite,* and that *all authentic wholeness,* be it on the corporeal or on the intermediary plane, *derives "from above": from that Center beyond the pale of both space and time.* And let us note, as a corollary, that *vertical causation* — which is the causation exercised by wholeness

— *emanates perforce from the aeviternal plane,* which is after all the reason why *it acts,* not "in time," but *instantaneously.*

R. Sungenis: Again, this is the bane of metaphysics. It just makes things up as it goes along, insisting that what it makes up is indeed fact. Dr. Smith lives in a dream world of his own making, for not only is the material bizarre enough on its own, I don't know anyone who has developed a similar philosophy, except Plato and the pagans.

* * *

Dr. Smith: Primary wholeness, then, resides "above," in that supreme ontological realm to which the Platonist adjectives *aeviternal, archetypal,* and *intelligible* properly apply. Yet "esoteric" and "empirically irrelevant" as that ontological conception may appear to the contemporary mind, it proves to be essential to the resolution of our scientific quandary. For as we have by now come to see, what limits the scope of physical science — and ultimately relegates the so-called "physical universe" to the status of a sub-existential domain — is the fact that physics has no conception and no grasp of *wholeness,* and in fact operates by systematically breaking down all corporeal wholeness in quest of Democritean atoms or quantum particles, which prove in the end not to exist.

R. Sungenis: Again, Dr. Smith promotes the Platonist universals at the expense of the Aristotelian particulars, and at the same time tries to make a boogeyman out of the scientists who use the Aristotelian method for investigation. Dr. Smith thinks he gets his eternal truths "from above," similar to Plato's "other world" from which we supposedly learned these eternal truths. The Aristotelian, so to speak, 'goes below' to find his eternal truths, into the quantum world to find his 'God particle.' Both are wrong.

Dr. Smith: It may be noted at this juncture that a *Weltanschauung* based upon physics cannot but be evolutionist to the core: for once authentic wholeness has become *de facto* inconceivable, it needs to be replaced by a pseudo-wholeness which reduces to the

sum of its parts. And needless to say, the only way such a pseudo-wholeness can conceivably emerge is by an aggregation of its constituent parts. Moreover, inasmuch as such a pseudo-wholeness exemplifies no model or archetype, its formation cannot be in any sense "directed," and reduces therefore basically to a random process. In a word, *Darwinian evolution proves to be essentially the one and only means by which plant and animal forms could conceivably originate in a world answering to the conceptions of physics.* And this accounts for the fact that the Darwinist hypothesis has been doggedly retained in the face of persistent empirical failure, and even after it has been mathematically disproved, in 1998, by William Dembski's theorem to the effect that *horizontal causality cannot produce "complex specified information" or CSI.* Let me emphasize that inasmuch as the nucleus of every living cell — of even the most primitive organism — literally "teems with" CSI, we now know for certain that *it takes vertical causation to produce a living organism.* Moreover, this in turn entails, and again in light of our reflections, that *a living organism constitutes* — not a mere aggregate or Darwinist pseudo-whole — but *a bona fide whole.* And again, in light of our reflections, this further entails that such an organism can, in turn, *act as an agent of VC* in its own right. Finally, it has become clear by now that the attempt to understand living organisms on the basis of physics cannot but fail in the end.

R. Sungenis: Yes, the paradigms of modern science led it to think that the horizontal is the only way to explain origins, whether it be the cosmos or biological life. But that is because they have rejected God and what he says about origins, not because they think evolution is going to answer their questions. They even admit this themselves. Listen to the words of Richard Lewontin, professor at Harvard University:

> We take the side of science in spite of the patent absurdity of some of its constructs, in spite of its failure to fulfill many of its extravagant promises of health and life, in spite of the tolerance of the scientific community for unsubstantiated just-so stories, because we have a prior commitment, a commitment to materialism.
>
> It is not that the methods and institutions of science somehow compel us to accept a material explanation of the phenomenal world, but, on the contrary, that we are forced by our a priori adherence to material causes to create an apparatus of investigation and a set of concepts that

> produce material explanations, no matter how counterintuitive, no matter how mystifying to the uninitiated. Moreover, that materialism is absolute, for we cannot allow a Divine Foot in the door.[33]

Need we say more? The rejoinder to the evolutionist, however, is not to fill the vacuum with Platonism, for it has shown itself to be epistemologically bankrupt as it also invents all kinds of 'unsubstantiated just-so stories, because they have a prior commitment, a commitment to wholeness' as the answer to life.

> **Dr. Smith**: Getting back to wholeness as such, the ontological fact is that what I term the *corporeal* world is indeed made up of entities such as "red apples," which prove not to be mere aggregates, but *wholes.* The fact that they are *divisible,* in other words, does not entail that they are in truth *divided* — that they are *aggregates* rather than *wholes.*

R. Sungenis: Of course they are wholes! But wholes are made up of aggregates, and the aggregates are finite, that is, it takes a certain amount of apple aggregates to get to a whole apple. That's how we know the apple contains salicylic acid, which is good for human health, just like we eat tomatoes or oranges to get their rich content of Vitamin C. Hence when God created the apple, he made it contain all the apple aggregates it needed to be an apple. If perhaps one or two or more of those aggregates were missing, then it would not be an apple. So, it is a fact that the sum total of apple aggregates will make an apple, and it takes a divine intelligence to determine all the aggregates that are needed, and the same intelligence to put them all in proper order and proportion to obtain an apple and not a pear, pineapple, or pomegranate. Dr. Smith wants to discount all this common sense because he has a 'commitment' to Platonism, the pagan philosopher who claimed that the universal ('wholeness') itself has some magical power to determine what an apple is and how it functions.

> **Dr. Smith**: What ontologically distinguishes the *corporeal* from the *physical* realm is in truth the fact that the former is comprised of wholes, whereas *there is no wholeness in the quantum world.*

[33] "Billions and Billions of Demons," *The New York Review of Books*, January 9, 1997, pp. 28, 31.

R. Sungenis: False. Just because it has not been settled how to determine the momentum of an electron at the same time we can determine its location does not mean that "there is no wholeness in the quantum world." It only means we haven't yet discovered how the momentum can be found with the location, and that is only because we have not found instruments sophisticated enough for the task. The ignorance of science at this point does not mean we now have to upset the scientific applecart and conclude that Plato is going to provide the answer. My goodness! If we stopped investigation into the inner workings of nature every time we reached a difficulty then science would never advance, but there have been many difficulties we have experienced in science and many have been overcome because sooner or later someone comes along and figures out what the answer is. That's how we advanced, for example, from the idea of spontaneous generation (*i.e*., the idea that flies were spontaneously generated from meat hanging in a Bell jar) to the correct concept that life does not come into being spontaneously (except by a Creator) and that the flies appeared because their eggs were already in the meat, although so small that they could not be detected, especially since they had no microscopes at that time. Rest assured, there is wholeness in the quantum world for the mere fact that God didn't create things willy-nilly with no connection to the rest of reality. Everything he made is part of a whole, and every whole has its parts.

> **Dr. Smith**: It is crucial to note, moreover, that this explains why *vertical* causation enters the picture precisely in the act of measurement: for inasmuch as measurement constitutes a transition from the physical to the corporeal plane, it entails a transition to wholeness, which horizontal causality cannot provide. And that is why vertical causation enters — and *must* enter — into play at the instant of that ontological transition.

R. Sungenis: This is just another way of saying that because searching for Aristotelian particulars might reach a dead end due to our lack of ability to gather them, this automatically means that the search is futile and thus the system must be overturned and replaced by Platonism. No, Dr. Smith does not win the battle by default, especially when we see above that the set of particulars he uses to define his 'wholeness' is just as arbitrary as he accuses of those who search for particulars n science. In fact, every time we try to grasp the basic concept of what 'vertical causation is effected by wholeness' means, Dr. Smith gives us another set of rules (particulars, if you will) that we must

incorporate into our understanding to come to his concept of 'wholeness' (*e.g*. a tripartite cosmos; only time is allowed here, but space and time is allowed there; an instant of ontological transition; *etc*.) and who knows where he is getting all these parameters. He is getting them out of his own mind and he has not given us one proof that they really exist, except to boast that quantum mechanics has "failed."

> **Dr. Smith**: The pieces of the puzzle are beginning to fall into place, which is to say that the "big picture" is about to emerge. It turns out that the corporeal world is composed, not of quantum particles, but indeed of *wholes* — and thus, in a sense, of the very opposite. The question now becomes: what are these wholes, and whence do they arise? And strange as it may seem, what is called for at this crucial juncture proves to be the Platonist recognition that *"wholeness resides ultimately in the aeviternal realm."*

R. Sungenis: Again, the pagan Plato is the source. What Dr. Smith is describing above is what I have noted earlier about Platonic epistemology. What each epistemology wants to know is: 'how do we know what we know?' Or another way of asking it is: 'what are the eternal truths that never change, truths that will be true no matter what time, location or being exists?' Plato answered this question by creating an eternal realm (*i.e*., Plato's aeviternal realm) in which the eternal truths resided and somehow they got transmitted to us on Earth. The prime 'eternal truth' of this realm was that 'wholeness' is the way to understand reality and everything else falls short or is inconsequential. This notion, of course, is false for all the reasons I have stated earlier. Wholeness, without knowing the particulars, can never give us the ultimate sense of reality. Even God cannot be understood unless we comprehend him as three Persons in one God.

Some may object that the 'aeviternal' is part of Thomistic philosophy, and indeed it is, but Thomas has a wholly different application of the aeviternal than what Dr. Smith is advocating above. The aeviternal for Thomas was simply the in-between state of the souls of the deceased saints, as well as the angels, and certainly not a Platonic realm in which eternal knowledge originated.[34]

[34] https://en.wikipedia.org/wiki/: Aevum. In Scholastic philosophy, the aevum (also called aeviternity) is the mode of existence experienced by angels and by the saints in heaven. In some ways, it is a state that

Dr. Smith: This connects, first of all, with what, for us, has been from the start the defining characteristic of VC: the well-nigh incomprehensible fact, namely, that *vertical causation acts instantaneously.* For this, in itself, is indicative of the fact that *VC does not originate in this, our time-constrained world.* No physicist, after all — however ingenious — is capable of producing an "instantaneous" effect, nor could that "instantaneity" be measured or verified by empirical means.[19] The fact — the *momentous* fact, to be sure — is that both *vertical causation and wholeness originate* from that *punto dello stelo* no less, where the dispersion of time does not reach.

R. Sungenis: Unbeknownst to Dr. Smith, as I noted previously, science delving into the Planck dimensions has provided an "instantaneity" to nature, but he wouldn't know this because he's never studied it. His admiration of Plato has curtailed all studies into the depths of scientific particulars, and Heisenberg has become the cudgel Dr. Smith uses to defend himself. As I noted previously, a study into the Planck realm has shown that reactions across the universe can occur in as little as 10^{-44} seconds. That's pretty good for a material universe. Once we get rid of Einstein's notion that *c* is limited in the whole universe to 186,000 miles per second (a notion he developed in Special Relativity so that he could keep the Earth moving in the face of the experimental evidence that it wasn't moving) then the sky is the limit as far as how fast things can move and communicate with each other. The ironic thing, of course, is that even Einstein dismissed the speed limit of *c* for the rest of the universe when he invented his General theory, and he was forced to do

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logically lies between the eternity (timelessness) of God and the temporal experience of material beings. It is sometimes referred to as "improper eternity". The word aevum is Latin, originally signifying "age", "aeon", or "everlasting time"; the word *aeviternity* comes from the Medieval Latin neologism *aeviternitas*. The concept of the aevum dates back at least to Albertus Magnus's treatise *De quattuor coaequaevis*. Its most familiar description is found in the *Summa Theologica* of Thomas Aquinas. Aquinas identifies the aevum as the measure of the existence of beings that "recede less from permanence of being, forasmuch as their being neither consists in change, nor is the subject of change; nevertheless they have change annexed to them either actually, or potentially". As examples, he cites the heavenly bodies (which, in medieval science, were considered changeless in their nature, though variable in their position) and the angels, which "have an unchangeable being as regards their nature with changeableness as regards choice". Frank Sheed, in his book *Theology and Sanity*, said that the aevum is also the measure of existence for the saints in heaven: "Aeviternity is the proper sphere of every created spirit, and therefore of the human soul... At death, [the body's] distracting relation to matter's time ceases to affect the soul, so that it can experience its proper aeviternity."

so because his tensor equations allowed a geocentric universe. If one has a geocentric universe, then the universe must be allowed to rotate daily around the Earth at superluminal speeds.[35]

> **Dr. Smith**: The definitive characteristic of Platonist metaphysics resides in the recognition that all temporal being or wholeness stems ultimately from an *aeviternal* archetype.

R. Sungenis: If you remember my analogy about the mosquito, the 'ideal image,' or as Dr. Smith says it, the 'aeviternal archetype,' is the universal mosquito, the mosquito in its prefect 'wholeness' that is preserved somewhere in the archives of eternal truths.

> **Dr. Smith**: It appears to be in fact the characteristic of all "higher" wisdom schools not only to recognize an "eternity," but in a way to subordinate the *temporal* to the *eternal,* the *transient* to the *immutable.* What I wish now to point out is that *this very subordination of the temporal to the eternal proves in fact to be the key to the enigma of vertical causation and wholeness.* This first of all explains, as we have noted, why VC acts "instantaneously": it does so because it does not originate "in time." It acts thus in what the Scholastics termed the *nunc stans,* the "now that stands," which in fact proves ultimately to be the only "now" there is: for as St. Thomas Aquinas apprises us with the utmost brevity, *"time consists of before and after."*[20] The fact is that the *creation* of the temporal world, whether it be attributed to God or to a Demiurge, takes place — not "in time" — but precisely in that *nunc stans;* as Meister Eckhart says, "God makes the world and all things in this present 'now'."[21]

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[35] As Einstein put it: "In the second place our result shows that, according to the general theory of relativity, the law of the constancy of the velocity of light in vacuo, which constitutes one of the two fundamental assumptions in the special theory of relativity and to which we have already frequently referred, cannot claim any unlimited validity. A curvature of rays of light can only take place when the velocity of propagation of light varies with position. Now we might think that as a consequence of this, the special theory of relativity and with it the whole theory of relativity would be laid in the dust. But in reality this is not the case. We can only conclude that the special theory of relativity cannot claim an unlimited domain of validity; its results hold only so long as we are able to disregard the influences of gravitational fields on the phenomena (e.g., of light)." Albert Einstein, *Relativity: The Special and General Theory*, 1920, p. 76; Methuen, London; Albert Einstein, Relativity: The Special and the General Theory, authorized translation by Robert W. Lawson, 1961, p. 85.

R. Sungenis: Can you imagine a cause and its effect without time? Neither can I, except for when God called the days of Genesis into being. But Dr. Smith is trying to make his vertical causation an instantaneous act for everything that happens after the creation. There are no exceptions. In other words, vertical causation is not a direct act of God, but the other-worldly mechanism for how that creation will interact with itself. As such, vertical causation not only occurs in the momentum and location of the electron, but it also occurs when the apple falls on Newton's head, and why you digested your breakfast this morning. The constituent parts of your cereal (corn, sugar, etc.) or your stomach (hydrochloric acid, enzymes, *etc*.) are not the cause. It is the 'wholeness' of the cereal meeting the 'wholeness' of the stomach and the result is digestion.

> **Dr. Smith**: The action of VC is thus Demiurgic in that it operates, not *ex nihilo,* but from the aeviternal plane. It is nonetheless "creative" in the sense that it gives rise to the temporal order, consisting thus of entities based upon aeviternal prototypes. Whatever *being* we encounter on the corporeal or the intermediary planes constitutes thus a *temporal* manifestation of an *aeviternal* whole.

R. Sungenis: So, contrary to what Dr. Smith said earlier ("The fact is that the *creation* of the temporal world, whether it be attributed to God or to a Demiurge, takes place — not 'in time') the Demiurge controls the vertical causation, not God. What is the Demiurge? Here's a definition from Merriam-Webster:

Definition of demiurge:
1 capitalized
a: a Platonic subordinate deity who fashions the sensible world in the light of eternal ideas
b: a Gnostic subordinate deity who is the creator of the material world
2: one that is an autonomous creative force or decisive power[36]

Thus we are to understand from Dr. Smith that God did not create or put in place vertical causation. It is the product of the Demiurge, another god below the eternal God. What does this Demiurge do? Notice the phrase "eternal ideas" in Merriam-Webster's definition. The 'eternal ideas' goes back to the analogy of the mosquito I explained earlier. In other words, this second god created

[36] https://www.merriam-webster.com/dictionary/demiurge

the 'eternal image' (or Dr. Smith's "*aeviternal* whole") of the universal mosquito from which all other mosquitos were brought into being, regardless of their variety. In other words, it appears Dr. Smith doesn't believe the literal account of creation in Genesis 1-2 in which the eternal God created the world *ex nihilo*. His Platonism has led him to bifurcate God into a higher and lesser deity. Of course, this is all nonsense, but it is also dangerous because it has opened up a Pandora's Box that is little different than the 33 million gods of Hinduism, each with a separate purpose, and thus it is pagan and to be rejected.

Another thing Dr. Smith does is to equate the '*aeviternal* whole' with the 'substantial form' of Aristotelian metaphysics, even though the 'substantial form' is a non-eternal entity. In his paper, *On the Ontological Implications of the State Vector Collapse*, he says,

> As such, moreover, the putative particle has no existence apart from the instrument, which is to say, in Scholastic terms, that it participates in its substantial form…It need to be understood…that what thus corporealizes the particle is something far removed from our customary notions; to put it in Scholastic terms: it is precisely the act of a substantial form.[37]

So not only does Dr. Smith borrow from Platonism for an explanation of the quantum enigma, Aristotle will do just as well, at least his 'substantial form' concept. Anything that has a mysterious other-worldly existence will serve to explain the equally mysterious quantum enigma, so Platonists and Aristotelians can be satisfied that both of their metaphysics can account for the physical problem, even though Aristotle's metaphysics contradicts Plato's on many levels. As long as we can grab at least something that is 'vertical,' we can explain the impasses of the 'horizontal'—an eclectic philosophy for everyone.

> **Dr. Smith**: One sees moreover that *the corporeal and intermediary strata of the integral cosmos are brought into existence precisely by way of vertical causation* — which moreover should surprise no one, seeing that *horizontal* causality presupposes the bounds of time and space. Inasmuch, therefore, as horizontal causality operates within a spatio-temporal continuum, it proves to be *an effect of vertical causation.* And this explains why VC has power to override horizontal causality, as in the act of measurement, when

[37] https://psif.medium.com/on-the-ontological-implications-of-state-vector-collapse-274617e8ea89

the Schrödinger wave equation is "re-initialized" following the so-called "collapse" of the wave-function.

R. Sungenis: Again, this is all just pure speculation. Since Dr. Smith has an innate aversion to allowing the parts to constitute the whole whereby we can determine how the whole operates by examining its parts as science has always done and we expect no more from it; and whereby science has always worked and proceeded quite well (*e.g*., when Aristotle's understanding of motion was overturned almost 2,000 years later by Newton's force laws), Dr. Smith is not willing to allow the same 'horizontal' process to find a solution to the quantum enigma, even though the impasse that quantum mechanics reached was only a century ago. Dr. Smith's impatience with scientific discovery then leads him to conclude that there is no scientific solution to the quantum enigma and thus we must totally abandon it for a metaphysical approach to reality. Of course, those who work in science know better. They know it takes time, a lot of time, to iron these things out and find a solution, just like it took 2,000 years for it to discover that Aristotle's concept of motion was not what the constituent parts of physical reality revealed to them.

As for the quantum enigma, Schrödinger's wave equation and the so-called 'collapse of the wave-function,' was just the beginning of understanding the quantum realm. Over the last hundred years it has advanced way beyond its beginnings, as I noted earlier (see page 13f).

Dr. Smith: The question remains what "causes" the quantum realm: could it be VC? In a sense this is of course the case, for in the absence of VC, there would be no temporal strata of existence, and therefore no quantum world as well.

R. Sungenis: But this is just apodictic because Dr. Smith believes that all of reality, not just the quantum world, is dependent on his 'wholeness' that causes vertical causation.

Dr. Smith: What, on the other hand, speaks against that argument is the ontological fact that, strictly speaking, *the quantum world does not exist:* for it is made up, after all, of mere *potentiae,* which do not attain being until they are *actualized.* And that, as we

know, is precisely the point at which VC enters into play: for this actualization of quantum *potentiae* occurs at the very instant of measurement *as an act of VC.*

R. Sungenis: That is false. The quantum world does exist and its equations have led us to calculate various actions of nature to ten decimal points, and it has nothing to do with the metaphysical concepts of *potentiae* and *actualization*. It has to do with the fact that conventional instruments cannot measure both the momentum and position of the electron at the same time. Conventional instruments, based on classical physics, can measure either the momentum or the position, but not both. What we need is an unconventional instrument—to be developed in the future—that will allow us to measure both simultaneously. That is all there is to it.

* * *

Dr. Smith: It thus appears that vertical causation constitutes the primary causality which brings the temporal orders — inclusive of their sub-existential modes — into manifestation. In this capacity, VC proves thus to be none other than what, in Platonist parlance, is termed *formal* causation.[22] Based upon the preceding considerations, moreover, the adjectives *primary, creative,* or even *Demiurgic* could likewise be applied to identify this mode of causation. It needs however to be noted that *vertical causation,* as we have conceived of it, is by no means restricted to *formal* causation in this primary or "creative" sense. As a matter of fact, inasmuch as *horizontal* causality presupposes both time and space — and consequently is operative only within the corporeal, and subcorporeal, domains — it follows that *VC constitutes likewise in truth the primary efficient causality.*

R. Sungenis: Again, the "primary efficient causality" is Yahweh Elohim, not the Demiurge, not 'wholeness,' not instantaneity, and certainly not Platonism.

Dr. Smith: What the primary or creative VC brings into being — to speak now in basically Aristotelian terms — are "substances" determined by a *substantial form.* It needs however to be realized that — so far from acting like marionettes — every such

being is endowed with a certain capacity to act upon other beings by a vertical causation of its own, which derives from its substantial form. This *secondary* mode of VC can therefore be termed *substantial.* And let me emphasize: "substantial" or secondary as it may be in comparison to the primary or creative kind, that causality is yet authentically *vertical* inasmuch as it operates "instantaneously," and thus not "in time."

R. Sungenis: Dr. Smith continues to make up his own world with his own rules, and some might be fascinated how he comes up with all these characteristics and actions of things he cannot see, hear, taste, smell or feel, and, most importantly, has no divine revelation to corroborate it. It just *is*, and the more we listen to Dr. Smith, the more complex this metaphysical machinery begins to be.

Dr. Smith: How, then, is this possible, given that this mode of VC derives supposedly from a substantial form, which after all pertains to the intermediary or "time-bound" realm? What we need to grasp is that a substantial form, though subject to the flux of time, does not exist in and by itself, but derives its essence and being "from above": that is to say, from its aeviternal prototype. The point is that the substantial form remains ontologically connected to its aeviternal prototype, which is to say that the two constitute a *whole:* an "organismal" whole, one might say. What Plato affirms regarding the soul — i.e., that *"it is partly in eternity and partly in time"* — applies thus to substantial forms at large. So far from being separated or cut off from their supra-temporal prototype, they constitute in reality a manifestation thereof; a *temporal* manifestation, to be precise.

R. Sungenis: So, in the battle between Plato and Aristotle, Plato wins by a knockout, at least in the mind of Dr. Smith. Whereas there is a similarity between Plato's "aeviternal prototype" and Aristotle's "substantial form," the latter is conquered by the former because the former gave the latter its existence! Aristotle would not be pleased! In the interim, Aristotle can now thank the Demiurge of Plato for why Aristotle departed from Platonic metaphysics, yet when Aristotle looks at his navel he discovers that Plato's Demiurge was behind it the whole time and merely let

Aristotle think that Aristotle was pulling the levers of understanding when it was actually Plato's Demiurge. Oh what tangled webs we weave!

> **Dr. Smith**: We began this inquiry with the stipulation that *vertical causation constitutes the causality of wholeness.* It now appears in addition that *wholeness as such is characterized by the capacity to act by way of vertical causation.* Let this much suffice as an introduction to the Platonist view of the integral cosmos.

R. Sungenis: And you can expect many more such bizarre discoveries as Dr. Smith moves on in his idealization of Plato. Stay tuned.

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References to Dr. Smith Endnotes:

1) See Physics and Vertical Causation: The End of Quantum Reality (Angelico Press, 2019), ch. 3.

2) Published in three volumes between 1910 and 1913.

3) The term needs of course to be understood in a subjective sense. It is an elimination — not from the universe itself — but from the physical universe, the universe as conceived by the physicist. In other words, the physicist is willfully closing his eyes to half of reality: the primary or essential half, to be precise.

4) By which we mean a causation based upon a temporal transmission through space.

5) When it comes to ordinary measurement, the distinction between "instantaneous" and "exceedingly fast" cannot be empirically ascertained. On this question see Physics and Vertical Causation, op. cit., pp. 26-9.

6) It may perhaps be argued that David Bohm proves to be the exception to this rule. The fact is that he did struggle, as it were, with the idea of "wholeness," which he may have derived from his long-time friend, the Hindu ascetic Krishnamurti. On this question I refer the interested reader to my article, "Pondering Bohmian Mechanics."

7) This astounding recognition — which can however be predicted on ontological grounds — was made by Werner Heisenberg. Cf. Physics and Philosophy (Harper & Row, 1962), p. 41.

8) The Concept of Nature (Cambridge University Press, 1964), p. 30.

9) Nature and Life (Greenwood Press, 1968), p. 6.

10) Ibid., p. 15.

11) The Philosophy of Physical Science (Cambridge University Press, 1939), p. 110.

12) Cf. Werner Heisenberg, op. cit.

13) Paradiso xiii, 10.

14) 1 Cor. 13:12

15) Physics and Vertical Causation, op. cit., ch. 8.

16) Ibid., pp. 108-11.

17) The best definition I know comes from St. Thomas Aquinas: "Aeviternity itself has neither 'before' nor 'after,' which can however be annexed to it." Summa Theologiae I, Q. 10, Art. 5.

18) Still remembered in the Orthodox Church as the so-called "aerial world," considered to be the habitat of demons, it was termed the "astral plane" in 19th-century occultism. I might mention that, in our day, Malachi Martin became rather well-acquainted with that domain in his capacity as an exorcist, and referred to it habitually as the "middle plateau."

19) It is to be noted that the VC operative in the act of measurement acts neither on the physical nor on the corporeal plane, but at the instant of transition.

20) Op. cit., Art. 1. The complete passage is as follows: "As we attain to the knowledge of simple things by way of compound things, so must we reach to the knowledge of eternity by means of time, which is nothing but the numbering of movement by 'before' and 'after.' For since succession occurs in every movement, and one part comes after another, the fact that we reckon before and after in movement, makes us apprehend time, which is nothing else but the measure of before and after in movement. Now in a thing bereft of movement, which is always the same, there is no before or after. As therefore the idea of time consists in the numbering of before and after in movement; so likewise in the apprehension of the uniformity of what is outside of movement, consists the idea of eternity." It was Aristotle who first defined time thus, as "the numbering of motion with respect to before and after."

21) Meister Eckhart. Trans. C. de B. Evans (Watkins, 1924), vol. I, p. 209.

22) On this issue I refer to a doctoral dissertation by Andrew R. Hill, submitted at the Catholic University of America in 2016, under the title "Forms as Active Causes in Plato's Phaedo and Timaeus."