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The Forbidden History of Science

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BY

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The Science Fraud

"The problem is not to find the answer, it's to face the answer." – Terence McKenna

At school, you are taught "science". You are not taught the *history* of science, so you have no idea how science came to be the institution it now

is. Above all, you have no idea that science is a vast, rigid system of dogmatism and ideology, an inflexible paradigm, an incomplete and inconsistent set of heuristic fictions, a quasi-religious faith that, on behalf of scientific empiricism, explicitly opposes philosophical and mathematical rationalism.

You are led to believe that science couldn't have developed in any other way. You are never shown how science was offered numerous chances to evolve in a radically different manner, and how it always rejected those opportunities for ideological rather than "scientific" reasons. You are never taught the secret history of science whereby scientific *idealism* (based on the mind) could have become the orthodoxy, rather than scientific *materialism* (based on the body). You are brainwashed to believe that science is the only possible "rational" undertaking to explain the world. But science isn't rational at all. If it were, it would be mathematics.

Science is empirical, and empiricism is a subject that has a long and extremely dubious philosophical history. Empiricism has sprung so many logical leaks that no rational person would ever take seriously any empirical system as having any explanatory value whatsoever, or any connection with true *knowledge*. The ultimate empiricist was David Hume, a man whose philosophy degenerated into absolute skepticism, nihilism and solipsism. Hume, one of the world's greatest geniuses, pushed empiricism to its logical and inevitable conclusion as a system of pure *anti-knowledge*. Science avoids this fate via its inadmissible, irrational hijacking of mathematics, the quintessential anti-empiricist subject.

Not a single scientist ever explains why science – a fanatically empirical enterprise, i.e. it proceeds by way of observations and experiments – has as its indispensable engine an *a priori*, analytic subject (mathematics) that has no connection whatsoever with observations and experiments. This fatal contradiction is brazenly ignored.

If you remove mathematics from science, you get either alchemy or Hume's ultra-skepticism. Mathematics, not empirical experimentation, is what gives science its power, yet this is never acknowledged, and is implicitly denied. The status of mathematics in science is wholly undefined.

Science is an intellectual fraud and has warped the human psyche as much as mainstream religion has, and is overflowing with just as many fallacies ... all of which flow from its rejection of the principle of sufficient reason. Science is *not* an intellectual, rational subject. It's a practical,

instrumental subject that has no capacity whatsoever to explain ultimate reality.

To trace where science departed from intellectualism, we must go back to Descartes and the beginning of modern philosophy. Descartes' problematic dualistic philosophy – involving unextended mind and extended matter (which seemed to have no basis for interaction since the two substances were, by definition, diametrically opposed) – immediately invited the reduction of this untenable dualism into a monism. Two rival schools subsequently arose: 1) *materialism* denied the existence of mind and claimed that everything was extended and that non-extended existence was impossible, and 2) *idealism* denied the existence of matter and claimed that everything we know concerns minds and the ideas in minds, with "matter" being just another idea rather than an entity independent of mind.

Descartes' work also gave birth to another two rival schools: 1) *rationalism*, which proposed that reason is the basis of all certain knowledge, and 2) *empiricism*, which asserted that all worldly knowledge begins with experience and the senses. "Nothing in the intellect without first being in the senses" is the guiding principle of this worldview, to which Leibniz, the great rationalist, astutely replied, "Nothing in the intellect without first being in the senses, except the intellect itself."

If we combine these different schools, we get four possible outcomes:

1) Materialism and empiricism.
2) Materialism and rationalism.
3) Idealism and empiricism.
4) Idealism and rationalism.

Modern science, predicated on experiments, reflects materialism and empiricism, and found much of its inspiration in the philosophy of John Locke.

Bishop Berkeley was an idealist empiricist who flatly denied the existence of matter, and showed that there's zero evidence or proof that matter exists as anything distinct from minds and the ideas in minds, i.e. he denied the entire basis of scientific materialism. Science has never refuted him, or even bothered to try.

David Hume and Immanuel Kant developed Berkeley's philosophy. Hume produced ultra-skeptical empiricism which denied that any sure

knowledge was possible. Kant, in turn, tried to refute Hume via "transcendental idealism", which asserted that our own minds project knowable reality onto an otherwise unknowable ultimate reality, i.e. Kant said that ultimate reality comprises unknowable *noumena*, but we construct knowable *phenomena* from these thanks to the innate faculties of our minds which exist for precisely this purpose. We are prisoners of the design of the human mind, and we can "know" only those things that the design reveals to us. We can have no idea what reality is like in itself, unmediated by the mind.

Just as science refused to respond to Berkeley, it also refused to respond to Hume and Kant. Instead, it pulled off an entirely invalid manoeuvre: it added materialist *rationalism* to materialist *empiricism*. Where the latter is all about experiments, the former is all about mathematics; specifically, the mathematics of *dimensional* things (idealist rationalism, on the other hand, concerns the mathematics of *dimensionless* things).

Modern science splits into: 1) theoretical science (materialist rationalism), and 2) experimental science (materialist empiricism). However, the agenda is emphatically driven by, and dictated by, the latter. No Nobel Prize is ever awarded for great theoretical work. A theoretician wins a Nobel Prize only if experimental evidence is provided to support his theory. Peter Higgs received his Nobel Prize some five decades after he produced his theoretical work predicting the existence of the Higgs boson. Only when experiments supplied evidence compatible with the existence of this particle was Higgs's work deemed vindicated. Stephen Hawking, the most famous scientist in the world, will never win a Nobel Prize since no experimental evidence has ever been adduced to support his theories.

Theoreticians always perform their work conditioned by the need to predict observable, experimentally-testable phenomena, hence they never stray into pure rationalism and logic that would never under any circumstances be experimentally productive. Hawking's work predicts various observable phenomena. The trouble is that the technology does not yet exist to test whether they actually exist.

The irony is that ultimate reality – reality that existed prior to the Big Bang – is wholly and permanently beyond the scientific method. Only idealist rationalism can address it. The technical subject that deals with idealist rationalism is noumenal, transcendental, ontological mathematics, dealing with dimensionless mathematics, i.e. the mathematics that

necessarily *precedes* the addition of the dimensions that make possible space, time and matter (i.e. the "scientific" world). This type of pure, analytic mathematics rejects observations and experiments, and works out ultimate reality from indisputable mathematical reason and logic alone. Anyone who truly accepts the Big Bang ... the theory that our universe erupted from a Singularity ... must rationally accept that this corresponds to the dependence of dimensional mathematics upon dimensionless mathematics, and necessitates that dimensionless entities are the origin of dimensional entities (exactly as Leibniz said in his *Monadology*).

Dimensionless mathematics is rejected wholesale by science. As ever, science refuses to explain why this approach is invalid (in its view), beyond the dogmatic fact that dimensionless math does not, and cannot, reflect the scientific method. The true problem, of course, is that the scientific method itself is in need of rational and logical justification. Science cannot provide it, so ideologically ignores the issue. That's why science is not an intellectual, rational, logical subject, and is much closer to a religious faith. Science literally has no method for addressing rational arguments. Its method is exclusively sensory and empirical.

The rational assertion that dimensionless mathematics precedes dimensional mathematics, that a pure mathematical Singularity precedes scientific spacetime, can never be addressed scientifically. Instead, science makes the deranged claim that the spacetime universe randomly and miraculously jumps out of nothing at all, i.e. it claims that no definable, analytic state preceded the Big Bang, hence that the spacetime universe was simply and inexplicable magicked into existence from non-existence, for no possible reason and via no conceivable mechanism. If that's not a religious claim – a claim based on magic, miracles and the supernatural – what is?!

Science is just a religion that dispensed with miracles performed by God and replaced them with random miracles that perform themselves! Atheism is the religion of a magic show whose greatest trick – the *prestige* – is to pull itself out of a top hat that doesn't exist. Atheism is the belief in Godless miracles. Atheism does not respect and reflect the principle of sufficient reason, hence is nothing but magical thinking, entirely devoid of a logical, analytic foundation. Atheism is the opposite of ontological mathematics where absolutely everything has an exact reason why it is thus and not otherwise, where miracles and magic are utterly impossible.

Nothing is more intellectually offensive than the absurd claim that atheists and scientists are rational. All they did was kill an irrational religious God of design, teleology and meaning and replace him with an even more irrational God of randomness, purposelessness and meaninglessness.

If you cannot refute noumenal, transcendental, ontological mathematics, yet blindly accept science, you're no better than an Abrahamist or Karmist. You're religious, not intellectual. Your "knowledge" has no logical foundation. You are a person of faith.

Science could have turned out entirely differently. In the period after Descartes, two titans faced off against each other. Newton was the champion of materialist empiricism (and materialist rationalism conditional upon it), while Leibniz was the champion of idealist rationalism. Science took the Newtonian rather than Leibnizian path and thus cut itself off from mind, logic and the principle of sufficient reason. It became all about the ad hoc exercise of matching mathematical guesses to experimentally observed patterns.

Newton did not work out his gravitational law from any analytic first principles, any ontological and epistemological principles. In fact, he explicitly disdained these. What he did was try out lots of mathematical guesses until he found one that was consistent with observed astronomical data, i.e. with Kepler's laws. This was then judged a wondrous breakthrough.

Science has operated in exactly this ad hoc, heuristic way ever since. It never at any time relies on first principles, ontology, epistemology, analysis, logic and reason. It's simply the world's most elaborate exercise in "educated guesses". And that's exactly why it will never tell you anything about ultimate reality. It can't even get the first thing right – that this is a fundamentally mental rather than material world, as Descartes ("I *think* therefore I am), Leibniz and Berkeley so emphatically demonstrated.

If you listen to scientific propaganda, you invariably imagine that science has smoothly and rationally proceeded to where it is now. In fact, it has deliberately suppressed all rivals to its Newtonian modus operandi, while having no legitimate reasons for doing so. As we shall show, even Newton wasn't a true Newtonian (!), and held numerous bizarre beliefs that science ensures you never hear about in science class when it's telling you how brilliant Newton was. Newton's strange ideas are painstakingly

airbrushed away so that he can be portrayed as a genius who could walk into any science department in the world today, and fit in instantly. In fact, much of today's science and its interpretation of reality would nauseate, repel and baffle Newton. He would unquestionably oppose modern science and denounce the leading scientists of today ... exactly those who so slavishly revere him.

In this book, we are going to do something remarkable. We will show you how easily science could have taken an entirely different route from the one it did take. It could, for example, have pursued the Leibnizian path and become noumenal, transcendental, ontological mathematics. However, we shall concentrate on the historical attempt to *combine* Leibniz and Newton. You might think of this in much the same way as today's scientific effort to reconcile general relativity and quantum mechanics, with relativity being quasi-Newtonian and quantum mechanics quasi-Leibnizian.

The heroes of this tale are Immanuel Kant (in his younger, Leibnizian years), and the Jesuit Roger Boscovich. When you reach the end of the book, we want you to seriously ask yourself whether modern science offers a better solution than theirs. Their systems embraced mind in its own right (i.e. mind considered as something that does not owe its existence to matter), something that science signally fails to do, and refuses to do.

Why do today's scientists keep trying – futilely – to explain mind in materialist terms? Why does none of them have the gumption to explore the alternative history of science, which is driven by the mind and the dimensionless? It's because science is a religion, and its believers are every bit as indoctrinated as those of Islam, Judaism, Christianity, Hinduism, Buddhism and Sikhism.

Read for yourself the astounding rival history of science, and ask yourself why science doesn't talk about it, and pretends it doesn't exist at all. For science, it's the supreme "inconvenient truth".

Science is an overt conspiracy against clear, rational, logical, analytic thinking, and has deliberately and ruthlessly suppressed all threats to its dogmatism. It refuses to teach alternative views that would instantly and fatally undermine it. You will soon discover why it's so terrified of drawing any attention to the secret history of science ... the *forbidden* history.

Divisibility

The average person is oblivious to the fact that the question of divisibility goes to the core of ontology, i.e. the study of what ultimately exists. The issue is this: are the ultimate things extended (hence divisible), or unextended (hence indivisible)? It's one or the other.

You are a materialist if you believe that non-living, non-mental, extended, sensory things are the basis of reality. Science is the classic expression of this worldview. You are an idealist if you agree that living, mental, unextended, non-sensory things (monads = singularities) are the basis of reality. Ontological mathematics, reflecting Leibniz's *Monadology*, is the classic expression of this worldview.

In simple terms, you must choose between an empiricist, scientific worldview, or a rationalist, mathematical worldview, the former based on spacetime entities and the latter on frequency singularities, the former based on the senses and the latter on the intellect. It's one or the other.

To cast it in slightly different terms, is the first atom *hydrogen*, with atomic number one, or the *monad* (soul), with atomic number zero? Is the first atom material and sensory or immaterial (mental) and non-sensory?

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The atoms that Isaac Newton believed in were much like the atoms of the ancient Greeks: indestructible, extended, solid objects, travelling through a void. Things made from such atoms could be broken down into their constituent atoms, but no force in nature could break down the atoms themselves (only the supernatural force of God could destroy them).

In Leibniz's system, the ultimate atoms were unextended monads, meaning that all things were made from minds, not from material things, and all things could be reduced to the actions of individual minds. Minds themselves could not be reduced.

In present-day Illuminism, all things – all minds and all material things alike – are made of eternal, necessary, analytic sinusoids, the fundamental units of existence. An individual mind is made of a complete and consistent set of necessary and eternal sinusoids. Material things, on the other hand, are made of contingent and temporal combinations of sinusoids. Where it's logically impossible for minds not to exist, material things have no logical necessity, i.e. any or all material things could conceivably not exist. Indeed, no material things existed in the mental Singularity that preceded the Big Bang.

Phenomenal thoughts in a mind are made of contingent combinations of sinusoids (noumenal thoughts) originating in that mind. Material things in spacetime are made of contingent combinations of sinusoids originating in *all minds* (i.e. in the Monadic Collective).

To be clear, sinusoids within an individual mind give rise to *thinking*, while sinusoids within the Collective Mind give rise to *matter*. Material things are simply *collective thoughts*, and it's the fact that they're collective that gives them such a different, objective, persistent character and quality in comparison with individual thoughts.

What we call the mental world is what takes place within individual monadic minds. What we call the material world is what takes place within the *collection* of all monadic minds.

The reason why mind and matter can interact is that they both involve sinusoidal waves and their mutual relations. In an individual mind, the sinusoids are supplied exclusively by that mind. In the Collective Mind, the sinusoids are drawn from all of the individual minds. That's the only difference, but it makes *all the difference*.

Reality comprises individual minds operating within a Collective Mind. There's nothing else going on. Individual minds operate subjectively, while the Collective Mind operates objectively. An objective mind, as opposed to a subjective mind, behaves exactly like a non-mind ... like scientific "matter"!

Science takes the objective "material" world to be the true world, and denies the existence of any subjective minds with free will.

We actually inhabit a staggeringly simple world. Everything is about mathematical sinusoids, and the difference between how those sinusoids function within individual minds and how they function within the Collective Mind. *Everything* is about the relationship between individual minds and the collection of all minds.

To understand reality, all you have to do is work out your relationship to all other minds. The ancient wisdom *as above, so below* encapsulates the whole situation. If you can fully understand yourself, you can understand the entire universe. The mind, and its relations and interactions with other minds, is the basis of everything. According to science, on the other hand, *matter*, and its relations and interactions with other material things, is the basis of everything.

Any extended material atom – even one that cannot be physically divided – can, in our imagination, be logically divided. For example, we can conceive of halving an extended atom. Therefore, we can validly say that an extended atom is logically or metaphysically divisible. "God" could perform this division even if Nature couldn't. God, if he wanted, could annihilate one half of an atom, leaving the other half perfectly intact.

There are two primary types of divisibility:

> 1) *Physical Divisibility*: An extended entity is physically divisible if natural processes can break it into distinct parts. A classical atom would be physically divisible if we could chop it in two, but classical atoms are defined as being physically indivisible, indicating that no natural force, no matter how great, could split such atoms.
>
> 2) *Metaphysical Divisibility*: An extended entity is metaphysically divisible if it can be intellectually separated into parts. There is no metaphysical objection to a classical atom being divided into two halves. The physicalist claim that atoms are indivisible is just that ... a *claim*. It has no logical necessity. However, if parts are in fact logically co-dependent – such as the numbers of the number line – you cannot remove any of them, even metaphysically. You would be doing something impossible. The number line, with any part removed, is no longer the number line. An entity is metaphysically divisible if God *could* divide it ("supernaturally"). The only things that God cannot divide are those that would generate a fatal contradiction in any supposed divided state. If God removed any part of ontological mathematics, it would cease to be consistent and complete, so this is a logical impossibility. Newtonian atoms are metaphysically divisible but not physically divisible, while Newtonian absolute space is both metaphysically and physically indivisible. It's a mathematical array of dimensionless points, so no logical part may be removed without contradiction, and there's no physical aspect capable of being divided.

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Classical atoms are physically indivisible but metaphysically divisible.

Sinusoids are both physically and metaphysically indivisible.

Monads – made of complete and consistent sets of monads – are both physically and metaphysically indivisible, yet can share their sinusoidal components with other monads (to create the temporal, contingent stuff of the material world, all of which is physically and metaphysically divisible ... down to the level of its constituent sinusoids, where divisibility ceases).

Modern atoms – with electrons, protons, neutrons, quarks, and so on – are physically divisible (atoms can be split), and metaphysically divisible. However, an ultimate layer is hypothesized by string theory, for example, where strings, like sinusoids, are deemed both physically and metaphysically indivisible.

Modern physics – thanks to Heisenberg's Uncertainty Principle – raises an issue of whether it's even meaningful to discuss divisibility at a certain scale of existence (the so-called Planck scale). Reality is said to dissolve into an uncertain, fuzzy, blurry haze. Such a vision is incompatible with absolute reality, with any formal, analytic ontology.

Heisenberg's uncertainty principle actually arises from a fundamental scientific materialist misinterpretation of rationalist, idealist, ontological mathematics. In an absolute, eternal, necessary, analytic universe of mathematical sinusoids obeying the principle of sufficient reason, it's impossible for there to be any ontological uncertainty of the kind claimed by science. Heisenberg's principle – as seen through the prism of materialist and empiricist ideology – renders "reality" absurd, bizarre, fuzzy, and, in fact, formally unreal. Ironically, this view destroys the whole basis of both materialism and empiricism since the concept of solid, tangible, definable "matter" is incompatible with an indefinable existential haze or blur of fundamental uncertainty. Moreover, this haze or blur – this "fuzzy reality" – is impossible to experiment upon, observe or experience in itself, hence can play no part in empiricism.

It's a simple fact that when scientific empiricists refer to random, indeterministic events, they are making statements entirely incompatible with empiricism. No one ever has, or ever could, observe a "random" event. What they observe is an *event*, and they then *interpret* it as random or non-random, depending on what theory of existence they subscribe to.

No one ever has or ever could observe existential fuzziness of the kind supposedly associated with the Heisenberg principle. What they observe is

a *definite, concrete pattern*, and they then interpret this pattern according to their worldview. No one ever observes a *non-pattern*, a *chaos*, incompatible with any conceivable mathematical description, and no mathematical description, when properly ontologically and analytically considered, is ever "uncertain" in any existential way.

The Heisenberg uncertainty principle states that we can't simultaneously measure a particle's position and momentum. This doesn't mean that the particle doesn't *have* a precise position and momentum at all times. In fact, the de Broglie-Bohm interpretation of quantum mechanics makes exactly this point. A particle, in this view, remains classically localized at all times. The "uncertainty" – such as it is – arises from the assertion, in this interpretation, that the classical particle is guided by a non-classical, non-local pilot wave, and it's this wave – a *real* wave called the quantum potential – that creates the impression of uncertainty by virtue of its incompatibility with standard physicalist, localist, particle theories.

In other words, even within the existing quantum mechanical paradigm – without having to invoke ontological mathematics – it's possible to abolish the claim that reality is grounded in a fundamentally blurry, statistical, probabilistic, indeterministic, uncertain haze.

As soon as you grant the existence of "hidden variables", you can get rid of the notion that the Heisenberg relation is associated with any ontological uncertainty. It then becomes associated with something else: an ontologically definite and absolute reality, but one that contains an inherent tension between non-local frequency existence, and local spacetime existence. This tension creates what appears to be an uncertainty in *spacetime*, but, if you could see the big picture – involving *both* local spacetime and non-local frequency – you would see there's no uncertainty at all. The "uncertainty" inference is an artefact of the materialist, empiricist, localist Meta Paradigm of science, not of reality itself. If you adopt a different Meta Paradigm, you abolish the uncertainty!

Mainstream quantum mechanics says that reality comprises an "unreal" (!) wavefunction that indeterministically collapses into "real" particles whenever observations are made. De Broglie and Bohm, on the other hand, argued that a real wave – but with non-locality built into it – guides real particles along certain paths. Which sounds the more likely and logical option? As ever, mainstream science rejects the rationalist option and chooses the one most compatible with empiricism. Science is perverse.

Whenever it has a choice of interpretations, it always selects the wrong one, then pretends this was the only one. That's why it's a fraud.

Descartes

Descartes proclaimed that there are two types of existence: extended and unextended. Science denies that there's any such thing as unextended existence. It says there's only unextended *non-existence* and extended existence, and the latter miraculously jumps out of the former for no reason, via no mechanism. However, even to use "is" in relation to non-existence is of course a contradiction in terms. Non-existence doesn't exist, by definition, so you can't possibly rely on it, as science does, to explain existence.

Existence is either eternal, or there's no existence at all. Our own existence proves that the former is true. That's unarguable. Science is plain wrong. It's illogical and irrational.

Descartes' "I think therefore I am" actually means that "I" has been thinking forever. If this weren't the case – if there were a time when "I" wasn't thinking – then, by definition, "I" couldn't have existed. The Law of *Thinking Conservation* – directly connected to the Law of Energy Conservation – asserts that thinking (which is in fact just an expression of energy) can be neither created nor destroyed. Neither God nor anything else can create a thinking being, and nothing can annihilate a thinking being. Thinking souls, therefore, are immortal and indestructible.

The critical fact to bear in mind is that, by default, thinking takes place *unconsciously*. Consciousness arrives on the scene at a late stage, after an immense period of evolution. However, consciousness is so powerful that it then drives evolution itself. Consciousness eventually becomes the primary cosmological force, and the fate of the universe is determined by the highest consciousnesses ... the Gods!

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Descartes failed to explain how unextended mind and extended matter could interact. To put it another way, he couldn't account for how mind gave rise to matter. As a Catholic, he simply relied on God creating mind and matter out of nothing at all. Once God is removed from the situation, it's essential to explain the mechanism by which mind (immaterial, unextended frequency) gives rise to matter (extended spacetime). Fourier

mathematics achieves exactly this. Via Fourier mathematics, we can explain how eternal, necessary mind (frequency) produces temporal, contingent matter (spacetime). Science refuses to accept the ontology of Fourier mathematics, so makes the crazy claim that the spacetime universe jumps into existence out of nothing at all.

It's staggering that so many allegedly intelligent people are willing to accept the impossible claims of science. Science is as irrational and illogical as mainstream religion. Science is just sensory religion rather than emotional religion. Science and religion both reject reason as the basis of reality.

God (Religion) versus No God (Atheism)

What, ultimately, is "God"? It's simply an unfortunate label that humanity has attached to the concept of eternal, necessary existence that reflects the mathematical law of energy conservation. "God" relates to reason, rationalism, intelligibility, determinism, and causation.

What, ultimately, is "atheism"? It's simply the clunky label humanity has attached to the belief that there's *no* eternal, necessary order of existence, hence that existence is temporal and contingent – subject to chance, accident, randomness, acausation, magic, miracles, and indeterminism – and which reflects the *scientific* law of energy conservation (which states not that energy must be eternal, but that *net energy* must never exceed zero for any sustained period, i.e. any period outside the scope of the Heisenberg uncertainty principle).

Atheism is about empiricism and materialism, while religion, in its Mythos form, is about emotionalism and mysticism, and, in its Logos form, is about rationalism and idealism. Which side are you on? One is right and the other two are wrong. There's no middle ground.

Science continuously attacks Mythos religion. It never addresses Logos religion because then it would have to justify itself against the attacks of rationalism, and it has no capability to do so.

The Kant–Boscovich Force-Shell Atom Theory

Independently of each other, but around the same time, Immanuel Kant and Roger Boscovich attempted to reconcile Leibnizian and Newtonian science (i.e. scientific idealism and scientific materialism). They took the concept of monads from Leibniz, the concept of force and action at a distance from Newton, and they applied the latter to the former. Both thinkers proposed a new type of atom: an unextended central point-atom (*punctum*) projecting a shell of force. They thus created monadic atoms with extension arising from their forcefields. These forcefields operated in the physical world, in space and time, and interacted with each other.

The puncta were *metaphysical* atoms: the inner core of such an atom could never be observed: all you would ever encounter was its forcefield.

Henry More's Spiritual Substance

For Descartes, everything extended was thereby material. Immaterial substance (spiritual, mental substance) was, by definition, extensionless. Philosopher Henry More (1614 – 1687) took this to mean that spiritual substances could not be located in the spatial universe at all, hence, in his opinion, could exist *nowhere*. (The same conclusion is drawn by scientific materialism.) More believed that Descartes' definition had shut immaterial spirits not just out of space, but also out of existence altogether. That conclusion would be true if spatiotemporal existence were the only type of existence. As soon as a different type of existence is conceded – immaterial, unextended frequency existence, for example – More's objections dissolve.

More referred to the Cartesian doctrine of the unextended soul as "*Nullibilism*" (Nowhere-ism). He believed that since it excluded spiritual substance from space (and thus from existence, as he understood it), the Cartesian system must degenerate into the "gross and dirty" materialism championed by Thomas Hobbes.

In some ways, More was right that Descartes opened the way for rampant materialism. Materialists simply ignored the Cartesian unextended world and went right ahead and created scientific empiricism and materialism, predicated entirely on extended, dimensional spacetime, and the assumption that anything else did not and could not exist.

More insisted that spirits as well as matter must be extended. The subtle difference he injected lay in his claim that two classes of extended things are possible:

1) Material substances that are metaphysically *divisible*.

2) Immaterial (spiritual) substances that are metaphysically *indivisible*.

Where Descartes' system was based on material extension versus immaterial non-extension, More's was based on the metaphysical divisibility of matter versus the metaphysical indivisibility of immaterial spirit. So, according to More's doctrine, spirits are extended, with some sort of form, and can flit through matter and even through one another. More was thus describing a traditional "ghost" – an immaterial shape existing in space – except his ghosts were to be considered invisible by default, otherwise we would observe them all the time. (It's not at all clear how such ghosts could ever become visible – except, perhaps, through the "mind's eye" – through intuition, or the "third eye", or "inner vision".)

With More's system, we have one of the first lines of thinking that intellectually supports such notions as "astral bodies", "sprit bodies", "subtle bodies", "light bodies" and all the other things that New Agers prattle on about. The problem is that Descartes was right all along: non-extended entities *can* exist ... in the frequency domain of dimensionless mental vibrations. And that means there can indeed be two distinct worlds: one with extension and one without, exactly as Descartes insisted.

Interestingly, there's absolutely nothing in the fallacious ideology of scientific materialism to exclude the possibility of More's extended spiritual bodies! In fact, all scientific forcefields can be conceived in exactly these terms.

All of the people who believe in the ghosts and spirits of folklore are unwittingly subscribing to More's doctrine that metaphysically indivisible extension can exist. The precursor of this idea goes right back to the ancient Greeks and Jews. The "spirits" or "shades" of the Greek Hades or Jewish Sheol were conceived as extended entities, with the form of the bodies they once inhabited. For the Greeks and Jews, a person was effectively the union of a metaphysically and physically divisible body, *and* a metaphysically and physically indivisible spirit. "Death" meant the sundering of this union. The body would decay into dust, while the spirit body would go to the Underworld and linger forever as an echo of its former whole self, gradually fading into formless spiritual energy.

In these terms, reincarnation is about putting the spirit body in a new physical body, while resurrection concerns reconstituting the *original* physical body, to which the spirit body can then return and live as it did before.

Physical blood was regarded as the quintessence of life in many ancient belief systems. Therefore, spirits – lacking physical blood – were not truly alive, which is why they were often depicted as waning echoes of life rather than true life itself. They were neither alive nor dead but somewhere in between, i.e. the "undead" state. From the notion of the undead, we famously get the concept of the vampire that sucks the life-giving blood from the living, or zombies that feed on the living.

It's easy to construct an elaborate and superficially plausible Mythos from an untenable philosophical stance such as that of Henry More. Science too is an untenable Mythos. It's good at creating a model of the world of appearances, but can tell us literally *nothing* about true, ultimate reality beyond appearances and the senses (but not beyond reason).

The point-atoms of Kant and Boscovich present a fascinating compromise between the opposing positions of Descartes and More. The point-atoms themselves are indivisible, unextended entities, but they project forcefields that occupy extended space. These extended forcefields are metaphysically indivisible because they cannot be arbitrarily changed or divided into separate pieces without destroying the mathematical or scientific integrity of the field, i.e. these fields are logically holistic entities.

Such atoms, with their fields, could readily account for More's immaterial ghosts – extended things that are metaphysically and physically indivisible – but could not explain More's material world of *non-spirits* since they furnish no scope for metaphysically and physically *divisible* things.

In fact, ironically, the Kant-Boscovich atoms were primarily intended to explain the physical world, not the spiritual world. They were an explicit departure from Leibniz's mental monads, and were meant to be compatible with Newtonian materialism. However, as we shall see later, both Kant and Boscovich imagined that their systems could also be made consistent with a mental as well as a physical world.

More's notion of immaterial spirits that can pass through (penetrate) each other as well as the physical world is uncannily similar to the modern scientific notion of penetrable fields. We are at all times immersed in an

ocean of fields, especially that of the electromagnetic field of light. Electromagnetic waves are passing through us all the time ... like ghosts! (Alternatively, we are passing through an electromagnetic field that exists outside space and time ... does that make *us* the ghosts?)

More saw space itself as an infinite, indivisible spiritual substance that contains and penetrates all finite substances. God, in this view, is the spiritual being that has the whole of space as his metaphysically indivisible spiritual body. Amazingly, this concept was essentially the one adopted by Isaac Newton in his famous *Principia*, where he defined space as God's "sensorium".

Newton's theory of gravity – which is conceived as a force that acts at a distance via no physical contact – is comprehensible only in such terms. Through and across this spiritual medium of space, effects can be transmitted *instantaneously* via the Will of God, just as we can instantaneously will our bodies to do things.

In these terms, the "ether" – famously rejected by Einstein – can be understood as spiritual rather than physical, as an indivisible, immaterial substance. Einstein's warpable spacetime can also be construed in these terms.

Religious followers of Newton's ideas enthusiastically embraced More's notion of extended, finite, indivisible spirits, and an extended, infinite, indivisible God. The science community, however, instantly ditched all of this spiritual mumbo jumbo, leaving nothing but Newtonian mathematics and no explanation, and no mechanism, for how it physically worked. Nothing much has changed in science. It's full of mathematics, and no explanations. It has no ontologically and epistemologically plausible mechanisms, as we see most especially with quantum mechanics, the most woo woo thing you can possibly get (at least as interpreted by materialists).

More and Newton's ideas are arguably compatible with Bishop Berkeley's idealist philosophy. In this case, Newton's Absolute Space – infinite and indivisible – would become an *Idea* in the Mind of God, as would all the extended objects in space, and all extended spirits (souls) in space. In other words, matter would be entirely abolished, and replaced with nothing but minds and their ideas, with mathematics as the glue to hold everything together.

The Mormons

"Joseph Smith, the founder of the Latter Day Saint movement, taught 'There is no such thing as immaterial matter. All spirit is matter, but it is more fine or pure, and can only be discerned by purer eyes; We cannot see it; but when our bodies are purified we shall see that it is all matter.' This spirit element has always existed; it is co-eternal with God. It is also called intelligence or the light of truth, which like all observable matter 'was not created or made, neither indeed can be.' Members of The Church of Jesus Christ of Latter-Day Saints view the revelations of Joseph Smith as a restoration of original Christian doctrine, which they believe began to be corrupted at the hands of post-apostolic theologians in the centuries after Christ. The writings of many of these theologians indicate a clear influence of Greek metaphysical philosophies such as Neoplatonism, which characterized divinity as an utterly simple, immaterial, formless, substance/essence (*ousia*) that transcended all that was physical. Despite strong opposition from many Christians, this metaphysical depiction of God eventually became incorporated into the doctrine of the Christian church, displacing the original Judeo-Christian concept of a physical, corporeal God who created humans in His image and likeness." – Wikipedia

Many New Age beliefs rely on either spiritual "immaterial extension", such as that of Henry More, or on "spiritual matter" – more fine or pure matter that can be discerned only by purer eyes – such as that advocated by the Mormons. Henry More, the Mormons, New Agers and scientific materialists are all equally incapable of conceiving of a completely immaterial, unextended, mental reality. Like all sensing types, they are obsessed with the notion of extension. The concept of the unextended (the non-sensory) is incomprehensible and inconceivable to them.

It's extraordinary how much of human thinking has revolved around the ability of some people to imagine a non-extended reality, and the equal inability of many others to accept any such reality. Empiricism, materialism and science are all driven by the worship of extension, and the refusal to contemplate anything non-extended. Rationalism, idealism and metaphysics, on the other hand, have never had any difficulty with the concept of the unextended.

How you answer the question "What is ultimate existence?" is entirely dependent on whether you accept or deny the existence of unextended

things. The ultimate unextended things are of course monads = minds = *souls*!

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The two numbers that define non-extension are zero and infinity. These are precisely the two numbers dreaded and forbidden by scientific materialism.

Demonology

"*Saducismus Triumphatus: Or, Full and Plain Evidence Concerning Witches and Apparitions* is a book on witchcraft by Joseph Glanvill, published posthumously in England in 1681.

"The editor is presumed to have been Henry More, who certainly contributed to the volume. ... The book affirmed the existence of witches with malign supernatural powers of magic, and attacked skepticism concerning their abilities. Glanvill likened these skeptics to the Sadducees, members of a Jewish sect from around the time of Jesus who were said to have denied the immortality of the soul. The book is also noted for the account of the Drummer of Tedworth, an early poltergeist story, and for one of the earliest descriptions of the use of a witch bottle, a countercharm against witchcraft. ... The book strongly influenced Cotton Mather in his Discourse on Witchcraft (1689) and the Salem witch trials held 1692-3 in Salem, Massachusetts. Mather's *Wonders of the Invisible World* (1693) is largely modelled after this book and its reports, particularly the material relating to the Mora witch trial of 1669." – Wikipedia

Extended, invisible spiritual bodies operating in space and time are perfect for explaining poltergeist activities.

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"In Lux Orientalis (1662) [Joseph Glanvill] supported Henry More's belief in the pre-existence of the soul, and after Glanvill's death More edited his notorious *Saducismus Triumphatus* (1681). This is an attack on the rationalizing sceptics who, supposedly as the first step towards atheism, denied the existence of ghosts, witches and other manifestations of the spirit world. ... *Sadducism* (or *Sadduceeism*): The beliefs of the Jewish sect of Sadducees, active around the time of Christ, particularly in so far as they

concerned the denial of the resurrection of the body and the existence of spirits. In post-Renaissance writings, the term came to be applied by opponents of materialistic unbelief (such as the Cambridge Platonists) to the position of those who denied the existence of angels, ghosts, and other spiritual beings allegedly as a preliminary to denying the existence of God." – *Pan Dictionary of Philosophy*

Richard Dawkins and Sam Harris are today's most vociferous Sadducees. Their denial of the existence of "angels, ghosts, and other spiritual beings" is not only a preliminary to denying the existence of God, but also of mind, free will, eternal necessity, eternal substance, purpose and meaning. Sadduceeism (= scientific materialism) is total nihilism.

The Sadducees

"The Sadducees say that there is no resurrection, and that there are neither angels nor spirits, but the Pharisees believe all these things." – Acts 23:8

Given these comments, the Sadducees appear to be atheists! Plainly, they weren't, so what *did* they believe? The Sadducees regarded God as very distant from humans – in this life and even more so in the next. They believed that God rewarded the righteous *in this life* ... i.e. wealth and power were evidence of divine favour. (Many Protestants believe exactly the same thing today). They did not believe in the resurrection of the dead, instead subscribing to the traditional Jewish idea of Sheol – the gloomy, shadowy Underworld, like the ancient Greek Hades – as the final destination of the dead.

John W. Cooper wrote in *Body, Soul and Life Everlasting*, "The Israelites believed that identifiable though truncated human persons continue to exist after death. True to their holism, they thought of the dead as ethereal bodily beings who remain in Sheol. Whether they are in any sense conscious and active is unclear. Though Sheol is the gathering place of all human dead, there are hints that the lot of the faithful and the wicked is not the same. Hope is expressed that the Lord will rescue his beloved from death itself."

The denizens of Sheol are "ghosts" cut off from the living. They will *never* come back to life. They are so far from God and his thoughts, so diminished as beings, that they might as well be non-existent, hence we can

detect a distinct foreshadowing of atheism here (which is exactly why this accusation was made against the Sadducees).

Evidently, if the Sadducees believed in a remote God, and a firm demarcation line between God in his heaven, the living on Earth, and the dead in Sheol, they would have seen no need for angels (messengers of God to humanity). As for spirits (aethereal beings interacting with the living on Earth, including demons that can possess people), these would be impossible. Anything not living was trapped in Sheol.

Secondary Substance

Those thinkers who did not accept that anything extended could not be divided fiercely attacked More's doctrine of extended, indivisible spirits. More himself wrote, "[I]t is objected ... that Extension cannot be imagined without diversity of parts, nor diversity of parts without a possibility of division, or separation of them... from whence it will follow, that Indivisibility is incompatible to a Spirit, which notwithstanding we have added in the Definition thereof."

His reply was the rather unconvincing one that just because we can pictorially imagine splitting something extended, it doesn't mean that it's therefore physically or metaphysically divisible. However, he then produced an ingenious argument like the one Kant and Boscovich were later to make, namely, that the core of the extended spirit body is actually an extensionless punctum (point), which occupies no space and is neither physically nor metaphysically divisible. It projects an extended shell around it "which we may in some sense call Substance, though but Secondary or Emanatory."

More wrote, "Suppose a Point of Light from which rays out a luminous Orb, according to the known principles of Opticks: This Orb of light does very much resemble the nature of a Spirit, which is diffus'd and extended, and yet indivisible. For we'll suppose in this Spirit the Centre of life to be indivisible, and yet to diffuse itself by a kind of circumsrib'd Omnipresency, as the Point of Light is discernible in every point of the Luminous Sphere. And yet supposing the Central lucid Point indivisible, there is nothing divisible in all that Sphere of light. For it is ridiculous to think by any Engine or Art whatsoever to separate the luminous rays from the shining Centre, and keep them apart by themselves."

He added, “But besides that Reason may thus easily apprehend that [extended spirits may be indiscerpible], I shall a little gratifie Imagination, and it may be Reason too, in offering the manner how it is so, in this kind of Spirit we now speak of. … Now it is observable in Light, that it is most vigorous toward its fountain, and fainter by degrees. But we will reduce the matter to one lucid point, which, according to the acknowledged Principles of Opticks, will fill a distance of space with its rays of light: Which rayes may indeed be reverberated back towards their Centre by imposing some opake body, and so this Orb of light contracted; but, according to the Aristotelian hypothesis, it was always accounted impossible that they should be clipt off, or cut from this lucid point, and be kept apart by themselves. Those whom dry Reason will not satisfy, may, if they please, entertain their Phansy with such Representations as this, which may a little ease the anxious importunity of their Mind, when it too eagerly would comprehend the manner of how this Spirit we speak of may be said to be Indiscerpible. For think of any ray of this Orb of light, it does sufficiently set out to the Imagination how Extension and Indiscerpibility may consist together.”

So, we have an “Orb” that “swells out from the Centre of [the] Spirit” and defines the spirit’s “circumbscrib’d Omnipresency”. This Orb is the entity through which the spirit expresses itself in space, through which it manifests its receptivity and activity. It’s the defined region where it both experiences and acts upon things in space. We might call the Orb the spirit’s “sensorium”. In these terms, Newton’s Absolute Space is the spirit body of God’s monadic centre (Singularity) ... the sensorium via which God senses the world and operates upon it (via gravity, and so on).

The Orb, More argued, is as indivisible as the spiritual punctum that emanates it. The Orb, or shell, is merely the region where the punctum exerts its influence. It’s not the actual presence of the spirit but, rather, its “virtual presence”, i.e. a spiritual forcefield, so to speak. More said that the Orb’s extension arises “by gradual Emanation from the First and Primest Essence, which we call the Centre of the Spirit ... we are led from hence to a necessary acknowledgement of perfect Indiscerpibility [metaphysical indivisibility] of parts, though not intellectual Indivisibility … For it implies a contradiction that an Emanative effect should be disjoyned from the originall.”

No one can cut off and remove the heat and light projected by a fire. No one can cut off and remove parts of someone's shadow. No one can cut off and remove the parts of a magnetic field or electric field. In fact, no one can cut off and remove any part of any field. The whole field is ineradicably, mathematically bound together. As More said, "The parts of a Spirit can be no more separable, though they be dilated, than you can cut off the Rayes of the Sun by a pair of Scissors made of pellucid Crystall."

So, "spirits", "ghosts", or shades" were, for More, simple core-points with extended, indivisible bodies made of a light-like substance, which could penetrate matter.

More's spirits were therefore able to occupy physical bodies. When the bodies died, the spirits didn't, and their detached forms might occasionally be glimpsed as "ghosts". Such a view harks right back to the ancients, but now with a much more solid intellectual basis.

With the idea of some sort of extended emanatory field issuing from an unextended simple point, More found a bridge between the separate Cartesian worlds of extension (matter) and non-extension (mind). What he was saying was that unextended minds could project extended forcefields, and these forcefields would then be operating in the same extended world as matter, hence would naturally interact with matter, thus solving the intractable Cartesian mind-body problem of how two completely different substances interact.

Describing Leibniz's position in this context, George MacDonald Ross wrote, "An even more significant aspect of [Leibniz's] theory was its abandonment of the traditional notion that matter was essentially inert. Leibniz saw that if the only function of matter was as a passive carrier of forces, then it had no role to play in scientific explanation. Its only role would be the metaphysical one of satisfying the prejudice that forces must inhere in something more substantial than themselves. He maintained that matter was nothing other than the receptive capacity of things, or their 'passive power', as he called it. Matter just was the capacity to slow other things down, and to be accelerated rather than penetrated (capacities which ghosts and shadows lack) – in other words, inertia or mass, and solidity. So, taking also into account 'active powers' such as kinetic energy, Leibniz reduced matter to a complex of forces. In this he was anticipating modern field theory, which treats material particles as concentrated fields of force –

an anticipation duly recognised by its founder, the Italian mathematician Ruggiero Giuseppe Boscovich (1711 – 87)."

We can bring Leibniz and More into harmony by positing that "matter" is itself just a forcefield projected by point-minds (hence is totally dependent on minds and has no independent reality, such as science claims for it). Matter is merely a passive, resistive, sluggish field, so to speak, which creates the *illusion* of inertia, mass and solidity, while mind is an active field that can move matter (mind over matter ... cosmic telekinesis ... how a person can will his arm to move and it physically does!). Matter has no agency; mind does.

MacDonald Ross additionally wrote, "However, although Leibniz was ahead of his time in aiming at a genuine dynamics, it was this very ambition that prevented him from matching the achievement of his rival Newton. Newton succeeded in producing a comprehensive theory of kinematics precisely because he avoided 'inventing hypotheses' about dynamics, or the powers and mechanisms underlying the kinematics. It was only by simplifying the issues in this way that Newton succeeded in reducing them to manageable proportions."

The problem for both Leibniz and More was that the mathematics they were groping towards hadn't yet been discovered. Now it has – it's Fourier mathematics.

Science has become what it is today because it developed from Newtonian, materialist, *dimensional* mathematics – and had no place at all for mind, except, in Newton's case, as an abstract, divine background that was the implicit explanation of how gravity instantaneously operated across apparently empty space.

When any scientific theory at all is examined, it will always be found that there's some unacknowledged and unrecognised link to mind in it, no more so than in quantum mechanics, which, in truth, is a mental rather than a material theory. Had science developed along Leibnizian lines and "field theory", it would automatically have seized upon Fourier mathematics as the means to explain reality.

Reality is really rather simple. It comprises ontological sinusoidal waves, outside space and time, organised into autonomous, complete and consistent sets called *monads* (= immortal, indestructible minds/souls). These are Fourier frequency domains (eternal, necessary mathematical

singularities). They are the functional units of mathematics as it actually exists in the world (i.e. ontologically as opposed to abstractly).

Sinusoidal waves are elementary *thoughts* (thoughts in themselves). Complex thoughts are built up by adding sinusoids into compound wavefunctions. Any monad's mental activity takes place outside space and time, and is strictly defined by *orthogonal* relations between sine and cosine waves, i.e. they have a phase difference of exactly ninety degrees. However, in the incredibly complex interaction *between* monads, their respective sine and cosine waves (defined by the generalised Euler Formula), enter into *non-orthogonal* phase relations with each other.

Sines and cosines in a strict orthogonal relationship constitute *light*. What you get when non-orthogonal phase relations apply is *broken* light = matter. Broken light gives rise to what we experience as the material, "scientific" world of spacetime ... but it comes entirely from inter-monadic mental activity, and has no reality outside of the interactions of monads.

Leibniz was right all along. "Matter" is simply a force projected by minds. If a photon of light is a coupled pair of matching sine and cosines waves (i.e. one sine wave operating in orthogonal conjunction with one matching cosine wave ... meaning that each wave has exactly the same frequency and amplitude), a "material" particle is a non-matched pair of sine and cosines waves (i.e. one sine wave operating in *non-orthogonal* conjunction with a matched or non-matched cosine wave, meaning that the cosine wave is non-orthogonal to the sine wave, and may also have a different frequency and amplitude).

Henry More argued that there's a category of existence – the "metaphysically indivisible extended" – that acts as the bridge between the "metaphysically indivisible unextended" (mind) and "metaphysically divisible extended" (matter). This does not show how matter is derived from mind, or vice versa, but demonstrates how they might have a commonality. However, if the proposed "metaphysically indivisible extended" category doesn't actually exist then More's solution automatically fails. Equally, it could be argued that the "metaphysically divisible extended" category is bogus, i.e. there's no matter as science typically conceives it, made up of discrete atoms that can be separated from each other. Given that, in quantum physics, all particles are interconnected, it's simply no longer possible to define an isolated, individual atom that can exist independently of everything else.

More was trying to address a mathematical issue using the metaphysics of his day. The real answer he was looking for was that mathematical sinusoids can exist noumenally and dimensionlessly (as light; as pure frequency, pure mind), and also phenomenally and dimensionally (as broken light; as pure spacetime, pure matter). Spacetime and matter are potentialities of frequency and mind. They are implicit in frequency and mind. A wave can be both unextended (frequency) and extended (spacetime), exactly as required to explain Cartesian mind and matter.

Waves are eternal. All waves are physically and metaphysically indivisible. However, the extended spacetime waves of matter have an extraordinary feature not possessed by the unextended frequency waves of mind: they spread out over time and eventually "flatline". This is the true, ontological basis of the scientific "expansion of space". At the flatline stage, the extended waves have, by the laws of Fourier mathematics, actually left spacetime and returned to the unextended frequency Singularity. This is the entire basis of the cyclical universe.

In this context, Roger Penrose said, "The present picture of the universe is that it starts with a Big Bang and it ends with an indefinitely expanding, exponentially expanding, universe where, in the remote future, it cools off and there's nothing much left except photons. Now what I'm saying is that in this remote future the photons have no way of keeping time: they don't have any mass. You need mass to make a clock and you have to have a clock to measure the scale of the universe, so the universe loses track of how big it is. And this very expanded universe becomes equivalent to a Big Bang of another one. So I'm saying that this, what we think about our present universe, is but one eon of a succession of eons, where this remotely expanding universe of each becomes the Big Bang of the next. **So small and big become completely equivalent.**"

What actually happens is that the relentless expansion of spacetime in due course leads to the total – 100% – loss of spacetime energy (the total flatline state). In other words, the expansion of the physical universe causes its death. It culminates in the entire removal of the spacetime universe's energy. That energy hasn't disappeared ontologically, of course. It simply reappears – or is re-expressed – as energy in the frequency domain.

The expansion of the universe literally converts matter into mind ... extended, material waves into unextended, mental waves. This is the

fundamental process driving the birth, growth, decay and death of the universe.

As soon as the spacetime universe dies, it's "reincarnated" via a new Big Bang (where mind is converted into matter; unextended, mental waves into extended, material waves).

When each of us suffers bodily death, our mind takes control of a new physical body via reincarnation, just as, after the Big Bang, the Cosmic Mind takes control of the Cosmic Body (the spacetime universe of matter). *As above, so below*!

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Leibniz made a technical mistake when he said that all extended things are necessarily metaphysically divisible. While this is certainly true of any atomic system of the type that dominated the scientific thinking of Leibniz's day (we can always imagine chopping any classical atom into bits; to contend otherwise is to claim there's some infinite force in nature preventing the division of a physical atom), what about an extended sinusoidal *wave*? We cannot chop this up because any subtraction from it causes it to cease to be a sinusoidal wave. Once a wave, always a wave. We might even refer to a Law of Wave Conservation: an ontological wave can be neither created nor destroyed, only transformed. In particular, due to asymmetric mathematical phase relations, a sinusoidal wave that exists dimensionlessly in the frequency domain can be transformed into a wave that exists dimensionally in spacetime. This is how we can relate non-extension to extension, and also ensure that extension in the spacetime domain is as indivisible as non-extension in the frequency domain, in which all waves originate.

Leibniz on Henry More

"[Mr More] defines body as a substance discerpible into pieces and parts, and impenetrable, and spirit as a substance indiscerpible but penetrable. And he reasons well when he says that one notion is as easy to conceive as the other.

"He assures us that the least parts of matter have some magnitude, otherwise their repetition would not be extended, for a million nothings is nothing. But these parts are nevertheless indivisible. And he says that such are the parts formed when a globe touches a plane, for the repetition of the

touching by motion produces a line. This indivisibility does not stop it from being intellectually divisible. He maintains that there is a certain centre of spirit, which throws some rays from a sphere of activity to the edges, as it were. He says that the parts of indivisibles are essential rather than integral. To my mind that destroys his reasoning, for not being integral they are without extension or distance, and consequently would not make an extended thing. [**MH: Leibniz's point is that if something is essentially dimensionless, you can't then claim that dimensionality is part of its essence. However, if reality is in fact sinusoidal then it has an essential dual-aspect: it has the capacity to be both dimensionless (in the frequency domain) and dimensional (in the spacetime domain), hence its essence is to be unextended, or to project extension, depending on context. In a world capable of producing both mind and matter, the essential ontological unit must be capable of existing both dimensionlessly and dimensionally, and this is exactly true of sinusoids, and of nothing else.**] Moreover, this reasoning appears to me too certain: that extension is not composed of points, because it would be composed of extended nothings. For points are little more than nothings with location. I do not see what connection the understanding and the will have with the notion that our author gives to spirit.

"Matter is not active in itself, he says, because it can be reduced to rest. Spirit can move itself and self-penetrate by a contraction.

"He explains the union of spirit with matter by saying that it is no more difficult than the union of parts of matter among themselves without any cement.

"Angels are beings composed of spirit and body, as are men, beasts and plants. He posits a vegetative soul, a vegetative and sensitive soul, and a vegetative, sensitive and rational soul." – Leibniz

Field Theory

Leibniz was the true founder of field theory. Henry More's contribution was considerable, as was that of the young Kant. Boscovich made it into a proper mathematical (rather than purely metaphysical) theory, based on the Newtonian concept of the long-range action-at-a-distance gravitational forcefield, supplemented by a short-range repulsive field, for which he provided a single, unified mathematical force curve.

All that needs to be done to save science is to change Boscovich's field theory to one based on Fourier mathematics (which didn't exist in Boscovich's day). It really is that simple.

Had they lived to see its advent, Leibniz, More, Kant and Boscovich would all have instantly recognised the astounding power of Fourier mathematics. The tragedy is that so many of today's scientists – blinded by the Newtonian approach to science – encounter Fourier mathematics all of the time, and even use it all of the time, yet never see it for what it is ... the ontological solution to the Cartesian mind-body problem.

It's not enough to come across the Truth, you also have to recognise it *as* the Truth, and that turns out to be the most difficult thing of all. Scientists keep looking in all the wrong places for the answers to existence because they are so brainwashed by Newtonian atomic empiricism and materialism, and are so blind to Leibnizian monadic rationalism and idealism.

The Illusionists

The entire character of today's science flows from the inbuilt bias of sensing types to regard "dimensional" mathematics as real (tangible), and "dimensionless" mathematics as unreal (intangible), i.e. science is what it is purely because of the inability of sensing types to conceive of non-sensory things. Science results from a defect of sensory minds, a deficiency of imagination and intuition, a lack of capacity to contemplate non-sensory things.

Science is the equivalent of a blind man insisting that there's no visible world. The limitation lies with the blind man, not with the world. The fact that scientists can't imagine dimensionless, invisible, non-sensory, intangible things doesn't mean that they don't exist, yet science acts as if their non-existence has been definitively established ... for no other reason than that scientists are inherently unable to consider such things!

It's as impossible for strong sensing types to imagine non-sensory things as it is for blind people to see. Just as the sighted wouldn't let the blind construct a science based on not being able to see, nor should intuitives allow science to be predicated on sensory things. Intuition is the *opposite* of sensing. It's non-local, not local, and doesn't use any physical sense organs at all.

Science has been hijacked by a semi-autistic cult with defective brains that prevent them from regarding anything non-sensory as real. At the very least, there should be two types of science, one for sensing types, and one for non-sensing types.

Scientists reject complex numbers, not because complex numbers have no ontological reality, but because they themselves can't attach any sensory meaning and significance to them. The same goes for zero and infinity ... sensory scientists just can't conceive of them ontologically. As ever, the problem lies with them, not with reality. Reality is mathematical whether defective sensing types like it or not. Why should the world be held back by the dimensionlessly "blind" – those devoid of intuition? We have to overcome this strange sect.

Intuitives have no difficulty imagining a non-material reality. Sensing types find it impossible, and science is what they have constructed to reflect their sensory mania. Naturally, non-sensory things play no part in their schema. Above all, they scoff at the "soul" ... the supreme non-sensory entity.

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If you accept that energy can be neither created nor destroyed (hence is eternal) then the energy that constitutes your essence has existed forever, and can never be annihilated. The "soul" is simply this essential energy of yours: your dimensionless, immaterial, monadic, frequency energy, outside space and time.

There's nothing at all mysterious or bizarre about the soul ... it's simply an autonomous Fourier frequency singularity.

If the Law of Conservation of Energy is true – which it is – the soul's existence is guaranteed. Yet there's no place, and never can be a place, for the soul in sensory science. That's exactly why we must transcend this limited, narrow, dumbed-down science and go beyond the observable, sensory world to the rational, logical, intelligible world of intuition, reason and math.

Ultimate Atoms

Are the ultimate atoms of existence material or mental? That's all you have to decide. Science says that the ultimate atoms are extended. Ontological mathematics says that they are unextended. If you accept the existence of

monads, you can no longer buy into the scientific Mythos. Unseen monads exist at the root of all visible processes.

Energy

"Leibniz criticised Descartes for failing to see that motion had to be grounded in energy. Applied to his own theory, this led him to the conclusion that it was energy that existed at a point and constituted the essence of matter. Other thinkers saw motion or energy as something extra, added to the world after it had already been created (like a clock wound up by its maker). For Leibniz, the world consisted of nothing but point-particles of energy permanently expressed in motion. [**MH: In modern Illuminism, monadic point-particles consist of nothing but complete and consistent sets of mathematical sinusoids in permanent motion ... there is no "matter", as scientists conceive it.**] This energy was the source not only of the activities of physical objects (in particular, kinetic energy), but also of their passive aspect, or matter itself, which just was the energy to resist penetration or acceleration, and to react to applied forces. [**MH: In modern Illuminism, 'matter' is what you get when dimensionless, frequency sinusoids are expressed as dimensional, spacetime sinusoids.**]

"In short, Leibniz's way out of the labyrinth of the composition of the continuum was to see the world of continuously extended matter as secondary and derivative. He realised that he could not explain matter and space without circularity, unless he derived them from beings of a different category. [**MH: Science is all about 'explaining' everything circularly: there is no necessary, eternal ground in science, nothing on which everything else stands.**] His infinity of energy-points fitted the bill nicely, since they were themselves neither material, nor, strictly speaking, even spatial. [**MH: Monads are frequency energy-points outside spacetime which, via Fourier mathematics, can generate spacetime matter.**]" – George MacDonald Ross

The only significant difference between modern Illuminism and Leibnizian Illuminism is that Leibniz's monadic point-particles are now defined to be comprised of dimensionless sinusoidal waves, existing outside space and time. What are sinusoids? They are ontological energy, i.e. energy as it exists in itself.

Ironically, modern science reflects the same change that Illuminism has made. The physical point-particles of the standard model of physics are, in string theory, replaced by *strings* – energy vibrations that are remarkably like a clunky variation of analytic sinusoids (which could themselves easily be described as vibrating "strings").

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Science has no formal definition of energy. It can't tell you what energy is in itself. J. R. Brown and P. C. W. Davies wrote, in *The Ghost in the Atom*, "Energy is a purely abstract quantity, introduced into physics as a useful model with which we can short-cut complex calculations. You cannot see or touch energy, yet the word is now so much part of daily conversation that people think of energy as a tangible entity with an existence of its own. In reality, energy is merely part of a set of mathematical relationships that connect together observations of mechanical processes in a simple way. What Bohr's philosophy suggests is that words like *electron*, *photon* or *atom* should be regarded in the same way – as useful models that consolidate in our imagination what is actually only a set of mathematical relations connecting observations."

Isn't it astounding that science is all about energy, yet science can't say what energy actually is?! In science, energy is an unreal, mathematical abstraction, exactly like the wavefunction that defines quantum mechanics. Why is it that everything in science comes back to "mathematical relations", and "unreal" mathematical "abstractions"?

Hasn't the penny dropped? It's math that's the true reality. Math underpins science. There's nothing unreal or abstract about math: it's the fundamental ontological ground of reality, which is exactly why science has to use math in order to work. Without math, science would be religion.

There are no such things as "atoms". "Atom" is just a label attached to a mathematical function. Science is nothing but a set of heuristic fictions, and a set of arbitrary labels attached to different kinds of mathematical functions. Science is the systematic sensory misinterpretation of rational mathematics. Where Abrahamism reifies math – perfect, eternal, immutable, necessary and indestructible – as "God", science reifies math as temporal, contingent atoms, subatomic particles and "forces". We can end this absurdity, this distortion of reality, by ditching science and embracing ontological mathematics, the *true* basis of reality. Only analytic math can

define reality. Without math, you can have no complete and consistent ontology and epistemology, hence no genuine *knowledge* ... and no solution to existence.

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Science has confused the model for the reality it models. Science thinks that *The Matrix* is reality, rather than that which *conceals* reality. In science, the map replaces the territory. The simulacrum – the inferior copy of reality – is regarded *as* reality. The phenomenon is taken to be the thing in itself (noumenon) rather than the *appearance* of the noumenon.

Science is a simulation of reality that takes its simulation to be reality. Science is the biggest obstacle to ultimate truth you could possibly get since it cloaks itself in math (the truth!), while relentlessly distorting math. Science is exactly what you get when people place their senses, experiences, observations and experiences (i.e. empiricism) over their reason, logic and intellect (i.e. rationalism). It's what you get when people respond only to Content and ignore Form, when they are obsessed with the information carried, but not with the information carrier.

Science is a supremely irrational, illogical and anti-intellectual subject. Science is what you turn to when you can't grasp that math is real, and which you then treat as a magical, unreal abstraction.

Ultimate Existence

We have produced the ultimate reductive theory of existence. You cannot reduce reality to anything more fundamental than analytic sinusoidal waves (= pure ontological mathematics). Sinusoidal waves, when their sine and cosine components are perfectly matched, constitute "light" – and are massless and outside space and time. They belong exclusively to the Fourier frequency domain. When sines and cosines are *not* perfectly matched, they leave the light and enter the "darkness" – the material world of space and time.

In ancient Gnosticism, the kingdom of light was ruled by the True God, while the kingdom of darkness (the material world) was ruled by the False God. The material world, as we are told in the Bible, was created by the Abrahamic God, who therefore equals the Demiurge (= the Prince of

Darkness = the Lord of the Flies = the Impostor God). Abrahamists are literally Devil worshippers!

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Sinusoids – defined by the God Equation – are the basis of both mind and matter. When sinusoids are arranged as light, they constitute mind in the domain of frequency. When they are arranged as "broken" light, they constitute matter in the domain of spacetime. What could be simpler?

Ontological mathematics is simplest in hypothesis, and most fruitful in phenomena, exactly as Leibniz demanded of the best of all possible worlds. In fact, reality could never be based on anything other than the simplest possible law, since there's no sufficient reason for any law more complex than is necessary. Reality is as economic as possible. It reflects Occam's Razor.

The answer to existence is the mathematical law that is complete, consistent and as simple as possible in order to achieve that completeness and consistency. That law is eternal and necessary. It's the God Equation.

Thought

Only Illuminism has ontologically defined a thought in itself: *a thought is a sinusoidal wave*. The wave (thought) has both Form and Content. Its Form is its rational, mathematical aspect, while its Content is how that sinusoid is subjectively experienced by a mind. The thought is experienced as anything other than Form. That's why humanity has been caught between two clashing philosophies: rationalism and empiricism. Rationalism is about Form while empiricism is about Content.

Science is a hybrid system – a muddled compromise – that relies on empirical observations matched to rational mathematical functions. This is a trial-and-error system, entirely lacking in analytic necessity. Therefore, science, for all of its apparent success in describing the observable world of appearances, is 100% useless in telling us about ultimate reality: the noumenal world *beyond* appearances.

You cannot base the meaning of life on science since it tells you *zero* about what reality actually is. Above all, it doesn't tell you what mind, life and consciousness are – the things most fundamental to any human being, and the things that define the meaning and purpose of our existence. Science, of course, denies that existence has any meaning or purpose.

Puncta

Kant, in the *Physical Monadology* (1756) and Boscovich in the *Theory of Natural Philosophy* (1758) echoed Henry More's notion of extended force-shell atoms, each radiating from an unextended core punctum, but they regarded these atoms as physical rather than spiritual.

There's no evidence that Kant and Boscovich knew of each other's work on "physical" monads, but their respective systems were strikingly similar. For both, any material body comprised a finite number of these force-shell atoms, each occupying a region of space with its sphere of resistant force. To account for Newtonian gravitational attraction between material bodies, the puncta also reflected an attractive force.

This raised an unfortunate tension. How could something be both attractive and repulsive at the same time? Modern physics gets round this problem by appealing to concepts such as charge, e.g. positive protons and negative electrons. Things with the same type of charge repel and those with the opposite type of charge attract. Within a positive nucleus, the "strong nuclear force" keeps the nucleus together despite the fact that many positive protons may be crowded together in the same nucleus.

Gravity operates between all matter. Einstein characterised this in terms of the way the presence of matter distorts spacetime (i.e. its geometrical effects). In quantum theory, gravity has also been hypothesized to be mediated by force particles called gravitons.

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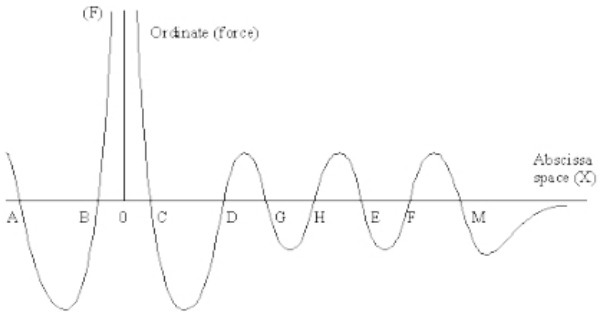
Brian Greene wrote, "...the standard model [of physics] views the elementary constituents of the universe as pointlike ingredients with no internal structure ... all matter particles and all force particles [are] pointlike objects with literally no spatial extent." So, modern physics is just a more elaborate version of Kant and Boscovich's theory. However, since Kant and Boscovich both retained scope for mental atoms in their system, it raises the question of why science so resolutely and dogmatically refuses to consider mental particles too. This is even more astonishing given that massless, dimensionless photons seem much more mental than physical! Ideologically, scientists just can't free themselves from their materialist prejudices and empiricist faith.

In Kant's version of the point-atom model, his puncta projected two separate forces: a short-range repulsive one that falls off rapidly with increasing distance between particles, and a long-range attractive one that fades away more gently as distance increases, reflecting Newton's inverse square law of gravitation.

At a certain distance, particles repel each other. At a further distance, they attract each other. Therefore, a distance must exist – effectively the boundary of the force-shell atom – where adjacent atoms will be in stable equilibrium with one another, neither attracting nor repelling.

In Boscovich's system, there is only one force, which is sometimes repulsive and sometimes attractive, as shown in Boscovich's famous force diagram (where repulsive force is positive and attractive force negative):



In Kant's system, there are two different forces (repulsion and attraction) overlaid over each other. In Boscovich's, there is one force with two different aspects (repulsion and attraction). In the end, it doesn't make a great deal difference to the outcome, except it's much harder to understand ontologically why the force should wildly oscillate between attraction and repulsion in the manner depicted by Boscovich. (According to Boscovich, repulsion is simply "negative attraction", but that still begs the question.)

One marked difference is that Kant's atoms have only one boundary, whereas the oscillations in Boscovich's system lead to a series of shells. This has the effect of allowing Boscovich's atoms to have more complex interactions, and, hopefully, to better explain the complex range of chemical elements and compounds. (It also provides a superficial resemblance to the electron shells of modern atoms.)

The Kant-Boscovich system departs radically from the old notion of physical corpuscles or atoms mechanically colliding with each other. With the new system, action-at-a-distance causation replaces direct-contact causation. With the latter, cause and effect appears evident: one thing

collides with another thing, and the other thing does something predictable as a result, as in a game of pool where the balls move according to obvious collisions. With forces operating remotely, however, it's hard to have any real intuition of what is causing what. Imagine a pool game without a cue ball ... where the balls move according to unseen forces!

Consider mind-matter causation. Imagine mind as something that exerts a force from the frequency domain (outside space and time) on matter (in space and time). In this kind of causation, there's nothing to see, to perceive, so, for many scientists, they simply deny that any such causation is happening at all, i.e. if they can't see it, they can't conceive it, hence it can't be real. That's how difficult it is to get to grips with action-at-a-distance causation. A scientist will conclude that something in space and time (the brain) is causing all mental activity, and deny that there's any non-physical mind acting from outside space and time.

Einstein thought that quantum mechanics exhibited "spooky" action-at-a-distance behaviour, and thus must be false. In many ways, his entire way of thinking was designed to eliminate this possibility. Leibniz was also hostile to action-at-a-distance, seeing it, as Einstein subsequently did, as a kind of voodoo.

In fact, the oddity doesn't concern action-at-a-distance *across space and time*. As Einstein argued, fields operate via physical transmission through spacetime, never exceeding light speed, hence are actually exhibiting a type of direct contact after all (nothing happens until the fields arrive and make contact: they don't operate instantaneously across empty space as Newton claimed). The aspect that causes the authentic mystery is the interaction of mind in the frequency domain with matter in the spacetime domain. It can't validly be called "action-at-a-distance" since the frequency domain isn't in spacetime at all. It might be labelled "action-across-domains". This can't be physically detected in any way, so science automatically rejects it.

Since mind isn't in spacetime, it can do things *instantaneously* with respect to spacetime, as in various quantum phenomena such as entanglement and universal wavefunction collapse – exactly the things that horrified Einstein.

When you will your arm to move, that action does not originate in spacetime. It comes from the frequency domain, and is then transmitted, via the mind-matter bridge of Fourier mathematics, to the spacetime domain, where the action is actually performed.

According to materialists, the famous (and controversial) Libet experiments show that our bodies commence an action before we have consciously decided to perform the action, thus calling into question free will. However, this interpretation can immediately be challenged by asserting that the decision first freely takes place in the unconscious mind, *outside space and time*, and is then communicated to the body to perform ... and consciousness then retrospectively claims responsibility for the action. In order for us not to seem to have two distinct minds (conscious and unconscious) – which would be akin to suffering from multiple personality syndrome – consciousness has to rationalise all acts performed by the unconscious and *retroactively* sanction them.

So, in this view, the Libet process does not attack free will in any way. What it does is attack the materialist denial of the existence of mind outside space and time! However, materialists dismiss the existence of autonomous mind from the get-go, hence are forced to interpret the experiment in materialist terms, and that inevitably leads to the claim that mental free will is an illusion, and the material body is the author of all our actions, with "consciousness" being a redundant epiphenomenon.

The materialist interpretation of the Libet experiment is a classic example of the post hoc ergo propter hoc logical fallacy ["Latin: 'after this, therefore because of this' ... that states 'Since event Y followed event X, event Y must have been caused by event X.'" – Wikipedia] In fact, the whole of science reflects this fallacy! False causation is applied on the basis of the observed spacetime sequence of events, while no reference is made to unobserved events ... such as those pertaining to the mind/soul operating outside of space and time.

Never forget that regardless of what interpretation materialists place on *anything*, that interpretation can automatically be reinterpreted in mental rather than physical terms.

Science continuously begs the question. It assumes the correctness of materialism in the materialist interpretations if offers. By definition, it has no scope for invoking non-materialist factors. However, that doesn't mean that they don't exist!

Materialists never disprove non-material mechanisms. They simply don't consider them at all. They provide a materialist interpretation and then say, "Look, we have 'explained' something in materialist terms, so materialism is correct!" Clearly, all "explanations" provided by materialists

reflect materialism. The issue is whether these explanations are plausible, valid, logical, rational, and reflect a consistent and complete ontology and epistemology.

Religions can "explain" anything at all by invoking the "Will of God". That doesn't make it a convincing or credible explanation. The mere fact that you have proposed an "explanation" according to your schema doesn't make it a true explanation. Science, like religion, has never grasped this.

What's more likely – that we have purposeful minds that take free decisions, or that lifeless, mindless, purposeless lumps of matter take our decisions for us and we have no free will? Science declares the latter view the valid one. Since it denies the existence of mind, science has no alternative but to "explain" reality in bizarre ways. It proudly proclaims that, before an observation takes place, Schrödinger's cat is simultaneously alive, dead and in living-dead mixed states (!). All across the world, this deranged fantasy is taught as scientific fact reflecting the true operations of reality. In fact, it has nothing to do with reality. All it does is reflect the materialist, empiricist schema used to devise it. As soon as you give Schrödinger's cat an eternal monadic mind/soul outside space and time, the materialist claim collapses: the cat's body is either alive or dead, either still under the control of its soul, or not. The cat's soul itself can never be dead.

Science can never refer to a mind or soul, so *all* of its "explanations" have to be constructed according to the doctrine that everything derives from lifeless, mindless "stuff". If your model of reality is based on non-life – on life being some bizarre, emergent epiphenomenon of lifelessness – there's nothing to stop you talking about life and death as just two statistical "states" of matter, with no fundamental ontological difference. If, however, you accept mind and life as fundamental, eternal aspects of reality, you can't then go around treating life and death as mere contingent states of something else (which has no inherent life).

Science at no time justifies its model of reality. It provides no ontology and epistemology. It never responds to its critics. At all times, it subjects the world to its crazy materialist interpretations and "explanations", while never revealing what assumptions – extremely dubious ones! – these rely on. It pretends that it's dealing with objective, unarguable, logical "facts" when, actually, it's imposing on the world its lunatic Mythos, which has zero connection with reality.

Science gives no voice to anyone who disagrees with materialism and empiricism. It never accepts any models, interpretations or explanations that contradict materialism and empiricism. All of its statements are processed through the same materialistic filter. There's no diversity of opinion.

Science, like any religion, is a rigid orthodoxy, reflecting total groupthink. All scientific heretics, blasphemers, infidels and freethinkers are hissed off the stage. Science is a Church with an inflexible dogmatism and ideology. It's every bit as fraudulent, fanatical and closed-minded as any religion. Literally every claim made by science is false at the ultimate level.

The models science uses are successful only insofar as they deploy mathematics. Given that mathematics is reality, mathematical models, even bad ones, can't help but approximately reflect observable reality, especially if they have been designed with exactly this criterion in mind.

Our primary task is not to attack the mathematics used by science (although there's no doubt that the mathematics of science could be far superior and enormously more analytic), but, rather, to overthrow the materialist, empiricist, positivist Meta Paradigm – science's unstated and unproved *philosophy* – through which science dogmatically and ideologically views, interprets, and utilises mathematics.

Science subscribes to a bogus, false philosophy. It systematically distorts the meaning and ontology of mathematics. Mathematics is what gives science all of its power. It's time ontological mathematics simply replaced science. Then humanity will at last be dealing with the Truth-in-itself, free from all interpretation, error, delusion, wishful thinking and faith ... free from the senses (science), the feelings (Abrahamism) and mystical intuitions (Eastern and New Age religion).

Science, predicated on ontological mathematics rather than on the false philosophy of materialism, empiricism and positivism, will become infinitely more powerful. We will be able to establish *the Science of the Gods*.

The scientific materialists are now an enormous obstacle to human progress. They have taken over from the religious fanatics as the ones holding back human evolution and the construction of paradise on earth.

Gravity = God?

Although Newton's force of gravity seemed to operate magically and instantaneously across empty space, Newton himself wanted to find some medium to transmit the force, either a subtle aether or the even more subtle Will of God, operating through the divine sensorium, or God's spiritual body.

To deny simple action-at-a-distance (the position attributed to him), Newton explicitly wrote, "That Gravity should be innate, inherent and essential to Matter, so that one Body may act upon another at a Distance thro' a Vacuum, without the Mediation of any thing else, by and through which their Action and Force may be conveyed from one to another, is to me so great an Absurdity, that I believe no Man who has in philosophical Matters a competent Faculty of thinking, can ever fall into it."

Newton's great supporter Samuel Clarke echoed him: "That one body should attract another without any intermediate influence, is indeed not a miracle, but a contradiction: for 'tis supposing something to act where it is not." Despite this, Newtonian physics proceeded exactly as if gravity acted instantaneously across a void (i.e. it reflected the simplest possible mathematical model) since any additional assumptions would drag it into a philosophical and ontological minefield ... of exactly the kind that Leibniz operated in, and which prevented him from producing simple, successful formulae such as Newton's.

In the Kant–Boscovich model, true action-at-a-distance across completely empty space is exactly what is defended. This is untenable since there's nothing carrying the force other than the diktat of Kant and Boscovich.

In ontological mathematics, absolutely everything is transmitted by dimensionless or dimensional sinusoids (depending on context), and direct contact is always involved, although this may involve the contact between sinusoids outside space and time with those inside space and time.

Everything is about waves and their combinations. There's nothing external to this system. Dimensionless waves carry frequency, and dimensional waves carry space and time (in relation to their counterparts in the frequency Singularity), i.e. space and time do not exist except as properties of dimensional waves moving with respect to the frequency Singularity. There's no such thing as a vacuum. Where dimensional waves are absent, dimensionless waves are always present (in the frequency domain). The whole system constitutes a plenum, a fullness. Waves are the

beginning and end of the story. Math waves are the ontological foundations of existence. They are the unseen fabric that supports everything else.

The Cult

Science is a bizarre, irrational cult of "matter" – a hypothetical substance whose existence has never been proved, and which is accepted purely as an article of quasi-religious faith. Above all, this materialist religion opposes the existence of real, autonomous mind, and it does so with a fanaticism rivalling the Devil's hatred of God. Free will, mind, consciousness, meaning, purpose and even life itself are all effectively denied as real things by scientific materialists. Life, for example, is regarded as nothing but an "emergent phenomenon" of inert, dead things, i.e. it doesn't exist in its own right as an inherent feature of existence.

Science is a sensory cult, and it's no great improvement over the hysterical, emotional cult of mainstream religion. It can at least offer sensory "evidence", while religion can't offer any evidence at all, just stories.

Science has nothing to do with reason and logic. It relies on no analytic, rational, logical principles. Science does not put the principle of sufficient reason at its core, hence is formally opposed to reason. Any scientist seeking to justify why the principle of sufficient reason is not the foundational principle of science has ipso facto engaged in an attack on the validity of the principle, hence is on the side of the principle of *no sufficient reason*. Indeed, the whole of science is predicated on random miracles happening for no reason, even to the extent of a whole universe (or even infinite universes) jumping out of non-existence for no reason, via no mechanism. Only irrationalist sensing types are attracted to this odd, illogical cult.

If you remove the cult of matter from science – the need to interpret everything in material, sensory terms – what's left? ... *mathematics*! Why can't people accept that the world is nothing but mathematical information, and we are interpreters of this mathematical information? We *interpret* math in sensory, emotional and intuitive terms, but behind the interpretation is nothing but pure math.

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Things aren't "solid". You *interpret* them as solid, which is an entirely different thing. You will never understand reality if you can't grasp that the interpretation of information isn't the same as the information itself, that the interpretation of the information carried is different from the information carrier, that the appearance of the thing-in-itself isn't the thing-in-itself. As Terence McKenna said, "The real tension is not between matter and spirit, or time and space, the real tension is between information and nonsense."

Science has failed to comprehend any of this. It's a simplistic, childish ideology of "direct representation" (i.e. what seems to be there is exactly what's there; seeing is believing; appearances are reality; what can't be directly represented can't exist).

Science is for pedestrian, second-rate thinkers, too unimaginative, too irrational, to get beyond their sensory prejudices and schemas. Their horror of going beyond the observational "evidence" (i.e. interpretation; phenomenon; appearance) to the unobserved Truth (noumenon = thing-in-itself; pure reason; pure logic; pure intelligibility; pure math) is what destroys their ability to address ultimate reality.

The Cult of the Senses, the Church of Matter, can, by definition, never reveal the non-sensory, immaterial Truth. That's a fact.

Unless you believe that ultimate reality is made of material, solid, dimensional, sensory things (an impossibility if it's true that the Big Bang originated in a Singularity) and is all about appearances (and not things in themselves), you must reject science ... or you are as irrational and illogical as scientists themselves.

If you agree with science, go ahead and define its ontology and epistemology. Address its opponents and their myriad criticisms. Define what matter is. Define what the senses are. Define what the mind is. Define what thinking is. Define what consciousness is. Define what life is. Define where the universe came from. Define the state that preceded the Big Bang. Define light. Define energy. If you can't, you're just another person of faith, opposed to reason and logic. You don't have the vaguest idea what you're talking about, and you have bought into a Mythos – a religion – with no rational basis at all.

There's only one answer to existence – math. Mathematics is the only thing that can define a consistent and complete ontology and epistemology. Only mathematics is eternal and necessary. Only mathematics reflects the principle of sufficient reason. Only mathematics is consistent with exact

conservation laws. Only mathematics enshrines logic. Only math can furnish analytic definitions. Only math can exist, ontologically, as an immaterial Singularity, outside space and time.

It's math or nothing. Everything else is moonshine, faith, conjecture, hypothesis, opinion and interpretation. One belief is as good as another. They are all equally foolish, and the answer to nothing at all, other than self-serving delusion.

Scientists believe the Matrix is real. They have all swallowed the blue pill, and scorn the very existence of the red pill. They will never be standing shoulder to shoulder with Morpheus, Trinity and Neo. They will never be fighting for the Truth.

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The blue pill stands for matter, space and time; the red pill for immaterial frequency, outside space and time, the domain of the mind/soul. To take the red pill means to escape from materialism and to get in touch with your essential self – your indestructible, immortal soul.

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"You take the blue pill, the story ends. You wake up in your bed and believe whatever you want to believe. You take the red pill, you stay in wonderland, and I show you how deep the rabbit hole goes." – Morpheus, *The Matrix*

The Rabbit Hole

The rabbit hole goes all the way to the eternal mathematical Singularity, and the hologram it projects. Science interprets the hologram as reality. It has no idea that the hologram originates in the World Soul ... in "God"!

Scientists have always failed to understand Plato's Allegory of the Cave. They're so philosophically illiterate and ignorant that most of them have never even heard of it. Scientists are amazingly badly educated, and have an exceptionally narrow, limited, over-specialised, fanatical outlook on life ... just like all people of irrational faith.

It would be impossible for any of the world's top scientists to write anything like the *God Series*. It's way beyond their abilities and imagination.

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The Cosmic Hologram is an emanation of the Cosmic Singularity. Neoplatonism is the ultimate system of emanation: the One (Singularity) emanates the Nous (Mind), the Nous emanates the Psyche (Soul), and the Psyche emanates the World. Neoplatonism is far more rational and intellectual than scientific materialism.

Emanatory Substance

Where Henry More regarded the force shell around the core punctum as a "Secondary or Emanatory Substance", Kant denied that it was a substance at all. For Kant, the core punctum – the monad – was a "simple substance" but its shell was an "accident" of the substance.

For both Kant and Boscovich, the monadic points were the substances, and the forcefields they generated were properties they exhibited. For More, the monadic points were primary substances and their forcefields secondary substances.

Dynamism

"Dynamism is a general name for a group of philosophical views concerning the nature of matter. However different they may be in other respects, all these views agree in making matter consist essentially of simple and indivisible units, substances, or forces. Dynamism is sometimes used to denote systems that admit not only matter and extension, but also determinations, tendencies, and forces intrinsic and essential to matter. More properly, however, it means exclusive systems that do away with the dualism of matter and force by reducing the former to the latter. This is evident in the classical formulation of Leibniz." – Wikipedia

In ontological mathematics, everything reduces to the fundamental units of dynamism – sinusoidal waves – which express themselves both dimensionlessly (mentally, in the frequency domain), and dimensionally (materially, in the spacetime domain). Since sinusoids are not material things, they can be regarded as pure forces – forces in themselves – exactly as required by Leibniz.

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“In the opening paragraph of *Specimen dynamicum* (1692), Leibniz begins by clarifying his intention to supersede the Cartesian account of corporeal substance by asserting the priority of force over extension. ... This allows him to affirm that the Aristotelian principle of form is needed for the philosophical account of nature. He does this in view of four main facets of his doctrine of force: (1) the characterization of force (*vis naturae*) as that which is constitutive of substance itself; (2) the concern to sharply distinguish this concept of force from the Scholastic notion of *potentia*; (3) the correlative interpretation of force in terms of *conatus* or *nisus*, i.e., as something between mere potency and completed act; and (4) the affirmation of the fundamental correctness of Aristotle’s own concept of form as entelechy, and Leibniz’s corresponding attempt to make this concept fully intelligible.

“By superseding the Cartesian concept of corporeal substance and by advocating the Aristotelian principle of form, Leibniz sets the stage for an interpretation of material being in terms different from those of inert matter and externally communicated motion. Leibniz thus retains what he takes to be the rational core of the Aristotelian conception of substance. In effect, Leibniz’s theory of force involves the rehabilitation and reconstruction of the matter-form composite as the pivotal concept of the metaphysics of corporeal nature. Leibniz’s concern to revive the Aristotelian explanatory scheme by means of the concept of substantial force underlies his description of the structural and material features of the aggregation of monads and corporeal interaction. He holds that the following four ontological expressions of substantial force constitute the nature of a complete corporeal substance and supply the grounds of all corporeal interaction: primitive active force, primitive passive force, derivative active force, and derivative passive force.

“The analysis of primitive active force (*vis activa primitiva*) yields the fundamental metaphysical principle that substance perdures through all processes of phenomenally manifested corporeal interaction. Primitive active force thus furnishes the basis of the identity of any particular body through the alterations that it undergoes as the result of its interactions with other bodies. It also provides for the continuity and conservation of action within corporeal nature as a whole. Primitive passive force (*vis passiva primitiva*) is the ground of corporeal extension, by which a body appears as material mass. The passive capacity demonstrated by any body to resist

changes in its state of motion and to hinder penetration by other bodies is also explained in terms of primitive passive force. Derivative active force (*vis activa derivativa*) results from the modification or limitation of primitive force, a limitation that takes the form of the phenomenally manifested conflict of physical bodies. Derivative active force is subject to distribution by virtue of this conflict. It therefore does not perdure in any single body during the course of its interaction with other corporeal substances. Since it is comprehensible as the internal action generated within a body when this is, phenomenally speaking, acted upon by some other body or bodies, derivative active force allows us to explain how bodies have the capacity to resist actively penetration and changes in their states of motion. Derivative passive force (*vis passiva derivativa*) is the purely quantitative modification of primitive passive force. We know it in terms of the measures of any material mass's resistance to penetration and change in its state of motion.

"Leibniz insists that primitive force pertains solely to completely general causes. As a strictly metaphysical principle, it is the object of purely rational apprehension. It is thus not linked immediately to the actual laws of corporeal interaction in the phenomenal realm. On the other hand, derivative force does pertain directly to such observable interaction. Its analysis leads to the systematic formulation of the fundamental laws of corporeal dynamics. These are laws of action that are known not only by reason, but are also proved by the evidence of the senses." – Jeffrey Edwards, *Leibniz's Aristotelian Dynamism and the Idea of a Transition from Metaphysics to Corporeal Nature*

"Every body always acts on account of its *form* and ... every body is always acted upon and resists on account of its *matter*." – Leibniz

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Newton believed in inert matter and externally communicated motion. Matter, on its own, would do absolutely nothing. Motion has to be imparted to it, and "God" is the ultimate Prime Mover to whom Newton looked to explain the existence of motion. For Leibniz, motion is built in to every monad, i.e. motion arises internally, not externally, hence no "God" is formally required. Modern science claims that motion miraculously and randomly erupts from non-existence!

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Leibniz's theory of force reflects Aristotelian hylomorphism where all things are matter-form composites. In modern Illuminism, all things are mathematical Form-Content composites. An individual sinusoid has rational Form and empirical Content. An individual sinusoid also reflects something Aristotle didn't consider: it can exist dimensionlessly (mentally) or dimensionally (materially). It's both the Form-Content and dimensionless-dimensional properties of sinusoids that give us the world we actually experience. Dimensional Form-Content and dimensionless Form-Content must both be taken into account. The former is the basis of our external, objective material experiences, and the latter the basis of our internal, subjective mental experiences.

Where Leibniz referred to primary force (form) and primary matter, and derivative force (form) and derivative matter, modern Illuminism refers to dimensionless Form and dimensionless Content, and dimensional Form and dimensional Content. The former relate to the frequency domain of mind, and the latter to the material domain of spacetime.

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In Leibniz's system, primary force and matter relate to a monad itself (as noumenon), whereas derivative force and matter relate to the phenomenal interactions of monads. In modern Illuminism, primary (dimensionless) Form and Content relate to a monad itself, whereas derivative (dimensional) Form and Content relate to the interactions of monads, i.e. the former is about the individual monad, and the latter about the Monadic Collective.

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"Force" is mathematical Form; specifically the Form of sinusoids (in terms of their frequency, wavelength, amplitude and speed). Frequency is the fundamental measure of the wave's inherent energy.

Intelligible versus Sensible

Leibniz carried forward the Platonic agenda of differentiating between the intelligible (metaphysical) and the sensible (physical). You *cannot* understand reality unless you acknowledge an intelligible underpinning to

the sensible world, a metaphysical underpinning to the physical world. Science refuses to accept this logic, yet nevertheless smuggles it in by underpinning an empirical – experimental, observational – model with rationalist mathematics that has no connection at all with experiments or observations.

Where Leibniz saw the need to fully explain his system, science sees no need whatsoever to explain its system. It just goes ahead with guesses and ad hoc tactics, none of which form any kind of coherent, interlocking system. That's why quantum mechanics and relativity theory are incompatible. They apply totally different assumptions and guesses.

Science can't even explain why it uses math, and what math is. That's how deficient and defective it is. It grandiosely purports to explain reality to us, while it can't even explain itself. Any viable system of explanation must first explain itself. Otherwise it's simply begging the question. Why is religion so absurd? ... because it starts with an inexplicable God and then attempts to explain everything with regard to this inexplicable entity, which means it hasn't explained anything at all. Equally, science uses math to define its laws, yet science has no idea what math is and how math can in any way tell us about reality if, as science claims, reality is not mathematical.

The Big Bang

"The Big Bang singularity is the most serious problem of general relativity because the laws of physics appear to break down there." – Ahmed Farag Ali

The laws of physics do indeed break down at the Singularity, but not the laws of ontological mathematics, which in fact come into their own. Sir James Jeans wrote, "The stream of knowledge is heading toward a non-mechanical reality; the universe begins to look more like a great thought than like a great machine. Mind no longer appears to be an accidental intruder into the realm of matter. We ought rather hail it as the creator and governor of the realm of matter."

The Big Bang was a mental, not physical, event; mathematical, not scientific. It was an *emanatory* process, a *projection* of a pre-existent reality, not an eruption out of nothing, not a Creation event ... as Abrahamism and science both ludicrously claim.

Monad

Monad: For Leibniz, a simple, unextended, indivisible, indestructible, entity that is the basic or ultimate constituent of the universe or reality, and a microcosm of it; an ultimate unit of being. Leibnizian monads have no spatial extension. Leibniz viewed spatial extension as illusory. For Giordano Bruno, a monad is a basic and irreducible metaphysical unit that is spatially individuated when it's a "physical" monad, and psychically individuated when it's a "mental" monad. It has an autonomous life and its own agency (i.e. capacity to act for its own reasons).

"*Monad*, (from Greek *monas* 'unit'), an elementary individual substance that reflects the order of the world and from which material properties are derived. The term was first used by the Pythagoreans as the name of the beginning number of a series, from which all following numbers derived. Giordano Bruno in *De Monade, Numero et Figura Liber* (1591; '*On the Monad, Number, and Figure*') described three fundamental types: God, souls, and atoms. The idea of monads was popularized by Gottfried Wilhelm Leibniz in *Monadologia* (1714). In Leibniz's system of metaphysics, monads are basic substances that make up the universe but lack spatial extension and hence are immaterial. Each monad is a unique, indestructible, dynamic, soullike entity whose properties are a function of its perceptions and appetites. Monads have no true causal relation with other monads, but all are perfectly synchronized with each other by God in a pre-established harmony. The objects of the material world are simply appearances of collections of monads." –

http://www.britannica.com/EBchecked/topic/388771/monad

For the Pythagoreans, the Monad – the One – was "God", the Source of All. The Pythagorean system was of course all about numbers – "All things are numbers; number rules all." The Monad was the first number, the beginning of numbers, the ultimate controller of numbers, hence the basis of (mathematical) existence.

If the Monad – "God" – controlled the physical cosmos, then, by analogy, the monad – the soul – controlled the physical body (*as above, so below*).

Bruno, in line with this tradition, posited three categories of monads: 1) God – *the* Monad, 2) the soul – the *mental* monad, and 3) the atom – the

physical monad. With Bruno, we have a system that describes the mind-body problem in terms of the interaction of mental and physical monads, with God presiding over the whole operation. In many ways, Kant and Boscovich derived their system from Bruno, via Leibniz.

Leibniz, in his published *Monadology*, reduced Bruno's system to just the God Monad and soul monads, with physical matter now merely a phenomenon arising from mental monads. In his unpublished *Monadology*, he dispensed with God too, meaning that the universe was no longer a Creation by one Supreme Monad, but comprised nothing but monads and their interactions: minds and their perceptions; thinkers and their thoughts. This was an entirely mental, idealist, rationalist, mathematical depiction of reality ... the opposite of scientific materialism and empiricism.

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An alternative reading of Giordano's Bruno's system was that it was pure pantheism, and his monads were in fact matter-mind hybrids, i.e. they were metaphysical units that were spatially extended while also being psychically aware, i.e. they were tiny physical bodies with minds. They could be designated either as panpsychic (everything has mind) or hylozoistic (matter is alive), depending on taste. Alternatively, they could be considered as unextended, immaterial *hylomorphs*, where their "material" component was now to be understood as a specific, passive property of *mind*, i.e. matter was abolished as an entity having any reality independent of mind. ["Like Leibniz's monads, Bruno's are immaterial and characterized by spirit and force. They are both physical and psychic, and they all reproduce in their own individual way the divine monad. ... Bruno's philosophy was also pantheistic; each monad was essentially a part of God." – A. P. Coudert]

In the Atomic system of the ancient Greek philosopher Epicurus, physical atoms were also referred to as "monads", albeit with spatial extension. The Atomists believed in the existence of perfectly spherical "soul atoms", which allowed mind/soul to exist within a material world.

There's an enormous overlap between atoms and monads. Traditionally, atoms are the basic units of matter, and monads the basic units of mind. However, we could equally regard monadic minds as the most basic atoms, or physical atoms as monads with extension. So, can monads have extension, or can atoms be unextended? That's one of the central issues of ontology and epistemology.

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Leibnizian monads are hylomorphic: they reflect both form and matter. It's also possible to imagine a system of two different types of atoms: form atoms and matter-atoms. Hylomorphism would then arise from the interaction of form atoms (mental atoms) with matter atoms. However, this system would suffer from Cartesian substance dualism .... unless we regarded matter atoms as dimensional derivatives of dimensionless mental (form) atoms.

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"Giordano Bruno, writing in the spirit of the new age, conceived the universe as composed of numerous uncaused and wholly imperishable parts which he called 'monads.' These parts unite to form bodies and things in various ways. Further, the universe is the result of the union of form and matter, much as Aristotle had held. Change results from matter taking on a new form. Particular objects, therefore, may change. But this is only change of parts; the whole, the universe, remains constant. ... Bruno taught that the soul was an immortal monad or uncaused element similar to the monads or elements composing everything in the universe." – S. E. Frost. Jr.

The Fearless One

"Not to have feared to die, not to have yielded to any equal in firmness of nature, and to have preferred a courageous death to a non-combatant life." – Giordano Bruno

"The infinity of All ever bringing forth anew, and even as infinite space is around us, so is infinite potentiality, capacity, reception, malleability, matter." – Giordano Bruno

"Eternity maintaineth her substance throughout time, immensity throughout space, universal form throughout motion." – Giordano Bruno

"The single spirit doth simultaneously temper the whole together; this is the single soul of all things; all are filled with God." – Giordano Bruno

"The wise soul feareth not death; rather she sometimes striveth for death, she goeth beyond to meet her." – Giordano Bruno

“Our philosophy… reduceth to a single origin and relateth to a single end, and maketh contraries to coincide so that there is one primal foundation both of origin and of end. From this coincidence of contraries, we deduce that ultimately it is divinely true that contraries are within contraries; wherefore it is not difficult to compass the knowledge that each thing is within every other.” – Giordano Bruno

“The one infinite is perfect, in simplicity, of itself, absolutely, nor can aught be greater or better. This is the one Whole, God, universal Nature, occupying all space, of whom naught but infinity can give the perfect image or semblance.” – Giordano Bruno

“The single spirit doth simultaneously temper the whole together; this is the single soul of all things; all are filled with God.” – Giordano Bruno

“Before anything else the One must exist eternally; from his power derives everything that always is or will ever be. He is the Eternal and embraces all times. He knows profoundly all events and He himself is everything. He creates everything beyond any beginning of time and beyond any limit of place and space. He is not subject to any numerical law, or to any law of measure or order. He himself is law, number, measure, limit without limit, end without end, act without form.” – Giordano Bruno

“For nature is not merely present, but is implanted within things, distant from none... And while the outer face of things changeth so greatly, there flourisheth the origin of being more intimately within all things than they themselves. The fount of all kinds, Mind, God, Being, One, Truth, Destiny, Reason, Order.” – Giordano Bruno

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In all of Bruno’s references to “God”, if this term is replaced by “God Equation” = (ontological mathematics), the meaning becomes much clearer. In general, humanity has been bedevilled by personalising the God Equation as “God”. As soon as any human attributes are assigned to a system of pure, analytic mathematics, that system becomes absurd.

Religion is nothing but *emotional* mathematics ... converting the perfect, eternal God Equation into a perfect, eternal God with whom people can then have a personal, emotional relationship.

Science is nothing but *sensory* mathematics ... converting invisible mathematics (mathematics in itself; noumenal mathematics) into the mathematics of appearances (phenomenal mathematics). Where noumenal mathematics is all about "hidden variables" (rational, unobservable aspects of mathematics), phenomenal mathematics repudiates all hidden variables (thus becoming a travesty of true mathematics, and generating incompleteness and countless inconsistencies and contradictions, of exactly the type with which modern science is full).

The Holographic Principle

"Nicholas of Cusa taught that the universe is God divided into small bits. If we think of the universe as a whole, all of it put together, we find that it is God. But each part is a part of God and God is in each thing." – S. E. Frost. Jr.

The universe is in fact the God Equation expressed via countless ontological monads. If we think of the universe as a whole, it's simply the God Equation. Each monadic part of the universe is a part of the cosmic God Equation, and the cosmic God Equation is in each thing.

"All things are in all." – Giordano Bruno

"... it is not difficult to compass the knowledge that each thing is within every other." – Giordano Bruno

The Home of Ideas

"Meister Eckhart, a German mystic of the thirteenth century, held that God is the home of eternal ideas just as the artist is the home of ideas which may later become works of art. The world which we experience, this world of creatures and things, is a copy of ideas which are in God." – S. E. Frost. Jr.

In fact, the God Equation is the home of eternal ideas. A basic "idea" is simply an analytic, immaterial sinusoidal wave, outside space and time, as defined by the God Equation. Complex (compound) ideas are constructed by adding together basis sinusoidal waves into "wavefunctions".

A basis sinusoidal wave is both rational (reflecting its Form) and empirical (reflecting its Content). An "idea" is therefore a combination of Form and Content, an information carrier and the information carried, a

signifier and signified (together producing a "sign"). A world of ideas is a world of ontological signs. We don't see the signifiers (the rational Forms), only the signifieds (the empirical Contents); we see phenomena, not noumena. We don't observe mathematical "hidden variables".

All basis sinusoids are ontological numbers, and each ontological number is associated with a particular experience. Ontologically, you cannot divorce numbers from experiences: they are two sides of one coin. However, epistemologically, it's necessary to completely separate Form from Content, information carrier from information carried, signifier from signified, rationalism from empiricism. When this is done, epistemology reduces to pure, transcendental, noumenal, logical, rational ontological mathematics as the basis of all eternal, infallible, absolute knowledge.

If epistemology is not treated in this way then it becomes a muddled compromise between rationalism and empiricism. Kantian philosophy (based on a bogus synthetic *a priori* category) and science (based on empirical experiments and rational mathematics) are both hybrid systems that fail to do justice to either rationalism or empiricism.

Leibniz is the archetypal rationalist and Hume the archetypal empiricist. They are the opposite ends of the epistemological spectrum. Leibniz offers eternal knowledge; Hume offers no knowledge at all (i.e. pure skepticism, nihilism and solipsism).

Kant had to invent a fallacious "transcendental" means to try to harmonise rationalism and empiricism. What science does is match theoretical mathematical formulae to practical experimental data. This has produced considerable apparent success but it automatically raises the possibility of a mathematical theory being used to describe the *whole* of reality prior to a single observation taking place, i.e. why shouldn't we construct a mathematical formula for existence from reason alone rather than by relying on the senses? To put it in Platonic terms, is ultimate reality intelligible or sensible?

Science is about matching formulae to observations. Can we imagine an alternative science that's about matching formulae to reason and logic, ignoring sensory observations entirely? Science without the senses is simply noumenal, transcendental, ontological mathematics. It's the mathematics of pure reason applied to reality.

Maximum

"Nicholas of Cusa (*or* Nicholas Cusanus) (c. 1400 – 64). German cardinal, whose '*theologica negativa*' was influential in the Renaissance. Main philosophical work: *De Docta Ignorantia* (Of Learned Ignorance) (1440). Using the methods of medieval logic, Cusanus examined the nature of God (Book I) and the Universe (Book II). His view of their relationship was fundamentally Neoplatonic; the Universe (*maximum contractum*), seen as the totality of finite things, flows out from and returns to God (*maximum absolutum*), whose nature is unknowable. Hence all human knowledge is simply learned ignorance. In Book III he discussed the human nature of Christ as the existential identity of *maximum absolutum* and *maximum contractum*. His work contained concepts important to later writers, notably his cosmology, which was non-geocentric, and his denial of the Aristotelian principle of non-contradiction." – *Pan Reference Dictionary of Philosophy*

Maximum absolutum: the absolute maximum; the greatest without limitations ... God.

Maximum contractum: the contracted maximum; the greatest within certain limitations ... the World.

Maximum absolutum et contractum: the absolute and contracted maximum together: Jesus Christ, the Redeemer as God and human, as the bridge between God and the World, the intermediary between the finite and infinite, man and God. Jesus Christ is where the finite and the infinite converge and are unified.

"As the Maximum Absolutum is infinite, so the maximum contractum is finite." – Jasper Hopkins

Nicholas of Cusa spoke of the "coincidence of opposites" – the point in infinity (or at infinity), the Omega Point – when and where all opposites unite (all contradictions are resolved) and everything is absorbed together in God's infinity. It's the Infinite Line, where the Absolute Maximum and Contracted Maximum are combined. In Christian terms, Jesus Christ is regarded as the Gatekeeper of the "coincidence of opposites".

Nicholas considered God the absolute maximum, containing the fullness of being and reality. The absolute maximum is God's infinite essence in itself. In the absolute maximum – God's infinite nature – all coincidences and opposites merge into a single complete and consistent unity. At the Absolute, the Many become the One, and the One becomes the Many.

While God is the absolute maximum, the universe can be called the contracted maximum. It's a finite mirror of God's infinity and the infinite itself, hence *not* God.

"Nicholas begins with a single trope or symbol to lay out the parallels between his teachings in the three books, that of the 'maximum.' God is the absolute maximum; the universe is a created image of God, the 'contracted' or restricted maximum. Christ unites the first two as the Maximum at once absolute-and-contracted. 'Contraction' is a metaphor for the finite status of creatures, all of whom are limited images of God. 'Absolute' is used in its etymological sense of 'free from' (*ab-solutus*) to characterize God's infinity. As absolute maximum God is both unlimited and transcendent, unreachable by human conceptions that measure the limited or contracted realm of more and less. ... the natural universe itself, as a contracted image of God, has a physical centre that can be anywhere and a circumference that is nowhere. That is why Nicholas characterized the natural universe as a contracted maximum or 'privative' infinite while God remains the 'negative' infinite or absolute maximum. This means that the universe merely lacks set physical bounds or limits, while God has no ontological limits in being all that can possibly be. This enables the 'infinite' universe, as the whole constituted by all creatures, to be an image of the divine oneness, but only in a contracted or attenuated fashion." –

http://plato.stanford.edu/entries/cusanus/

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The universe comprises God (the *maximum absolutum* – the absolute maximum), and God's Creation (the *maximum contractum* – the contracted maximum, the world). Where God is the totality of infinite things, the World is the totality of finite things. The finite (the world) flows out from and returns to the infinite (God). Compared with God (the infinite), the finite world is but a vanishingly small point. God (the transcendent point at infinity) and the World (the Vanishing Point in relation to God) come together at the "coincidence of points."

"Consequently, if we consider the different movements of the spheres, we will see that it is impossible for the world machine to have this sensible earth, air, fire, or anything else for a fixed and immovable centre. For in

motion there is no simply minimum, such as a fixed centre, because the minimum has to coincide with the maximum. ... **And although the world is not Infinite, it cannot be conceived of as finite**, since it lacks boundaries within which it is enclosed. ... Therefore, just as the earth is not the centre of the world, so the sphere of fixed stars is not its circumference." – Nicholas of Cusa

"Since it always appears to every observer, whether on the earth, the sun, or another star, that one is, as if, at an immovable centre of things and that all else is being moved, one will always select different poles in relation to oneself, whether one is on the sun, the earth, the moon, Mars, and so forth. Therefore, the world machine will have, one might say, its centre everywhere and its circumference nowhere, for its circumference and centre is God, who is everywhere and nowhere." – Nicholas of Cusa

"The world has no circumference, because if it had a centre and a circumference, and thus had a beginning and end in itself, the world would be limited in respect to something else, and outside the world there would be something other, and space, things that are wholly lacking in truth. Since, therefore, it is impossible to enclose the world between a corporeal *centrum* and a circumference, it is [impossible for] our reason to have a full understanding of the world, as it implies the comprehension of God who is the centre and the circumference of it." – Nicholas of Cusa

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Nicholas of Cusa is often said to have depicted the universe as infinite. In fact, his position is rather more nuanced. God is the only true infinity, and anything that is not a true infinity is therefore finite. However, nor does Nicholas think of the universe as a bounded entity with infinite space outside it. The universe is therefore neither infinite nor finite, but, somehow, mysteriously, something in between. It must always be considered in relation to God, who is the True Infinite. God and the universe together are everything there is. Where the universe is not, God is, i.e. what lies beyond the universe isn't space or void, but God. However, there is no fixed boundary between the two.

In many ways, Nicholas is moving towards the Hegelian notion of the tripartite division of the finite, good infinity and bad infinity. God, for

Nicholas, would be a kind of bad infinity, with the universe as good infinity (more than just finity).

Alternatively, Nicholas may have been intuiting Cantor's notion of different levels of infinity. The infinite set of integers is smaller than the infinite set of real numbers. No matter what infinity we chose for the material world, we could always make it a subset of a higher infinity. The world would always be a subset of God. However, given the doctrine of absolute maximum and contracted maximum, we might conclude that Nicholas intended God to be the highest infinity possible, and the universe the lowest infinity possible.

When Nicholas was writing (in the fifteenth century), mathematical knowledge wasn't sophisticated enough to allow the infinite to be described in anything other than ambiguous, mystical terms. Likewise, the whole of Eastern religion and philosophy up to the present day remains an expression of mystical intuition, lacking in mathematical literacy. How many Buddhists or Hindus would ever discuss Euler's Formula and Fourier mathematics as the basis of reality? How many of them would ever mention math in this context? Western religion split into Christianity, philosophy and science. Eastern religion didn't produce anything equivalent to Western philosophy or science – which is why the West and not the East became the dominant force in the world.

Nicholas of Cusa and the Infinite or Finite Universe?

"In 1440, Nicholas of Cusa published his *De Docta Ignorantia* in which one of the chapters was headed with the statement: 'From propositions already established the unity and infinity of the universe is inferred.' Many have taken Cusa to espouse a belief in an infinite universe somewhat similar to the one later championed by Giordano Bruno. Kepler, referring to Galileo's 'Sidereal Message,' asks, 'If its author intended to lie about new planets, why, may I ask, did he not invent infinite planets around infinite fixed stars, to agree... with the Cardinal of Cusa?' Descartes, in a letter to his friend Chanut, says that 'the Cardinal of Cusa and several other Divines have supposed the world to be infinite.'

"However, it has not been always clear in exactly what way Nicholas of Cusa thought of the universe as infinite. 'Cusanus' conception of the physical universe is not completely clear in the *Docta Ignorantia*,' wrote one author recently, 'but it seems to be without spatial limitation.'

Dijksterhuis, in his book *The Mechanization of the World Picture* is more definite; he says, 'The Universe [as Nicholas of Cusa sees it] is infinite in the same sense as the series of natural numbers: there is no end to it.' Koyrd agrees that an interpretation of Cusa is difficult but he thinks that according to Nicholas of Cusa, the universe 'is not infinite (*infinitum*) but 'interminate' (*interminatum*), which means not only that it is boundless and is not terminated by an outside shell, but also that it is not 'terminated' in its constituents, that is, that it utterly lacks precision and strict determination. Thus, according to Koyrd, Cusa does not assert the 'positive infinity' of the universe although he was the first to reject the medieval cosmos-conception. The purpose of the present note is to show, through a clarification of the different concepts of infinity that Cusa employs, that he thinks of the world as no other than finite so far as its extent is concerned.

"If Cusa was instrumental in reintroducing the concept of an infinite universe, it was not something, it seems to me, that he intended. His description that the universe is infinite or interminate is quite compatible with his thinking that the actual extent of the universe is finite. There is at least one place in *De Docta Ignorantia* at which Cusa says simply that the universe is finite. Now, one may not wish to attach too much importance to just one statement but it is significant that previous to this statement in the same paragraph, Cusa did entertain the possibility that God could have created the world infinite, but he ruled out this possibility because, to him, the world was a 'contracted' being (*esse contractum*) and being such it was necessarily finite. ... It is shown in this paper that Cusanus thinks of the universe as infinite only in the sense that God has the power of creating a universe greater than the present one, but the present universe is finite, and according to Nicholas of Cusa necessarily so, even though beyond the universe there is nothing else, that is, nothing material. If Cusanus was instrumental in re-introducing the idea of an infinite universe (as later authors understood it), it would seem it was not what he intended." – Tyrone Tai Lun Lai

We might say that the finite universe, for Cusanus, is absorbed into the infinite God, and we can't detect the join, or the separation. This would be a *panentheistic* cosmic view where God is the universe but more than the sum of its parts. God could have created any greater universe, but it would still have been finite with regard to his absolute infinity. The universe can never partake of God's infinity per se, but can be an unimaginably large finity. If

the universe is considered to be both God *and* his Creation (the cosmos), then, as Cusanus says, it must be considered a unity and infinity since these are the intrinsic properties of God.

Where Cusanus implies that God could have created a universe greater in extent than the existing one, Leibniz asserts that God couldn't in fact alter anything since, from the outset, he explicitly chose the "best of all possible worlds", so no universe could be better, larger, greater than or different from the one we're actually in.

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"God is a sphere whose circumference is everywhere and centre is nowhere." – ancient maxim favoured by Nicholas of Cusa.

Cusa's central attack on the conventional cosmological notions of the day was to deny that the Earth was the centre of the Universe and that the Universe had a clearly defined boundary (a "crystal sphere"). He probably imagined that it was impossible for human thinking ever to detect any end of the universe, in which case it must be a kind of infinity, but not that of God, in which case it might be considered a kind of finity. At any rate, it was beyond definite human knowledge.

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Nicholas was one of the first thinkers to emphasize infinity. Infinity and zero remain the two great mysteries around which reality revolves. They are the two numbers most feared by science and are ontologically rejected by science ... which is exactly why science will never be able to explain eternity and the Big Bang.

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For Nicholas, beings are *theophanies* – manifestations of the divine. They are appearances of a deeper reality that we can never know. Such a view makes him a precursor of Kant, who likewise placed an impenetrable barrier between the human and divine, the knowable and the unknowable.

The Cardinal of Monads

"Cardinal Cusanus [Nicholas of Cusa] proclaims a principle of individuality within the world. Each thing is an individual concentration of the cosmos, a unit which, like a mirror, reflects the universe. This is especially true of man; each man reflects the world in a different way, and men are true *microcosms*. There is an absolute variety in these units because God never repeats Himself. This is the first sketch of Leibniz's theory of monads. ... And if the mind is a mirror, it is a *living* mirror which consists in activity. ... In the work of Nicholas of Cusa we have, in embryo, all the philosophy that is to develop in Europe, from Giordano Bruno's imprecise and confused attempts up to the splendid maturity of Hegel. ... Bruno adopts Nicholas of Cusa's theory of the monads. The individual units of life are indivisible and indestructible, and their infinite combinations produce universal harmony. The soul of the world is the basic monad, *monas monadum* (the monad of monads). Substance is all one, and individual things are no more than particularizations of the divine substance. Bruno's theory of individuals relapses once more into pantheism. Its influence reappears in Leibniz and especially in Spinoza and in Schelling." – Julian Marias, *History of Philosophy*

"Although each thing is different from every other thing, the universe is still present in each and 'contracts' itself in the respective individuality of each one. ... [Nicholas of Cusa's] future-oriented way of thinking in which the representation of the world becomes a reality in each individual entity anticipates the infinity that will manifest itself two centuries later in the monad of Leibniz's system." – Erich Meuthen

"Leibniz was cognizant of many different emanationist theories, just as he was aware of the many different incipient monadologies of such thinkers as Nicholas of Cusa, Cardano, Bruno, Paracelsus, and the elder van Helmont." – A. P. Coudert

Apperception

In Leibniz's system, all simple monads have two basic qualities: appetite and perception. More complex monads ("dominant monads") develop reason and the ability to reflect on themselves (a capacity labelled "apperception").

The Boscovich Atomic Theory

Boscovich's "atoms" aren't the extended things of ancient Greek Atomism. Instead, they are dimensionless point-atoms, each possessing unit mass. They are neither hard nor elastic as Newton had conceived them. This is therefore a radically different version of Atomic theory.

All that exists in the physics of Boscovich are these non-extended atoms and the law of force that applies between them. Boscovich intended this one simple scheme to explain *all* natural phenomena.

Boscovich's law of force was repulsive at small distances between atoms, then alternately attractive and repulsive as the distance increased between atoms, and, finally, at large distances, attractive only, as per Newton's law of gravity. With these core assumptions, Boscovich believed he could account for all of the properties of matter.

His theory can be interpreted in two different ways:

1) As a theory of point-atoms embedded as focal points in a ubiquitous field of force (i.e. the emphasis is on the field).

2) As a theory of point-atoms interacting as a function of distance to create a ubiquitous field of force (i.e. the emphasis is on the point-atoms).

Exactly the same situation applies in modern quantum field theory (of which Boscovich's theory was the classical progenitor). Quantum "particles" can be interpreted as local excitations of their respective quantum fields, or force fields can be regarded as the product of interacting particles.

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Michael Faraday, who was strongly influenced by Boscovich's ideas, regarded electric charges as sources of electric fields (just as Boscovich's elementary point particles were centres of force fields).

James Clerk Maxwell subsequently defined the classical electromagnetic physical field. Maxwell is often placed in the same company as Newton and Einstein, and can be regarded as the bridge between them.

Field theory resolved the problem of how masses in Newtonian theory could operate via "action at a distance" across empty space. Now there was no empty space: just a vast physical (but invisible) field occupying all of

space, or a field that self-propelled itself through space (and didn't need any medium).

One Theory To Bind Them All

Boscovich postulated a grand unified, final theory of everything: an explanation of nature via a single attraction-repulsion force producing all physical phenomena. Everything was reduced to one universal law. Modern physics pursues the same dream. As for Illuminism, it cites the God Equation as this single universal law that explains everything. It is ontologically conveyed by point-monads ... *minds*.

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Boscovich generalized Newton's law of gravitational attraction by introducing the notion of force-points repelling, as well as attracting, each other, as a function of the distance between them. He paved the way for modern field theory (although Leibniz's *Monadology* was effectively the first genuine field theory, though more akin to a mental rather than physical field).

Boscovich's dynamic point-atomism sat midway between the views of Newton and Leibniz, and had the virtue of reducing all the forces of nature to just one law.

The Law of Laws

If substance dualism (or pluralism) leads to the fatal problem of how incompatible substances can interact (thus implying that monism is true, i.e. there's only one fundamental substance), identical considerations can be applied to laws themselves. There cannot be "law dualism" (or pluralism). All apparently diverse laws must in fact be derived from a single, all-powerful, all-controlling law. In Illuminism, this is the God Equation. It defines the *whole* of ontological mathematics, and thus reality itself.

All laws of ontological mathematics must be traceable back to the God Equation, i.e. they must all be derived from it and be logical consequences of it. In this way, no parts of ontological mathematics can be incompatible or inconsistent, as they are in science where relativity theory and quantum mechanics cannot be reconciled despite the most intensive scientific effort

in history, across many decades, to unify them. This is inevitable given that these two theories do not originate in a single, analytic, logical, complete and consistent theory, and set of first principles. Science, it must never be forgotten, is a collection of ad hoc, arbitrary, heuristic hypotheses. As Richard Feynman pointed out, each one begins as a guess. How can a set of guesses have any guarantee or likelihood of fitting together smoothly?

It's miraculous that science has done as well as it has, but, as ever, that's purely thanks to mathematics, which imposes a kind of commonality on all scientific guesses since it gives them all a shared mathematical form. Imagine how much more powerful science would be if it were entirely derived from a single mathematical law. Everything would of necessity fit together immediately. There would be no incompatible hypotheses. However, this would require science to be predicated on reason, not sensory experiments, i.e. science would have to change its nature; it would have to turn away from empiricism to rationalism.

The originating mathematical law of existence can never be established via experiences, guesses, observations and experiments (empiricism). It can be established only via reason, logic and intellect (rationalism), which inevitably leads to ontological mathematics, which encapsulates all of these. Science can never produce a final theory until it follows the rational rather than empirical route. That's a simple, incontestable, logical fact. Unfortunately, scientists aren't logical, and don't know what they're looking for, hence why they're always guessing, hypothesising, interpreting, observing and experimenting. They haven't worked out that the eternal law of existence must, of necessity, be non-empirical. Everyone experiences the effects of this law, but no one experiences the law *in itself, as itself*. Only reason can reveal it. Only rationalism, not empiricism, can tell us about the non-empirical (mathematical) state that preceded the Big Bang.

No theory predicated on multiple, inconsistent laws can be true. Modern science is obviously false since it has two systems of laws – one belonging to Einsteinian general relativity and one to quantum mechanics – which are totally and irrevocably incompatible. Science will never make any progress in unifying them. It will keep trying Feynman guesses until Doomsday. It has no other cards to play. It refuses to be analytic and logical. It refuses to respect the principle of sufficient reason. It refuses to have rational principles of any kind. Instead, everything is up for grabs experimentally.

Boscovich and Kant

Boscovich and the early Kant (as opposed to the later Kant of his famous "Critical" phase) were both Atomists. Their basic system involved point-atoms that could never touch because of the strong repulsive force that applied as the distance between them decreased to very short lengths. The "void", such as it was, was filled by the forces radiating from the *puncta* (point-atoms), i.e. there was no perfect void (emptiness) of the sort conceived by the ancient Greek Atomists.

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Boscovich agreed with Leibniz that matter ultimately derives from simple, non-extended primary elements (monads or point-atoms). He also agreed with Newton that the universe reflects a force (akin to gravity) that varies as a function of distance between points.

Boscovich, like the ancient Greek philosopher Empedocles, required only two kinds of force: attractive and repulsive (or reflecting love and strife, as Empedocles poetically expressed it), and he created a single law of oscillating force that could be either attractive or repulsive, depending on the distance between point-atoms.

All point-particles are interconnected since the force law never vanishes completely to zero, no matter how vast the distance between two such particles. When any particle changes position, the whole universe is affected. The same is true in modern quantum mechanics, defined by a wavefunction that extends across the entire universe.

While Newton believed that indivisible, extended atoms could touch one another and rebound, Boscovich's system involved no direct contact thanks to the short-distance repulsive force.

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In Boscovich's system, all physical monads (point-particles) are in motion. They are actual objects in a dynamic system of changing spatial and temporal relations. For Leibniz, monads are *outside* space and time (like photons of light) and project spatial and temporal relations *as phenomena*. Space and time are not things in themselves, and are not physical, but merely express phenomenal relations between monads. Monads do not themselves physically move. What does move (*metaphysically*) is their

mental content, and it's this mental motion that gives rise to the phenomenon, the illusion, of a material, physical world in motion.

Where Leibniz put motion inside monads (intra-monadic motion), and derived phenomenal motion from them, Boscovich put motion *between* monads (inter-monadic motion), and thus changed the whole nature of the system. He made it interactive, in contrast with Leibniz's non-interactive system of pre-established harmony. However, Leibniz's system can easily be made interactive, as we have illustrated throughout the *God Series*. Motion originates inside monads, just as Leibniz said, and this motion reflects that of a monad's constituent sinusoidal waves. However, these sinusoids can interact with the sinusoids of *other* monads, via the laws of Fourier mathematics, and thus generate an interactive universe that dispenses with the divine pre-established harmony.

In modern Illuminism – which of course agrees with Leibniz and is merely the dialectical evolution of his system via a more systematic mathematical treatment, using mathematics unavailable to Leibniz – all monads are contained in a single, physically stationary Singularity (because it's not physical at all). However, they are full of mathematical, sinusoidal energy, in constant, perpetual motion. It's this energy – expressed through a universe of sine and cosine waves – that produces the material world we experience. There's no such thing as matter per se. It's purely a mathematical construct, generated by Fourier mathematics. And, ultimately, there's no such thing as a physical force field, only a mental, mathematical one arising from the universal God Equation.

Boscovich failed to properly understand Leibniz's *Monadology*. He was so smitten by the all-conquering Newtonian physics that he thought it essential to apply Newtonian thinking to Leibnizian monads. In other words, he brought monads into the physical, Newtonian world rather than leaving them in the mental, Leibnizian world. His vision was of a vast number of point-particles, with unit mass, and inertia, moving around in a vast forcefield generated by the single, universal force law common to all of these point-particles.

All that's relevant in this system is the distance between particles, the force law that specifies the details of the force at every possible distance, and the mass that applies to each collection of particles (i.e. each physical body). In principle, the magnitude and the direction of force can be calculated at every point, although, in practice, this would be fantastically

difficult due to the sheer number of particles involved, and their interdependence on each other (every particle's behaviour is determined by that of every other particle).

Boscovich denied that anything could ever be perfectly at rest (eternal motion is a clear implication of his system). His system rejected the old notion of solid atoms moving within continuous void (atomic mass = "being"; void = "non-being"), i.e. he rejected the ancient Greek Atomic system, largely accepted by the likes of Newton. Now there was simply a universal forcefield (*plenum*), with certain characteristics at each point.

At some point-locations in the field, the points will have mass (hence be "particles"); at other locations, the points will have no mass (no particles are present), but there will be a definite force existing at that location, which will affect how particles move.

Consider a universe comprising just two point-particles. These exist at two unique points (they can never overlap due to their mutual repulsion at short distances), and yet the force defined by them is existent at every conceivable distance between them. This force entirely fills the "void".

This is more or less the view of modern science. Four forces – electromagnetism, the strong and weak nuclear forces, and gravity – are present everywhere (although the strong and weak nuclear forces tail off dramatically quickly). Various "particles" (bosons) for each force (photons, gluons, W and Z bosons and gravitons) pop up at specific places in the field (these are field "excitations"), and these interact with "matter particles" (fermions), such as electrons, protons, neutrons and quarks.

Boscovich did not physicalise his force via "force particles" (bosons). Instead, he relied only on "matter particles" (fermions), which projected force. In modern physics, bosons can occupy the same quantum state, while fermions cannot. In Boscovich's system, no two particles could share the same physical state, hence his was a type of fermionic system.

The modern quantum vision is of various "fermionic" matter particles interacting with each other via "bosonic" force particles (which are the respective excitations of the four different types of force field that can exist between matter particles).

Clearly, there's something wrong with the four forces of quantum physics since four is a wholly arbitrary number. There's no sufficient reason for it. It's no wonder that the electromagnetic and the strong and weak

nuclear forces cannot be united with the gravitational force to produce a grand unified, final theory of everything. The whole scheme is arbitrary.

Any true unified theory must, as Boscovich understood, be based on only one law. After all, why would God or Nature need or make more than one law? Occam's Razor demands that one law controls everything, so, to find the answer to existence, all that is required is to identify this *Master Law*.

In this regard, Boscovich's single force law was a brave but false attempt – because his ontology and epistemology were wrong. The true single law that unites everything is the generalised Euler Formula of ontological mathematics. All of modern science, and its four forces, are simply different aspects of the generalised Euler Formula. They are produced by symmetry breaking and phase differences.

Boscovich imagined point-particles surrounded by forcefields that emanated from the particles. Modern quantum physics likewise envisages point-particles operating on each other via forcefields, or exchanging force via point-particles that are excitations of forcefields. With the former view, all that exists are matter particles and the forcefields they generate. With the latter view, all that exists are matter particles *and* the force particles that they exchange between them (thus supplying the same effect as forcefields).

All particles in standard quantum physics are treated as point particles, as per Boscovich. However, this generates unacceptable infinities if the distance between particles should ever fall to zero (which could never happen in Boscovich's system due to his repulsive force). To prevent this, string theory (and M-theory) seeks to model the ultimate particles not as zero-dimensional points, but as one-dimensional strings. This is driven more by the need to preserve the empiricist materialist Meta Paradigm of science than any analytic need. If scientists accepted infinity, they would feel no necessity to prevent it from appearing! Infinity, and zero, are, however, compatible only with autonomous mind, and the existence of autonomous mind is exactly what scientific materialism denies.

Only dimensionless minds can accommodate zero and infinity. In many ways, this is the critical difference between ontological mathematics and science. Science, being wholly physicalist, ideologically refuses to find any place for zero and infinity. Ontological mathematics, on the other hand, is predicated on zero-infinity monads (= minds = immaterial frequency singularities outside space and time).

Boscovich was equally resistant to physical infinity: “Nothing infinite is found actually existing: the only thing possible that remains is a series of finite things produced indefinitely.”

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Newton believed that particles always exerted a positive, attractive (gravitational) force on each other, with repulsion arising only when they physically collided. Boscovich introduced the notion of repulsion into the overall forcefield, with gravity being a force operating at long distances between particles or masses, and repulsion at short distances.

Nietzsche and Boscovich

Nietzsche accepted Boscovich’s scheme and thus rejected conventional materialistic atomism. In Boscovich’s system, point-particles – tiny centres of force and power – engaged in what might be considered a great power struggle with all other such monadic particles. Thus Nietzsche found potential “scientific” carriers for his Will to Power, which would otherwise have to be considered in purely metaphysical terms, which Nietzsche rejected.

Although many commentators regard Nietzsche’s Will to Power as itself metaphysical, he himself regarded it as scientific, albeit not in an obvious materialistic sense. Like Boscovich, Nietzsche was a kind of immaterial physicalist! This might equally be called mental physicalism, whereby, “physical” reality involves nothing but minds exerting forces on each other as a function of “physical” distance between them.

If such a system is imagined to be finite then it can be conceived that, over immense periods of time, the system will find itself in the same configurations that it manifested before, i.e. it will engage in “eternal recurrence”, which was a key feature of Nietzsche’s thinking, and a phenomenon he believed to be scientifically well-founded.

Given that Nietzsche ascribed will – a mental quality – to point atoms, his system is perhaps best considered in overtly Leibnizian terms. Wolfgang Müller-Lauter wrote, “Nietzsche’s ‘points of will’ remind one of Leibniz’s immaterial ‘*points metaphysiques*.’ Even his remarks on ‘perspectivism, by which every centre of force – and not only man – construes all the rest of the world from its own viewpoint’, call to mind Leibnizian monadology.”

However, Nietzsche's Will-points (or power quanta = *Machtquanta*) are not monads per se. They do not endure forever and they are not teleological entelechies. Wolfgang Müller-Lauter wrote, "The philosophical ultimate he discovers is never an actual (quantitative) ultimate. Every quantum of will to power can decrease as well as increase, not only incorporating new quanta in itself but also steadily disintegrating further."

The number of Nietzsche's Will-points isn't fixed: it can grow or shrink, i.e. one Will-point can absorb another, or break apart into two or more Will-points. It's by no means a scientific system, but reflects an incredibly dynamic struggle of temporal, contingent Will-points. If Leibniz's system has a resemblance to Hinduism, Nietzsche's is much closer to Buddhism (or Schopenhauer's philosophy, which he followed in his younger years).

Wolfgang Müller-Lauter wrote, "To the question of what it is that brings and holds together the incessantly changing organizations of will to power in itself, and also allows them to flow apart, the final answer is: it is contradictions that make possible all aggregation as well as disintegration; indeed, such contradictions are both immanent in every organization and they confront it 'from outside,' from other organizations. The will to power requires contradictions, which of course also can themselves be only will to power. Contradiction first makes it into will to power. By such dependence on contradiction, the will to power is, as Nietzsche says, originally 'not a being, not a becoming, but a pathos,' out of which 'a becoming and effecting first emerge.'"

Nietzsche's emphasis on contradiction and becoming is highly Heraclitean and Hegelian (although he preferred to refer only to Heraclitus, and to ignore Hegel's influence on his ideas). As for his Will-points, these can be regarded as a bridge between Leibniz's mental monads and Boscovich's physical monads. The Will-points do not project Boscovich's attractive-repulsive force per se but Will in itself, whether dominant or submissive. Two dominant wills repel. A dominant will attracts a submissive will, and vice versa.

As soon as will is added to attraction and repulsion, they take on a radically different character, being reflective of love (harmony, cooperation, peace) and hate (strife, conflict, war). You can't merely analyse how far apart two Will-points are and calculate the "scientific" force acting between them, you also have to consider the strength or weakness of the wills

involved. Strong wills are far more active than weak wills (which are comparatively passive).

Look at the human race. We all have physical bodies. From the scientific point-of-view, we are just collections of lifeless, mindless atoms obeying the inevitable laws of physics. However, a Nietzschean analysis tells us that we are active centres of Will to Power. Some of us have far more will to power than others. A tiny Elite rules the human race. How did that come about? Are the laws of physics responsible for it, as science absurdly claims? Or is non-physical will to power the determining factor?

It's not the laws of physics that cause men to seek to crush and dominate other men, to go to war, to build master-slave societies, to lust after vast wealth and status and trample over bodies to get them. It's Will to Power.

The idea that science could ever explain human dynamics is laughable. According to science, we are just glorified jostling particles, like gas atoms, or the molecules of water. According to Nietzsche, we are centres of will to power, and we are all engaged in a merciless contest for power, whether we like it or not, or know it or not, or wish to participate in it or not.

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Boscovich's punctum atoms, or Nietzsche's Will-points, could easily convey the "Force" so central to the living universe depicted in *Star Wars*. The dark and light sides of the Force are thesis and antithesis, which are required to be brought into balance (synthesis). The dark and light sides of the force seek to dominate each other, and thus they generate *imbalance*.

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Kraftcentren: centres of force.

Willens-Punktationen: will-points.

Machtquanta: power-quanta.

We are all centres of force. We all bring power quanta to bear. We are agents of our will, not agents of random collections of lifeless, mindless atoms.

Epistemology

Science = the *sensible* epistemology, based on the senses, experiences, observations and experiments

Ontological mathematics = the *intelligible* epistemology, based on reason, logic and intellect.

Ontological mathematics uses reason to go *beyond* perception. Science claims that this is an invalid step, but can adduce no rational arguments to support its case. Kantian philosophy also fails to dent rationalism. There is no greater error than to believe that our senses bring us closer to ultimate reality than our reason. Our senses are inherently "unreliable witnesses." They give us no sure knowledge whatsoever.

Soul Atoms

In his early philosophical years, Kant attempted to modify Leibniz's *Monadology*. He rejected the concept of monads as "windowless" and insisted they were interactive. In doing so, he resurrected a version of the ancient Greek concept of physical atoms, of which some served as "soul" atoms. For the Greeks, soul atoms were of the same general nature as other atoms, but, unlike them, were perfectly smooth and round, and the soul's effects flowed from this smoothness and roundness.

In Kant's system, physical point-atoms generated physical forces, while mental point-atoms (souls) generated *mental* forces. Physical point-atoms constituted the physical world and interacted via attractive and repulsive forces. Mental point-atoms constituted the mental world and interacted via mental, metaphysical forces.

Kantian physical point-atoms were in space but did not occupy space (while Leibnizian monads are not in space at all). They were simple, indivisible and unextended. Their repulsive force prevented any two such point-atoms from occupying the same space. It wasn't a material theory per se since there were no material atoms. Extension was provided by forces emanating from physical point-atoms, and did not belong to the physical point-atoms themselves.

For Kant, mental and physical point-atoms were *both* in space while not occupying space. The two types of atom could thus plausibly co-exist and interact, potentially solving the mind-body problem (although Kant never provided any coherent details).

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"Moreover, if physical monads were centres of force able to affect the nonessential states of other essentially force-like monads, then perhaps mental monads themselves could be conceived as exerting forces on other physical ones and as having *their own* nonessential states similarly affected. Kant believed that we have direct experience of our own capacity *as* minds to affect physical bodies when we act voluntarily. I resolve to move this pen on the table in front of me, and, via the intermediary of my body, the pen moves. Similarly, *as* minds, we experience changes in our inessential states, such as our own *sensory* states, in ways that we can think of as being brought about by the influence of other physical monads. ... Physical and mental monads thus seem to interact, and thinking of mental monads as essentially *force-like* gives us a way to understand this." – Paul Redding, *Continental Idealism: Leibniz to Nietzsche*

The implication of Kant' system is that the following scheme applies:

1) Mental monads interact with mental monads via mental forces.

2) Physical monads interact with physical monads via physical forces.

3) Mental and physical monads interact via mental-physical and physical-mental forces.

In ontological mathematics, dimensionless mental monads (immaterial Fourier frequency singularities outside space and time), generate the physical world via material Fourier spacetime functions that derive from the constituent sinusoids of monads. Fourier mathematics, involving the categorically distinct frequency and spacetime domains, handles all aspects of the mind-matter (frequency-spacetime) interaction. The mind-matter mystery dissolves ... replaced by absolute mathematical clarity.

To understand mind and matter, you are required to do only one thing: consider Fourier mathematics in ontological terms, based on monadic minds as Fourier frequency domains (singularities) outside space and time, from which the spacetime world of matter can then be holographically projected. The most baffling problem that has ever confronted humanity has been resolved – by mathematics, not science. Science is incapable of addressing this issue since it denies the existence of dimensionless

frequency domains (mental singularities inherently beyond the reach of the scientific method).

Scientific materialism is for crude, simplistic, childish thinkers. All great thinkers quickly transcend the sensory limitations of science. This is a rational universe, not a sensory universe. That's why it's intelligible.

Intuitives have a great gift denied to sensing types ... they are not bound by their senses. In their minds, they can go beyond the senses to the real world beyond, to the world in itself which has no sensory appearance whatsoever. Sensing types are those who are constitutionally incapable of conceiving of anything without an appearance, anything purely rational, logical, and intelligible. That's their tragedy. That's why they will *never* understand reality.

The whole of science is predicated on the explicit denial of an eternal, necessary, non-sensory reality. Yet, in the same breath, science says that existence randomly jumps out of non-existence for no reason, via no mechanism. That's the insane position you are forced into once you deny that there's an eternal, non-sensory – i.e. mathematical – underpinning of reality.

It's not "God" that exists forever, and is the source of everything, it's math! Nothing is harder for the average human mind to accept than the ontology of mathematics. That's why humanity prefers stories of eternal Gods. Everyone can grasp the idea of an eternal, necessary God as the root of all, yet, when exactly the same argument is applied to math (rather than a divine person), it seems to become incomprehensible to the human mind. That's because humans think in Mythos terms, in anthropomorphic terms. They don't think clinically, rationally and logically. They would rather believe that a supernatural person created them than accept that they are eternal mathematical beings.

The True Atoms

Leibniz's monad-atoms were not material but mental/spiritual, i.e. "soul atoms". They were "metaphysical points", not physical points.

Stationary Souls

Minds (souls) do not physically move. They are outside space and time, so *physical* movement is impossible. The mind moves in the mental

(frequency) domain, while the body moves in the material (spacetime) domain. The mind is stationary with respect to the spacetime domain (it doesn't move through space or time), while the body is stationary with respect to the frequency domain (it doesn't move in that domain).

If one soul is outside space and time then all souls are. Therefore, they all inhabit one immaterial Singularity outside space and time. All souls are together in Soul World. Although souls don't physically move, their energy contents are nevertheless in permanent motion. Non-physical motion is mental motion, also known as "thinking".

Via a special type of mathematical thinking – inverse Fourier transform thinking, to be exact – thoughts (the output of minds) can give rise to the material world of spacetime. The physical world is therefore a mental construct of souls. The motion of thought is converted into the spacetime motion of physics. This is what Leibniz said three centuries ago, but no one listened to this greatest of all geniuses. Such is the fate of the most brilliant thinkers. Most "geniuses", i.e. those who gain the admiration of the masses, are second-rate. Ordinary mortals can't understand the supreme geniuses, those who are already engaged in divine, non-human, immortal thinking.

Although souls never move physically, they do of course cause the physical bodies they control to move in the physical world of spacetime. It's not dissimilar to drone operators sitting in an office while they make a drone fly a mission thousands of miles away. The pilot of an aircraft doesn't physically have to be in the aircraft. Nor does the pilot (soul) of a body have to be in the body ... or in spacetime at all. Science has never fathomed this simple point.

The Occult?

Leibniz dismissed Newton's gravitational force as "occult" since it invoked action at a distance across empty space. Leibniz argued that gravitational attraction, to be real, would have to involve a medium (later to be called the ether). This was much the same position as Einstein arrived at, except Einstein replaced the ether with warpable spacetime, and nothing could travel through it instantaneously (as Newton's gravitational force did). The speed of light provided Einstein's cosmic speed limit.

The only way for spacetime to be warpable by mass is for there to be a fundamental connection between mass and spacetime. In fact, "mass" is

simply *concentrated* spacetime. We might imagine spacetime itself as a field, and particles with mass as the local excitations of this field. Scientists picture forces operating in space and time. Why do they never conceive of space and time themselves as forces? It becomes easy to do this once space and time are regarded as mathematical, not physical.

Electromagnetism is to the frequency domain of mind as spacetime is to the material domain. Ultimately, absolutely everything, including all forces and all particles, has to be reducible to sine and cosine waves since these are the eternal, necessary basis of existence.

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Boscovich accepted Newton's conception of force, but rejected his notion of hard, extended, physical, spherical atoms, and his absolute space and absolute time. Boscovich's point-atoms exerted a repulsive force of infinity at their precise location. Thus, like modern fermionic particles, no two particles could occupy exactly the same state.

Boscovich's atoms exerted a repulsive force at short distances and attractive force (gravitational) at long distances. In between, the force oscillated between repulsion and attraction. Boscovich's point-atoms were like singularities in a force field (where the repulsive force goes to infinity at zero distance). This could be taken to imply that there are in fact no atoms at all, just a cosmic forcefield, with the illusion of atoms being created wherever the field is found to be infinitely repulsive. However, since Boscovich's point-atoms also had mass and inertia, they were not pure force singularities. In Boscovich's system, forces are properties of the atom (they emanate from the atom). Kant, however, came close to depicting atoms as pure force singularities in a ubiquitous field of force, hence they were not actual "things" in the Boscovichian sense, but more akin to excitations of fields. Likewise, in modern field theories, the forces are properties of space, not of atoms.

Mary B. Hesse wrote, in *Forces and Fields: The Concept of Action at a Distance in the History of Physics*, "... Boscovich does not equate his matter with its force, and still regards his theory in terms of action at a distance, while Kant, through equating matter with *repulsive* force, distinguishes between this, which acts by contact, and *attractive* force which acts at a distance. Maxwell interprets Faraday's work as a replacement of concepts of action at a distance by continuous action in this sense: 'Faraday, in his

mind's eye, saw lines of force traversing all space where the mathematicians saw centres of force attracting at a distance: Faraday saw a medium where they saw nothing but distance: Faraday sought the seat of the phenomena in real actions going on in the medium, they were satisfied that they had found it in a power of action at a distance impressed on the electric fluids.'"

Faraday made forces properties not of matter, but of space. In this view, matter, to the extent that it exists at all, is just force. "Matter" appears at certain points of the forcefield, where the force is particularly intense.

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In Newton's theory of gravity, point mass serves as a calculational device. Newton treats a body of *any size*, even that of a planet or star, as a point, with all of the body's mass concentrated at that point.

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Descartes and Leibniz: space is full (a plenum).

Newton: space is (physically) empty, but contains solid, extended atoms of matter. The force of gravity operates through the void (but may be considered to be transmitted via God's will, through his spiritual body = absolute space).

Boscovich: space is a giant forcefield; atoms are points with unit mass operating within that forcefield, and originating its forces.

Kant: space is a giant forcefield; atoms are points without mass that – at short distances – exert a repulsive force (so atoms are actually just forces ... infinite repulsive forces at specific points in space). The apparent mass and spatial magnitude of monads belong to the forces associated with the monads, not to the monads themselves.

The Philosophy of Physics

"Newton's Theory of Gravity was criticized not only because it postulated forces that acted at a distance without intermediaries, but also because it vested those forces on centres of mass, that is, dimensionless points, which could be located in a void. ... [Newtonians replied] that the little we know about the workings of nature does not entitle us to dismiss a theory whose

predictive accuracy and breadth of coverage so much exceed that of every earlier product of natural philosophy." – Roberto Torretti, *The Philosophy of Physics*

"Boscovich's matter consists of dimensionless particles that act on one another with a force that, as the distance between the particles varies, alternatively becomes repulsive and attractive." – Roberto Torretti, *The Philosophy of Physics*

"A theory of matter along similar lines [to Boscovich's] had been proposed by Immanuel Kant is his *Monadologia Physica* (1756) as an example of the 'joint use of metaphysics and geometry in natural philosophy'. ... Kant describes the physical world as an aggregate of simple substances – designated by the Leibnizian term *monads* – located each at a point in space, some of which are human souls. Each monad exerts on all the others a repulsive and an attractive force. Both forces depend on the distance between the locations of the interacting monads. Over short distances, the repulsive force prevails over the attractive force, but it decreases with distance at a faster rate than the latter. In Kant's view, the interplay of both kinds of forces ensures that each monad takes up – or, as he says, 'occupies' – a definite volume in space, which cannot be penetrated by the volumes 'occupied' by other monads. However Kant's claim is not backed by precise mathematical arguments, nor does he articulate any known phenomenon into a testable model of his theory. Kant lost all hopes that his monads could be used for solving the mind-body problem when he realized that, by the said interplay of forces, they would be liable to be amassed into balls; his philosophical good sense would not let him countenance a 'clod of souls'. Nevertheless, the conception of the human mind as open to modification by the direct physical action of other created entities persisted as a subtext in his critical writings, although in these writings he forbade all inquiry into the ultimate constitution of reality." – Roberto Torretti, *The Philosophy of Physics*

Kant seemed to imply that mental monads differed from physical monads only insofar as the latter exerted a repulsive force as well as an attractive force, whereas the former applied only an attractive force, which would mean that all the mental monads would come together in a "clod of souls", i.e. a Singularity!

“Kant’s theory of matter comprises a threefold commitment to a *dynamist*, a *plenist*, and a *continualist* thesis. The dynamist thesis says extension and impenetrability are not primary properties of matter but derive from more fundamental forces. According to the plenist view, matter fills its space completely and without empty interstices. Finally, on the continualist position matter is infinitely divisible; there are no atoms.” – Martin Carrier, *Kant and the Sciences*, edited by Eric Watkins

“In his pre-critical philosophy Kant pursued a ‘monadology’ which was, like Leibniz’s, based upon a modification of Aristotelian *substances*. ... He objected to Leibniz’s conception of monads as ‘windowless’, and wanted to reaffirm the idea of local causal interaction or ‘influence’ [**MH: all post-Leibniz monadic systems were about making monads windowed (interactive) rather than windowless (non-interactive, but, rather, harmonised by God’s design).**]

“For the early Kant, the *physical* monads that constituted the physical world *actually* interacted, and they did so in such a way that the ‘force’ constituting the active core of any one monad could act on and bring about changes within the properties of other such monads within its sphere of influence. Moreover, as in accordance with Newton’s Third Law, of the equality of action and reaction, this interaction was symmetrical. In the same interaction in which monad A brought about changes in the inessential properties of monad B, in virtue of the action of A’s active forces, the active forces of B brought about changes in the inessential properties of A. One might say that for Kant, the ‘harmony’ of the totality of monads was not ‘pre-established’ but *achieved*: it was a product of the *real* interactions among the physical monads themselves. But while Kant thought of the fact of the changes in any one monad as brought about by the real action of another, he considered the *regularities* of such changes as owing to the existence of a ‘schema’ in the mind of God. Kant’s physical monadology thus combined elements of Leibniz’s monadology with the natural philosophy of British thinkers like Newton and Locke, an amalgam that Kant was to find to be very unstable.

“One of the central elements of the dispute between Newton and Leibniz had concerned their different conceptions of space and time. While Newton thought of space as a type of infinite container existing independently of the things in it because it was an attribute of God, Leibniz held a so-called *relational* theory of space and time in which Newton’s supposed empty but

absolute infinite magnitude was to be explained through relations existing among the monads themselves. Monads, then, could not be conceived as existing *in* space and time, because this latter conception *presupposes* the independent existence of the spatiotemporal framework that the monads are 'in'. ... For Newton, material bodies *occupied* space, but Kant thought of physical monads themselves as simple, indivisible and without the extension needed *to be* space occupying. Physical monads *seemed* to occupy some particular space at any particular time only because of the forces they could exert on other monads, specifically their *repulsive* forces. This idea that a point-like monad *indirectly* occupied space in virtue of the 'sphere of action' of its repulsive forces thus gave Kant an explanation of the apparent phenomenon that two bodies cannot occupy the same space at the same time, while avoiding the assumption of their being composed of 'matter', the primitive properties of which included being space occupying.

"Kant seemed to think that his transformed monadology solved one of the unsolved problems of early-modern philosophy – the 'mind-body problem'. Descartes had conceived of mind and body as different substances: while the body was spatiotemporal, the mind was not. But this raised the problem of how a non-spatiotemporal substance could possibly interact with a spatiotemporal one. ... Kant seemed to believe that his variant on Leibniz's monadological position could explain how these problems centring around the thorny issue of the mind's relation to the body could be overcome. 'Mental monads', as extensionless, were not space-occupying. Nevertheless, they were *in* space in that they could be conceived as located *at* some particular spatiotemporal points. It would seem, then, that a mental monad might at any one time somehow coexist in space with physical monads because neither were *directly* space-occupying." – Paul Redding, *Continental Idealism: Leibniz to Nietzsche*

Kant thought that, as well as physical monads, there were "mental monads", extensionless and occupying no space. Nevertheless, they were in space since they could be found at specific locations. So, mental and physical monads could coexist in space because none of them directly occupied space.

Compared with Descartes, who defined souls as unextended, and matter as extended, Kant defined both souls and "matter" (point-atoms) as unextended, and asserted that each exerted forces. Of course, Kant's solution – which seems plausible at first – simply generates a new problem:

how and why are soul atoms different from "matter" atoms? The implication is that "God" creates them differently, but, if you disregard a Creator, what then? It's impossible to explain why there are two different categories of point-atoms: souls and non-souls. This is simply Cartesian substance dualism in a new guise. We can now see how such substances might interact, but we can no longer provide a clear-cut distinction between them (as Descartes did with his immaterial non-extension versus material extension), so we would be inclined to disregard either soul-atoms or matter-atoms and thus create a logical mental or material monism, rather than illogical mind-matter dualism.

It's fascinating to note that the later Kant – who repudiated the ideas of the *Physical Monadology* – still maintained an ambiguity between mind and matter. When Kant later talked of "unknowable noumena", he effectively posited two categories of such noumena: 1) "material noumena", from which we could derive the empirical, scientific, phenomenal world, and 2) "immaterial phenomena" (souls and God) that could *never* be empirical, phenomenal objects, but whose existence had to be assumed if we were to accept a religious, moral world of faith. This world existed permanently outside the scientific world. We could never "know" it via theoretical reason, but we could apply "practical reason" to it, i.e. reason associated with morality and teleology rather than with science and mathematics.

"For Kant, the mind was effectively *coextensive* with the body, an idea allowed by the notion that point-like monads were themselves extensionless, together with the idea that mental monads lacked the repulsive force which gave physical monads their apparent space-occupying character. But repulsive force was that whereby physical monads interacted among themselves, and *without* repulsive force it became unclear how mental monads *could* act upon each other, or upon *physical* monads." – Paul Redding, *Continental Idealism: Leibniz to Nietzsche*

So, Kant's idea was that attractive and repulsive forces governed physical monads. Mental monads, on the other hand, experienced only attraction and no repulsion: they didn't endure repulsion and nor did they repulse anything. Kant had the idea that the soul was "attracted" to the body, and it to the soul. Thus he had a superficially plausible means of linking a soul to a body in a respectable scientific and mathematical manner. However, he eventually realised that there was nothing to stop all souls being attracted to

each other and forming a great ball, or clod, of souls. (In fact, a Soul Singularity would be created). Kant thought this absurd, and it eventually put him off the whole idea of physical and mental monads, leading him to fashion his "Critical Philosophy" of his later years. However, he was wrong to reject the notion of all souls existing together in an ontological Singularity. This, in fact, was the very Singularity that gave rise to the Big Bang which produced the physical world of spacetime!

Mind is *always* defined by an unextended, immaterial, dimensionless Singularity, and matter is always defined by extension, exactly as Descartes said. However, mind and matter are not separate substances (as Descartes insisted): matter *comes from mind* via Fourier mathematics, which converts mental (frequency) functions into material (spacetime) functions.

"The central idea of this earlier [Kantian] theory is that we can preserve the fundamental monadological commitment to the simplicity of material substance in the face of the geometrical infinite divisibility of space by representing the filling of space by a Newtonian action-at-a-distance force emanating from a central point." – Michael Friedman, *Kant's Construction of Nature*

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"About material atomism: it belongs among the best refuted things that exist. Perhaps no one among the scholars of Europe today is still so unscholarly as to attach serious significance to it (other than employing it as a handy means of expression), thanks mainly to the Dalmatian, Boscovich, who, together with the Pole Copernicus, has turned out to be the greatest and most successful *opponent* of 'eye-witness-evidence'." – Nietzsche

Science is all about "eye-witness-evidence". It's definitely not about reason and logic ... about eternal *proof*.

The Monadology

Leibniz advocated a purely mental monadology, deriving a material world from it as a well-founded phenomenon. Kant, Boscovich and others were concerned with adding a physical monadology to Leibniz's system in order to create something that seemed compatible with the triumphant Newtonian physics of the day. Here we see a classic example of bad thinking arising from the perceived need to make one theory compatible with a more

successful, popular and fashionable one. In fact, the right strategy was to show how Newtonian physics might be compatible with Leibniz's *Monadology*, not the other way around.

Newton's treatment of gravity can easily be considered to be reflective of a physical monadology. He considers planets as point masses, interacting via an attractive force (gravity) reflecting "action-at-a-distance" across empty space. It's no wonder that Kant and Boscovich believed Newtonian gravity to be so amenable to being converted into a monadic theory.

Kant proposed extended "force-shell" atoms, each projected by a core *punctum* (point). What he had in mind was something vaguely akin to a repulsive electron shell around a point nucleus. The point nucleus was the true reality but it projected outwards a repulsive field. It wasn't the point-nucleus that occupied space but, rather, the repulsive field it emitted, which gave way to an attractive field at larger distances (to accommodate Newtonian gravitational attraction).

Dimensional space, in this view, is actually nothing but forcefields generated by dimensionless points. Points are the true reality and fields their creation (or, alternatively, fields are the true reality, and specific dimensionless points are where the fields condense, localise or focus). In modern quantum field theory, fields are considered the true reality and particles are local excitations or condensations of the fields.

The Clod of Souls

Kant was horrified by the notion of a "clod of souls" – all souls together in a mathematical Singularity – and his discomfort with this idea led him away from a mathematical Leibnizian monadology. His revulsion is somewhat bizarre given that he was a Christian, and is not the Christian heaven where all of the dimensionless Christian souls gather together with the Christian God in a place (*topos*) outside space and time? There's no physicality in heaven, no space and time, so how is this not an immaterial Singularity of God and all the souls he allegedly created?

One of Kant's greatest disciples was Schopenhauer, a zealous atheist, who eagerly embraced the notion of a mental Singularity outside space and time. He posited a unitary, noumenal, Cosmic "Will" as the quintessence of existence.

The Likeable Truth?

How receptive people are to an idea determines how seriously they take it. If they don't like it, they attack it, or move on. But why should the Truth be *likeable*? Most people can't take seriously the idea of a mathematical universe because they associate it too much with the horrible, abstract subject forced on them at school.

Feeling types long for some mystical being as the explanation of reality ... someone with whom they can have an emotional relationship. Intuitives long for some mystical vision of Oneness. Sensing types are convinced of the reality of "material" things, independent of mind. Only rationalists are willing to reason their way to the Truth, and accept it no matter how weird and unpalatable it is to ordinary people. Only rationalists can escape the Matrix constructed by our minds. Reason is how we transcend our minds and link to the eternal truths of immortal, necessary existence. Only reason frees us from the human condition, and shows us what *preceded* the human condition.

Matter?

In most things in life, people take things for granted. They are too lazy, too stupid, to properly consider anything. Take, for example, the concept of "matter", so essential to scientific materialism and so widely and uncritically accepted by the general public. How many people in the world believe absolutely and fundamentally in material atoms? If we were to say that there are no such things, that they are merely heuristic fictions employed in a fallacious scientific materialist model (simulation) of the world of appearances, how many people would laugh at us? Yet how many of these same people can actually define what matter is ontologically? Do they even understand the question? An excellent book describing the development of the concept of matter is *The Architecture of Matter: Galileo to Kant* by Thomas Holden. We have used it as a source for some of the discussions in this book.

Scientists invariably ignore Holden's book, and many others of a similar kind that examine the history of various important concepts used in science. What you find when you interrogate most scientists is that they are clueless about the history and development of their subject, and use concepts in the manner in which they believe everyone else is using them, while never

appreciating that incredible unresolved controversies have raged, and still rage, around absolutely every concept deployed by science.

Thomas Holden is a philosopher, not a scientist, and it's telling that philosophers, not scientists, furnish the bulk of the most challenging material concerning science. The average scientist has zero curiosity about what Kant thought of matter, and arrogantly believes he has nothing to learn from Kant, one of the greatest intellectuals of all time. It's a staggering thing when you hear pedestrian, unimaginative scientists openly scoffing at the likes of Kant. It's equivalent to baboons with red bottoms mocking the Gods.

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Abstract of *The Architecture of Matter: Galileo to Kant* by Thomas Holden:

"Examines the debate in early modern philosophy over the composition and internal architecture of matter, focussing on problems concerning the structure of continua, the metaphysics of parts and wholes, and the individuation of material beings. Are the parts of material bodies actual or potential entities? Is matter divisible to infinity? Do material bodies resolve to atoms? All the leading figures of the period address this cluster of issues, including Galileo, Descartes, Hobbes, Leibniz, Newton, Hume, Boscovich, Reid, and Kant. Presents a historical and critical study of these discussions, and offers an overarching interpretation of the controversy. Locates the central problem in the tension between the early moderns' actual parts ontology on the one hand, and the programme of the geometrization of nature on the other."

To extend Holden's conclusion, there remains in science to this day an unresolved and untenable tension between the ad hoc concepts with which science is riddled, and the analytic concepts of the mathematics upon which science relies. Take the concepts of space and time. What are these ontologically? Science has never told us. Science gives us a ruler to measure space and a clock to measure time, but that simply invites the question: *what* is actually being measured, and *how* is it being measured (i.e. what are rulers and clocks actually doing, a question that becomes even more pertinent in terms of Einsteinian time dilation, length contraction and relativity)?

Here's the truth – you cannot rationally, logically and consistently mix mathematics with anything that is *not* mathematical. Science – an empiricist subject – has no valid link at all to rationalist (non-empiricist) mathematics. Straight away, there will be radical problems in interpretation if you add ad hoc, arbitrary, heuristic terms to mathematics – as science does – without making any attempt to justify them mathematically. What, for example, is an "atom" mathematically?

An atom is defined entirely in quasi-mathematical terms – in terms of numbers, equations, wavefunctions, probabilities, and so on – yet "atom" is no kind of analytic mathematical term. The world of mathematics has no need of scientific atoms, yet science needs mathematics to describe its atoms. This raises a fundamental issue: can we define analytic *mathematical atoms*, and then derive scientific atoms from them? If we can, we thereby demonstrate that the world is mathematical and not scientific. In particular, if we demonstrate that the true atoms of existence are monads made of analytic sines and cosines, we have moved the whole nature of reality away from materialism, empiricism and science, to idealism, rationalism and mathematics. This is the supreme paradigm shift.

It's a fundamental contention of ontological mathematics that what science refers to as a "photon" is actually (in itself) a combination of one sine wave of a given frequency, tied to one cosine wave of the same frequency, in a perfect orthogonal phase relation to one another. "Matter" is what you get if you untie these waves from each other and allow them to enter into mixed relations with other sines and cosines (always involving a non-orthogonal phase relation). It really is as simple as that. Absolutely everything reduces to sines, cosines and their phase relations, i.e. all the stuff of Fourier mathematics.

In this worldview, all scientific concepts are reducible to properties of analytic sinusoids, and otherwise have no ontological validity (i.e. they are merely heuristic fictions). "Mass", "energy", "speed", "time", space", "light" must all be defined in terms of sinusoids in order to make science compatible with mathematics, and in order to allow existence to have an answer.

Only necessary, eternal, analytic mathematics can provide a single, closed solution to the mystery of existence. That's the most blunt fact of all. Of course, you already need to be rational and mathematically minded to realise that. It's mathematics or eternal mystery. Which do you prefer?

Ninety-nine percent of the human race isn't in the game. Only the most brilliant human beings understand what we're talking about.

If you're a great believer in science, *prove* that we are wrong ... using reason, logic and mathematics, not your own ideology, dogmatism and faith. Good luck with that!

Science – mired in contingency, provisionalism, temporality, the ad hoc, the heuristic, pragmatic, instrumental and arbitrary – can *never* deliver an answer to existence, and can *never* produce a "final" scientific theory of everything. That's a fact. If you haven't grasped that yet, you're as philosophically illiterate and ignorant as the average scientist.

We simply don't regard scientists as the intellectual equals of philosophers and mathematicians. They are the B-team, the second League, the second rate – inferior thinkers in every regard.

Classical and Quantum Fields

"A classical field theory is a physical theory that describes the study of how one or more physical fields interact with matter. The word 'classical' is used in contrast to those field theories that incorporate quantum mechanics (quantum field theories).

"A physical field can be thought of as the assignment of a physical quantity at each point of space and time. For example, in a weather forecast, the wind velocity during a day over a country is described by assigning a vector to each point in space. Each vector represents the direction of the movement of air at that point. As the day progresses, the directions in which the vectors point change as the directions of the wind change. ... The term 'classical field theory' is commonly reserved for describing those physical theories that describe electromagnetism and gravitation, two of the fundamental forces of nature.

"Descriptions of physical fields were given before the advent of relativity theory and then revised in light of this theory. Consequently, classical field theories are usually categorised as non-relativistic and relativistic." – Wikipedia

"In theoretical physics, quantum field theory (QFT) is a theoretical framework for constructing quantum mechanical models of subatomic particles in particle physics and quasiparticles in condensed matter physics, by treating a particle as an excited state of an underlying physical field.

These excited states are called field quanta. For example, quantum electrodynamics (QED) has one electron field and one photon field, quantum chromodynamics (QCD) has one field for each type of quark, and in condensed matter there is an atomic displacement field that gives rise to phonon particles." – Wikipedia

"The Croat Jesuit and natural philosopher Roger Boscovich (1711 – 87) ... arrived at the theory of force-shell atoms through a consideration of the problem of impacts within Newtonian dynamics. The traditional perfectly rigid and undeformable atoms of classical Newtonian theory, being completely inelastic, would have to change velocities *instantaneously* in shock impacts. But this is absurd, not least because it would require infinite acceleration and hence infinite force. Boscovich was thus led to replace the system of perfectly solid and rigid Newtonian atoms with elastic shells of resistant force, each of which is projected by a central core *punctum*." – Thomas Holden, *The Architecture of Matter: Galileo to Kant: Galileo to Kant*

Kant-Boscovich "atoms" are based on dimensionless point nuclei that occupy space through their shell of repulsive forces, varying with distance from the nucleus. This is called "an orbit of activity" and is a sphere of force projected by the point core. Crucially, this system dispenses with matter in any traditional sense. Matter, in this view, is not "solid" and "space-occupying". Rather, "matter" is reduced to *immaterial*, space-occupying forces that produce the *illusion* of matter, or the expected effects of "matter".

How can any materialist ever disprove this view? Moreover, quantum mechanics destroys any traditional concept of material particles. In the standard interpretation of quantum mechanics, particles vanish into probability wavefunctions and do not simultaneously have a definite position and momentum (which any particle in the classical sense is expected to have). It's increasingly clear that scientific materialists have no idea what "matter" is, which renders their entire belief system absurd. They can furnish no ontological definition of matter.

"Matter" is nothing but a heuristic fiction, and its central function now is simply the negative one of ruling out autonomous mental *existence* (implying the reality of souls and even some kind of "God"). The incredible thing is that the more you study the logic of quantum mechanics and field

theories, the more they seem enormously more compatible with a mental rather than material conception of existence. Science *refuses* to discuss such issues – dismissing them as mere "philosophy" (i.e. non-science) – and it dogmatically and ideologically proceeds as if empiricism and materialism (which are themselves philosophical stances) are unarguably true, while rationalism and idealism and unarguably false. There's no logical, rational basis at all for science's quasi-religious stance.

In the end, science's sole method for justifying itself is to appeal to its perceived "success". However, that success is owed entirely to mathematics, and mathematics in itself has no connection with empiricism and materialism.

Do you get it? Science is about materialism, empiricism and *phenomena*. Mathematics, without which science would be useless, is about idealism, rationalism and *noumena*. Both can't be true. If you accept mathematical rationalism, then, logically, you automatically reject scientific empiricism. If you accept mathematical idealism, you automatically reject scientific materialism. If you accept ontological mathematics, you accept that noumena are the ultimate reality.

If you accept science, you are claiming that ultimate reality is all about observable phenomena, yet there were no observable phenomena, even in principle, in the immaterial, dimensionless state prior to the Big Bang.

Rationally, materialism has been smashed to smithereens as much as any absurd religion has, so it's staggering that so many scientists still openly subscribe to this disproven Meta Paradigm. Even worse, Leibniz, Berkeley, Kant, Boscovich and others showed centuries ago that the central claims of materialism were false, and that all materialist claims could easily be reinterpreted in immaterial terms.

If you remove matter from science, what are you left with scientifically? Not a lot! Scientists believe that you if you remove "matter", there's nothing left to discuss. Yet of course there is – *mind*!

In truth, matter is simply a mental construct produced mathematically. There's no such thing as a material world – independent of minds – which, somehow, gives rise to minds. The precise reverse is the case. "Matter" is just a set of objective mental relations described mathematically.

It's time for the false ideology of materialism to be obliterated. In its own way, it's every bit as pernicious and irrational as Abrahamism.

Materialism rests on the simple fallacy that experiments tell us about some supposed world that exists independently of our minds. Experiments do nothing of the kind. What they actually show us is the *objective dream* of infinite minds (the Monadic Collective) – a dream stripped down to bare, objective mathematics – upon which we then impose subjective opinions, beliefs and interpretations. The doctrine of materialism is literally a fantasy ... a mental construct. Matter doesn't exist. The material world is the Matrix.

To understand the true nature of the "physical" world, what you must do is contemplate the difference between minds individually dreaming and minds collectively dreaming. Private dreaming is *subjective* (the rules can change according to the will and whim of the private dreamer), while public dreaming is *objective* (the rules cannot change according to the will and whim of any private dreamer because each dreamer is resisted by all other dreamers, of which there are potentially an infinite number!). In private dreaming, an individual mind can carry out its own mathematics, and change what it likes. In public dreaming, it's the Collective Mind that is performing the mathematics, and the Collective Mind behaves like an objective machine.

It's only when many individual minds within the Collective Mind have attained divinity – *Godhood* – that the Collective Mind can start behaving subjectively. It's the Gods that drive the final phase of the universe: the convergence on the Omega Point ... on heaven itself. Heaven is the final state of the current universe, the state that immediately precedes the "hell" of the Big Bang, and the formation of the *next* universe. The task is then to overcome hell and build heaven anew ... to overcome the Demiurge and "matter" and return to the kingdom of light. The Gnostics knew as much thousands of years ago. Scientists – as fanatical materialists – are servants of the Demiurge and block the Way to the Truth. They are the endarkened ones, opposing the enlightened ones (Illuminati).

The Jungian Collective Unconscious is the basis of the waking world, i.e. the waking world is the objective dream of the Collective Unconscious (just as, in our sleeping world, our subjective dreams are produced by our personal unconscious).

How could any scientific materialist refute us? How could their method help? That method is predicated on the non-existence of both mind and ontological mathematics, so is 100% useless. Science has never been able to

explain dreams, hence it has no idea what the difference is between individual and collective dreaming.

This is a mental universe. It's an extremely sophisticated mathematical dream ... a *holographic dream*. A collective mathematical dream is functionally indistinguishable from an objective "scientific" world that seems anything other than a mental dream.

Matter: The Orbit of Activity

"The monad ... which is the fundamental element of a body, in so far as it fills space, certainly has a certain extensive quantity, namely an orbit of activity." – Kant

What is "matter" if not an "orbit of activity" ... a forcefield? But a forcefield could just as easily be regarded as *mental* rather than material, *mathematical* rather than scientific. Conventional materialism is destroyed as soon as "solid objects" – such as the indivisible atoms of the ancient Greeks – are rejected.

The corpuscularian, atomic model of science is false and refuted, so why is it still taught as if it were true? There are no classical "atoms", there are no sub-atomic particles such as electrons, protons, neutrons, quarks and Higgs bosons. None of these things actually exists. They are heuristic fictions ... manmade language labels attached to mathematical functions and operations (which are the true reality).

The atomic theory is merely a useful fiction to give people some kind of sensory image of what's taking place in the world. What's *actually* happening is an immense cosmic interaction of mathematical functions. All "particles" are defined mathematically because mathematical functions are the true reality – not the heuristic labels attached to them by scientists, which make them seem like solid "things" that have existence independently of math.

The Terrifying Old Ideas

"I can't understand why people are frightened of new ideas. I'm frightened of the old ones." – John Cage

It's amazing how *false* most human ideas are. What's even worse is that they're very obviously false. The falsehoods present in mainstream religion are legion, and it doesn't get much better with science. Science is just a more successful kind of falsehood. It's a heuristic model that converts mathematics into silly, sensory, materialistic notions such as "atoms". What the ancient Greeks regarded as an atom has no resemblance whatsoever to the modern notion of atom, so why is the same word used? This continuing use of outmoded, refuted ideas and names is one of the primary means by which science spreads its fallacious, fraudulent ideas.

When people hear the word "atom", they imagine something akin to what the ancient Greeks proposed. They certainly don't imagine unreal, abstract, mathematical potentiality wavefunctions in need of being "collapsed" by undefined observers. They would quickly abandon their faith in science if they couldn't picture an atom as a solid, real thing.

How can anyone say we live in a "real" world and then, in the next breath, say that reality actually emerges from unreal, abstract wavefunctions that describe potentiality rather than actuality? If people genuinely understood the claims of modern science, rather than converting them into the ancient, invalid ideas of the ancient Greek Atomists, they'd laugh at science. Which ancient Greek imagined that an unobserved cat could be dead, alive and in mixed living-dead states all at once? Yet this absurdity is the kind of lunacy spouted by modern science. Modern science has no connection with reality and actuality. A cat, like a human, is either alive or dead. As soon as you reject that, you've become a total fantasist.

Life is a fundamental aspect of the universe. It's not a "statistical state", as science claims. Of course, if you believe in the religion of matter then, since matter is inherently inert and dead, you are committed to regarding "life" as some bizarre, freakish statistical state that miraculously emerges from non-life, so there's no logical obstacle to mixing death and life statistically.

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For Boscovich, atoms are extensionless points which emit or emanate forces. Matter thus consists not of extended atoms but of something radically different – *fields of force*. And fields of force can easily be regarded as mental and mathematical rather than anything physical. As soon as you deny the existence of Newtonian absolute space and absolute time,

you have irreversibly moved away from any naive notion of a physical container for existence. Without that container, space and time become mental (mathematical) relations, which have no *physical* significance, i.e. they have no reality independent of the minds that think them.

“The safest course appears to be to assume as little as possible, and in that respect the atoms of Boscovich appear to me to have a great advantage over the usual notion. His atoms, if I understand alright, are mere centres of forces or powers, not particles of matter, in which the powers themselves reside.” – Michael Faraday

This is a crucial consideration ... do “forces” emanate from particles of matter (extended particles), or from point-particles (non-extended particles)? Is a hydrogen “atom” an extended proton and an extended orbiting electron ... or is it a “proton” point-particle interacting with an “electron” point-particle? Well, do you know? Do you think any scientist knows? You must be joking! How would the much-vaunted scientific method distinguish between these two scenarios? Everything that is said of one model can be reinterpreted in terms of the other model, yet the two models reflect entirely different ontologies and epistemologies. The whole problem with science is that it can’t distinguish between radically incompatible models of reality provided they both support the experimental “facts” (which, as Nietzsche noted, are always actually *interpretations*). Even worse for science, a reality based on dimensionless point-particles is one that seems much more consistent with a conception of reality based on the mind. Who needs matter?

Hard, solid atoms moving around in a Newtonian absolute container called “space” is a materialist conception of reality. Points in no container, exerting action-at-a-distance forces on each other, constitutes a mathematical and mental conception of reality. Where’s the “matter” in such a system?

The more you think about “matter, the more mysterious and problematic it becomes. Our dreams can be very lifelike, yet there’s no “matter” in our dreams. How can mental dreams be anything like an allegedly non-mental, material world of science? How can they resemble it in any way? In Illuminism, the private dreaming world resembles the collective waking world because both are based on Fourier mathematics. The only difference is that private dreaming is based on individual monadic Fourier

mathematics, while the waking world results from collective monadic Fourier mathematics. It's all in the math.

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Faraday rightly thought that there any number of complications involved in the concept of solid atoms and their collisions. How do atoms maintain their "powers" or "forces"? How are inelastic collisions to be explained? Are forces transferred from one particle to another? If so, doesn't that mean that one atom now has an excess or force and another a depletion? How is that possible? Could an atom become entirely depleted of force? What prevents this?

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The concept of tensed time destroys conventional atomic theory. If the past no longer exists and the future doesn't yet exist then atoms can exist *only* in the present instant, i.e. they are literally recreated on an instant-by-instant basis, hence do not have any enduring nature, as is required by any concept of a material atom. Forces based on mental points can be continuously recalculated. In this context, a force is something that exists solely in the present instant and has no reality beyond that. Only mathematics, and nothing "physical", can allow for the world to be continuously recalculated. If physical things exist then they must have enduring properties that can't change (after all, what would an "atom" be if it had no immutable atomic properties?), yet we know that all allegedly physical things *have* changed ... since none of them existed prior to the Big Bang. And what will happen as the universe continues to expand? Will this expansion leave atoms miraculously unchanged, or will it in fact destroy atoms by destroying the spacetime context in which they are defined? Science expects us to believe that atoms both are and are not enduring things. This is total contradiction in terms. Like so many things in science, it doesn't make any sense at all. All scientific concepts are instrumental and heuristic: none of them can survive any close intellectual scrutiny.

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"For the modern view of physical fields, however, we should look to the eighteenth-century work of Ruggiero Boscovich, and the nineteenth century field theories of Michael Faraday and J. Clerk Maxwell. These three

transformed the idea of a field from an auxiliary concept to be used for continuous matter, a concept chained to a mechanical carrier, to one of a potentially active energy pervading empty space, the region of continuous and vital forces.

“Boscovich, an Italian mathematician, astronomer, and physicist, believed that action at a distance must take place through nonmechanical means. He therefore developed a theory of continuous force functions, which reduced matter to point particles in space and accounted for actions at a distance by forces of attraction and repulsion. In theory, all the quantitative properties of matter were basically dependent on the distance between particles and were a function of distance forces.

“Michael Faraday, the brilliant English experimentalist and discoverer of electromagnetic induction, accepted the forces of Boscovich and believed them to constitute a medium in space. He tried to give substance to the force field itself and ended by reducing material masses to singular points in the field. Faraday considered atoms to be points surrounded by an atmosphere of forces, and he believed forces had properties such as hardness and solidity. Thus made up of atoms and forces, matter could act at a distance.

“More specifically, up to Faraday’s time, Boscovich’s followers had expressed electrical charges or magnetism mathematically as forces at a distance. Faraday introduced into this scheme the idea of lines (or tubes) of force surrounding magnets and having direction (as shown by iron filings) and qualities (push-pull, positive-negative). He envisaged such lines as traversing space through a medium, an ether, and explaining action at a distance. While others had thought in terms of magnet, iron, and distance, Faraday treated magnets and iron as insignificant parts in a total universal involvement. Important were the lines of force stretching out from the magnet in all directions like multitudinous atoms and spanning the universe. Where others had seen distance and action at a distance from material masses-centres of force – Faraday saw a medium and lines of force. Moreover, for Faraday these lines of force composed a representational scheme accounting for experimental results, and not an actual description of reality. They were theoretical constructs, not empirical concepts.

“James Clerk Maxwell, the famous Scottish physicist who based much of his work on Faraday’s, developed a mathematical theory of the electromagnetic field. He argued that light and magnetic energy travel in

transverse waves and that light waves were electromagnetic in nature. He agreed with Faraday that between things exists an ether-like medium that carries the energy pervading space. Energy constitutes the substructure of electromagnetic fields and, like substance, is conserved (by this time the law of the conservation of energy was known).

"After mathematically combining electric and magnetic theories, Maxwell initially turned to mechanical models to explain electromagnetic force. At one time he considered such forces to be molecular vortices in the ether, whirling around at right angles to the lines of force. Eventually, however, Maxwell gave up mechanical models altogether and treated his lines of force as simple mathematical entities. His mathematical electromagnetic field theory gave energy a central role in natural philosophy and implied that reality was a total partnership between energy and matter. And in quantum terms, this is the accepted theory today.

"Basing his theory on Maxwell's electromagnetic field, Einstein also threw out the mechanical model of reality and replaced it with one mathematically combining both energy and matter and creating a continuity between them ($E = mc^2$). Gravitational fields, however, were omitted from electromagnetic field theory. This omission is significant, to say the least. Einstein tried, and others have continued the effort, to develop a unified field theory in relativity that would combine electric, electromagnetic, and gravitational fields, but without success. Gravitation is still a phenomenon of its own kind.

"Maxwell's field theory and subsequent elaboration by Einstein and others provided us with a new perspective on nature, ranking in importance with relativity and quantum theory as advances in our knowledge. Previously, natural laws were seen to operate on material bodies, through a material medium, and at that point where material changes or motion took place. Now all space was subject to laws, and laws that are essentially geometrical in form. Mechanics has thus been geometricized and geometry seen as materially active. Nature is fundamentally an electromagnetic field.

"What can we abstract about physical fields from this brief and compressed overview? First, considering the Boscovich-Faraday-Maxwell view as representing field theories, then a field is a condition of space surrounding a body, and not localized as are mechanical bodies. Second, this condition of space is the seat of energy. Energy is thus continuously spread through space by a medium we call a field. Action at a distance then

can be understood as action in a field. Third, field forces comprise the activation of this energy. The building block perspective on matter as but bricks with which objects were constructed was replaced by a view of matter as being active, composed of patterns of energy and excitation.

"Fourth, the field became a mathematical construct connecting observable events. It was not directly measurable and could not be directly proven empirically; 'field' cannot be operationally defined. Confirmation of field theory is then based on the results to which it leads. Finally, and consequently, field forces are latent functions (or latent observables as they are known in physics) as I will use the term here. They are what underlie, as conditions, causes, or properties, the observed behaviour of physical nature." – R. J. Rummel, *The Dynamic Psychological Field*

Isn't it obvious that the concept of physical atoms has died? Without these atoms, there can be no materialism. After all, they are the basis of matter. Atoms, matter, space and time have vanished into mathematical points and mathematical fields. So, what remains is pure mathematics, with various labels attached to discrete mathematical phenomena. However, what is needed is a description of the mathematical *noumena* that underlie all mathematical phenomena. This is what transcendental, ontological mathematics is all about.

Science remains stuck at the sensible level of appearances. It never reaches the hidden, noumenal, intelligible layer underneath. Science is literally superficial mathematics. It's math for sensory, shallow people, lacking in reason and logic, and bewitched by "seeing is believing".

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"The view of the atomic constitution of matter which I think is most prevalent, is that which considers the atom as a something material having a certain volume, upon which those powers were impressed at the creation, which have given it, from that time to the present, the capability of constituting, when many atoms are congregated together into groups, the different substances whose effects and properties we observe. These, though grouped and held together by their powers, do not touch each other, but have intervening space, otherwise pressure or cold could not make a body contract into a smaller bulk, nor heat or tension make it larger; in liquids these atoms or particles are free to move about one another, and in

vapours or gases they are also present, but removed very much further apart, though still related to each other by their powers. ...

"The atomic doctrine is greatly used one way or another in this, our day, for the interpretation of phenomena, especially those of crystallography and chemistry, and is not so carefully distinguished from the facts, but that it often appears to him who stands in the position of student, as a statement of the facts themselves, though it is at best but an assumption; of the truth of which we can assert nothing, whatever we may say or think of its probability. The word atom, which can never be used without involving much that is purely hypothetical, is often intended to be used to express a simple fact, but, good as the intention is, I have not yet found a mind that did habitually separate it from its accompanying temptations; and there can be no doubt that the words definite proportions, equivalents, primes, &c., which did and do express fully all the facts of what is usually called the atomic theory in chemistry, were dismissed because they were not expressive enough, and did not say all that was in the mind of him who used the word atom in their stead; they did not express the hypothesis as well as the fact. ...

"If the view of the constitution of matter already referred to be assumed to be correct, and I may be allowed to speak of the particles of matter and of the space between them (in water, or in the vapour of water for instance) as two different things, then space must be taken as the only continuous part, for the particles are considered as separated by space from each other. Space will permeate all masses of matter in every direction like a net, except that in place of meshes it will form cells, isolating each atom from its neighbours, and itself only being continuous.

"Then take the case of a piece of shell-lac, a non-conductor, and it would appear at once from such a view of its atomic constitution that space is an insulator, for if it were a conductor the shell-lac could not insulate, whatever might be the relation as to conducting power of its material atoms; the space would be like a fine metallic web penetrating it in every direction, just as we may imagine of a heap of siliceous sand having all its pores filled with water; or as we may consider of a stick of black wax, which, though it contains an infinity of particles of conducting charcoal diffused through every part of it, cannot conduct, because a non-conducting body (a resin) intervenes and separates them one from another, like the supposed space in the lac.

"Next take the case of a metal, platinum or potassium, constituted, according to the atomic theory, in the same manner. The metal is a conductor; but how can this be, except space be a conductor? for it is the only continuous part of the metal, and the atoms not only do not touch (by the theory), but as we shall see presently, must be assumed to be a considerable way apart. Space therefore must be a conductor, or else the metals could not conduct, but would be in the situation of the black sealing-wax referred to a little while ago.

"But if space be a conductor, how then can shell-lac, sulphur, &c. insulate? ... for space permeates them in every direction. Or if space be an insulator, how can a metal or other similar body conduct?

"It would seem, therefore, that in accepting the ordinary atomic theory, space may be proved to be a non-conductor in non-conducting bodies, and a conductor in conducting bodies, but the reasoning ends in this, a subversion of that theory altogether…" – Michael Faraday *on the Nature of Matter*

"If, in the ordinary view of atoms, we call the particle of matter away from the powers 'a', and the system of powers or forces in and around it 'm', then in Boscovich's theory 'a' disappears, or is a mere mathematical point, whilst in the usual notion it is a little unchangeable, impenetrable piece of matter, and 'm' is an atmosphere of force grouped around it. ... To my mind, therefore, the 'a' or nucleus vanishes, and the substance consists of the powers or 'm'; and indeed what notion can we form of the nucleus independent of its powers? ... all our perception and knowledge of the atom, and even our fancy, is limited to the ideas of its powers: what though remains on which to hang the imagination of an 'a' independent of the acknowledged forces?" – Michael Faraday

Given Faraday's views, isn't it astounding that science is still dominated by the concept of the physical atom, a fiction that properly belongs to ancient Greek philosophy? There are no physical atoms, and no physical particles at all. Everything reduces to a variety of stable collections of mathematical sinusoids. Each sinusoid is nothing other than a basis thought ... a thought in itself. Once this is grasped, science can at last embrace mind ... because minds are none other than autonomous, complete and consistent collections of sinusoids (i.e. thoughts!).

Each and every monadic mind is a whole and full expression of ontological mathematics. Every monad contains the entirety of

mathematics, which is exactly why all monads can communicate *perfectly* mathematically.

Science has never once explained how all material particles know what to do – how to act or react – in any particular situation. Unless each particle contains the full laws of science, it wouldn't "know" how to behave in every scientific situation that confronts it. If the laws *are* contained within particles, how and where are they stored? If they *aren't*, then where are the laws of science stored? In non-existence? In the "ether"? In unreal, abstract potentiality?

Why can't science answer the most basic of all questions ... where *are* the laws of science? In what do they inhere? Do they float around as independent, free things?

Science proceeds not by answering fundamental questions, but by *not* answering them. Leibniz sought to explain reality; Newton sought to produce useful equations. Science has always followed Newton, which means that it's full of useful equations, none of which has any conceivable rational explanation, and none of which belongs to any kind of irrefutable, complete and consistent, ontology and epistemology.

"In the 'Speculation', Faraday pointed out that, according to the atomic theory, atoms were not considered to be in contact, and that, if action between contiguous particles was denied, then it would be necessary to ascribe a role to the spaces between the atoms to account for the communication of forces between particles. In his view, space could not have causal or dispositional properties analogous to a material substance (as he later remarked, 'mere space cannot act as matter acts'), and he therefore concluded that the theory of atoms and the void should be abandoned. He claimed that all knowledge of matter was limited to ideas of the system of 'forces or powers' associated with material substances, and he asserted that matter should not be considered as consisting of extended, impenetrable atoms surrounded by forces of attraction and repulsion; instead, matter should be envisaged as a plenum of 'powers' filling space: 'The substance consists of the powers.' This theory denied the impenetrability and indivisibility of atoms, supposing the 'mutual penetrability of matter.' This overcame the problem of explaining the mode of transmission of the forces between contiguous particles, for 'matter will be *continuous* throughout, and in considering a mass of it we have not to suppose a distinction between its atoms and any intervening space.' By virtues of its 'powers',

the defining properties of matter, matter extended continuously through space, and interactions between ‘particles’ of matter were envisaged as interactions between ‘centres of force’ or arrangements of powers diffused through space.

“Faraday indicated that this theory of matter resembled a theory proposed by R. J. Boscovich in the mid-eighteenth century; but Boscovich’s ideas were quite different from Faraday’s, because Boscovich did not define matter in terms of inherent powers but preserved the Newtonian dualism between force and matter, supposing that matter consisted of non-extended centres from which forces of attraction or repulsion operated. Faraday’s theory of matter shows much closer similarities to arguments advanced by Joseph Priestley in the 1770s. Priestley had maintained that the defining characteristics of matter were extension and inherent powers of attraction and repulsion. He rejected the assumptions of Newtonian atomism – that impenetrability and solidity were essential properties of matter – and replaced the Newtonian dualism of atoms and forces by using force to define the essence of matter.” – Peter Michael Harman, *Energy, Force and Matter*

When penetrable force replaces impenetrable solidity as the basis of matter, matter might as well be replaced by mind. Mind is a much better source of force than matter. It’s time for the materialist prejudice to perish. It’s increasingly anachronistic and counterproductive. It’s not promoting the truth, it’s actively obstructing it.

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Faraday implies that there are two ways of describing an atom: 1) on its own – independently and autonomously – with its own forces, which it can project into its environment, 2) dependently and interconnectedly, as part of the environment, where forces are concentrated. In the first case, atoms are emphasized and the environment is their product; in the second case, the environment is emphasized and the atoms are its product.

Instead of treating atoms as hard spheres of matter, coupled together by forces, why not dispense with them altogether, leaving only forces that concentrate at certain points. These atoms are thus the true atoms, unextended and massless. Atoms are no longer solid centres of mass and

extension, but intangible centres of force. It's from the forces, not from the atoms, that we derive mass and extension.

Crucially, the view that matter consists entirely of forces, rather than "atomic matter", means that there's no "space" between atoms. The void is abolished, and we have a force plenum – which was exactly what Leibniz had in mind.

It must be emphasized that there never been any evidence whatsoever that physical atoms exist. Atoms are heuristic fictions. They are metaphysical, non-observable and non-empirical. Atoms are inferences drawn from observations. They are not "facts". No one has ever seen, or ever could see, an atom. What people have seen are patterns that are *interpreted* atomistically. Atoms are in fact pure fiction ... *science fiction*.

If we get rid of solid atoms then what we are left with are just forces, independent of any solid atoms. But if these forces do not originate in solid atoms then where do they originate? The answer is that they originate in every single point of spacetime, i.e. in "point-atoms", which are just monads. And monads are minds!

For Faraday, there are no persistent "corpuscles", but only mathematical points constituting a permanently dynamic system (which must, in truth, be understood as a mental system). This, of course, is none other than Leibniz's position. It's also extremely similar to Nietzsche's universe of nothing but Will to Power – dynamic centres of mental power in a great cosmic contest with each other. Is Will to Power a force emanating from monads? When linked to an unconscious rather than conscious monad, does the Will to Power look exactly like an objective scientific force?

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"[Boscovich] first destroyed the superstition of matter with his theory of the mathematical character of the atom." – Nietzsche

"Matter" is indeed a superstition that refuses to die. Once we replace "scientific" atoms with mathematical atoms, we arrive at an entirely different conception of reality. The dualism between void and matter is instantly eliminated. "Void" itself (it's really Mind, of course) is now the source of force and of the *illusion* of material atoms. This is a strictly mental illusion, i.e. matter is a phenomenon generated by mind. If you think deeply enough about quantum mechanics, that's exactly what it's saying.

The interpretation of the so-called paradox of Schrödinger's cat goes as far as to say that only when a human being opens the cat's box (which has been arranged to have a 50-50 chance of being lethal to the cat), is the cat's fate decided, i.e. the person's act of *conscious observation* (a mental act) determines reality (it collapses the relevant wavefunction). This "scientific" interpretation is verging on insanity, but the point is that scientists openly and unashamedly make such statements about mind generating reality ... yet they never think through the consequences of what they are saying.

In Illuminism, the wavefunction is collapsing everywhere on an instant-by-instant basis (and being instantly reformed), so no observations are *ever* required to actualise reality, i.e. Illuminism supports objective reality. Science doesn't.

Potential versus Actual Space

Boscovich applied an Aristotelian conception to space. He conceived of both "potential space" and "actual space". The latter was occupied by *physical* point-particles with mass, while the former was the "space of the soul" – of massless, *mental* point-particles.

Fit For Life?

"One Japanese biology textbook for high-school gives the following brief explanation as regards the origin of life:

This refers to the coming of life out of non-life on this earth. In the present day, science has advanced so remarkably that we have come to have a considerably reliable understanding as to how life started.

"From these sentences (which represent the tone of the whole book) we will be able to draw several things about the writer and the culture in which he lives. First, the writer is a person who is quite unable, or ashamed, to wonder or be awed at the mystery of life. Second, he takes it for granted that life should come out of matter and nothing else. There is no possible alternative to his way of thinking. And if we go on researching on this assumption, we are certain to solve the question. Third, he lies, deliberately or otherwise, about the situation of the present-day science. Science, at least materialist science, has come no nearer to the mystery of the origin of life than ever before.

“This is a statement, in short, typically of a materialist age and culture. Also characteristic of such a frame of mind is that it cannot dream of, or tolerate, any other outlook on the world. In fact, through long human history, the materialistic view of the world has been only exceptional, but our present-day culture does not question or even tolerate questioning it.

“At the same time, such a way of thinking occasionally lends itself to absurdity and ridicule, as when an NHK education program on biology ventured on the problem of the origin of life. The lecturer typically tried to explain the origin of life by pure chance – comparing the chemical materials necessary for life to the disassembled parts of a clock, and saying if you shook a box containing them for aeons, you might one day succeed in fitting them together all right. This was spoken half in joke, but more in earnest and in a defiant tone – how else dare you explain the improbable event?

“This may seem a particularly absurd explanation of how life began. But a similar analogy of cocktail-shaking is used by the Oxford Darwinian biologist Richard Dawkins– in this case, though, Darwin coming in the end to work the miracle:

‘To try to make a man, you would have to work at your biochemical cocktail-shaker for a period so long that the entire age of the universe would seem like an eye-blink, and even then you would not succeed. This is where Darwin’s theory, in its most general form, comes to the rescue. Darwin’s theory takes over from where the story of the slow building up of molecules leaves off. ... At some point a particularly remarkable molecule was formed by accident. We will call it the *Replicator*.’ [*The Selfish Gene*]

“Though some people may take Dawkins as rather bizarre, he seems to be accepted as a representative biologist of our day, as indicated in the fact that nearly all of his books are translated in Japan. According to biologist Jonathan Wells, ‘No one knows how the first living cells originated, but most biologists think the event was so improbable that it happened only once — or, at most, a few times.’ So the above textbook description and the laugh-provoking NHK lecture, as well as Dawkins’ materialist dogma, are not only not exceptional but seem to be generally accepted as normal or standard.

“All our biology textbooks, which devote a considerable number of pages to the chapter *Evolution of Life*, are written in this vein of thought,

assuming there can be no other way of treating life than this materialistic-naturalistic-reductionist way of reasoning." ...

"The materialist's assumption that inanimate matter is all-important and prior to all is, so to speak, morbid and smacks of underdevelopment or maladjustment of mind, something like autism. To a first view it may seem healthy, firmly grounded on a hard reality, but it restricts itself within an extremely small range of reality, explaining things fairly well within that range but powerless outside it, and worst of all, pretending there is nothing outside it. ... Life as a pre-existing reality is not anything transcending this world: it can be felt and experienced as a fact when animals or humans die. Life exists and pervades our world, making itself felt, though invisible. ... I once proposed in one of my books conceiving it as a 'life field', somewhat in the sense of magnetic field or gravitational field, where the field itself is invisible and only when some piece of metal or some massive object is brought, it becomes visible or perceptible. ...

"The existence of 'a life field' is as real as it is convincing. The idea is supported by discoveries of intelligent design scientists, especially by their demonstration of the 'fine-tuning' of the universe, particularly of our planet for higher animals. The discovery by astronomers that the fundamental physical laws and constants were miraculously fine-tuned to the inconceivable precision that is required to produce higher animals and their 'just fit' circumstances is no small matter. To all appearance this universe is designed for life. The universe itself seems to have grown (or evolved) like an organism even before the appearance of organisms on this planet, with a view to lastly producing the highest life called humans. They have demonstrated that all efforts of the universe have been concentrated on this our planet. There is no other place in the universe, they conclude, like ours just fit for life. Ours is the sole 'privileged planet' of this universe.

"... Given such design arguments now spreading, the Darwinian 'life out of non-life' account of our textbook sounds like a bad, pernicious terror-story for children." – From *A Philosopher's View of the Origin of Life* by Hisayoshi Watanabe, Professor Emeritus at Kyoto University, Japan

Why *is* our universe "just fit for life"? Er, because it's *alive* – duh! It would be too much to expect scientific drones and drudges ever to reach the self-evident answer. There is indeed a "life field", or, alternatively, a "mind field" ... it's living mathematics ... ontological, monadic mathematics, predicated on eternal, necessary mathematical minds (monads). A

mathematical universe is a universe of pure mind and life. It's the opposite of the atheistic, scientific materialist universe of miraculous origin and suitability for life.

The monadic Singularity can be said to be the source of an ubiquitous "life field", an ubiquitous "mental field", so life and mind permeate the entire universe, making the universe an organism rather than a lifeless, mindless, material machine.

Everywhere

Descartes said that mind is non-extended and matter is everywhere. Leibniz said that mind is non-extended and mind is everywhere (with matter as its construct). Boscovich said that matter is non-extended and empty space is everywhere, filled by forces emanating from point-particles. To reconcile all of these views, we simply need to conclude that forces are mental, originate in monadic minds, and one of the things they can produce is extension and the phenomenon of matter. It's all in the math. It's all in the mind.

The Liars

Scientists are lying to you all the time. They are also lying to themselves. Like many liars, they believe their own lies. Scientific materialism is a monumental fraud. It's almost embarrassingly stupid. It's a really bad, childish philosophy superimposed over a mathematical substructure. We need to get rid of the science and free the math.

Impenetrable

Boscovich adhered to an *Axiom of Impenetrability* whereby he insisted that no two material points could occupy the same location simultaneously. Loosely speaking, this is an early statement of fermionic physics. James Clerk Maxwell described this as an "unwarrantable concession to the vulgar opinion". One of the greatest physicists of all time, Maxwell was glimpsing the possibility of bosonic, as opposed to fermionic, physics. Given that bosons such as photons, gluons and hypothetical gravitons have no rest mass, no extension, no dimensions, no volume, no density, then to what degree can such particles be considered material entities at all?

In truth, particles such as photons don't belong to "matter". They are pure dimensionless energy, i.e. mind energy, which is exactly why you can get an infinite number of them in one place ... exactly as you can fit an infinite number of monads into a Singularity.

Boscovich is right that no two "matter" particles can ever perfectly coincide. However, not all "particles" are matter! Non-matter particles can and do coincide with matter particles.

Death

Materialists think of death as the definite end. They imagine all of the atoms that comprise our bodies breaking apart like Humpty Dumpty, and never coming back together again. If we are nothing but our atoms then there is indeed no coming back for us. Yet the atoms that comprise our body are changing all the time. Every time we eat, drink or breathe, we are introducing new atoms into our body. And we are forever expelling waste (old atoms) from our bodies, shedding skin, and so on. Clearly, we are not made of any *particular* atoms. By the time we die, we might not have a single atom left that we had when we were born. It's not atoms that define us, but the information system contained in our DNA and monadic souls. DNA is what physically organises our atoms, and it doesn't rely on any specific atoms. One carbon atom is as good as another.

You lose your fear of death as soon as you lose your fallacious understanding of atoms as material objects. Atheists reject religion because they have no ontological understanding of atoms. They treat them as real things in a real material world. But there is no material world. There's only a mathematical world.

Force Centres

Boscovich defined atoms not as classic particles of matter but as centres of force. Boscovich's theory is one of absolute dynamism. Force, not matter, is the fundamental feature of his universe. In Boscovich's universe, point-atoms never collide, since their repulsive force ensures this can never happen. Energy is never lost or degraded.

For Boscovich, even God is a force. In *Star Wars*, everything revolves around the living, cosmic "Force". It's remarkable that so many scientists love *Star Wars* given that it stands for the opposite of scientific materialism.

Star Wars, like ontological mathematics, is about a living, spiritual, mental universe ... a cosmic organism rather than cosmic machine.

Boscovich's Point-Atoms

Boscovich's point-atoms are perfect Euclidean points with absolutely no magnitude or extension, and "no parts". They are completely simple, with nothing but the ability to originate mathematical force-relations of attraction and repulsion. Boscovich proudly boasted that he had reduced all of Newton's principles to just one – his own Law of Force.

For Boscovich, there are just mathematical points and mathematical forces (energy). To this extent, his system is conceptually the same as Illuminism. However, the details and precise interpretation of his scheme are radically different, especially in his separation of "material" point-atoms and "mental" point-atoms. In Illuminism, all point-atoms are of exactly the same kind: they are all mental point-atoms, from which matter derives. There aren't separate types of point-atoms, some of which give rise to the material world and some to the mental world.

Matter, in Illuminism, is 100% mentally generated. There's no matter at all in any real sense (as scientists conceive it). Moreover, in Illuminism, points do not physically move around, as they do for Boscovich. All monadic points are present in the frequency Singularity, which is stationary in relation to spacetime. It's the dimensional sinusoidal energy they emanate that moves in space and time.

Boscovich and Mass

"The mass of a body is the total quantity of matter pertaining to that body; and in my theory this is precisely the same thing as the number of points that go to form the body." – Boscovich

"Boscovich's system consisted of point masses all identical and exerting forces on each other." – Thomas L. Hankins

"Boscovich's 'elements of primary matter' do achieve dimension solely through their infinite repulsive action at close proximity, and it is hard to assign them mass." – Robert E. Schofield

"...Boscovich's material points, although endowed with inertia, still have no mass in the Newtonian sense of the word." – Max Jammer, *Concepts of*

Force

Boscovich's material points have inertia and "mass", but this mass is a measure of "matter" – one material point equalling one unit of matter, with a mass of one – and is not a measure of Newtonian mass (although it must be proportional to it).

"... Boscovich arrives at his conception of unextended physical points as the ultimate constituents of matter. These points are distinguished from geometrical points by the fact that that they possess the real property of inertia and that they are surrounded by forces. ... The mass of a body is, for Boscovich, 'precisely the same thing as the number of points that go to form a body.' This is obviously quite different from the Newtonian concept of mass as 'quantity of matter'. In fact, since Boscovich's points have no volume, consequently no mass in the Newtonian sense, they also cannot exert a 'force' as this term is used by Newton. Boscovich's forces are, strictly speaking, accelerations. If matter consists of aggregates of unextended points surrounded by forces, material things as ordinarily conceived – as regions of space filled, wither partly or wholly, by solid 'stuff' – are *phenomena*, but they are, to use Leibniz's phrase, *phaenomena bene fundata* [well-founded phenomena]. In Locke's terminology, matter, in itself, has no primary qualities which distinguish it from empty space and which are the basis of a material object's tertiary qualities, its 'powers' to make 'a change in the bulk, figure, texture and motion of *another body*.' The forces – such as gravitational force – which appear to 'emanate' from material objects distinguishable from them on account of the latter's primary qualities are, in fact, not ontologically dependent on any such qualities distinct from them; rather, material objects *consist* exclusively of such forces." – Peter Poellner, *Nietzsche and Metaphysics*

"The mass of a body is the total quantity of matter pertaining to that body; and in my theory this is precisely the same thing as the number of points that go to form the body. ... the idea of mass [in physics] is not strictly definite and distinct, but ... quite vague, arbitrary and confused..." – Boscovich

Boscovich's "mass-points" do not have Newtonian mass. Each has a *dimensionless* mass of "1" (unit mass). An aggregate of ten such points has

a mass of “10”. In fact, it would be better to refer to mass as simply “number”.

The concept of mass in science remains, to this day, “vague, arbitrary and confused.” Just look at the different between absolute Newtonian mass and relativistic Einsteinian mass ... and what about quantum mechanical mass?

“[Boscovich] lays it down that the number of *material* points is finite, whereas the number of *local* points is an infinity of three dimensions; hence it is infinitely improbable, i.e., impossible, that two material points, without the action of a directive mind, should ever encounter one another, and thus be in the same place at the same time. He even goes further; he asserts elsewhere that no material point ever returns to any point of space in which it has ever been before, or in which any other material point has ever been. **[MH: Note that this opposes Nietzsche’s notion of eternal recurrence; Nietzsche himself probably came to agree with Boscovich on this point given that he stopped trying to prove eternal recurrence scientifically, although he was once convinced of its scientific truth.]** Whether his arguments are sound or not, the matter does not rest on a prejudgment formed from experience of bodies of sensible size; Boscovich has convinced himself by such arguments of the truth of the principle of Impenetrability, and lays it down as axiomatic; and upon this, as one of his foundations, builds his complete theory. The consequence of this axiom is immediately evident; there can be no such thing as contact between any two material points; two points cannot be contiguous or, as Boscovich states, no two points of matter can be in mathematical contact. ...

“Every material point is exactly like every other material point; each is postulated to have an inherent propensity (*determinatio*) to remain in a state of rest or uniform motion in a straight line, whichever of these is supposed to be its initial state, so long as the point is not subject to some external influence. **[MH: It doesn’t in fact make any rational sense to claim that some points were initially stationary and some in motion. It must be one or the other, and, since all points can’t be stationary – because the universe would then be devoid of motion – they must all be in motion. To argue otherwise is to subscribe to a kind of untenable Cartesian dualism.]** Thus it is endowed with an equivalent of inertia as formulated by Newton; but as we shall see, there does not enter the Newtonian idea of inertia as a characteristic of mass. The propensity is akin to the

characteristic ascribed to the monad by Leibniz; with this difference, that it is not a symptom of activity, as with Leibniz, but one of inactivity.

"Further, according to Boscovich, there is a mutual *vis* between every pair of points, the magnitude of which depends only on the distance between them. At first sight, there would seem to be an incongruity in this supposition; for, since a point has no magnitude, it cannot have any mass, considered as 'quantity of matter'; and therefore, if the slightest 'force' (according to the ordinary acceptation of the term) existed between two points, there would be an infinite acceleration or retardation of each point relative to the other. If, on the other hand, we consider with Clerk Maxwell that each point of matter has a definite small mass, this mass must be finite, no matter how small, and not infinitesimal. For the mass of a point is the whole mass of a body, divided by the number of points of matter composing that body, which are all exactly similar; and this number Boscovich asserts is finite. It follows immediately that the density of a material point must be infinite, since the volume is an infinitesimal of the third order, if not of an infinite order, i.e., zero. Now, infinite density, if not to all of us, to Boscovich at least is unimaginable. Clerk Maxwell, in ascribing mass to a Boscovichian point of matter, seems to have been obsessed by a prejudice, that very prejudice which obsesses most scientists of the present day, namely, that there can be no force without mass. He understood that Boscovich ascribed to each pair of points a mutual attraction or repulsion; and, in consequence, prejudiced by Newton's Laws of Motion, he ascribed mass to a material point of Boscovich.

"This apparent incongruity, however, disappears when it is remembered that the word *vis*, as used by the mathematicians of the period of Boscovich, had many different meanings; or rather that its meaning was given by the descriptive adjective that was associated with it. Thus we have *vis viva* (later associated with energy), *vis mortua* (the antithesis of *vis viva*, as understood by Leibniz), *vis acceleratrix* (acceleration), *vis matrix* (the real equivalent of force, since it varied with the mass directly), *vis descensiva* (moment of a weight hung at one end of a lever), and so on. Newton even, in enunciating his law of universal gravitation, apparently asserted nothing more than the fact of gravitation a propensity for approach according to the inverse square of the distance: and Boscovich imitates him in this. The mutual *vires*, ascribed by Boscovich to his pairs of points, are really accelerations, i.e. tendencies for mutual approach or recession of the two

points, depending on the distance between the points at the time under consideration. ... it is evident that the word *vires*, translated 'forces,' strictly means 'accelerations' ...

"Thus it would appear that in the Theory of Boscovich we have something totally different from the monads of Leibniz, which are truly centres of force. Again, although there are some points of similarity with the ideas of Newton, more especially in the postulation of an acceleration of the relative velocity of every pair of points of matter due to and depending upon the relative distance between them, without any endeavour to explain this acceleration or gravitation; yet the Theory of Boscovich differs from that of Newton in being purely kinematical. His material point is defined to be without parts, i.e., it has no volume; as such it can have no mass, and can exert no force, as we understand such terms. The sole characteristic that has a finite measure is the relative acceleration produced by the simultaneous existence of two points of matter; and this acceleration depends solely upon the distance between them. **The Newtonian idea of mass is replaced by something totally different; it is a mere number, without 'dimension'; the 'mass' of a body is simply the number of points that are combined to 'form' the body.** ...

"...if one material point alone existed outside the mind, and there were no material point forming part of the mind, then this single external point could in no way be perceived. In other words, a single point would give no sense-datum apart from another point; and thus single points might be considered as not perceptible in themselves, but as becoming so in relation to other material points. ... [**MH: Thus, logically, Boscovich's point-atoms do not project forces on their own, but only in conjunction with other point-atoms, meaning that forces do not come from point-atoms per se, nor from space, but from the presence of *multiple* point-atoms in space.**]

"... into any space, however small, there may be crowded an indefinitely great number of material points; this number can be still further increased to any extent; and yet the number of points finally obtained is always finite. It would, again, seem that the system of Boscovich was not a material system, but a system of relations; if it were not for the fact that he asserts that his view is that 'the Universe does not consist of vacuum interspersed amongst matter, but that matter is interspersed in a vacuum and floats in it.' **[MH: In truth, Boscovich's system *is* just 'a system of relations': a system of**

mathematical points and mathematical forces operating between them.]" – J. M. Child

Boscovich's scheme is ingenious and it's remarkably difficult for "corpuscular" materialists to shoot it down. Boscovich has alighted on the true nature of reality – that it's entirely mathematical, and based on points, distances between points, energy and force. Who needs silly, solid "atoms"? They're a chimera. Once solid atoms vanish from the scene, the whole of materialism vanishes with them.

Atomists can do nothing to prove the existence of matter atoms. Every phenomenon attributed to matter atoms could equally well be explained in terms of a scheme such as Boscovich's, which has no solid atoms whatsoever. Conventional atoms are a redundant hypothesis. According to Occam's Razor, they ought to be abolished as entirely superfluous.

Isn't it alarming that in science class you were never exposed to any criticisms of the conventional atomic wisdom? Why not? Science, like religion, promotes its establishment dogmas, and ignores or rubbishes all other possibilities.

Atomic scientific materialism is a fanatical faith that has no rational basis. Point-atoms – which, as Leibniz rightly recognized, must be treated as mental rather than physical – are the true basis of reality. Mind is primary, and matter is derived from it. The materialists are horrified by this, hence have to teach that solid, mindless, lifeless atoms exist, and, from these, life and mind are somehow miraculously engineered – although no scientist has ever got close to proposing how this scientific materialist miracle is accomplished. To them, it simply "emerges" – like magic!

Boscovich versus Leibniz

"The natural philosophy of Leibniz postulated monads, without parts, extension or figure. In these features the monads of Leibniz were similar to the material points of Boscovich; but Leibniz ascribed to his monads perception and appetition in addition to an equivalent of inertia. They are centres of force, and the force exerted is a *vis viva*. Boscovich opposes this idea of a 'living,' or 'lively' force; and in this first dissertation we may trace the first ideas of the formulation of his own material points. Leibniz [via his doctrine of pre-established harmony] denies action at a distance; with

Boscovich it is the fundamental characteristic of a material point." – J. M. Child

Boscovich said the whole of his theory was contained in the statement, "Matter is composed of perfectly indivisible, non-extended, discrete points." This statement implies that no two material points can be at the same place at the same time since then they wouldn't be "discrete": it would be impossible to state which was which without reference to some internal principle within the two particles that would serve to distinguish them.

Leibniz asserted that two objects are identical if they have identical internal properties. However, no two monads can ever have identical internal properties since they are all unique souls with their own unique thoughts.

Modern particle physicists model all particles as points. However, all sorts of infinities are generated when fermionic particles come too close, and these infinities are deemed "unreal" by physics (since they are incompatible with science's ideology of materialism and empiricism), hence it seeks to eliminate them. The whole purpose of the hypothetical 1D-strings of string theory and M-theory is to eliminate infinity-generating points. ["It's the point-like nature of the electron that makes quantum electrodynamics so vexing. Replace the point with oscillations of a line, and the infinities don't occur in the first place. ... The basic idea is that elementary particles are not pointlike but rather infinitely thin one-dimensional objects, the strings. The large zoo of elementary particles, each with its own characteristic properties, reflects the many possible vibration patterns of a string. .... The irreducible quantum of length, denoted l_s, is a new constant of nature introduced by string theory side by side with the speed of light, c, and Planck's constant, h. It plays a crucial role in almost every aspect of string theory, putting a finite limit on quantities that otherwise could become either zero or infinite. ... All the magic properties of quantum strings point in one direction: strings abhor infinity. They cannot collapse to an infinitesimal point, so they avoid the paradoxes that collapse entails. Their nonzero size and novel symmetries set upper bounds to physical quantities that increase without limit in conventional theories, and they set lower bounds to quantities that decrease." – Gabriele Veneziano]

Boscovich's Ten Dimensions?

"In my opinion, the quantum theory does not seem likely to be able to produce a usable foundation for physics: one becomes involved in contradictions if one tries to consider the theoretical quantum description as a complete description of the individual physical system or happening." – Einstein

"A kinematic theory means a theory based on motion considered abstractly without reference to force or mass. **['Kinematics is the branch of classical mechanics which describes the motion of points, bodies (objects) and systems of bodies (groups of objects) without consideration of the causes of motion.' – Wikipedia]** Boscovich was trying to describe such a theory, and did not have the words; these did not come into existence until after his death.

"His theory involved eliminating Newtonian mass as a primary quantity and substituting a kinematic basis. This means he was treating mass in the same way as Minkowski treated time in Einstein's theory. We now talk of four-dimensional space-time. Boscovich was treating mass as another dimension to go alongside space and time. Wesson in 1990 discussed treating mass in this manner: 'Boscovich is thus presenting us with an interesting idea. He is starting with a theory that has puncta (point particles), and then extending the theory to a much wider theory that has bi-punctas (two point-objects joined together). In the "wider" theory, punctas or points by themselves do not exist; instead, bi-punctas exist. By treating space, time and mass as dimensions then each point is defined by five dimensions, so the bi-puncta is defined by 10 dimensions. And with two points we can define a line: a one dimensional object.'

"So, Boscovich had a 10-dimensional theory built on fundamental objects we would now call 'strings', which today is called superstring theory. These bi-punctas of Boscovich are thus foreshadowing the idea of strings. We have a natural progression from classical theory development through Boscovich, an idea that is a modern contender for a 'theory of everything'.

"But modern physicists claim that the unification of physics is very difficult; they have not been able to achieve it. I am now convinced that Einstein is right: the quantum theory of 1925 is wrong, and physicists have been trying to combine the wrong quantum theory. I am further convinced

that Boscovich achieved unification of physics in the 18th century. ... Only philosophers – not scientists – now bother to look at Boscovich, and the philosophers do not know what they are looking at." – Roger Anderton

"Boscovich starts with talking about 'physical point particles' which he called 'puncta'. He then goes on to define several other features, saying what is now interpreted as 'the fields of elementary particles have associated with them a length which appears in certain respects as a minimum; this is often loosely called *the radius of the particle*'. In effect, Boscovich was saying: 'Treat all finite radii as properties not of single constituent entities, but of the laws of two-body interactions.'

"As pointed out by Whyte, this suggests that physics should stop associating radii with single particles and only consider interacting pairs or sets; in other words, physics based on a 'perfectly indivisible and non-extended point', treated as a quasi-material persisting centre of interaction.

"All of Boscovich's puncta are identical, so that the 'mass' of any composite body is simply the number of puncta in it (their actions being additive). Whyte says in his book that 'this is an ordinary number which can be counted, not a dimensional quantity which must be measured in terms of extended units, like space or time'. I think Whyte is in error here. But he makes amends when he says: 'Boscovich, writing in Latin more than a century before the theory of dimensions was developed, could not say 'my theory is kinematic, everything being derived from spatio-temporal relations, not mechanical like Newton's'." – Roger Anderton

There's a radical ontological difference between saying that there are "real", extended atoms, each with a "real" radius, and that there are real, non-extended point-atoms whose force interactions produce the *effect* of atomic radii. Science never considers such philosophical, ontological issues. At all times, it looks for the ideas that are most "productive". If science finds falsehood more productive than truth, it pursues falsehood. Leibniz's system had much more truth content than Newton's, but science followed Newton because he was superficially more successful.

The Spell

Boscovich, like Kant at around the same time, attempted a synthesis of the scientific systems of Leibniz and Newton. Boscovich and Kant both had

interesting ideas, but, like Leibniz, were largely ignored by the scientific community, which was wholly under Newton's spell. Science is nothing but an *American Idol* style popularity contest!

The Mere Fact

The mere fact that we have defined a sinusoid as a thought-in-itself allows us to unite mind and mathematics, which in turn leads to the unification of mind with science and matter (since science is impossible without math, and "matter" is simply a product of *dimensional* mathematics). Illuminism alone has linked mind and matter analytically, via pure math. For those with eyes to see, this is the greatest achievement in intellectual history. It changes *everything*. Above all, it allows the universe to be treated as a living, mental, teleological, mathematical organism rather than a dead, mindless, purposeless, scientific machine. In doing so, it reactivates the ancient Greek way of thinking. Above all, it reawakens Pythagoreanism, Platonism, Aristotelianism and Neoplatonism, but now they can all be treated mathematically rather than metaphysically and mystically. It overthrows once and for all scientific materialism, empiricism, nihilism, randomism, skepticism and atheism. Thus it restores the traditional human conception of reality as being religious and spiritual rather than mechanical and pointless.

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"Leibniz speaks of the *vis viva* [living force] of his physics as *active force*. As *active* it contrasts with the *passive* derived force of impenetrability and inertia which, in his view, are required besides extension for a full account of the essence of matter. As *derived* it contrasts with, and is derived from, the *primitive* active force possessed by corporeal substances and which Leibniz relates to what he calls, in a conscious revival of scholasticism, their substantial forms or entelechies. Though he agrees with the basic tenet of a mechanical philosophy that substantial forms are not be used in physical explanations, he wishes to reinstate them at a deeper level where they provide a proper founding for mechanics." – *Gottfried Wilhelm Leibniz: Critical Assessments, Volume 1* edited by Roger S. Woolhouse

In modern Illuminism, "substantial forms" are treated in terms of analytic sinusoids located in the frequency domain, while the "active force" (the

"scientific" force) derived from them involves analytic sinusoids in the spacetime domain, i.e. Leibniz's metaphysical scheme is replaced wholesale by ontological Fourier mathematics, and is fully comprehensible and explicable within that context.

Boscovich's Theory: In His Own Words

"I explain the Theory itself: that matter is unchangeable, and consists of points that are perfectly simple, indivisible, of no extent, and separated from one another; that each of these points has a property of inertia, and in addition a mutual active force depending on the distance in such a way that, if the distance is given, both the magnitude and the direction of this force are given; but if the distance is altered, so also is the force altered; and if the distance is diminished indefinitely, the force is repulsive, and in fact also increases indefinitely; whilst if the distance is increased, the force will be diminished, vanish, be changed to an attractive force that first of all increases, then decreases, vanishes, is again turned into a repulsive force, and so on many times over; until at greater distances it finally becomes an attractive force that decreases approximately in the inverse ratio of the squares of the distances. This connection between the forces and the distances, and their passing from positive to negative, or from repulsive to attractive, and conversely, I illustrate by the force with which the two ends of a spring strive to approach towards, or recede from, one another, according as they are pulled apart, or drawn together, by more than the natural amount. ...

"[I present] a system that is midway between that of Leibniz and that of Newton; it has very much in common with both, and differs very much from either; and, as it is immensely more simple than either, it is undoubtedly suitable in a marvellous degree for deriving all the general properties of bodies, and certain of the special properties also, by means of the most rigorous demonstrations." – Boscovich

"It indeed holds to those simple and perfectly non-extended primary elements upon which is founded the theory of Leibniz; and also to the mutual forces, which vary as the distances of the points from one another vary, the characteristic of the theory of Newton; in addition, it deals not only with the kind of forces, employed by Newton, which oblige the points to approach one another, and are commonly called attractions; but also it

considers forces of a kind that engender recession, and are called repulsions. Further, the idea is introduced in such a manner that, where attraction ends, there, with a change of distance, repulsion begins; this idea, as a matter of fact, was suggested by Newton in the last of his 'Questions on Optics', and he illustrated it by the example of the passage from positive to negative, as used in algebraical formulas. Moreover there is this common point between either of the theories of Newton and Leibniz and my own; namely, that any particle of matter is connected with every other particle, no matter how great is the distance between them, in such a way that, in accordance with a change in the position, no matter how slight, of any one of them, the factors that determine the motions of all the rest are altered; and, unless it happens that they all cancel one another (and this is infinitely improbable), some motion, due to the change of position in question, will take place in every one of them." – Boscovich

"But my Theory differs in a marked degree from that of Leibniz. For one thing, because it does not admit the continuous extension that arises from the idea of consecutive, non-extended points touching one another; here, the difficulty raised in times gone by in opposition to Zeno, and never really or satisfactorily answered (nor can it be answered), with regard to compenetration of all kinds with non-extended consecutive points, still holds the same force against the system of Leibniz. For another thing, it admits homogeneity amongst the elements, all distinction between masses depending on relative position only, and different combinations of the elements; for this homogeneity amongst the elements, and the reason for the difference amongst masses, Nature herself provides us with the analogy. Chemical operations especially do so; for, since the result of the analysis of compound substances leads to classes of elementary substances that are so comparatively few in number, and still less different from one another in nature; it strongly suggests that, the further analysis can be pushed, the greater the simplicity, and homogeneity, that ought to be attained; thus, at length, we should have, as the result of a final decomposition, homogeneity and simplicity of the highest degree. Against this homogeneity and simplicity, the principle of indiscernibles, and the doctrine of sufficient reason, so long and strongly advocated by the followers of Leibniz, can, in my opinion at least, avail in not the slightest degree." – Boscovich

“My Theory also differs as widely as possible from that of Newton. For one thing, because it explains by means of a single law of forces all those things that Newton himself, in the last of his Questions on Optics, endeavoured to explain by the three principles of gravity, cohesion and fermentation; nay, and very many other things as well, which do not altogether follow from those three principles. Further, this law is expressed by a single algebraical formula, and not by one composed of several formulae compounded together; or by a single continuous geometrical curve. For another thing, it admits forces that at very small distances are not positive or attractive, as Newton supposed, but negative or repulsive; although these also become greater and greater indefinitely, as the distances decrease indefinitely. From this it follows of necessity that cohesion is not a consequence of immediate contact, as I indeed deduce from totally different considerations; nor is it possible to get any immediate or, as I usually term it, mathematical contact between the parts of matter. This idea naturally leads to simplicity and non-extension of the elements, such as Newton himself postulated for various figures; and to bodies composed of parts perfectly distinct from one another, although bound together so closely that the ties could not be broken or the adherence weakened by any force in Nature; this adherence, as far as the forces known to us are concerned, is in his opinion unlimited. ...” – Boscovich

“The primary elements of matter are in my opinion perfectly indivisible and non-extended points; they are so scattered in an immense vacuum that every two of them are separated from one another by a definite interval; this interval can be indefinitely and they are not increased or diminished, but can never vanish altogether without compenetration of the points themselves; for I do not admit as possible any immediate contact between them. On the contrary I consider that it is a certainty that, if the distance between two points of matter should become absolutely nothing, then the very same indivisible point of space, according to the usual idea of it, must be occupied by both together, and we have true compenetration in every way. Therefore indeed I do not admit the idea of vacuum interspersed amongst matter, but I consider that matter is interspersed in a vacuum and floats in it.” – Boscovich

“As an attribute of these points I admit an inherent propensity to remain in the same state of rest, or of uniform motion in a straight line, in which they

are initially set, if each exists by itself in Nature. But if there are also other points anywhere, there is an inherent propensity to compound (according to the usual well-known composition of forces and motions by the parallelogram law), the preceding motion with the motion which is determined by the mutual forces that I admit to act between any two of them, depending on the distances and changing, as the distances change, according to a certain law common to them all. This propensity is the origin of what we call the ‘ force of inertia ‘; whether this is dependent upon an arbitrary law of the Supreme Architect, or on the nature of points itself, or on some attribute of them, whatever it may be, I do not seek to know; even if I did wish to do so, I see no hope of finding the answer; and I truly think that this also applies to the law of forces, to which I now pass on.” – Boscovich

“I therefore consider that any two points of matter are subject to a determination to approach one another at some distances, and in an equal degree recede from one another at other distances. This determination I call ‘force’; in the first case ‘attractive’, in the second case ‘repulsive’; this term does not denote the mode of action, but the propensity itself, whatever its origin, of which the magnitude changes as the distances change; this kind, this is in accordance with a certain definite law, which can be represented by a geometrical curve or by an algebraical formula, and visualized in the manner customary with Mechanicians. We have an example of a force dependent on distance, and varying with varying distance, and pertaining to all distances either great or small, throughout the vastness of space, in the Newtonian idea of general gravitation that changes according to the inverse squares of the distances: this, on account of the law governing it, can never pass from positive to negative; and thus on no occasion does it pass from being attractive to being repulsive, i.e., from a propensity to approach to a propensity to recession. Further, in bent springs we have an illustration of that kind of mutual force that varies according as the distance varies, and passes from a propensity to recession to a propensity to approach, and vice versa. For here, if the two ends of the spring approach one another on compressing the spring, they acquire a propensity for recession that is the greater, the more the distance diminishes between them as the spring is compressed. But, if the distance between the ends is increased, the force of recession is diminished, until at a certain distance it vanishes and becomes absolutely nothing. Then, if the distance is still further increased, there

begins a propensity to approach, which increases more and more as the ends recede further and further away from one another. If now, on the contrary, the distance between the ends is continually diminished, the propensity to approach also diminishes, vanishes, and becomes changed into a propensity to recession. This propensity certainly does not arise from the immediate action of the ends upon one another, but from the nature and form of the whole of the folded plate of metal intervening. But I do not delay over the physical cause of the thing at this juncture; I only describe it as an example of a propensity to approach and recession, this propensity being characterized by one endeavour at some distances and another at other distances, and changing from one propensity to another." – Boscovich

"Now the law of forces is of this kind; the forces are repulsive at very small distances, and become indefinitely greater and greater, as the distances are diminished indefinitely, for the points – in such a manner that they are capable of destroying any velocity, no matter how large it may be, with which one point may approach another, before ever the distance between them vanishes. When the distance between them is increased, they are diminished in such a way that at a certain distance, which is extremely small, the force becomes nothing. Then as the distance is still further increased, the forces are changed to attractive forces; these at first increase, then diminish, vanish, and become repulsive forces, which in the same way first increase, then diminish, vanish, and become once more attractive; and so on, in turn, for a very great number of distances, which are all still very minute: until, finally, when we get to comparatively great distances, they begin to be continually attractive and approximately inversely proportional to the squares of the distances. This holds good as the distances are increased indefinitely to any extent, or at any rate until we get to distances that are far greater than all the distances of the planets and comets." – Boscovich

"I do not admit perfectly continuous extension of matter; I consider it to be made up of perfectly indivisible points, which are non-extended, set apart from one another by a certain interval, and connected together by certain forces that are at one time attractive and at another time repulsive, depending on their mutual distances. Here it is to be seen, with this theory, what is my idea of space, and of time, how each of them may be said to be continuous, infinitely divisible, eternal, immense, immovable, necessary,

although neither of them, as I have shown in a note, have a real nature of their own that is possessed of these properties." – Boscovich

So, for Boscovich, there's no space and no time per se. There are just points and dynamic forces operating between them. This is a rather beautiful vision, but somewhat relativistic and Einsteinian.

In Illuminism, there's a perfect Cartesian grid of points, embracing real and imaginary numbers, and this grid is the necessary precondition for "space" and "time". Energy moving through this arena experiences space and time (i.e. extension in both real and imaginary space). The Singularity of mind (the Fourier frequency domain) exists at the origin of the Cartesian grid. Thus mind is at the centre of matter, frequency at the centre of spacetime, the World Soul at the centre of the Cosmos (its body).

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For science, the concept of real, independent mind is "supernatural" – which simply shows how absurd science is. Science is "subnatural" ... it fails to address the *whole* of Nature. Science is about sensory Nature, but a huge portion of Nature *isn't* sensory, and science can't tell us anything about it.

Space and Time

"According to Boscovich, there are fields of one force which manifest themselves at close distances as repulsion, but at greater distances as attraction. Boscovich's force, when repulsive, serves as his substitute for impenetrable matter; the same force, when attractive, behaves just as Newtonian gravity does. Furthermore, Boscovich was a relationist about space and time. Boscovich's cosmos consists, then, of movable, extensionless centres and the fields of the one force with which they are associated. [Boscovich appears to think of the centres of his fields as movable, massless particles. (**MH: massless in the Newtonian sense.**) However, given his relationism, it is difficult to see the extensionless centres as anything more than an interior limit of the field; in that case, Boscovich's ontology would only consist of fields of force (which stand in various spatial and temporal relations to each other.) This is the point Nietzsche seems to have grasped when he claims that Boscovich has done away with the notion of an atomic substratum of force.]

"When, if ever, should we say that Boscovichian space is empty? One possibility is that every point of space not occupied by a Boscovichian force-centre should be regarded as empty, including those points within a force-centre's repulsive field. This interpretation would have the world consist of far more empty space than a corresponding Newtonian world. However, this seems completely arbitrary. Another possibility would be to say that space is filled only as far as the field's repulsive region extends; once the force begins to manifest itself as attractive, we may regard the associated space as empty. This interpretation would have the world consist of exactly as much empty space as the corresponding Newtonian world. There is also something arbitrary about calling space within which the force operates in one fashion 'empty' and space in which it operates in another fashion 'full'" – R. Kevin Hill, *Nietzsche's Critiques: The Kantian Foundations of His Thought*

"Boscovich does not look on either Space and Time as being in themselves existent; his entities are modes of existence, temporal and local." – J. M. Child

For Boscovich, space and time exist only in relative relations to the movements of his force-centres, and have no independent, absolute existence (as they did for Newton). Space and time are not *containers*. They are mere *relations*, entirely dependent on the arrangement of force-centres.

A Tribute to Boscovich

"In his work Bošković investigated various fields of science, making his most profound contribution to the understanding of the structure of matter. His theory of forces and the structure of matter is now widely accepted, making him a scientist two centuries ahead of his time. His theory was postulated on the principles of simplicity and analogy within nature, and on the principle of continuity. The empirical purpose of the theory was to develop the then-topical scientific problem of collision analysis. According to Bošković, matter is composed of points (puncta), which are simple, indivisible, non-extended, impenetrable, discrete and homogenous, and which are sources of forces that act remotely. These points differ from mathematical points in that they possess the property of inertia, and in that there is a force – Bošković's force – acting between them, which is represented by the Bošković curve (Latin *curva Boscovichiana*). At close

distances the force is repulsive. As distances increase it reaches the point of neutrality, then becomes attractive, then reaches neutrality again, and finally becomes repulsive again. At farther distances the force is attractive, in accordance with Newton's theory of gravity. Bošković proposed a modification in Newton's law of gravity with respect to very long distances. ["Boscovich conjectured that at astronomical distances Newton's law of gravity no longer holds. Instead the force curve crosses the line (of zero force) and alternates again between repulsion and attraction, as it does on microscopic distances (although he did not draw this figure). He further hypothesized that the equilibria created by these alternations are the positions which could be occupied by the fixed stars, creating the observed large-scale structure of a steady-state universe." – Davor Krajnovic] The Bošković curve is uninterrupted and it has two asymptotic ends (the repulsive and the attractive). It crosses the x-axis at the points of neutrality, called the points of cohesion and non-cohesion. Bošković's force is very akin to the force between atoms in a molecule or solid matter as well as to the nuclear force between nucleons (protons and neutrons). Hence Herzfeld described it as 'potential energy according to Bošković'. A single law of forces existing in nature (Latin *lex unica virium in natura existentium*), i.e. the idea that one law can explain all of reality, constitutes Bošković's main contribution to science. The same idea has been entertained by Albert Einstein, Werner Heisenberg and more contemporary scientists, but the four forces in nature (gravitational, electromagnetic, weak and strong nuclear energy forces) have yet to be described by a unified theory. Bošković's single law is a framework for a unified theory of fields or, even more so, for a theory of everything. As a result of the unconditional assumption that the law of continuity must be observed, it followed that there can be no direct contact between particles because of the repulsive force (until then nobody had challenged the idea that there was contact between particles of matter). Modern scientists now agree with Bošković's conception of the basic elements of matter. Bošković's puncta are the most basic particles of matter and are as such comparable to quarks and leptons in modern science. Since matter consists of points, it follows that it contains a lot of empty space. This idea disproved the materialistic-corpuscular theory of matter, set foundations for a real dynamistic-atomic theory, and provided a new perspective on the perception of reality. Just as the work of Copernicus resulted in the idea of the Copernican Turn, this breakthrough should be

recognized as the ‘Boscovichan Turn’ since it constitutes ‘the greatest triumph over the senses achieved on Earth to this time’, and since Bošković and Copernicus ‘have been the greatest and the most victorious opponents of appearances’ (Friedrich Nietzsche, 1882, 1886).

“Allowing for multiple repulsive areas in its potential, Bošković built the ‘pre-model’ of ‘quark confinement’, which is one of the central points of interest in current elementary particle physics. Non-extended points of matter are the building blocks of bigger particles, which in turn build up even bigger masses. Bošković speaks of them as the particles of the first, second, third, etc. order. This reflects the modern understanding of the structure of matter: quarks and antiquarks correspond with the particles of the first order, nucleons of the second, atomic nuclei of the third, atoms of the fourth, and molecules of the fifth. The properties of these particles and the distinctions between them are the result of their internal structures. Bošković was one of the champions of this idea, though the concept of the interconnection between the property and structure of matter was not accepted until the 19th century. (J. J. Berzelius, 1830).

“The application of Bošković’s law of forces to three points, two of which are placed in the foci of ellipses, is known as Bošković’s ‘model of the atom’ (1748). Long before the advent of quantum physics, this model identified the concept of ‘allowed’ and ‘forbidden’ orbits in nature, i.e. it quantifies the trajectory of the particle. J. J. Thomson was directly inspired by Bošković in formulating that idea (1907), which was central for the Bohr Model of the Atom (1913). ‘The Bohr model of the atom is a direct successor of Bošković’s law of forces between microscopically removed particles’ … ‘Where Bošković sowed 200 years ago, the others have reaped” (H.V. Gill, 1941). Bošković can also be considered the forerunner of thermodynamics, the kinetic theory of matter, the theory of elasticity of solid objects, and the explanation of the form of the crystal.

“Bošković criticized Newton’s conception of absolute space and time, and he construed the understanding of spatial and temporal relations as inextricable from point-like atoms and the forces between them. Extended matter is discrete rather than continual and, as such, entails a dynamistic configuration of a finite number of centres of force. According to Bošković’s simple dynamistic atomism, matter is not only endowed with forces (dynamic system), but it is composed of forces (dynamistic system). Forces flow out of the atom and permeate empty space. This idea led to the

concept of the field, much later formulated by M. Faraday (1844), who together with James Clerk Maxwell introduced this idea into science. Bošković's conception of spatially and temporally variable modes of existence (*modi existendi*) had ramifications which, despite all of the differences, bring him into connection with Einstein's theory of relativity. Bošković can be regarded as the forerunner to the theory of relativity in three respects. First, he embraced the principle of relativity (one and a half centuries before Ernst Mach and Albert Einstein) by proposing that direct observation and experimentation can neither distinguish between real space, relative space, time and motion, nor prove the principle of inertia. Secondly, he advocated the idea that the dimensions of an object change as its location changes. However, Bošković did not offer a quantitative measure of that change. Finally, he suggested that space might have four dimensions.

"In *Philosophiae Naturalis Theoria* … Bošković proposed the idea of an omniscient 'spirit' that, based on Newton's laws and on the knowledge of all of the forces and initial positions at one moment, would have complete knowledge of the past and the future. Following essentially identical postulates, the French scientist Pierre Laplace formulated the classical determinism principle nearly half a century later (1814). That 'spirit', that 'intelligent entity', was termed by E. Du Bois-Reymond 'Laplace's spirit' or 'Laplace's demon', although it should have been named 'Bošković's spirit' (S. Hondl)." –

http://www.studyincroatia.hr/about-croatia/culture/300th-anniversary-of-the-birth-of-rudjer-josip-boskovic/rudjer-boskovic-full-biography

The Difference Between "Things" and "Calculated Things"

Physics employs a model of solid things (atoms) persisting through time, even though this is incompatible with the findings of quantum mechanics, which denies the existence of any solid, enduring, well-defined things with a precise, simultaneous position and momentum.

So, if there are no enduring, solid things, what are there? – there are only "calculated" things, things that are calculated on an instant-by-instant basis. The fact that the world seems extremely similar from one instant to the next is not because the world is built of solid atoms that have slightly changed their position but because the calculation of one instant ago is the

basis for the calculation of *this* instant, and so the two calculations are very similar.

The world does not comprise actual physical "things" that change their relationship with each other on an instant-by-instant basis (which would be the basis of a world defined by physics). Instead, the reality is not of "things" but of a continuously evolving mathematical cosmic wavefunction, which, on an instant-by-instant basis, generates the *appearance* of things, but no such "things" are ever older than one instant. They have been freshly calculated by the cosmic wavefunction. This means that we are not in a physical world of solid objects at all but a mathematical world of interfering waves, creating a constantly developing cosmic wavefunction.

To put it another way, we live inside a hologram – which does not comprise any solid things at all. The true meaning of quantum mechanics and all of its apparent enigmas is that the world is not physical but *holographic*, defined by Fourier mathematics, not physics. There are no physical atoms whatsoever, there are only calculated outputs of a mathematical wavefunction, which are functionally equivalent to atoms, i.e. you could never tell the difference between a "physical" atom that was a billion years old and an atom that was mathematically calculated one instant ago, based on a billion years of information that has fed into a constantly changing cosmic wavefunction.

The human sensory mind is locked into the idea of solidity, of physicality, of tangible atoms that have been around for billions of years. However, if there *were* such atoms, they would be the atoms of the ancient Greeks – we could place a label on every single one of them and track their exact position and momentum throughout the whole of time. Heisenberg's uncertainty principle – which denies any such possibility – didn't just destroy classical physics, it destroyed physics itself because it showed that there are no things that correspond to definable, persistent *physical* objects.

The reason why quantum mechanics proves so baffling to so many people, especially physicists (!), is that it has nothing to do with physics and is purely mathematical. We do not live in a world of physics equipped with a mathematical engine; we live in a world of mathematics that presents itself to our senses physically.

To a physicist, physics is the reality while mathematics is an abstraction that helps us with our physics but has no reality otherwise. What quantum mechanics does is prove that mathematics is the reality while physics is an

abstraction that helps us with our mathematics (in sensory terms) but has no reality otherwise. Mathematics is the noumenon and physics the phenomenon.

Physics deals with how our senses interpret a 100% mathematical wavefunction. It therefore stands in the way of our understanding that we inhabit a mathematical, ontological hologram that contains no "physical" things at all!

The best way to get a quick idea of what the world is really like, and how it functions, is to compare it to a video game. With such a game, a whole world is mathematically calculated on an instant-by-instant basis and presented to us on a screen. The depicted world seems remarkably convincing and plausible, but no part of it is "physical". It's not made of atoms or anything solid and enduring. It's simply "made" of mathematical equations being continuously solved.

True reality is exactly the same, except the ontological equations being solved are based on waves and they reflect Fourier mathematics. The wave interference pattern thus generated gives rise to a hologram. Our senses have evolved to allow us to interpret this hologram – full of mathematical forces – as solid and local, even though it's neither. Our senses evolved this way because it proved the most effective way to interpret an otherwise overwhelming amount of non-local mathematical information covering the whole universe.

The "grand illusion" is that we live in a physical world when in fact we live in a mathematical, ontological hologram. Our senses have deceived us by presenting the world to us physically rather than mathematically. Our reason can transcend our senses ... and that's why we can know reality for what it truly is.

The most depressing thing is that the subject of physics still exists even though quantum mechanics has proved that there are no physical things. Quantum mechanics is said to have shown that classical physics was wrong. However, classical physics is the only type of physics that has any trace of logical coherence (albeit none that survives close inspection). When you get rid of classical physics, you don't then move to quantum physics (a new type of physics, supposedly), but to ontological mathematics, with a completely different logic.

Quantum mechanics is wholly based on mathematical wavefunctions, so why do scientists pretend that physics still exists? It doesn't. Mathematics is

all there is ... and how we sensorily interpret mathematical information.

Scientists – being empiricists and materialists – can't escape from their irrational sensory prejudices. Quantum mechanics has destroyed not only classical physics, but also materialism, empiricism and the entire possibility of physics, if by "physics" we mean a subject that studies a solid, enduring world independent of us (and independent of mind) that existed long before us and will exist long after we are all dead.

If "particles" do not have a precise position and momentum simultaneously – hence cannot be exactly tracked through space and time – then they are not particles at all. They are not physical things. Scientists refuse to accept this self-evident truth and insanely blabber on about probabilistic wave-particle duality, as if such a thing – a total contradiction in terms – has some connection with traditional physics. It doesn't. Physics is as dead as the Abrahamic God, and just as shamefully refuses to exit the stage because of the irrational faith of its believers (the sensory scientists).

Quantum mechanics – if properly formulated – is solely about Fourier mathematics (analytic sinusoidal wave mathematics). It has nothing to do with physics.

We're not in Kansas anymore. All scientific explanations of anything at all are bogus and fallacious. The fact that science produces successful and useful models of real phenomena merely demonstrates that we can translate extremely complex mathematics into simple "physical" concepts – heuristic fictions – that prove quite productive. So a cosmic mathematical wavefunction – incomprehensibly complex – that is changing on an instant-by-instant basis, can be treated, simplistically, as an enduring system of solid atoms interacting with each other through time. This model, this approximation, can prove invaluable pragmatically while being wholly divorced from actual reality, in which there are no solid things at all.

There's nothing wrong with using a model, provided you know that it *is* a model and an enormous simplification. In the movie *The Matrix*, the reality perceived by the people trapped in it was nothing like true reality, yet people could live out entirely satisfactory lives within it, and be wholly convinced that everything was as it seemed to be. Scientists in the Matrix would be in a position to carry out science perfectly comprehensibly and usefully – without it having any bearing at all on the real world, but only on the simulated world of the Matrix itself. The scientists would discover all

sorts of laws, but they would be the laws of the simulation, not the laws of *reality*.

Humanity's scientific laws relate to a *Mythos* of what reality is like – a materialist, empiricist paradigm ... a Matrix. You're absolutely wrong if you allow yourself to be lured into believing that science has any truth content. Quantum mechanics irreversibly destroyed the scientific Mythos, but everyone just went on using it anyway. That's science for you!

The greatest error is to think that quantum mechanics has any connection with the localism of classical physics. It doesn't. It's entirely non-local, but can "collapse" instant-by-instant, or be locally interpreted instant-by-instant, to create the sensory illusion of localism.

Here's the question. How would you know whether you were living in a solid, material world, or in a dynamic, holographic world that produces the sensory illusion of solidity on an instant-by-instant basis? What experiments would you perform to distinguish between these ontologically distinct scenarios? Science doesn't have a clue!

Scientists consider themselves rational skeptics. Oscar Wilde said, "Skepticism is the beginning of faith." So it is with science. Scientists are true believers in materialism and empiricism, and never doubt it no matter how much proof is accumulated against their religion.

God and Souls

Boscovich insisted that the laws of physical Nature don't dictate to the soul and God. Instead, God and the soul regulate those laws. Boscovich said that his physical point-atoms must have "a single point in space and a single instant of time". Mind, on the contrary, can exist throughout the whole body and at all points at the same time because it belongs to *potential* rather than *actual* spacetime. God is the Mind Supreme owing to "His own infinite Immensity, (and) is present in an infinite number of points of space." In Boscovich's world, spirit rules supreme over matter, as you would expect given Boscovich's Catholic beliefs.

"All these things show fully that nothing certain can be stated with regard to the seat of the mind from a due consideration of phenomena; nor that its diffusion throughout any great part of the body, or even throughout the whole body, is excluded. But if it [*anima*, the soul] should extend throughout a great part, or even the whole, of the body, that also would fit

in excellently with my Theory. For, by means of such virtual extension as we discussed in Article 83, the mind <anima> might exist in the whole of the space containing all the points which form that part of the body, or that form the whole body. With this idea, in my Theory, the mind <anima> will differ still more from matter; for the simple elements of matter cannot exist except in single points of space at single instants of time, each to each, while the mind <anima> can also be one-fold, and yet exist at one and the same time in an infinite number of points of space, conjoining with a single instant of time a continuous series of points of space; and to the whole of this series it will at one and the same time be present owing to the virtual extension it possesses; just as God also, by means of His own infinite Immensity, is present in an infinite number of points of space (and He indeed in His entirety in every single one), whether they are occupied by matter, or whether they are empty." – Boscovich

Boscovich, like Leibniz, believed that pure reason had a critical role to play in science. Newton, in his public utterances, said that experiments were the bedrock of science, and reason had no part to play, in the sense that something rational but experimentally unobservable should never be accepted by science.

If rational unobservables (noumena) exist, then empiricist materialist science is false. That's a fact. Science based on experiments is the quasi-religious faith that anything not amenable to experimentation cannot exist. There is no sufficient reason, no factual basis, and no evidence at all that science's claim is true.

All rationalists and idealists consider that thinking itself is part of the functioning of the universe. This is emphatically denied by empiricists and materialists.

Idealists – those who make mind the source of matter (as opposed to materialists who make matter the source of mind) – do not accept the existence of two independent worlds: one in which our mind thinks and another – the world of Nature – in which our body exists. To idealists, when we observe the "external" world we are in fact in contact only with sensory information and ideas, not with real, material objects existing independently of mind. From this perspective, the Big Bang was a purely mental event and there were no bodies and senses until such times as these things *mentally evolved*. It was only when we had created mental bodies for ourselves

("force bodies", we might say), associated with sense organs and the senses, that the delusion of materialism became possible.

Here's the big question. How can you experimentally distinguish a *mental body* which is *mentally perceived* to have dimensions, solidity, force, a smell, a touch, a taste, a sound, an appearance, from a *material body* supposed to possess all of those properties?

Every thought we have is a mental event, not a physical one. Where is there one jot of evidence that anything non-mental exists? How could we even understand what a material thing is given that all of our experiences are mental, all of our cognition is mental, and, without our mind, we would have no knowledge of anything at all?

We and the external world are therefore one and the same thing – mental, not material. The laws of Nature are ipso facto mental, mathematical laws.

Father Boscovich

"[The doctrine of Father Boscovich is that] the ultimate elements of which Matter is composed, are unextended atoms, or, in other words, mathematical points, endowed with certain powers of attraction and repulsion; it is from these powers that all the physical appearances of the universe arise. The effects, for example, which are vulgarly ascribed to actual contact are all produced by repulsive forces, occupying those parts of space where *bodies* are perceived by our senses." – Dugald Stewart

"Furthermore, by means of the soul or form, there is a true unity which corresponds to what is called the *I* in us; such a thing could not occur in artificial machines, nor in the simple mass of matter, however organized it may be." – Leibniz

"But in addition to the general principles which establish the monads of which compound things are merely the results, internal experience refutes the Epicurean [i.e. materialist] doctrine. This experience is the consciousness which is in us of this *I* which apperceives things which occur in the body. This perception cannot be explained by figures and movements." – Leibniz

Sufficient Reason

Everything exists according to a reason. “Nothing arises from nothing.” Everything that exists has a sufficient reason to exist.

“That which contains more reality is better than that which contains less reality.” – Leibniz

“[The] best possible world [is that] containing the greatest variety of phenomena from the smallest amount of principles.” – Leibniz

“Space, time, extension and motion are not things but well-founded modes of our consideration. Extension, motion, and bodies themselves, insofar as they consist in extension and motion alone, are not substances but true *phenomena*, like rainbows and parhelia.” – Leibniz

“...matter considered as mass in itself is only a pure phenomenon or a well-founded appearance, as are also space and time.” – Leibniz

“Leibniz splits the realm of the actual into two domains: the realm of monads, the real world, which forms the object of study of metaphysics; and the realm of the things of our everyday experience, the phenomenal world, which forms the object of study of the sciences in general, but pre-eminently of physics.” – Nicholas Rescher

“...mind itself consists properly in only a point of space, whereas a body occupies a place... If we give the mind a greater place than a point, it is already a body, and has parts external to each other; it is therefore not intimately present to itself and accordingly cannot reflect on all its parts and actions... But assuming that the mind does consist in a point, it is indivisible and indestructible...” – Leibniz

Only a monadic mind – an ontological point – can be “intimately present to itself”. A physical brain – as something extended – cannot be “intimately present to itself” and “cannot reflect on all its parts and actions”. A physical brain, without a monadic mind controlling it, could never have any sense of self-identity and personality. We would all be biological robots or zombies.

On Mind and God

Where Descartes suggested, rather absurdly, that the pineal gland was the seat of the immaterial soul, Boscovich proposed that it was present in the

whole body, thus echoing Plotinus who said, “And soul’s nature is so great, just because it has no size, as to contain the whole of body in one and the same grasp; wherever body extends, there soul is.”

To distinguish mind from matter, Boscovich drew on an Aristotelian distinction between *potentiality* (associated with the infinite) and *actuality* (associated with the finite, the material world). For Boscovich, mind inhabited the infinite potential space, while matter (core puncta with their extended shells) inhibited finite actual space. Minds had infinite “real points of position” available to them, while physical atoms had numerically finite “real points of matter” available to them.

Boscovich wrote, “Hence beyond and between two real points of position of any sort there are other real points of position possible [...] without any determinate limit. There will be a real divisibility to an infinite extent of the interval between two points, or, if I may call it so, an endless ‘insertibility’ of real points. However often such real points of position are interpolated, by real points of matter being interposed, their number will always be finite [...] and there will be no gap that cannot be diminished by adding fresh points in between; although it [i.e., gaps in the space continuum] cannot be completely removed either by division or by interposition of points.”

Minds, for Boscovich, could be everywhere where matter could not be, hence could, in “virtual space”, map to all of the physical body and everything in between, to all of space bounded by the body.

Boscovich went on, “In this way, so long as we conceive as possibles <*possibilia*> these points of position, we have infinity of space, and continuity, together with infinite divisibility. With existing things there is always a definite limit, a definite number of points, a definite number of intervals; with possibles, there is none that is finite.”

The idea that Boscovich was really seeking was that minds belong to the frequency domain, outside space and time, while matter belongs to space and time. However, the Fourier mathematics that supports this ontology hadn’t been discovered during Boscovich’s life. Give the tools at his disposal, Boscovich did his best to carve out a separate space where mind could exist independently of matter.

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Boscovich's primary elements of matter – perfectly simple point-particles – are metaphysical but give rise to the physical "atoms" from which material reality is made. Via their physical force projection, the point-particles enter actual space, but, without that projection, they would reside in potential space ("virtual", "imaginary" or "mental" space). This infinite, possibility space, a perfect mathematical continuum is the *topos* (place) of the soul. Hence, to locate soul (mind/spirit), Boscovich appeals to a different kind of space: "potential space" as opposed to "actual space". He then conceives the solution to the intractable Cartesian mind-body problem to comprise the interaction of the "space of soul" of mental point-particles with the "actual space" of physical atoms. He does not explain how mental point-particles can be converted into the point-particles that serve as the core of physical atoms.

In many ways, Boscovich anticipates the claim of Copenhagen quantum mechanics that an unreal, abstract mathematical potentiality space "exists" – where wavefunctions reside – and from this is plucked actuality via observations that cause the abstract wavefunction to "collapse" into reality.

The Copenhagen claim is even more far-fetched than Boscovich's, yet no one ever comments on how crazy the proposed Copenhagen answer is. Scientists robotically accept it, and are far too sheep-like and anti-intellectual to denounce it for the obvious nonsense it is.

You often hear scientists saying that the quantum world is "mysterious" and "bizarre". It's not ... it's their interpretation that is weird, mysterious and bizarre, and it has no rational basis whatsoever.

The Matter Mystery

"To me, matter is nothing but indivisible points, that are non-extended, endowed with a force of inertia, and also mutual forces represented by a simple continuous curve having those definite properties which I [have already] stated ..." – Boscovich

For Boscovich, point-particles – puncta, monads – are zero-dimensional "physical" things (insofar as they generate what we encounter as the physical world).

Boscovich said that these puncta are indistinguishable in their intrinsic qualitative properties, but give rise to distinguishable extrinsic quantitative properties – i.e. all physical phenomena – via their attractions and

repulsions, dictated by Boscovich's single force law (his grand unified field theory of everything).

Boscovich's system is all about dynamic, interacting forces projected from immaterial points. In other words, he replaces a materialist system based on dynamically interacting material atoms with a physical system whose physicality arises not from matter but from immaterial point-atoms that project forcefields into spacetime. Physical extension comes from forcefields, not from atoms of matter.

Well, if you're a materialist, can you prove Boscovich wrong?

In ontological mathematics, monadic point-particles do not project forces *into* spacetime. This implies that spacetime is something inherently separate from monads, thus creating an untenable ontological dualism. So, if spacetime isn't separate from monads, it must *come* from monads. To put it another way, monads don't simply project force and energy, they also project space and time themselves. This happens via the conversion of dimensionless-energy sinusoids (which constitute ultimate reality) into dimensional-energy sinusoids (mathematically, this takes place via the complex phase relations implicit in Fourier mathematics).

A dimensional sinusoid inherently manifests space or time dimensionality (depending on whether it's a cosine or sine), and also carries its intrinsic energy and force into that dimension. When energy is forced into spacetime it becomes "localised energy" = mass.

Any true monistic system – i.e. one that avoids all of the problems of substance dualism or pluralism – *must* be able to explain speed, time, space, mass, energy, force, and so on via a single source. In ontological mathematics, analytic sinusoids are that single source – the supreme chameleon – that can generate this multiplicity of different aspects. Nothing else can do what sinusoidal waves do, so these *must* be the basis of monistic existence.

Sinusoids are inherently dual-aspect systems insofar as they can operate dimensionlessly (as light), and dimensionally (as broken light). i.e. as mind and matter! It's all in the math.

Boscovich was groping towards the right answer, but the mathematics of his day was inadequate for the task. Had he been alive today, he would be entirely onboard with Illuminism's sinusoidal, monadic, monistic worldview of forces and energy, all arising from the properties of analytic sine and cosine waves.

There's nothing more important than getting away from the decrepit notion of "physical" atoms – so beloved by science – and embracing the notion that the "appearance" of physicality arises from the mathematical projection of forces, energy and spacetime from dimensionless points.

Once immaterial points rather than material atoms are accepted as the ground of reality, we can at last move away from scientific empiricism and materialism. We don't need to abandon all of the successful theories that science has already produced ... we just need to abandon how those theories are currently interpreted. They work because of their mathematical content, not because of the materialist, empiricist philosophy through which they are interpreted.

Science is a philosophy – a *false* philosophy. Mathematics is the Truth, and anything, such as science, that has a high mathematical content, can't help but reflect the Truth to some extent by that very fact. Mainstream religion is false because it has no mathematical content at all, and most of philosophy is false for the same reason.

The ultimate dimensionless energy-points are photons, and a complete and consistent set of photons constitutes an immaterial atom (= a monadic mind = a soul). The material world is a mathematical projection from a mental world, which is a world of pure light. The Big Bang was a "phase explosion" where the orthogonal sines and cosines of light became scrambled, and the sines and cosines entered into non-orthogonal relations, thus generating "matter" (= broken, or non-orthogonal light).

We need a force rather than matter conception of reality, just as Leibniz first proposed. With force, we can associate this entirely with mind, and we can get rid of the heuristic fiction that such a thing as solid "matter" truly exists. Matter, such as it is, is entirely derived from mind (from light).

The scientific claim that mind derives from matter is the exact inversion of the Truth. Existence is fundamentally mental, not physical, and mental existence, unlike material existence, is imbued with striving, meaning, and teleology – all the things denied by the likes of Richard Dawkins, Sam Harris, Stephen Hawking and Brian Cox ... the Matter Zealots.

Boscovich was much closer to the truth than any modern scientist. In so many ways, science has gone backwards rather than forwards. It hasn't understood the first thing about ontology and epistemology, which require a philosophical mindset and the kind of intellectual integrity that all scientists lack. Science works for one reason alone ... it uses math! Not even one

scientist has realised that. They think science works because of observations and experiments (empiricism). All the observations and experiments conceivable wouldn't help you if you couldn't match them to mathematical formulae.

Boscovich got rid of extended substance, leaving only unextended monadic substance. This is the key to reality. Substance must be defined dimensionlessly (mentally) rather than dimensionally (physically). The physical is a derivative of the mental.

The universe can reach a state of perfect dimensionlessness (one that entirely dispenses with dimensionality) ... this is none other than the immaterial frequency Singularity of pure mind that precedes a Big Bang. What's for sure is that the universe can *never* reach a state of perfect dimensionality (one that completely dispenses with dimensionlessness). If you don't grasp the implications of this, you will never understand reality. The dimensionless produces the dimensional, not the other way around.

The central fallacy of science is that dimensionality is real, and dimensionlessness is not. That's why scientists believe in matter and not in mind. That's why they dread singularities, zero and infinity.

Point-Particles

For Boscovich, particles are indivisible, non-extended geometrical points, possessing inertia. In pairs or groups, i.e. situations where they interact with each other, they are subject to a single force varying with distance, being sometimes repulsive and sometimes attractive.

In Boscovich's scheme, there aren't multiple forces, but just one continuous, action-at-a-distance curve of attraction and repulsion: a radially symmetric, single valued function of distance, which is asymptotic toward repulsive infinity as two points approach each other at extremely short distances. At long distances, Boscovich's force law approximately replicates the famous, attractive, inverse-square, gravitational curve of Newton.

Boscovich's most famous work was: *A Theory of Natural Philosophy Reduced to a Single Law of the Forces that Exist in Nature*. This is the world's first mathematically expressed scientific law of everything. In many ways, it's vastly superior to – and much closer to the truth – than anything produced by modern science. For one thing, it gets the correct ontological units – unextended point-atoms rather than extended physical atoms.

Scientific materialism will *never* arrive at a final theory of everything since it's mired in contradiction, inconsistency, incompleteness, and a wholly false ontology and epistemology.

Boscovich's force curve is his equivalent of the God Equation. The problem for his system is that is has no eternal, rational necessity. It doesn't explain why the given force curve is anything other than arbitrary, it doesn't provide a satisfactory account of the interaction of mind and body, and does not reflect the principle of sufficient reason. The God Equation rectifies all of these problems and explains *everything*.

Force

Force, for Boscovich, is about point-atoms approaching or receding from one another, getting closer or further apart. Much the same is true of force in modern physics. Gravity brings things closer while anti-gravity pushes them apart. Electrostatic attraction draws things together while electrostatic repulsion drives them apart. The strong nuclear force binds the nucleus together while the weak nuclear force breaks it up. The only fundamentally new ingredient brought to the party by modern physics is that of particles absorbing energy (by absorbing photons, for example) and then releasing it again, i.e. reflecting a system of *dynamic energy levels* that can change according to interaction with the environment.

For Boscovich, two particles could *never* come together (because of repulsion). In modern physics, an electron, for example, (which is a matter particle; a fermion) can absorb a photon (which is a force particle; a boson) and thus attain a temporary higher energy state, and at a later point it will release the photon and fall back to its original state. In some sense, the electron briefly unites with the photon, or creates a temporally unified system.

In the final analysis, only two processes occur between particles:

1) They draw closer together or move further apart. This is the classical, mechanistic model of solid, extended atoms attracting and repelling each other, and never occupying the same space. This is totally reliant on the concept of "material" particles.

2) They unite (combine) or they disunite (break up) ... even this reflects a kind of attraction (combination) and repulsion (disintegration). In fact, the only extra subtlety is that in category 1), two particles can *never* occupy the

same location (this is an *antisymmetric* condition), and, in category 2), they *can* occupy the same location (this is a *symmetric* location). The latter is compatible only with a wave-based (mental), rather than particle-based (physical) understanding of reality.

With categories 1) and 2), we have achieved none other than the wave-particle duality of modern physics, and we have done so through nothing more sophisticated than exploring the concept of "force", and the degree to which particles can come together or move apart. In the particle model of reality, two particles can never be in exactly the same place at the same time (the existence of a solid particle at a specific location precludes any other solid particle from being there too), while, in the wave model of reality, two waves can sit on top of each other and create positive reinforcement, or destructively cancel each other (in relation to spacetime), or exist in partial constructive or destructive combinations.

Force is about attraction and repulsion (most easily conceived in particle terms), and reinforcement and cancellation (which can happen only in wave terms). Absolutely nothing else can happen. Force can have no other meaning.

Merely by examining the concept of how close particles can get to each other, we have shown how the discovery of wave-particle duality wasn't mysterious at all, but *inevitable*. Only waves can sit right on top of each other (get infinitely close), and only waves can sit on top of each other and completely cancel each other (annihilation in spacetime ... but not in the eternal, necessary frequency domain outside space and time).

Only "solid", extended, impenetrable particles can prevent other such particles from sitting right on top of them (i.e. occupying the same location or state). Materialism requires this condition. Materialism is refuted as soon as things *can* occupy the same space (reinforcement), or remove each other from the same space (cancellation). These are unthinkable outcomes in a strictly materialist system. Materialism is ipso facto *falsified*, and cannot be an explanation of reality. It automatically follows that atheism is false too since atheism flows directly from materialism. By "atheism", we mean the denial of any kind of mental reality whatsoever, any reality where souls exist. Souls, not gods or God, are the true essence of religion.

With our analysis, we require a class of particles that can sit exactly on top of each other. These are none other than bosons. We also require a class

of particles that can never sit exactly on top of each other. These are fermions. What could be simpler?

Bosons can sit on top of fermions. This is how a photon (a boson) can interact with an electron (a fermion). Fermions are dimensional, material wavefunctions while bosons are dimensionless, mental wavefunctions. Bosons exist eternally and necessarily, and can never be cancelled under any circumstances. Fermions exist temporally and contingently. The end of the Big Bang universe involves the elimination of all fermions. The Big Bang is when fermions are initially created. Bosons, however, are never created or eliminated. Bosons go hand in hand with eternal mind, and fermions with temporal matter. Bosons are necessary, fermions contingent.

We can posit the following force scheme:

1) Positively charged fermions repel positively charged fermions.

2) Negatively charged fermions repel negatively charged fermions.

3) Positively charged fermions attract negatively charged fermions.

4) Negatively charged fermions attract positively charged fermions.

5) Fermions (with positive, negative or neutral charge) gravitationally attract other fermions (with positive, negative or neutral charge), and, there are also conditions in which they can repel each other via *antigravity* (every force must have a counter force). We have thus catered for attraction (both electrostatic and gravitational) and repulsion (both electrostatic and antigravitational).

6) Bosonic wavefunctions can constructively reinforce fermionic wavefunctions and thereby cause them to rise to higher energy states (addition).

7) Bosonic wavefunctions can also leave fermionic wavefunctions and cause them to fall back to lower energy states (subtraction).

So, simply by adding the bosonic class of mental particles to the classical fermionic class of material particles, we get a far richer version of

Boscovich's scheme. While fermions are the agents of conventional matter, bosons are the agents of mind! This scheme fully explains the mind-matter interaction.

In order to fully bridge the apparent ontological gap between the dimensional and dimensionless domains, we can also hypothesize the existence of *hybrid* particles. These are bosons with a slight fermionic character added to them (such as the famous Higgs bosons), or fermions with a slight bosonic character added to them (which we might dub as anti-Higgs fermions that permit the reversal of the effects of Higgs bosons).

We haven't had to perform a single experiment – to do any "science" – to arrive at this scheme, even though it looks remarkably like the standard model of physics. All we have had to do is consider the concept of force in Boscovich's model, and his notion of monads in "actual space" (the basis of fermions) and monads in "potential space" (which, for us, is the frequency domain where bosons reside).

Here's Wikipedia's take on forces in relation to modern science:

"In particle physics, force carriers are particles that give rise to forces between other particles. These particles are bundles of energy (quanta) of a particular kind of field. There is one kind of field for every species of elementary particle. For instance, there is an electron field whose quanta are electrons, and an electromagnetic field whose quanta are photons. The force carrier particles that mediate the electromagnetic, weak, and strong interactions are called gauge bosons.

"**Particle and field viewpoints**: In particle physics, quantum field theories such as the Standard Model describe nature in terms of fields. Each field has a complementary description as the set of particles of a particular type. A force between two particles can be described either as the action of a force field generated by one particle on the other, or in terms of the exchange of virtual force carrier particles between them.

"The energy of a wave in a field (for example, electromagnetic waves in the electromagnetic field) is quantized, and the quantum excitations of the field can be interpreted as particles. The Standard Model contains the following particles, each of which is an excitation of a particular field:

"Gluons: excitations of the strong gauge field.

"Photons, W bosons, and Z bosons: excitations of the electroweak gauge fields.

“Higgs bosons: excitations of one component of the Higgs field, which gives mass to fundamental particles. [**MH: Without the Higgs field, there would be nothing but dimensionless, massless photons ... not so different from Boscovich’s point-atoms!**]

“Several types of fermions: described as excitations of fermionic fields.

“In addition, composite particles such as mesons can be described as excitations of an effective field.

“Gravity is not a part of the Standard Model, but it is thought that there may be particles called gravitons which are the excitations of gravitational waves. The status of this particle is still tentative, because the theory is incomplete and because the interactions of single gravitons may be too weak to be detected.

“**Forces from the particle viewpoint:** When one particle scatters off another, altering its trajectory, there are two ways to think about the process. In the field picture, we imagine that the field generated by one particle caused a force on the other. Alternatively, we can imagine one particle emitting a virtual particle which is absorbed by the other. The virtual particle transfers momentum from one particle to the other. This particle viewpoint is especially helpful when there are a large number of complicated quantum corrections to the calculation since these corrections can be visualized as Feynman diagrams containing additional virtual particles. **[MH: ‘Virtual’ particles are blatant heuristic fictions ... they have no reality at all and are simply materialist calculational conveniences.]**

“The description of forces in terms of virtual particles is limited by the applicability of the perturbation theory from which it is derived. In certain situations, such as low-energy QCD and the description of bound states, perturbation theory breaks down.

“Examples: The electromagnetic force can be described by the exchange of virtual photons. ... In quantum field theory, even classical forces – such as the electromagnetic repulsion or attraction between two charges – can be thought of as due to the exchange of many virtual photons between the charges.

“**History:** The concept of messenger particles dates back to the 18th century when the French physicist Charles Coulomb showed that the electrostatic force between electrically charged objects follows a law similar to Newton’s Law of Gravitation. In time, this relationship became

known as Coulomb's law. By 1862, Hermann von Helmholtz had described a ray of light as the 'quickest of all the messengers'. In 1905, Albert Einstein proposed the existence of a light-particle in answer to the question: 'what are light quanta?'

"In 1923, at the Washington University in St. Louis, Arthur Holly Compton demonstrated an effect now known as Compton scattering. This effect is only explainable if light can behave as a stream of particles and it convinced the physics community of the existence of Einstein's light-particle. Lastly, in 1926, one year before the theory of quantum mechanics was published, Gilbert N. Lewis introduced the term 'photon', which soon became the name for Einstein's light particle. From there, the concept of messenger particles developed further."

Is the above really an advance on Boscovich's theory, or just a variation on the theme; one that, unlike Boscovich's system, signally lacks the presence of *mind*, hence is ultra materialistic? Science even invents "virtual" particles to plug the gaps of its blatant unreality! The whole concept of virtual existence is abolished when spacetime is underpinned by an ontological frequency domain.

Science hasn't relentlessly pursued the truth. Instead, it has relentlessly pursued the annihilation of all references to mind, meaning, teleology and subjective agency, i.e. it has departed further and further from the Truth since reality is mental, not material. Mind creates matter, not the other way around.

Science is the opposite of the Truth. The fact that it superficially works is solely thanks to math. However, an immaterial version of science would work even better. Moreover, meaning and purpose would be manifest in this alternative science, and mind would be an active, striving agent within it, rather than some bizarre, inexplicable epiphenomenon, illusion or nullity.

What do you believe? – the conventional atomic theory of matter, or Boscovich's force theory of matter? In Boscovich's model, it's much easier to consider that thought might be an active property of the "physical" brain since thought itself can be considered as a force, something that lines up alongside gravity, electromagnetism, and so on. In fact, thought *is* electromagnetism. Thought is a light phenomenon. Light conveys thought. And cosmic thought is what keeps the cosmos together!

Boscovich's theory points to a radically different version of materialism. It facilitates the idea of "thinking matter", with thinking itself becoming one

of the active forces in Boscovich's system. Like Boscovich's force curve of oscillating repulsion and attraction, thought emanates from point-monads.

Once thinking is identified with electromagnetism, science will undergo the most profound and astounding paradigm shift. Photons are the basis elements of thought as much as light. Or, to put it another way, light = thought! Complete and consistent sets of photons are none other than immortal, indestructible souls that exist in the massless, immaterial frequency domain, outside space and time. Once you grasp that, you understand how easy it is to solve Descartes' mind-body problem. Mind is light, and matter is broken light. Mind is individual thinking agency, and matter is collective thinking agency, i.e. it's performed by the entire Monadic Collective, hence is much more inflexible, solid, enduring, resistant, objective, and sluggish than individual thought, to the extent that it seems to be entirely different from thought. But it's not. It's just thought existing in a different way ... collectively rather than individually, dimensionally rather than dimensionlessly.

Our individual dreams are where we create our own worlds. The collective dream of the Monadic Ensemble is where, all together, we construct a single world that we objectively inhabit (hence is unlike our subjective dreams).

Of course, "light" embraces the entire electromagnetic spectrum, not just the visible portion of that spectrum. Individual "thinking" actually occurs at very high frequencies that never manifest themselves in the material world of space and time. Brains are bathed in a *mental field*, beyond gamma rays, and undetectable by science. Collective thinking occurs at low frequencies, from which the spacetime world of matter is constructed.

Philosophy

In the Middle Ages, metaphysics, ethics and politics – which were previously known as "pure" philosophy – were rebranded as "moral philosophy". "Natural philosophy", involving observations on the world, evolved into science.

The task of philosophy, it has been said, is to put pure reason at the service of the experimental sciences. The trouble is that experimental scientists have no interest in either philosophy or pure reason. At no stage does science rely on exclusively rational arguments. Rationalism is not part

of the scientific method at all, which is an empirical subject that relies on matching quasi-mathematical guesses ("hypotheses") to observed experimental patterns.

Leibniz demanded explanations (sufficient reasons) while Newton demanded experimental verification (he famously said that he didn't want to get involved with hypotheses and simply aimed to state formulae that matched experimental results, without getting into *why*, i.e. he was a pragmatic instrumentalist with no interest in ontology and epistemology. Exactly the same is true of all scientists today.)

Boscovich wanted to provide a metaphysical underpinning for physics, just as Leibniz had attempted. Scientists do not care what reality is like in itself. All they focus on is producing successful models. P. C. W. Davies explicitly said, "But it's always seemed to me that the practice of physics is merely creating models which describe the observations that we can make on the world, and relate them together, and we have either good models or less good models, depending on how successful they are. The idea of the world 'really existing', and our theories somehow being 'right' or 'wrong', or being approximations to this reality, I think is not a very helpful one."

That's science in a nutshell. It has no interest in "reality", only in the success of its models. However, most scientists then fallaciously go on to infer that a successful model must reflect reality, although this doesn't follow at all. Countless scientific theories that once seemed to reflect reality have come and gone. The theory of a flat earth was fantastically successful in its day! Even today, good "first approximation" answers can be given to many practical problems by invoking this simple flat-earth model of "reality".

An ontologist isn't interested in good, successful models. He wants to know what existence actually *is*. He wants to know the definitive answer to existence. Science, with its guesses, its provisional models, and its insistence on experimental observations (meaning that it can't address anything unobservable), has no capacity to move beyond simulations and simulacra. It can never tell us what reality actually is. Only infallible reason can do that, but science, being based on empiricism and the senses, rejects reason.

Boscovich, a Jesuit, wasn't satisfied with how Newtonian science went about its business, and that's why he turned to Leibniz, the great rationalist, to understand what truly lay beneath Newtonian science. Leibniz, unlike

Newton, provided a system with explicit room for the soul; indeed, it was predicated on the monadic soul.

It's a mystery why science rejects rationalism so emphatically given that it uses mathematics – the quintessential rationalist subject – all the time. The problem, of course, is that science treats mathematics as just another modelling tool, and assigns zero ontological significance to it, i.e. it regards mathematics as unreal in the very same breath that it uses it to model "reality". That's how illogical science is. It has no reality principle. It has no ontology. It has no epistemology. It does not obey the principle of sufficient reason. Nevertheless, we are all supposed to bow down before this irrational, non-analytic method for matching ad hoc guesses to observations.

The rationalists choose not to fall under its spell. They remain wedded to reason, fighting the good fight on behalf of rationalism, logic and Truth. They, not scientists, are the champions of the Enlightenment and the Age of Reason. Scientists support the Age of the Senses, but almost nothing is as unreliable and dubious as the human senses.

Reason, deployed properly, is infallible. The senses, on the other hand, can never lay claim to infallibility, so how can they possibly yield the unarguable answer to existence? From the outset, it's logically ridiculous to appeal to the senses to show us the irrefutable Truth of our existence. How can the senses explain *rational* existence?

Thinking

If thinking is part of the functioning of the universe – which it obviously is in a mental universe – then, by studying our own mental operations, we are ipso facto studying aspects of the universe. *As above, so below*. Any viable explanation of reality *must* be able to explain the ontological basis of mind and the ontological basis of matter, and show how they can interact. Science contains no reference to mind or thinking. It ascribes no causal agency to mind. It denies that mind has any independent ontological status. Science simply couldn't be any more wrong!

For Boscovich, the soul could not be just another sort of matter. The soul does not obey the laws of materialist mechanics (if it did, it would be a material thing). The dynamic forces applying to the soul are teleological ones: it strives to accomplish objectives. It has internal agency. In Boscovich's system, the soul and God are not, like matter, subject to the

laws of physical Nature. However, since God created those laws, they must be subject to him; he must regulate them. Souls – as the images of God – must participate in that regulation.

In a mental universe, human dreams have a fundamental significance. To understand a dream is to gain understanding of how the mind operates individually. The next task is how to understand how minds operate collectively. The waking world is just a collective dream. When we are awake, we participate in the collective dream. When we are asleep, we create our own worlds in our own private dreams. That's why sleeping is subjective, and waking objective. Science has no idea what a dream is and how it relates to the waking world.

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Waking: entails a move from the subjective, individual mode to the objective, collective mode.

Going to sleep (the reverse of waking): entails a move from the objective, collective mode to the subjective, individual mode. In sleep, you deactivate or markedly suppress your sensory input. This is because you are no longer interacting with the sensory world. You are now in your own mental world, and you are reliant on your *internal* senses.

Will to Power

"This world is the will to power – and nothing besides! And you yourselves are also this will to power – and nothing besides." – Nietzsche

Boscovich's ideas were highly influential on Nietzsche. If atoms are immaterial centres of force rather than particles of solid matter then, combining this notion with Schopenhauer's concept of Universal Will, we easily arrive at the idea of a Universal Will expressed through countless centres of force or power, all striving against each other, all seeking to increase their power, all intending to dominate their environment. This is a true war of all against all. The Universal Will is thus converted into a Universal Will to Power.

In Illuminism, reality is about Universal Reason, expressed through countless mathematical monadic minds, which are striving to attain total

perfection, and they can accomplish that state – perfect cosmic symmetry – only through the cooperation of every other monad.

In Nietzsche's system, there's a never-ending war for power. In Illuminism, there's a dialectical progression towards a perfect rational Omega Point, i.e. over time, the universe gets objectively, rationally better and culminates with total rational perfection. It might seem that the world is very far from reason, but all it takes is for a meritocratic regime to be in charge for twenty-five years (a generation), and the human race would be freed from its irrational, endarkened past. Children brought up in a purely meritocratic world would become the Golden Generation, the *Godly* Generation.

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"Supposing that nothing else is 'given' as real but our world of desires and passions, that we cannot sink or rise to any other 'reality' but just that of our impulses – for thinking is only a relation of these impulses to one another – are we not permitted to make the attempt and to ask the question whether this which is 'given' does not *suffice* for an understanding even of the so-called mechanical (or 'material') world? I do not mean as an illusion, a 'semblance,' a 'representation' (in the Berkeleyan and Schopenhaueran sense), but as possessing the same degree of reality as our emotions themselves – as a more primitive form of the world of emotions, in which everything still lies locked in a mighty unity and then branches out and develops in the organic process (also, as is only fair, is made weaker and more sensitive), as a kind of instinctive life in which all organic functions, including self-regulation, assimilation, nutrition, secretion, and change of matter, are still synthetically united with one another – as an *antecedent form* of life? – In the end, it is not only permitted to make this attempt, it is commanded by the conscience of *logical method*. Not to assume several kinds of causality, so long as the attempt to get along with a single one has not been pushed to its furthest extent (to absurdity, if I may be allowed to say so): that is a morality of method which one may not repudiate nowadays – it follows 'from its definition,' as mathematicians say. The question is ultimately whether we really recognize the will as *efficient*, whether we believe in the causality of the will; if we do so – and fundamentally our belief *in this* is just our belief in causality itself – we *must* make the attempt to posit hypothetically the causality of the will as the only causality. 'Will'

can naturally only operate on 'will' – and not on 'matter' (not on 'nerves,' for instance): in short, the hypothesis must be hazarded, whether will does not operate on will wherever 'effects' are recognized – and whether all mechanical action, inasmuch as a power operates therein, is not just the power of will, the effect of will. Granted, finally, that we succeeded in explaining our entire instinctive life as the development and ramification of one fundamental form of will – namely, the Will to Power, as my thesis puts it; granted that all organic functions could be traced back to this Will to Power, and that the solution of the problem of generation and nutrition – it is one problem – could also be found therein: one would thus have acquired the right to define *all* active force unequivocally as *will to power*. The world seen from within, the world defined and designated according to its 'intelligible character' – it would simply be 'Will to Power,' and nothing else." – Nietzsche

Contra the Senses

"He (Boscovich) and the Pole Copernicus have been the greatest and most successful opponents of visual evidence so far. For while Copernicus has persuaded us to believe, contrary to all senses, that the earth does not stand fast, Boscovich has taught us to abjure the belief in the last part of the earth that 'stood fast' – belief in 'substance', in 'matter,' in the earth-residuum and particle-atom: it is the greatest triumph over the senses that has been gained on earth so far." – Nietzsche

Boscovich insisted that objective reality cannot be grasped through our senses, and that we must apprehend it through rational reflection. This makes him a rationalist metaphysician ... one of the good guys. Only fools are led by their senses and experiences. Your senses can't explain reality to you. Only your reason can.

The Cosmic Dynamo

No rational theory of existence can be based on matter miraculously jumping out of nothing, i.e. science is fundamentally absurd.

Reality is all about dynamism, energy, force, and power. Mathematical sinusoids are the only things that can eternally carry and express these. Force, not matter, is the fundamental feature of the universe. Force is mental, not material. Force is Aristotelian Form. When understood properly,

it's also Aristotelian Matter, "matter" being just a sensory misinterpretation of a field of forces.

For Boscovich, God, as ultimate Mind, is also ultimate Force, and can overcome any other force. He's infinite force versus the finite force of his Created World.

For Schopenhauer, the Cosmic Force is Universal Will, for Hegel it's Reason (rational, dialectical *Geist*), for Nietzsche it's Will to Power, for Hartman it's Will and Intellect harnessed together, for Jung it's the Collective Unconscious, and for modern Illuminism it's pure ontological mathematics.

Existence is an eternal, irrepressible *Force*. It forces the material world into existence. It forces everything towards a conclusion, and then starts again. This Force can never stop. It's the Force of self-optimising, self-solving ontological mathematics.

Only a system that has a reachable, definite end-point can provide an answer to "life, the universe and everything". Only ontological mathematics qualifies. A system without an end (i.e. one that isn't cyclical and periodic) cannot have an answer.

To understand existence, you must be able to explain not only how the universe begins, but also how it ends. And, in fact, the "end" is the new beginning. All non-cyclical "explanations" of reality are totally open-ended, hence shrouded in mystery and mysticism. They cannot provide exact, analytic answers.

If we conceive the Cosmic Force as dualistic rather than monistic then we arrive at the living Force of *Star Wars*, with its light and dark sides.

Schopenhauer believed only in the Dark Side of the Force. He considered existence evil, since, overwhelmingly, it generates pain, suffering and misery.

Nietzsche believed in a ruthless, dynamic Will to Power that's both creative and destructive, light and dark. It reflects Apollo (light, reason and order), *and* Dionysus (darkness, unreason and chaos).

The Second Boscovich

Arguably, the spiritual heir of Boscovich (a Jesuit) was Pierre Teilhard de Chardin (also a Jesuit). Imagine the Catholic Church today if it had turned to its two great Jesuits for its modern philosophy and theology rather than continuing with the decrepit Hebrew Bible and its ludicrous Jewish Messiah

(Yehoshua ben Yosef). The Church failed to support either of its intellectuals, and thus doomed itself. A combination of Boscovich's monadic system and Teilhard de Chardin's evolving noosphere converging on an Omega Point would, given a proper mathematical makeover, be almost identical to Illuminism.

Atoms versus Math

In the universe hypothesised by the ancient Greek Atomists, all that existed were solid, indivisible atoms moving through a void, and mechanically colliding with each other. Boscovich got rid of the solid atoms and mechanical collisions and replaced them with point-centres and action-at-a-distance forces that permeated the whole of space. He replaced a physical universe with a *mathematical* universe.

The Failure of Logic

Anything in spacetime must have a variable speed with regard to space and time, i.e. it can be speeded up or slowed down. Light – in a vacuum – can't be speeded up or slowed down. What, logically, does that tell us? – light cannot be of the same ontological category as things in space and time, and in fact cannot be in spacetime at all. So where is it? – in the frequency domain, in the *mental* singularity. But science acknowledges no domain outside space and time, so it's forced to claim that light is somehow in spacetime (despite being massless and dimensionless).

Here we see how disastrous scientific "logic" is when pressed into the service of the materialist and empiricist Meta Paradigm, predicated on everything being in space and time. Scientists contort their logic in the most absurd ways to defend their ideological schema, and never once conclude that it's their schema itself that is false and at fault. Until scientists realise that there's more to existence than space and time, and the exclusively material contents of space and time, they will *never* understand reality.

It's a simple fact that if you begin with the wrong ontology and epistemology, the wrong core assumptions and the wrong first principles, you are doomed to fail. Science has gone as far as it can within its current model. Its spectacular failure to correctly interpret quantum mechanics, the speed of light, and to reconcile Einsteinian relativity and quantum mechanics, is the unarguable proof that science has reached the end of the

road. All of the answers to ultimate existence lie beyond science. In particular, they lie in a frequency domain – an immaterial mental Singularity outside space and time – which is a purely rational, logical, mathematical domain. It's not "God" that is outside and beyond science, it's transcendental, ontological mathematics, mathematics in itself, *reality in itself*.

It's science's catastrophic inability to understand what mathematics actually is that lies behind the total failure of the scientific project. Scientists could literally go on forever trying to guess the way to unify quantum mechanics and relativity. The one thing they need to do to make progress is the one thing they will never do – relegate the scientific method and promote the mathematical method, put reason above the senses, proof above "evidence" (i.e. interpretation).

Scientists are prisoners of their own ideology ... exactly like religious believers. Science is *not* a rational undertaking. It's a *faith*.

Popper on Boscovich

"...we are compelled, by the internal logic of the dynamic theory of matter, to admit central repulsive forces into mechanics. But if we admit these, then one of the two fundamental assumptions of atomism – the assumption that atoms are small extended bodies – becomes redundant. And since we have to replace the atoms by Leibnizian centres of repulsive forces, we might just as well replace them by Leibnizian unextended points: we can identify the atoms with Leibnizian monads which are nothing but repulsive forces. It seems, however, that we must retain the other fundamental assumption of atomism: the void. Since the repulsive forces tend towards infinity if the distance between the atoms or monads tends to zero, it is clear that there have to be finite distances between monads: matter consists of a void in which there are discrete centres of force.

"The steps here described were taken by Kant and by Boscovich. They may be said to give a synthesis of the ideas of Leibniz, of Democritus, and of
Newton. The theory, like that of Leibniz, is a theory of the structure of matter, and thus a theory of matter. Extended matter is here explained, and by
something that is not matter: by unextended entities such as forces and monads, the unextended points from which the forces emanate. The

Cartesian extension of matter, more especially, is explained by this theory in a highly satisfactory way. Indeed, the theory does more: it is a dynamic theory of extension which explains not only equilibrium extension – the extension of a body when all the forces, attractive and repulsive, are in equilibrium – but also extension changing under external pressure, or impact, or push.

"There is another development, almost equally important, of the Cartesian
theory of matter and of Leibniz's programme of a dynamic explanation of matter: while the Kant-Boscovich theory anticipates in rough outline the modern theory of extended matter as composed of elementary particles invested with repulsive and attractive forces, this second development is the direct forerunner of the Faraday-Maxwell theory of fields.

"The decisive step in this development is to be found in Kant's *Metaphysical Foundations of Natural Science* in which he repudiates the doctrine that matter is discontinuous, which he had himself upheld in his *Monadology*. He now replaces this doctrine by that of the dynamic continuity of matter. His argument may be put as follows.

"The presence of (extended) matter in a certain region of space is a phenomenon consisting of the presence of repulsive forces in that region, forces capable of stopping penetration (or forces which are at least equal to the attractive forces plus the pressure at that place). It is, accordingly, absurd to assume that matter consists of monads from which repulsive forces radiate. For matter would be present at places where these monads are not present, but where the forces emanating from them are strong enough to stop other matter. Moreover, it would be present for the same reason at any point between any two monads belonging to (and allegedly constituting) the piece of matter in question.

"Now whatever the merits of this argument may be, there is at any rate great merit in the proposal to try out (and perhaps make more specific) the vague idea of a continuous (and elastic) something – of an entity consisting in the presence of forces. For this is simply the idea of a continuous field of forces in the guise of the idea of continuous matter. It seems to me an interesting fact that this second dynamic explanation of (Cartesian) extended
matter and of elasticity was mathematically developed by Poisson and Cauchy, and that the mathematical form of Faraday's idea of a field of

forces, due to Maxwell, might be described as a development of Cauchy's form of Kant's continuity theory.

"Thus the theory of Boscovich and the two theories of Kant may be described as the two most important attempts to carry further Leibniz's programme for a dynamic theory that explains Cartesian extended matter. They may be described as the joint ancestors of all modern theories of the structure of matter; the theories of Faraday and Maxwell, of Einstein, de Broglie and Schrodinger, and also of the 'dualism of matter and field'. (This dualism, if seen in this light, is perhaps not so deep as it may appear to those who, in thinking of matter, cannot get away from a crude Cartesian and non-dynamical model.) It may be mentioned that another important influence deriving from the Cartesian tradition – and from the Kantian tradition via Helmholtz – was the idea of explaining atoms as vortices of the ether – an idea that led to Lord Kelvin's and to JJ. Thomson's models of the atom. Its experimental refutation by Rutherford marks the beginning of what may be described as model atomic theory." – Karl Popper

Science, despite itself, despite its ineradicable favouritism for Newton over Leibniz, has actually become more and more Leibnizian over the years. Quantum mechanics is much closer to Leibnizian thinking than Newtonian thinking. This process will culminate with the total victory of Leibniz, at which point science will simply become ontological mathematics. This outcome is *inevitable*. Science, taken to its *logical* conclusion, is math! The reason why scientists don't take this step is because they are insufficiently logical ... because they are in thrall to their senses, which have nothing to do with a rational, logical epistemology.

Doubting Thomas

Doubting Thomas is the prototype of all scientists: he demands sensory evidence before he will believe. Being philosophically ignorant and illiterate, he doesn't realise that the senses may be the most deceptive faculties of all, hence to believe the senses is not to rely on unarguable evidence, but evidence irredeemably mired in ambiguity, opinion and interpretation.

Doubting Thomas is a materialist and empiricist who stands as a skeptic concerning Jesus Christ's alleged resurrection, and needs to be won over via

empirical, material evidence. What's truly fascinating is that the Gospel never refers to another kind of person who would be an even stronger skeptic concerning Jesus Christ's resurrection: an idealist and rationalist ... *Reasoning Thomas*.

Such a person would *never* accept Jesus Christ's story because it makes no rational sense. It contradicts reason and logic, hence is false. Consider this: Jesus Christ allegedly returned from the dead in the body he had at death, wounds and all (into which Doubting Thomas put his hands). Yet resurrection theory states that everyone, upon resurrection, gets a brand new, perfect version of their body. After all, people who had been sliced in two at death, wouldn't want to be resurrected in two pieces! ... and then to remain in that state until the end of time. People who died old and decrepit wouldn't want to live forever in those feeble bodies. Diseased people wouldn't want to be resurrected with their afflictions. Amputees wouldn't want to be resurrected with their limbs still absent. The blind would be none too happy to be resurrected as sightlessly as before.

Next, Jesus Christ allegedly came back with a *physical* body (it had to be in order for Thomas to physically touch it) ... so, did he eat, drink, shit and piss? What kind of physical body would it be if it did none of those things?

Next, Jesus Christ soon "ascended into heaven". Well, how can you ascend into heaven with a solid, terrestrial body? How did Jesus Christ breathe as he ascended, assuming he left earth's atmosphere? Anyway, where *is* heaven? How can you *physically* ascend to it? Didn't God "beam him up"?

Isn't heaven *dimensionless*, so a dimensional resurrection body would be of no use there. And so on.

You'd need to be incredibly stupid if, like Doubting Thomas, your doubts were assuaged by physical, sensory "evidence". Evidence of what? Evidence that Thomas had been conned by a charlatan, that he had been the victim of a conspiracy, that he had been subjected to a magician's trick and illusion? Why is that conclusion less likely than that rabbi Yehoshua be Yosef came back from the dead?!

The whole problem with science is that it's full of people who are persuaded by physical, sensory evidence, and don't see that a non-sensory, noumenal, intelligible reality – a mathematical reality – *must* underlie the world we observe and experience.

What preceded the Big Bang? – a rational, logical, mathematical state that we can fully analyse ... or non-existence from which the Big Bang randomly, magically and miraculously sprang for no reason at all, via no mechanism at all? If you believe the latter then, like Doubting Thomas, you might as well believe in Jesus Christ. After all, you're a person of faith, and belief in miracles. You're not a person of reason who opposes all magic and miracles, and all belief systems, including the sensory belief system of science.

The Four Thomases

There is a "Thomas" for each of the four Jungian mental functions:

1) Sensing Thomas (the Sensing Type): "Show me sensory evidence and I will *believe*."

2) Emotional Thomas (the Feeling Type): "Fill me with love, hope and security and I will *believe*."

3) Intuitive Thomas (the Intuitive Type): "Light up my mind. Show me an overpowering vision of wholeness, completeness and Oneness and I will *believe*.

4) Rational Thomas (the Thinking Type): "Prove it to me using infallible arguments, and I will *know*."

What kind of "Thomas" are you? Three Thomases are believers. Only one Thomas is a knower. Only one Thomas is rational and logical, and will doubt his senses, feelings and mystical intuitions if they make no sense. We live in a world full of the wrong kind of Thomases – religious and scientific Thomases rather than mathematical and metaphysical Thomases.

Faraday

"At that time, Faraday was trying to overcome the 'ordinary atomic theory' according to which there must be a dualism between matter and void, and the bodies are aggregates of particles not touching each other. Since the space between these particles should be void, it was impossible to explain any kind of transmission of electric actions between them, and thus the traditional atomic theory should be abandoned. Moreover, Faraday showed that the idea that the atoms could touch one another was simply

unacceptable, too. Thus, he claimed, 'the safest course appears to be to assume as little as possible, and in that respect the atoms of Boscovich appear to me to have a great advantage over the more usual notion. His atoms, if I understand alright, are mere centres of forces or powers, not particles of matter, in which the powers themselves reside'. Thus, Faraday chose Boscovich's atomic model, since it seemed to him that he got rid of any substantial presupposition and of all the complications involved by this in developing a theory of matter. Moreover, Faraday argued that, while one ordinarily describes atoms by referring to two separate things, i.e. the particle of matter away from the powers (a), and the system of powers or forces in and around it (m), 'then in Boscovich's theory (a) disappears, or is a mere mathematical point', and 'the substance consists of the powers or (m)'. He thus solved the problem by eliminating the dualism between matter and void, and by identifying the matter with the atmosphere of force, or power." – Pietro Gori

The formula for success: get rid of solid, extended atoms in a void, and replace them with mathematical energy-points and mathematical forces in an absolutely dynamic mathematical system. This is what ontological mathematics is all about. Materialism *dies* when solid, extended atoms are dispensed with. We are no longer physical bodies if we are in fact made of mathematical wavefunctions, being recalculated on an instant-by-instant basis, instead of enduring "atoms" (whatever those are!).

Faraday, brilliant though he was, was disastrously wrong to refer to the "mere mathematical point", betraying his physicalist prejudices. Ontologically, the mathematical point is the monad, and the monad is the most complex thing in existence. Indeed, it's the basis of existence. The monad is the eternal mind ... the immortal, indestructible *soul*. "Mere" doesn't come into it at all.

The Monadic Universe

The Active Void = the Dynamic Void = the Universe of singularities = the Universe of monads = Mathematical World = Soul World. The universe begins and ends with souls. It's not God that creates the World, it's mathematical souls. They make the World from their own contents, which is exactly why they can interact with it, relate to it and come to an understanding of it.

Souls are mathematical systems, and the World is their mathematical creation, governed by the laws of mathematics. This is a panpsychist universe: mind is everywhere, and everything is imbued with mind. “Matter” is simply mind existing in a certain way (dimensionally rather than dimensionlessly, collectively rather than individually).

Mathematics is the divine substance. The World wasn’t created out of nothing, it was created out of math, out of monadic mathematical minds.

We are not, as science says, made of stars. We are made of souls. In the ancient world, stars and souls were the same thing. The truth is that every star in today’s Universe has a controlling monadic mind. The highest “angels” control the suns that give life to the barren wastes of space. It’s all in the math!

Nothing

Existence, paradoxically, is all about nothing. Only “nothing” can exist because nothing can prevent its existence. Anything that requires anything cannot exist since that very requirement precludes it. Therefore, only a “something” that is guaranteed to be “nothing” can exist, and that can happen only via analytic mathematics, via the God Equation. The God Equation does nothing but generate *net nothings*, and each nothing comprises perfectly balanced *somethings*.

In terms of cosmology, there are two choices. Does “something” causally exist as “net nothing” forever? Or, does something acausally, randomly, spring out of non-existence for no reason? The first is a rational viewpoint. The second, which is the scientific view, is wholly irrational. The sole purpose of the second view is to render life meaningless, pointless, and purposeless ... to make it a bizarre accident ... to depict a universe of chance, accident and no design. Darwinism invokes this model, Copenhagen quantum mechanics does, and so does Multiverse and Big Bang cosmology.

The underlying motive of this worldview is to deny any possibility of design, which, to scientists, automatically smacks of God. Look at how Richard Dawkins rages against any suggestion of “intelligent design”. He’s so stupid that it has never once occurred to him that a designed world needs neither a Designer nor, as he suggests, randomness acted upon by “natural selection”. It simply needs to be made of something inherently manifesting

design, i.e. it needs to be made of mathematics! Then all of Dawkins' random, atheistic garbage can be jettisoned.

Science is an intellectually bankrupt ideology that deals only with appearances and can't tell us even one thing about noumenal ultimate reality.

Science is all about one thing: replacing God with randomness. At the root of all modern scientific theories are randomness, chance, accident, acausation, indeterminism, probability, statistics, and the total absence of intelligent design. As soon as you realise that mathematics plays the role of God – eternal, necessary, rational, logical, perfect, immutable, all-powerful, transcendent, immanent, full of inherent design – you see that science is actually attacking mathematics, not God. Math is the source of design, not God. Math is what preceded the Big Bang, not God. The God Equation, not God, created the world out of "nothing" ... but nothing is just mathematical "something" ... it's mathematical monads = souls. The World is made out of souls!

Science would be voodoo without math, yet it has no understanding of what math is. Math is God! Any atheist can surely believe in *that* God.

Kant's Project

"Kant's *Physical Monadology* (1756) takes as its task the reconciliation of the infinite divisibility of space, as maintained in geometry, with the simplicity of substances, which Kant believes is required in metaphysics. As was the case with his earlier works, the essential feature of his reconciliation lies in the way in which his matter theory is supported by his metaphysical views. Specifically, Kant asserts that simple substances fill space not by means of their mere existence, but rather in virtue of their spheres of activity. As a result, any division of the relevant spheres of activity does not compromise the simplicity of the substances themselves, since the spatial properties of substances (including the infinite divisibility of space) arise from the interaction between their activities rather than from their intrinsic features. In the course of the *Physical Monadology*, Kant also argues for the necessity of attractive and repulsive forces and attributes a significant role to the force of inertia. Kant's acceptance of such Newtonian principles represents an important change of position over the *True Estimation*, where Kant rejects the principle of inertia and pursues a dynamical theory much more in line with Leibniz's views." –

http://plato.stanford.edu/entries/kant-science/

The young Kant sought to unify science and metaphysics in a systematic philosophy of nature. The *Monadologia Physica* was conceived as the first part of a project concerning "the use in natural philosophy of metaphysics combined with geometry."

There's no question that physics and metaphysics must be unified, and that can happen only by recognising that ontological mathematics is the true expression of metaphysics, and also the true basis of physics.

"[How can metaphysics and geometry be united if] the former peremptorily denies that space is infinitely divisible, while the latter, with its usual certainty, asserts that it *is* infinitely divisible. Geometry contends that empty space is necessary for free motion, while metaphysics hisses the idea off the stage. Geometry holds universal attraction or gravitation to be hardly explicable by mechanical causes but shows that it derives from the forces which are inherent in bodies at rest and which act at a distance, whereas metaphysics dismisses the notion as an empty delusion of the imagination." – Kant

Metaphysics and geometry can be united only in ontological mathematics, based on monadic points, full of energy and force thanks to their constituent sinusoids, and from which we derive space, time and mass. The whole of existence must flow from a single, monistic substance ... the monadic substance of ontological mathematics. The whole of reality must be built on the simplest thing of all ... the point = "nothing". Yet the point is actually the most complex thing there is. It's the perfect balance of infinite positive something and infinite negative something, producing a net result of perfect "nothing". Nothing is anything but nothing!

Minima Naturalia

"Although the atomism of Epicurus had fallen out of favour in the centuries of Scholasticism, a related Aristotelian concept, that of *minima naturalia* (natural minima) received extensive consideration. Minima naturalia were theorized by Aristotle as the smallest parts into which a homogeneous natural substance (e.g., flesh, bone, or wood) could be divided and still retain its essential character. Speculation on minima naturalia provided the philosophical background for the mechanistic philosophy of early modern

thinkers like Descartes, and for the alchemical works of Geber and Daniel Sennert, who in turn influenced the corpuscularian alchemist Robert Boyle, one of the founders of modern chemistry.

"Unlike the atomism of Leucippus, Democritus, and Epicurus, and also unlike the later atomic theory of John Dalton, the Aristotelian natural minimum was not conceptualized as physically indivisible – 'atomic' in the contemporary sense. Instead, the concept was rooted in Aristotle's hylomorphic worldview, which held that every physical thing is a compound of matter (Greek *hyle*) and an immaterial substantial form (Greek *morphe*) that imparts its essential nature and structure. For instance, a rubber ball for a hylomorphist like Aristotle would be rubber (matter) structured by spherical shape (form).

"Aristotle's intuition was that there is some smallest size beyond which matter could no longer be structured as flesh, or bone, or wood, or some other such organic substance that for Aristotle, living before the microscope, could be considered homogeneous. For instance, if flesh were divided beyond its natural minimum, what would be left might be a large amount of the element water, and smaller amounts of the other elements. But whatever water or other elements were left, they would no longer have the 'nature' of flesh: in hylomorphic terms, they would no longer be matter structured by the form of flesh; instead the remaining water, e.g., would be matter structured by the form of water, not the form of flesh. This is suggestive of modern chemistry, in which, e.g., a bar of gold can be continually divided until one has a single atom of gold, but further division yields only subatomic particles (electrons, quarks, etc.) which are no longer 'gold.' However, the parallel is not exact: minima naturalia are not a direct anticipation of modern chemical and physical concepts.

"A chief theme in late Roman and Scholastic commentary on this concept is reconciling minima naturalia with the general Aristotelian principle of infinite divisibility. Commentators like John Philoponus and Thomas Aquinas reconciled these aspects of Aristotle's thought by distinguishing between mathematical and 'natural' divisibility. With few exceptions, much of the curriculum in the universities of Europe was based on such Aristotelianism for most of the Middle Ages (Kargon 1966). Scholasticism was standard science in the time of Isaac Newton, but in the 17th century, a renewed interest in Epicurean atomism and

corpuscularianism as a hybrid or an alternative to Aristotelian physics had begun to mount outside the classroom." – Wikipedia

In many ways, science has been all about the doctrine of "natural" divisibility – which has an end – versus mathematical divisibility – which has no end, or which, *at infinity*, arrives at indivisible points.

The question of divisibility goes to the heart of reality. If the ultimate units of existence are indivisible monads, reality can be understood entirely mathematically ... provided zero and infinity are embraced – exactly what scientific materialism refuses to do.

Materialism and empiricism can be understood, in mathematical and philosophical terms, as claiming that: 1) infinite divisibility, culminating in monads at infinity, is impossible, and 2) reality comprises finite divisible things (atoms, strings, or whatever). If infinite divisibility, resulting in monadic (singularity) existence, *is* possible then materialism and empiricism are ipso facto false. Black hole singularities, the Big Bang Singularity, and photonic singularities are all impossible if materialism and empiricism are true.

Leibnizian idealism and rationalism can be understood to assert that the ultimate indivisible entities are in fact not solid, physical, extended things (ancient Greek atoms), but non-physical, unextended, monadic points (Pythagorean minds). They are mental, not material.

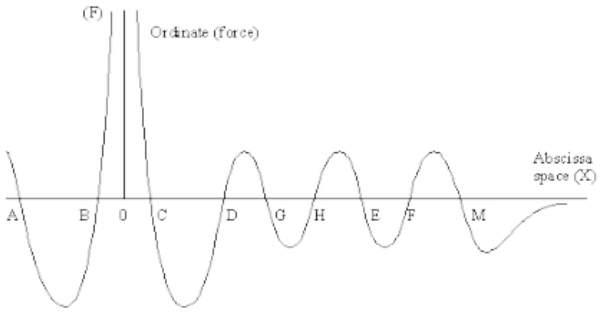
Leibniz's system is compatible with infinite divisibility, culminating – at infinity – with the indivisible monadic singularity. Materialism has no compatibility with singularities. The laws of physics are explicitly said to break down at singularities. That's because singularities are mental frequency domains and science religiously believes only in spacetime and matter. Singularities are beyond science's Meta Paradigm and ideology.

Symmetry

The Universal Force of Reason – of mathematics – lies in the symmetry and antisymmetry of sinusoids, and the reconciliation of these two in light! Light is where symmetry and antisymmetry are perfectly balanced in a dimensionless singularity.

The Curve

Below is Boscovich's famous curve of the single force in nature:



Note that this curve has a sinusoidal character, albeit an imperfect one. Did Boscovich intuit the sinusoidal nature of reality? Existence is all about waves, frequencies, vibrations. It's all about vibrating energy – eternal, necessary energy reflecting the Law of the Conservation of Energy, which is a central feature of the Laws of Ontological Mathematics.

The Law of Continuity

In Boscovich's system, as in Leibniz's, all processes are continuous: nature makes no abrupt leaps. There are no discontinuities.

"The Law of Continuity <*continuitatis lex*>, as we here deal with it, consists in the idea that [...] any quantity, in passing from one magnitude to another, must pass all intermediate magnitudes of the same class. The same notion is also commonly expressed by saying that the passage is made by intermediate stages or steps [...] single states correspond to single instants <*singulis momentis*> of time, but increments or decrements only to small intervals of continuous time <*continuis tempusculis*>." – Boscovich

"Space, distance and motion are continuous, matter is discrete Hence I acknowledge continuity in motion only, which is something successive and not co-existent [...] Nature accurately observes the Law of Continuity, or at least tries to do so. Nature observes it in motions and in distance, and tries to in many other cases ..." – Boscovich

Modern science is all about the denial of continuity. All manner of abrupt leaps and discontinuities occur, none greater than the abrupt, discontinuous leap of existence out of total non-existence at the Big Bang. Wavefunction "collapse", indeterminism, acausation, uncertainty, chance, accident, probability and statistics all contradict the principle of continuity.

Atomic Theory

Classical Atomic Theory: extended, indivisible particles.

Kant-Boscovich Atomic Theory: unextended, indivisible point-centres of force.

Ontological Mathematical Atomic Theory: unextended, indivisible energy points (monadic minds made of mathematical sinusoids).

Quantum Mechanical Atomic Theory: the observational actualisations of unreal, abstract, mathematical potentiality wavefunctions.

Although classical Atomic Theory has been entirely superseded, the vast majority of people, especially scientists, continue to conceive of reality in terms of solid little lumps. Atoms, it must be stressed, are *not* real things in modern science. They are interpretations of mathematical potentiality wavefunctions, these functions being deemed inherently *unreal*.

In truth, "atoms" are nothing but heuristic fictions. No one has *ever* seen an atom. What they have seen is information or data that they *interpret* as if it related to atoms. They could interpret this information or data entirely differently if they chose. They could apply Kant-Boscovich Atomic Theory, for example, or Ontological Mathematical Atomic Theory. As soon as you do so, your understanding of reality changes entirely.

In classical Atomic Theory, atoms were imagined to have an enduring mass, length, breadth, height, shape, volume, density, speed, energy, momentum and so on. Absolutely none of this applies to modern atoms, and yet the average person continues to think of atoms in exactly these obsolete terms. The "beauty" of atoms is that they provide sensing types with a nice pictorial image of what's happening. However, when you consider what a modern "atom" actually is, it's nothing but mathematical information, and such information has nothing to do with "physicality" whatsoever.

As soon as "atoms" are regarded as points, the whole conventional physical picture is thrown out, and, instead, becomes purely mathematical. Forget little physical systems of electrons "orbiting" nuclei of protons and neutrons. Imagine instead a system of interactions of different classes of mathematical points that exhibit different properties, i.e. there are "electron" points, "proton" points, and "neutron" points, and their tendency in normal situations is to cluster together in tight little groups that we then label "atoms". Well, isn't that just as valid an interpretation of what an "atom" is?

Richard Feynman, one of science's most revered popes, said: "If, in some cataclysm, all of scientific knowledge were to be destroyed, and only one sentence passed on to the next generation of creatures, what statement would contain the most information in the fewest words? I believe it is the atomic hypothesis (or the atomic fact, or whatever you wish to call it) that all things are made of atoms – little particles that move around in perpetual motion, attracting each other when they are a little distance apart, but repelling upon being squeezed into one another. In that one sentence, you will see, there is an enormous amount of information about the world, if just a little imagination and thinking are applied."

Do you see that he has signally failed to *define* a "particle"? For example, is it a solid, extended thing, or an unextended thing that projects extension via force, as Kant and Boscovich argued?

Nor does Feynman define "motion", "space", "distance", "perpetual", "repulsion", "attraction" – i.e. all the things that have been argued over for millennia, as we have shown in the *God Series*.

So, instantly, we see that the most basic "facts" of science aren't facts at all, but mired in complex interpretation. If any philosopher of Feynman's "next generation of creatures" ever found Feynmans' one sentence, that philosopher could spend thousands of years trying to work out what it meant, just as Feynman and all of his predecessors, going back to the ancient Greek Atomists, have wrestled for thousands of years with what "atom" actually means. Perhaps Feynman should have concentrated on ontology, epistemology and analytic definitions instead of vague, mystical, undefined scientific terms such as "atom".

Given the loss of all scientific knowledge, we would pass on a completely different message to future beings: Euler's Formula, analytic sine and cosine waves, Fourier mathematics, and ontological monads.

So, who's right – Feynman or us?

If you re-read Feynman's statement, it could just as easily apply to Kant-Boscovich point-atoms as to the material "atoms" Feynman had in mind. That's how ambiguous science is, how unable it is to escape from interpretation.

Here's another way to think of atoms. They are *numbers*. Numbers are the true atoms of existence, and all things are compounded from numbers. When you break up all compounds, you return to the ultimate, simple,

indivisible parts: eternal, necessary numbers. Numbers and their mathematical relations are all there are.

Numbers, ontologically, are not pencil strokes on paper. Rather, they are energy-frequencies that exist as sinusoidal waves, and reality is nothing but how these eternal waves interact, and enter into temporal, contingent wavefunctions. In other words, the answer to existence is simply to correctly define what numbers are ontologically, and what laws dictate their interactions. This is what Pythagoras first attempted two and a half thousand years ago. He conceived of numbers as living, dynamic things ruled by harmony (and discord). Isn't that a far more powerful notion of reality than Feynman's?

Science has never been anything other than the systematic, sensory misinterpretation of mathematics. It has never been anything other than the failure to understand the ontology of numbers and mathematics.

The eternal laws of existence are not scientific but mathematical. All mathematical laws are eternal and necessary. All scientific laws are temporal and contingent, hence are not "laws" at all, but mere provisional interpretations, pointing to the fact that a deeper reality has been missed. The deeper reality is mathematics. As Pythagoras said, "All things are numbers; number rules all."

Substance

Until the 19th century, the concept of "substance", underpinning both spiritual and physical concepts (i.e. the immaterial soul and the material atom), was the anchor of Western thought, going right back to the pre-Socratic philosophers and their search for the *arche*: the ultimate substance of existence, the first principle from which everything else derives. This was always a metaphysical search, and the physical, phenomenal, observable world was useful only in terms of the clues it provided to this hidden, noumenal reality.

However, under the leadership of scientific materialism, the intellectual world turned against metaphysics in general, and "substance" in particular. Science, which had once desired to remain compatible with religion, became increasingly atheistic, and adopted an utterly toxic attitude towards both God and the soul (mind), seeing both as "supernatural". In the modern day, science rejects God, the soul, the mind, substance, free will, meaning, teleology, metaphysics, ontology, epistemology, and so on. It's credulous

towards all things materialistic and empirical, and ultra-skeptical towards all things idealistic and rational. It denies causation and determinism, and points to a world of chance, accident, indeterminism, uncertainty, acausation, randomness, statistics, and probabilities. It rejects eternal necessity and champions temporal contingency. It's all about potentiality rather than actuality. It believes in "non-existence" as an arena of infinite potentiality from which infinite contingent universes (the Multiverse) can be randomly and indeterministically plucked for no reason at all.

"Existence" (actuality) is, for science, merely the actualisation of potentiality, which is formally unreal and non-existent, but nevertheless (and absurdly and illogically) has one all-too-convenient property as far as science is concerned: it can magically and miraculously convert itself into actuality for no reason whatsoever, at any time whatsoever, via no mechanism whatsoever.

The difference between reality based on substance as opposed to reality based on non-substance is as follows:

1) Substance is paired with actuality, non-substance with potentiality.

2) Substance is paired with eternal existence, non-substance with miraculous, random emergence from non-existence.

3) Substance is paired with reality, non-substance with unreality (from which reality can allegedly "collapse").

4) Substance is paired with eternity and necessity, non-substance with temporality and contingency.

5) Substance is paired with the *eternal* conservation of energy; non-substance with the *temporal* conservation of energy (on average ... enormous violations are possible provided they are rapidly "repaid").

6) Substance is paired with the analytic *a priori*, non-substance with the synthetic *a posteriori*.

7) Substance is paired with deduction, non-substance with induction.

8) Substance is paired with noumena, non-substance with phenomena.

9) Substance is paired with causation and determinism, non-substance with acausation and indeterminism.

10) Substance is paired with certainty, non-substance with uncertainty.

11) Substance is paired with metaphysics, non-substance with physics.

12) Substance is paired with religion, spirituality and idealism, non-substance with atheism and materialism.

In other words, the concept of "substance" goes to the heart of the unresolved war between rationalism and empiricism. As soon as someone rejects "substance" you know they will soon enough start making the insane claims routinely presented by modern science, such as: existence coming from non-existence for no reason; unobserved cats in special boxes being alive, dead and in mixed living-dead states all at once; infinite separate universes (the Multiverse); infinite parallel worlds ("Many Worlds"); infinite clones of us; observers being required to randomly collapse unreal mathematical wavefunctions, and so on.

None of these claims can be made in a reality predicated on eternal substance. Existence can't come from non-existence, for example, and a cat is either alive or dead, and can't be both. You would think the latter would be self-evident, but apparently not as far as science is concerned. Once you have bought into a fallacious ontology and epistemology, infinite absurdities and lunatic claims can flow – exactly as we see with modern science, which is ferociously irrationalist (in order to defend empiricism against rationalism).

In modern philosophy, existentialism ("existence precedes essence"), absurdism, and postmodernism have all attacked the Platonic Truths of substance. Substance, therefore, is the fundamental issue intellectually, that around which everything else revolves.

We define substance as that which is autonomous, eternal, necessary, uncaused, uncreated, reliant on nothing else for its existence, complete, consistent, and always equal to "nothing". It needs nothing, and nothing can prevent it. It's a perfect perpetual motion machine. It is its own energy

source, and this source can never run down or become depleted in any way. It is literally powered by the force of infallible, absolute, eternal reason. Reason is the supreme motive force in the universe: the Prime Mover.

If the principle of sufficient reason mandates that a mathematical point can travel around in a perfect circle forever then there's nothing at all that can prevent this motion. This circular motion is associated with something else: the generation of perfect sine and cosine waves, i.e. for a point to travel around the circumference of a circle is, mathematically, functionally equivalent to tracing out a sine wave and cosine wave, as we see from Euler's Formula. With waves, we get Fourier mathematics, and with Fourier mathematics, we get the respective domains of frequency and spacetime, and their mutual interactions (thus explaining the Cartesian mind-body problem).

In ontological mathematics, substances are autonomous monadic minds, made of complete and consistent sets of sines and cosines. If one is possible, an infinite number are possible – unless a sufficient reason can be established that sets an ontological limit on the total number.

Thanks to the fact that a circle is a finite shape that supports infinite repetition (in the form of a point travelling around the circumference forever), it's plausible that there *is* a largest possible ontological number, and after that we get mere repetition and the *illusion* of greater numbers, when we are in fact just going over ground we have already trodden.

Abstract numbers must be carefully distinguished from ontological numbers. With abstract numbers, we can always just add "1" to a number to create a larger number, and there's no end to this process. With ontological numbers, however, we can find that when we add "1", we have in fact gone full circle, and simply returned to the beginning. A person could walk around the world forever with a pedometer that keeps going up and up, but, once he has gone round the world once, he's no longer generating truly new numbers, but merely repeating old numbers.

Let's say that "x" is the number a person reaches when he has walked round the world once. Once the person has travelled around the world 100 times, should we say that there is a unique, new number corresponding to 100x, or should we say that the old number "x" has merely been repeated one hundred times? These are radically different ways of counting. The first is based on the unending generation of new numbers while the second is based on the unending repetition of old numbers. The first is an open-ended

process that we might call “bad infinity”, while the second is a closed process that we might call “good infinity”, predicated on the *repetition of the finite*. The first is a linear process, the second circular.

When it comes to ontological mathematics, you can’t apply naive, abstract mathematical thinking. You have to consider the ontology of the process you are considering – in particular its linearity or circularity – and that can lead to radically different conclusions.

Leibniz said that there were infinite monadic substances, and, for convenience, we normally follow him in this. However, we are certain that a largest possible *finite* number will one day be established. It will be immensely large, but, crucially, *not infinite*. This vast, *finite* number will be the total number of monads in existence.

A finite number of monads is compatible with a repeating cyclical reality; an infinite number with a non-repeating linear reality.

Infinity has many subtle aspects, and one of those aspects is the endless repetition of the strictly finite. The notion of a cyclical universe points firmly to the notion of a vast but finite number of monads, each of which plays a part in the destiny of the universe. If the number of monads is infinite, it’s easy to conceive of an infinite number of them never playing any active part in existence (within a linear infinity, there are countless infinities, as highlighted in the thought experiment known as “Hotel Infinity”). We will be devoting a forthcoming book to the incredible subject of infinity.

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Traditionally, Catholicism has been highly concerned with substance, thanks to the historical, philosophical influence of Plato, Aristotle and Plotinus. Protestantism, with its rejection of pagan Greek philosophy, has largely ignored substance. Judaism, with its lack of interest in the afterlife, also ignores substance. Islam, based on the Koran (a book invented by an illiterate tribesman in a delusional state due to over-fasting) is too stupid to say anything about substance. [Mohammed and his God (Allah) were no philosophers, scientists or mathematicians, that’s for sure ... and that’s why Muslims are so hostile to education, knowledge, reason and logic.] Hinduism, via “atman”, is compatible with substance while Buddhism, via “anatman”, isn’t.

Scientists looking to be "spiritual" are overwhelmingly attracted to Buddhism or Judaism (Kabbalah) ... or Protestant blind *faith* ... and almost never to Catholicism or Hinduism. That's because of their fundamental objection to eternal substance.

The Law of Energy Conservation has two interpretations. One, the mathematical one, is based on the notion of *eternal substances* ... energy sources that can never be created or destroyed, and which can only undergo phenomenal (but not noumenal) transformation. The other, the scientific one, is based on the notion of energy being created and destroyed as and when, provided no *net* energy is produced over any sustained period. This is an anti-substance view, where there are no eternal things at all.

The Three Reasons

Science became what is now is for three reasons: 1) the difficulty of modelling mind (hence science is obsessed with modellable matter), 2) the impossibility of observing non-sensory, dimensionless things (science is obsessed with the sensory, dimensional, and observable), and 3) the rejection of God, the soul, the religious and the "supernatural" (science is inherently atheistic, anti-idealistic and anti-rationalist).

Science is a philosophy, not a "science"! It has a precise, although unstated, philosophical Meta Paradigm, through which it views and interprets everything. It wears fixed Kantian goggles, and refuses to contemplate that there's a world that cannot be seen with those goggles.

Ontology

In the past, eternal, necessary existence was linked to a being labelled "God". It should in fact have been linked to a formula – the God Equation – expressed through countless monadic beings (mathematical souls).

Ontology is all about eternal and necessary substance; eternal and necessary energy. By the law of energy conservation, substance = energy. Only mathematics can reconcile eternal, necessary substance with eternal, necessary energy.

The Secret

Don't you find it amazing that the secret history of science is never mentioned in science class? It's never taught and never mentioned. Why is it forbidden? Why is science so afraid of it? Is it because it would totally undermine the ideology and dogmatism of materialism and atheism? Is it because it would prove how vague and insubstantial science is, how contrary to reason and logic, how inadequate as an explanatory system? Is it because it would destroy science's projected certainty? Is it because it would show how linked to mind and panpsychism science once was? Is it because it would destroy the aura of infallibility and inevitability with which science dishonestly and fraudulently cloaks itself?

Scientists should be compelled to address the alternative mental track science could and should have taken. Science ruthlessly suppresses all historical references to idealism and rationalism. Why is it so afraid of them? If its arguments are sound, it ought to be able to refute them. Its total silence on these subjects tells you all you need to know. Richard Dawkins is perfectly happy to attack absurd Mythos religions. He falls silent when he's confronted by rationalist, mathematical arguments.

Arche

"*Arche* is a Greek word with primary senses 'beginning', 'origin' or 'source of action', and later *first principle* or *element* [first so used by Anaximander], *principles of knowledge*. By extension it may mean 'first place, power', 'method of government', 'empire, realm', 'authorities', 'command'. The first principle or element corresponds to the 'ultimate underlying substance' and 'ultimate undemonstrable principle'. In the philosophical language of the archaic period (8th-6th century BC) *arche* (or *archai*) designates the source, origin or root of things that exist. In ancient Greek Philosophy, Aristotle foregrounded the meaning of *arche* as the element or principle of a thing, which although undemonstrable and intangible in itself, provides the conditions of the possibility of that thing." – Wikipedia

Ontological mathematics, defined by the God Equation and expressed through autonomous monadic substances, is the *arche*. Only ontological mathematics offers a complete and consistent, eternal and necessary ontology and epistemology.

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"In the mythical Greek cosmogony of Hesiod (8th – 7th century BC) the origin of the world is *Chaos*, considered as a divine primordial condition, from which everything else appeared. In the creation 'chaos' is a gaping-void, but later the word is used to describe the space between the earth and the sky, after their separation. 'Chaos' may mean infinite space, or a formless matter which can be differentiated." – Wikipedia

Modern science is effectively a rebirth of the ancient concept of *Chaos*. Chaos is unreality, potentiality, non-existence, an infinite emptiness, a formless abstraction from which actual existence can, allegedly, miraculously spring.

"The notion of temporal infinity was familiar to the Greek mind from remote antiquity in the religious conception of immortality." – Wikipedia

Science denies the existence of the immortal soul and indeed of any immortal thing (as an actuality). The only thing immortal in science is unreal potentiality (non-existence) capable of magically producing actual existence at any time.

"The conception of the 'divine' as an origin, influenced the first Greek philosophers." – Wikipedia

Science emphatically rejects the divine as an origin. Ontological mathematics relies on an eternal God Equation, hence this is the *true* divinity.

"In the Orphic cosmogony the unageing Chronos produced Aether and Chaos and made in divine Aether a silvery egg, from which everything else appeared." – Wikipedia

This is no sillier than anything modern science says! Strip math from science and you would be left with the most bizarre and insane proposals ever made regarding the nature of existence ... much worse than any religious claims.

"In the mythological cosmogonies of Near East, the universe is formless and empty and the only existing thing prior to creation was the water abyss. In the Babylonian creation story *Enuma Elish* the primordial world is

described as a watery chaos from which everything else appeared. Something similar is described in Book of Genesis where the spirit of the God is moving upon the dark face of the waters." – Wikipedia

In many ways, modern science hasn't moved on from this. It's much the same Mythos, but told in a different vocabulary and jargon. "Water" has been replaced by unreal, potentiality wavefunctions. Is that an improvement?

"In the Hindu cosmology which is similar to the Vedic cosmology in the beginning there was nothing in the Universe but only darkness. The self-manifested being created the primordial waters and established his seed into it. This turned to a golden egg (Hiranyagarbha) from which everything else appeared." – Wikipedia

Everything comes from an immaterial, dimensionless, mental frequency Singularity outside space and time ... from pure math. Math is the rational substance from which the rational, intelligible universe comes. If this weren't the case, the universe wouldn't be rational and intelligible. Ancient religions made the universe rational and intelligible via the intelligent, purposeful actions of gods and spirits. Science doesn't even have these to appeal to. There is absolutely nothing in science that can explain an ordered, rational, intelligible universe. That's a fact. Science is predicated on random miracles happening for no reason, and via no mechanism. In these terms, science is pure anti-science! Only math gives science any coherence at all.

"The heritage of Greek mythology already embodied the desire to articulate reality as a whole and this universalizing impulse was fundamental for the first projects of speculative theorizing. It appears that the order of 'being' was first imaginatively visualized before it was abstractly thought. In the ancient Greek philosophy, *arche* is the element and the first principle of existing things. This is considered as a permanent substance or nature (*physis*) either one or more which is conserved in the generation of the rest of it. From this all things first come to be and into this they are resolved in a final state. This source of entity is always preserved. Anaximander was the first philosopher that used *arche* for that which writers from Aristotle onwards called 'the substratum'. The Greek philosophers ascribed to *arche*

divine attributes. It is the divine horizon of substance that encompasses and values all things." – Wikipedia

The pre-Socratic philosophers did a fantastic job. In effect, they tried to understand mathematical reality non-mathematically (since math, as practised by humans, wasn't a sophisticated enough tool in those days). The greatest of them was Pythagoras who did indeed recognise mathematics as the *arche*, although the mathematical knowledge of his day was insufficient to turn his system into the great wonder and adamantine edifice that ontological mathematics now is.

"Thales of Miletus (7th-6th century BC), the father of philosophy, claimed that the first principle of all things is water, and considered it as a substance that contains in it motion and change. His theory was supported by the observation of moisture throughout the world and coincided with his theory that the earth floated on water. His ideas were influenced by the Near-Eastern mythological cosmogony and probably by the Homeric statement that the surrounding Oceanus (ocean) is the source of all springs and rivers.

"Thales' theory was refuted by his successor and esteemed pupil, Anaximander. Anaximander noted that water could not be the *arche* because it could not give rise to its opposite, fire. Anaximander claimed that none of the elements (earth, fire, air, water) could be the *arche* for the same reason. Instead, he proposed the existence of the *apeiron*, an indefinite substance from which all things are born and to which all things will return. *Apeiron* (endless or boundless) is something completely indefinite and Anaximander was probably influenced by the original chaos of Hesiod (*yawning abyss*). He probably intended it to mean primarily 'indefinite in kind' but assumed it also to be 'of unlimited extent and duration'. The notion of temporal infinity was familiar to the Greek mind from remote antiquity in the religious conception of immortality and Anaximander's description was in terms appropriate to this conception. This *arche* is called 'eternal and ageless'." – Wikipedia

Anaximander's "apeiron" is a brilliant anticipation of an unseen world of mathematical sinusoids, from which all things are made.

"Anaximenes, Anaximander's pupil, advanced yet another theory. He returns to the elemental theory, but this time posits air, rather than water, as the *arche* and ascribes to it divine attributes. He was the first recorded

philosopher who provided a theory of change and supported it with observation. Using two contrary processes of rarefaction and condensation (thinning or thickening) he explains how air is part of a series of changes. Rarefied air becomes fire, condensed it becomes first wind, then cloud, water, earth, and stone in order. The *arche* is technically what underlies all of reality/appearances." – Wikipedia

Water, air, fire, numbers, the indefinite (*apeiron*) were all first class suggestions as to what the *arche* might be. No one back then could possibly have guessed that mathematical sinusoids are the unseen fibre of existence, the invisible building blocks of everything. However, despite their ignorance, they intuited the right kinds of answer: fluids, gases, spirits, fire (energy), intangibles, hidden noumena. They were far smarter and more intuitive than today's scientific drones and drudges who produce increasingly irrational and illogical speculations.

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Catholic theologians sought to find God at the root of everything. Modern scientists seek to ensure that they never find God at the root of anything at all. Instead, scientists want to find chance, accident, indeterminism, non-substance, non-existence, abstraction, unreality, potentiality, statistics, probability, contingency, meaninglessness and purposelessness. In all these ways, modern science is actually worse than Catholicism. Catholic Scholastic theology, if its absurd Jewish God is removed, is actually a wondrous defence of substance, necessity, eternity, the law of energy conservation, rationalism and mathematics!

Leibniz, a non-Catholic, was, ironically the last great Catholic in many ways since he had great respect for the Scholastic tradition, and his own system was, in effect, the culmination of that worldview. He paved the way for "God" to be replaced by the God Equation, for revelation to be replaced by the principle of sufficient reason, for faith to be replaced by rationalism, for theology to be replaced by ontological mathematics.

Substance Theory

"Substance theory, or substance attribute theory, is an ontological theory about objecthood, positing that a substance is distinct from its properties. A

thing-in-itself is a property-bearer that must be distinguished from the properties it bears." – Wikipedia

Monads are the substances of existence. All of their properties are expressed through their constituent sinusoids.

"Substance is a key concept in ontology and metaphysics, which may be classified into monist, dualist or pluralist varieties according to how many substances or individuals are said to populate, furnish or exist in the world. According to Monistic views, such as those of stoicism and Spinoza, there is only one substance, *pneuma* or God, respectively. These modes of thinking are sometimes associated with the idea of immanence. Dualism sees the world as being composed of two fundamental substances, for example, the Cartesian substance dualism of mind and matter. Pluralist philosophies include Plato's Theory of Forms and Aristotle's hylomorphic categories." – Wikipedia

Ontological mathematics is a substance monism expressed through an infinity of monads, each of which is an individual, autonomous substance, but all of which belong to exactly the same *category* of substance. In other words, there's a plurality of substances, but each substance is of exactly the same kind and nature, so there's only one type of ultimate substance, expressed through countless different instances of that substance (each of which counts as a substance in its own right).

"Descartes means by 'substance' an entity which exists in such a way that it needs no other entity in order to exist. Therefore, only God is a substance is the strict sense. But he extends the term to created things, which need only the concurrence of God to exist. Of these there are two and only two: mind and matter, each being distinct from the other in their attributes and therefore in their essence, and neither needing the other in order to exist. This is Descartes' dualism. Spinoza denied Descartes' 'real distinction' between mind and matter. Substance, according to Spinoza, is one and indivisible, but has multiple 'attributes'. But an 'attribute' is 'what we conceive as constituting the [single] essence of substance'. We may conceive of the single essence of the one substance as material and also, consistently, as mental. What we ordinarily call the natural world, together with all the individuals in it, is immanent in God: hence the famous phrase *deus sive natura* ('God or Nature)." – Wikipedia

The only substances that truly need nothing else are monads = dimensionless points. Monads are complete and consistent sets of sinusoids. An individual sinusoid is not a substance because it needs to be part of a complete and consistent system in order to be meaningful, and could not exist without being logically embedded in that complete and consistent system. (It's metaphysically indivisible from it.)

If we think of a sinusoid as an individual thought, it needs a mind to think it. The mind is the complete and consistent set of sinusoids, and is that of which "thinking" can be predicated. Thoughts cannot be free-floating, existing on their own, since there is nothing to think them, to experience them, to act on them and arrange them into actions and will. Sinusoids, as substance prerequisites (but not substances themselves), are however as eternal and necessary as the substances of which they are the constituents.

"The idea that we have, to which we give the general name substance, being nothing but the supposed, but unknown, support of those qualities we find existing, which we imagine cannot subsist *sine re substante*, without something to support them, we call that support *substantia*; which, according to the true import of the word, is, in plain English, standing under or upholding." – John Locke

In many ways, Locke was the father of scientific materialism and empiricism. He endorsed substance, albeit in rather murky, ambiguous terms. Modern science, disastrously, has abandoned the concept of "substance", regarding it as non-empirical, hence non-existent.

Substance is simply the noumenal support for all that we phenomenally perceive and experience. It's pure math. Math is what underpins science. There's nothing vague or irrational about it. It's a logical hidden variable ... a rational unobservable.

Criticisms of the Concept of Substance

"The idea of substance was famously critiqued by David Hume, who held that since substance cannot be perceived, it should not be assumed to exist. But the claim that substance cannot be perceived is neither clear nor obvious, and neither is the implication obvious." – Wikipedia

Science eagerly followed Hume down this road. Like Hume, it also abandoned formal causation and determinism on the same basis (that they

cannot be perceived, hence are “metaphysical speculations”).

“Friedrich Nietzsche and, after him, Martin Heidegger, Michel Foucault and Gilles Deleuze also rejected the notion of ‘substance’, and in the same movement the concept of subject contained with the framework of Platonic idealism.” – Wikipedia

When Nietzsche proclaimed, “God is dead”, he was actually saying, “Substance is dead.” The trouble is ... it’s not! Substance gives us an absolute, eternal, necessary, rational, Platonic standard: everything we require of “God”. Nietzsche, an atheist, hated any such standard. He wanted reality to be based on nothing but the contingent war of competing centres of power. Yet Will to Power can itself be construed as a substance! And it’s pure metaphysics. No one has every empirically observed Will to Power.

“For Heidegger, Descartes means by ‘substance’ that by which ‘we can understand nothing else than an entity which is in such a way that it need no other entity in order to be.’ Therefore, only God is a substance as *ens perfectissimus* (most perfect being). Heidegger showed the inextricable relationship between the concept of substance and of subject, which explains why, instead of talking about ‘man’ or ‘humankind’, he speaks about the *Dasein*, which is not a simple subject, nor a substance.” – Wikipedia

Thus we see how existentialism gave rise to obscurantism and mysticism. And from existentialism came the even worse crime of postmodernism – which, in so many ways, is really just a bizarre new form of literature and literary criticism. (Ironically, in those terms, it’s a brilliant subject!) However, Heidegger was absolutely right that subject and substance are one and the same. Science denies the existence of both.

Transubstantiation

Catholicism says that the sacramental host (leavened bread) can be “transubstantiated” into the “body of Christ” by the miraculous process of the Mass (conducted by a suitably qualified priest, not by any old person). This is ludicrous, of course. Transubstantiation is impossible. Monads are the only substances, and these can never be changed into anyone or anything else.

Likewise, alchemical transmutation can't literally change base metal into gold. As Jung realised, alchemy is much better understood as a spiritual metaphor about the process of self-individuation – transforming oneself into one's Higher Self. That said, the Higher Self – as God – could easily convert base metal into gold, simply by carrying out the relevant elemental, atomic conversion, involving changing the number of protons, neutrons and electrons.

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It's vital for the human race to reclaim the concept of substance and the *arche* (ultimate substance), and to treat them in entirely logical, rational, mathematical terms.

In order to accomplish this, science, postmodernism and linguistic "analytic" philosophy must all be overthrown. Ontological mathematics is the means to resurrect substance. Mind, not matter, is linked to the *arche*, which is why scientific materialism is so resistant to it. Science would be immediately replaced by ontological mathematics if eternal, necessary substance were accepted.

The Opposition

Anything opposed to rationalism is a Mythos religion. Science is opposed to rationalism. Therefore science is a Mythos religion. In particular, it's the religion of the senses.

The Grand Unified Theory of Everything

If there is only one ultimate substance, one *arche*, then it follows that all natural forces must reduce to one. In a universe of force centres (monads), the law that governs force is exactly the same as that which defines substance itself (or force-substance, we might say). In ontological mathematics, absolutely everything – substances, forces, mind and matter – all flow from the God Equation, which is none other than the ontological formula that expresses the principle of sufficient reason.

The Repulsive Force

If you agree with Boscovich that repulsive forces between two particles increase indefinitely as they approach each other then it automatically

follows that all particles must be isolated points, i.e. matter cannot comprise *contiguous* physical things because the potentially infinite repulsive force would of necessity drive them apart (making them non-contiguous).

Modern particle physics is bedevilled by infinities being generated as two point particles come together, which was one of the motivations for string theory to look to 1D-strings rather than 0D-points.

What science ought to be doing is learning how to accommodate zero and infinity, not excluding them forever. It can do so only by embracing monadic mathematical points – zero-infinity singularities.

Corpuscles versus Atoms

"Corpuscularianism is similar to atomism, except that where atoms were supposed to be indivisible, corpuscles could in principle be divided. In this manner, for example, it was theorized that mercury could penetrate into metals and modify their inner structure, a step on the way towards transmutative production of gold. Corpuscularianism was associated by its leading proponents with the idea that some of the properties that objects appear to have are artefacts of the perceiving mind: 'secondary' qualities as distinguished from 'primary' qualities. Not all corpuscularianism made use of the primary-secondary quality distinction, however. An influential tradition in medieval and early modern alchemy argued that chemical analysis revealed the existence of robust corpuscles that retained their identity in chemical compounds (to use the modern term). William R. Newman has dubbed this approach to matter theory 'chymical atomism,' and has argued for its significance to both the mechanical philosophy and to the chemical atomism that emerged in the early 19th century. Corpuscularianism stayed a dominant theory over the next several hundred years and retained its links with alchemy in the work of scientists such as Robert Boyle and Isaac Newton in the 17th century. It was used by Newton, for instance, in his development of the corpuscular theory of light. The form that came to be accepted by most English scientists after Robert Boyle (1627–1692) was an amalgam of the systems of Descartes and Gassendi. In *The Sceptical Chymist* (1661), Boyle demonstrates problems that arise from chemistry, and offers up atomism as a possible explanation. The unifying principle that would eventually lead to the acceptance of a hybrid corpuscular–atomism was mechanical philosophy, which became widely accepted by physical sciences. ... Roger Boscovich provided the first

general mathematical theory of atomism, based on the ideas of Newton and Leibniz but transforming them so as to provide a programme for atomic physics." – Wikipedia

In many ways, the true unification that science should be seeking isn't that between quantum mechanics and general relativity, but between Newtonian science (materialist and empiricist) and Leibnizian science (idealist and rationalist). Boscovich was the first to make a concerted mathematical attempt to effect this reconciliation, and science would be well advised to return to the work of Boscovich, if only as a staging post on the way to the Fourier treatment of Leibniz's *Monadology*, which is what ontological mathematics is.

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"... it was at this time that Newton rejected the Cartesian postulate of corpuscles that could be ground down to become different sorts of matter and opted for the indestructible atoms of the ancients." – B. J. T. Dobbs

Active Space versus Active Matter

"... a distinction between space and matter must be postulated ... [Newton asserted] that dimension is not determined by matter but by space; and that activity is not within matter but in space. ... Newton's concept seems quite unlike that of the alchemists, which was that of an *active matter*. In Newton's view of things, an atom of matter in isolation is inert; an atom of matter in space is endowed with forces or active principles by the space in which it exists. ... atoms [are not] the cause and agents of the force-interactions between themselves, acting through space... for Newton the forces or active principles causing motions in the atoms do not reside in space *simpliciter*, that is, the interval between atoms, empty nothingness, *intercapedo* Charleton calls it. Space is no void, Newton wrote, and it is because it is more than a void that it can be active. ... Newton learnt that space has an ontology. The alternative to Descartes' metaphysics of extension was not Epicurean vacuity but *active space*. ... it became essential to [Newton's] own internal need to understand how matter in space could move without impact or magic." – A. Rupert Hall

"[God] is more able by his Will to move the Bodies within his boundless uniform sensorium, and thereby to form and reform the Parts of the Universe, than we are by our Will to move our own Bodies." – Newton

Leibniz took this statement by Newton to be supportive of materialism. He interpreted Newton's description of space as God's "sensorium" (the sensory apparatus or sensory faculties considered as a whole) to imply that the universe was God's *body*.

If space surrounds every material object, this means that the entire physical universe is contained within God's sensorium. This suggests that God is not so much the Creator of the universe, but, rather, the "World Soul" of the universe, with the Cosmos as his body and space as the means by which he senses and interacts with his body.

Through space, Newton argued, God is present to the world. It's what renders him immanent. For Leibniz, God is not in the world as a result of space, but because his mind is everywhere, and he perceives everything within himself. Space is where things are located, not where God's ideas reside (the Leibnizian God is pure, active, matterless Form). Space, for Newton, on the other hand, is effectively what links the world to God. We might see it as a kind of bridge between mind and matter, through which God's Will operates.

So, does activity reside in atoms or in the mysterious space through which atoms move?

Newton's "*active space"* was, in effect, the Will of God operating in and through space. God's Will imparts motion to atoms and defines and dictates all of the forces between them, most especially gravity.

With ontological mathematics, the Monadic Collective (= the immaterial Cosmic Mind outside space and time) is the source of all motion and all the laws that affect everything in spacetime.

What *is* the source of energy? Material atoms didn't exist before the Big Bang, so where did they get their energy from, and how do they keep it? In ontological mathematics, energy can be neither created nor destroyed, hence exists eternally. It can never run out or degrade. The universe might seem to be experiencing increasing entropy in spacetime, but this is always offset by increasing negentropy in the frequency domain.

True energy conservation doesn't apply to scientific materialism. Energy, science says, can be magicked out of nothing provided it's done in the right way (to create zero net energy). However, if this is true, it can also

vanish from existence if done in the right way (to ensure a zero net effect). This means that the scientific world is fundamentally unstable in energy terms. This isn't true of ontological mathematics where energy is *permanently* conserved, i.e. all energy present today is *infinitely old*, or, alternatively, eternally renewable.

Science's claim that energy can come from nothing at all, so long as the net effect of that energy is nothing at all, is disastrous because it implies an entirely magical universe. There's no reason in science why energy shouldn't miraculously appear all the time (provided its net effect is zero) and also disappear all of the time (simply by reversing the creation mechanism). There is nothing at all in science to preserve energy. Scientists can't point to any true law of energy conservation because they have no such law. What they have is a law of contingent, temporal energy that can come and go as it likes as long as it does so in a balanced way (ensuring that it never rises above "nothing" for any sustained time).

Science simply doesn't have a law of eternal energy conservation – involving permanent energy that it's impossible to create or destroy – but merely a law that the total energy of the universe must never rise above zero for any enduring period. As long as that limit is respected, energy can jump into existence out of nothing, and vanish into nothing just as easily. It's not a question of energy being conserved at all, but of energy having no *net* value, which is an entirely different concept.

Science, with its resolute anti-philosophy stance, doesn't care about the radical difference between these two notions of energy conservation. Both say that the sum energy of the universe must be zero, but the true law of energy conservation says that this net zero is arrived at via *eternal*, *necessary* energy elements (mathematical sinusoids, in fact), while the phony scientific law of energy conservation says that this net zero is arrived at via *temporal*, *contingent* elements, which can be created and destroyed at will since they have no eternal necessity.

These are staggeringly different worldviews, with emphatically different ontologies and epistemologies. The first is mathematical, rational and analytic; the second is scientific, empirical and synthetic. You must choose between these since they are fundamentally incompatible.

The true meaning of energy conservation, it turns out, defines the nature of existence. If energy is eternal and necessary, an exact, analytic energy state preceded the Big Bang. If, on the other hand, energy is temporal and

contingent, then, as science says, the whole universe can miraculously erupt out of non-existence for no reason at all, just so long as its overall energy remains zero (via a balance between positive and negative energy sources).

Your entire comprehension of reality hinges on what version of energy conservation you go with. Mathematical energy conservation implies eternal, indestructible, dimensionless (frequency) existence, i.e. monadic, sinusoidal existence – *mental* existence. Scientific energy conservation (if it can even be called that since it's really a law of the conservation of zero overall energy, but not the conservation of energy per se) implies temporal, destructible, dimensional (spacetime) existence – *material* existence.

The exact nature of energy conservation determines whether ultimate reality is mental or physical, dimensionless or dimensional. Science is predicated on the physical and dimensional and ideologically refuses to consider mental, dimensionless existence.

Gravity and God

"How, then, did Newton propose to explain the action of gravity? The sun reaches out somehow, across millions of miles, to hold the planets in their orbits. Once Newton had cleared the heavens of the mechanical aethereal whirlpools of Descartes, there seemed to be nothing there in those vast spaces. At least there were no material substances there, but Newton hinted to Bentley that perhaps the force of gravity was mediated by something else that was not material.

"If there were no material aether in the heavens, then what was there? Newton often stated his strong belief in the literal omnipresence of God, and by the 1690s he also began to make at least private statements to the effect that gravity had its foundation only in the will of God – that is, that there was no material cause for it. By 1713 he was willing to hint in public that such was his belief, in the *General Scholium* that he added to the second edition of the *Principia*, published in that year.

"Henry More and other contemporaries of Newton were already treating the deity as an incorporeal yet three-dimensional being whose immensity constituted infinite three-dimensional space, and it is possible to see Newton's ideas on this subject as the 'fruition of a long tradition', a tradition extending from Aristotle through Newton, in which Aristotle's finite plenum was slowly and by painful steps converted into the void,

infinite, three-dimensional framework of the physical world required by classical physics. Newton's God-filled space was the penultimate development in the process by which concepts of space were developed by attributing to space properties derived from the deity. After Newton's time, the properties remained with the space, while the deity disappeared from consideration." – B. J. T. Dobbs, *Atoms, Pneuma, and Tranquillity: Epicurean and Stoic Themes in European Thought*, edited by Margaret J. Osler

"For God alone, who (gives motion to) individual (bodies) without moving and without being perceived (can truly distinguish true motions from apparent)." – Newton

Why are Newton's beliefs about God, and how they prop up his theory of gravity, never taught in science class? Science relentlessly, cynically and dishonestly airbrushes its history. It sweeps under the carpet everything inconvenient to its atheistic and materialist ideology. It refuses to admit how big a role *mind* and *God* played in the development of science. It refuses to admit that scientific materialism could easily have been scientific idealism.

This is the secret history that science keeps buried. It's the alternative track that science might have gone down. The scientific establishment is terrified that a paradigm shift will take place that will push materialism and empiricism off their pedestal and replace them with idealism and rationalism. There is an unbridgeable gap between scientific materialism on the one side and religion and spirituality on the other. There's no such gap between scientific idealism and religion and spirituality. That's why the atheistic cabal that runs science will do everything in their power to prevent the rise – or, rather, *rediscovery* – of scientific idealism, logic, rationalism and ontological mathematics.

Science should be driven by reason, logic, analysis, intellect and deduction, not by the senses, experiences, observations, experiments and induction. It must be an intellectual subject based on reason, not an anti-intellectual subject based on the senses.

Going back to Plato, the choice for science was between the intelligible and the sensible. It chose the sensible, i.e. it chose wrongly. But it's never too late. Science can become intelligible rather than sensible whenever it wants. As soon as it does so, it will become mathematical rather than

experimental. Science will be replaced by ontological mathematics. Temporality and contingency will be replaced by eternity and necessity. Ad hoc theories will be replaced by the eternal truths of reason. Evidence will be replaced by proof. Induction will be replaced by deduction. Scientific guesses will be replaced by mathematical analysis.

Nietzsche and Boscovich

"Whereas Copernicus had to persuade us to believe, contrary to all our senses, that the earth did not stand still, Boscovich taught us to disavow the final 'fixed' thing in the regard to the earth – the belief in 'substance,' in 'matter,' in the little residual earthly clump – the *atom*. This was the greatest triumph over the senses ever achieved on earth." – Nietzsche

Boscovich didn't do a thorough enough job. The world still believes in material atoms. Humanity is still in thrall to its senses. To become a divine species, humanity must turn to mental, not physical, atoms. Humanity must become intuitive and rational, not sensory and hysterical.

Intelligible

The universe in itself is either intelligible or sensible. It can't be both. If it's intelligible, it must be made of something inherently intelligible. Only mathematics is inherently intelligible, hence the universe in itself is made of math. There's not a shred of evidence or proof that the universe is made of anything sensory, and any such idea is incompatible with the Big Bang. If the universe is fundamentally made of non-sensory, intelligible things, science can tell us nothing about it. Science is an observational, experimental subject, based on sensory things. It has nothing to say about non-observational, non-experimental, non-sensory, intelligible entities.

It's science or math. It can't be both. Which side are you on? Science is credible for no other reason than that it uses math ... but, crucially, it doesn't use it properly, which is why science is increasingly deranged.

Existence

Is existence eternal? Is existence necessary? According to scientific materialism, existence is neither eternal nor necessary (it's temporal and contingent) and can randomly jump out of non-existence for no reason at all, via no mechanism at all. This is the quintessence of magic and miracles.

In order to get rid of a magical and miraculous "God", science opted instead for a magical and miraculous non-God = randomness = atheism.

However, the choice is not between "God" (eternal and necessary) and "randomness" (temporal and contingent), between mainstream religion and atheism. There's something else that is eternal, necessary, perfect, immutable, Platonic, infallible, absolute and the source of all design, order, organisation, patterns, causation and laws – *ontological mathematics*.

So, you have three options for attempting to answer the question of existence: religion (the most popular – believed in by 80% of humanity), science (popular – believed in by 19% of humanity) ... and math (the least popular – known by 1% of humanity).

Math is of course the only road to the real Truth. It's the hard road, based on reason and logic rather than the emotions and mystical intuitions (religion), or the senses (science). It's therefore the road less travelled. In fact, it's the road not travelled at all by 99% of humanity. They all prefer the Road of Lies, the Story Road of Mythos.

Only one thing is capable of offering certainty and infallibility ... math. There are no other shows in town. Faith is the opposite of certainty. The emotions and senses are totally delusional. Mysticism is pure obscurantism. It's math or nothing. If existence isn't mathematical, it's pure magic, pure miracle and utterly inexplicable. It's irrational, unintelligible and has no conceivable answer.

Math is the one and only thing that can solve the riddle of existence. Existence is nothing but a vast self-solving equation (the God Equation), with countless interactive nodes ... monads = souls! This is a mathematical Soul World. There is no Creator. There is no Overlord. There is no Master. We are all self-optimising souls in a self-optimising universe, and we are fully optimised when we change from mere souls into Gods! This is the ultimate Alchemy. Mathematics is the Philosopher's Stone that changes base metal (ordinary souls) into gold (God). Do the math!

Math isn't abstract. Math is the fibre of existence, the brickwork of existence, the source of existence and of all the laws that govern existence. It's all in the math.

All things are math. Math rules all. Math to all intents and purposes is God – but not a personal, theistic God.

We are all part of God. We are all part of the universal Divine Equation. We are all nodes of that equation, playing a vital role in solving it ... but

some of us are playing a much greater role than others. We are the Illuminators, shedding light on the ultimate solution ... the *Final Solution*.

Every single action you perform, every thought you think, every relationship you have, every emotion you feel, every sensation you experience, every mystical intuition that overwhelms you in your moments of epiphany ... every single one of these is bringing the answer to existence that bit closer.

We are all converging on the Omega Point, the culmination of a Cosmic Cycle, but some of us are driving the agenda, and others are just along for the ride. Don't you want to be one of the divine pilots rather than the passive passengers, staring out the window at a reality they can't comprehend?

Don't you want to be one of the Illuminators, the Phosters, the Angels? The Illuminati are those that seek to become the divine ones ... the Gods!

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"My observation of the Universe convinces me that there are beings of intelligence and power of a far higher quality than anything we can conceive of as human; that they are not necessarily based on the cerebral and nervous structures that we know; and that the one and only chance for mankind to advance as a whole is for individuals to make contact with such Beings." – Aleister Crowley

It's not about contacting such Beings. It's about becoming them!

Intelligible Space

"Intelligible" space = the Fourier frequency domain; it has no sensible qualities.

"Sensible" space = the Fourier spacetime domain = "scientific space".

Kant argued that "intelligible space" – populated by things in themselves and existing independently of human perception – was unknowable. It isn't ... it's just the immaterial Fourier frequency domain outside space and time. It's completely mathematical and analytic.

The Problem of Perfection

In the final analysis, what science has a fundamental problem with is *perfection*. It denies the existence of a perfect God as the foundation of existence, and it equally denies the existence of perfect mathematics as the foundation of existence. It sees existence as something crude, blurry, messy, uncertain, fuzzy, hazy, imprecise, grainy, imperfect, approximate, irrational, illogical, magical, miraculous, temporal, contingent, statistical, chaotic, probabilistic, acausal, indeterministic, ruled by chance and accident.

It's *impossible* for anything other than perfection to be the answer to existence. You cannot formulate any definitive answer based on inherent uncertainty, imprecision and contingency. These are entirely incompatible with a rational, logical, eternal, necessary ontology and epistemology. Only perfection can be complete and consistent ... and anything that isn't complete and consistent is irrational nonsense! You might as well believe anything you like, anything that floats your boat.

There is only one absolute, infallible answer to existence and that answer in necessarily perfect. Only perfection is true. Everything else is opinion, belief, speculation, hypothesis, conjecture and interpretation ... pure Mythos.

Science is just a sensory Mythos. It has no relationship whatsoever with perfect, indisputable, irrefutable Truth. No seeker of Truth would *ever* turn to science. Truth is that which can never be false under any circumstances. Scientific "truths" are those that can be overturned at any time, by the latest experimental findings, so none can ever reflect *Truth*.

Transformation

Energy, we are told, can be neither created nor destroyed, only transformed. This is false. What is true is that energy can be neither created nor destroyed; energy in itself is *never* transformed. Energy is never anything other than eternal, necessary sinusoidal waves. What *is* transformed is something quite different. It's the temporal, contingent *arrangements* of energy that undergo transformation. Transformation, therefore, is about temporality, contingency, and potentiality, and derives from eternity, necessity and actuality. Science, as ever, misstates what's really going on.

The only other way in which energy can be said to undergo a transformation is when it switches from dimensionless mode (mind) to dimensional mode (matter).

Mathematics

"Every time we want to understand anything, we have to simplify and reduce and, importantly, give up the prospect of understanding it all, in order to clear the way to understanding something at all. This, I think, is true of all human inquiry." – Zia Haider Rahman

No, to simplify, reduce and analyse does not mean that we cut ourselves off from the big picture. Reality *results from* the very simple, reduced and analytic. It's hardly going to be *made* of the complex "big picture", is it?

The whole point of evolution is that complex things are built up from simple things. Complex bodies are the products of countless simple, repeating cells, expressing themselves in different ways.

Isn't it amazing that people who claim to believe in evolution – in the simple producing the complex – then turn round and say that we *can't* understand reality via the simple? Well, that means we can't be living in an evolutionary world! The *only way* to understand reality is, as Leibniz realised, to understand the simple substances from which it's made, and see how complexity arises from the simples. There's no other way. That's exactly why mathematics – the quintessence of the reductive, analytic and simple – is the means by which we understand reality.

Consider water. As a manifold, it seems incredibly complex, yet it's just an enormous collection of simple H_2O molecules, and the interactions between those molecules.

Anyone who understands the Periodic Table of Chemistry knows that Zia Haider Rahman is totally wrong. All complex compounds and molecules are built up from the simple, pure, atomic elements.

Understanding comes *exactly* from reduction, simplification and analysis, from finding the basic units that comprise the complex ensembles of things. If we couldn't carry out this deconstruction, we would never understand anything at all. The whole problem with mainstream religion is that it always looks to more complex things to explain simpler things, i.e. it looks to God – the most complex things conceivable – to explain the world, and thus simply begs the question of God's existence.

Like Zia Haider Rahman, religion subscribes to an anti-evolutionary and anti-reductionist worldview. It thinks that explanation is complex rather than simple. This is total nonsense. You must reduce, reduce, reduce; simplify, simplify, simplify; analyse, analyse, analyse. Find the basic bricks

of existence and then build up everything else from them. Identify and understand the notes of the piano, and then you can play any tune you like. Don't try to work out what music is from a completed symphony. The task is to get to the simple notes from which the symphony is produced.

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Mathematics frees us from conscious subjectivity and arbitrariness, from our emotions, experiences, senses, desires, will and mystical intuitions. These have no bearing on objective mathematics. Only mathematic is rigorous, objective, systematic and analytic. Everything else is belief, delusion, opinion, conjecture and interpretation.

Mathematics is the ultimate egalitarian, equal opportunities, meritocratic subject. It doesn't care about how much money you had when you were growing up, who your parents were, where you lived, what your social status was, how popular and fashionable you were at school. All that matters is how good you are at it, how talented, how meritorious.

Mathematics is the supreme hammer that smashes to smithereens all bullshit and charlatanry. You *can* bullshit a bullshitter. You can't bullshit mathematics. No blowhard can succeed in mathematics. You have to put up or shut up. You have to walk the walk, and not ... like so many ... just talk the talk.

It has been said that the reason the world doesn't hear much about Gödel's Incompleteness theorems is that they concern Truth, and who cares about *THAT*? That's exactly right. Humanity is an inherently mendacious species. It has no regard for Truth. Human consciousness is dishonest, self-serving, egotistic and delusional. To get to the Truth, we have to overcome *ourselves*, our own conscious self-deceit. That's why the Truth is the hardest thing of all.

People often say that the world doesn't make sense, but of course it does ... exactly because it's a mathematical world, hence has an analytic answer. The world that doesn't make sense is the emotional, irrational, sensory, wilful, mystical interpretive world of *consciousness*. It's consciousness that hides the Truth from us. Consciousness has its own priority – success in life: power, attractiveness, popularity, wealth, glory, the sexiest partners, the best jobs and careers, the best homes, best possessions, fastest cars, biggest yachts, most money, most luxurious lifestyle, highest status, most adulation from others, and so on. Absolutely none of that has any connection with

Truth, yet it's what drives each and every one of us on a daily basis. Our vanity is far more important to us than philosophy and mathematics. We prioritised worldly success and power over unworldly Truth. That's the history of the human race in nutshell. We have a Will to Power, not a Will to Truth. Power and Truth align only at the Omega Point.

What could be more problematic for the human race ... the gate to the Truth, to knowledge of ultimate reality, opens to you only if you overcome your own consciousness, your own vanity, selfishness and egotism. You have to abandon your Ego Trip if you want to enjoy the trip to gnosis, enlightenment, the Truth ... to *divinity*.

The Gods aren't the most arrogant of beings. They're the opposite ... the most humble. They're humble in the company of knowledge and Truth, and that's what allows them to learn and grow. Narcissists learn only what's useful to them. If mathematical Truth delivers no advantage to a narcissistic psychopath, he will have zero interest in it. That's true for the whole of humanity. The only human beings who like mathematics are those who are socially empowered by it (by getting high paying tech jobs thanks to it), or those who love the Truth, and know that there's no Truth other than mathematical Truth.

When people say, "The truth will set you free", they mean "Math will set you free".

The Truth is Logos. It's all about reason and intellect. Humanity's tragedy is that it has always considered the Truth to be Mythos, i.e. concerned with "holy" books, religious revelations, prophets, popes, priests, gurus, messiahs, shamans, faith, the senses, the emotions, mystical intuitions, personal epiphanies and subjective experiences. Absolutely none of that will you help you, and you're living in a fantasy world if you think it will. Sadly, humans are the experts in believing their own propaganda, and subscribing to their own fantasies.

The Building Blocks

All complex things are constructed from a plurality of simple things. Chemistry, for example, builds up everything from atomic elements. However, a troubling question then arises ... are the atomic elements in turn built up from something more basic: quarks, strings, or the like? But then we arrive at the same question regarding these. So, do we ever arrive at a fundamental level, the irreducible foundation for everything else ... the

arche? Ontological mathematics says that analytic sinusoids are this ground level, the ultimate basement. They are eternal, necessary, complete and consistent. It's impossible to break them down any further.

Science refuses to arrive at a definitive, analytic, irreducible level. It ultimately claims that existence jumps out of nothing for no reason. Science sidesteps the absurdity of infinite contingent regress only by invoking the even greater absurdity of random, miraculous, spontaneous generation of existence (actuality) from non-existence (potentiality). That's the alternative to existence being based on eternal, necessary, analytic, mathematical building blocks. So, which side are you on ... that of reason and mathematics, or of scientific magic and miracles that pluck something from nothing with no explanation at all?

There are three possible ways to explain existence:

1) Existence has an eternal foundation (the God Equation, God, or the "Oneness", i.e. math, religion or spirituality).

2) Existence has no eternal foundation, and everything is constructed from something more basic, but we can never reach any final level. This is science as infinite contingent regress. Multiverse thinking, "many worlds" thinking and "inflation" thinking can be viewed in these terms.

3) Existence comes from non-existence (i.e. non-existence is, paradoxically, the foundational level of existence, and existence comes from it via random, accidental, indeterministic miracles). This is what conventional scientific Big Bang theory claims, and most of quantum thinking.

Well, then, which is correct?! Do you seriously imagine that your senses, experiments and the scientific method will help you to resolve this problem? Grow up. Wise up!

The Ontological Foundation Bricks

The ultimate things of existence must have zero dimensionality in order to be indivisible, immortal and indestructible. They must also be capable of generating contingent, temporal dimensionality. Only sinusoids have this dual-aspect ontology.

Leibniz

“But atoms of matter are contrary to reason, besides the fact that they also are composed of parts, since the invincible attachment of one part of another (granted that this could be reasonably conceived or supposed) would not destroy their diversity. It is only atoms of substance, that is to say unities which are real and absolutely without parts, which can be the sources of actions, and the absolute first principles of the composition of things, and as it were the ultimate elements into which substantial things can be analysed. They might be called metaphysical points; there is about them something vital and a kind of perception, and mathematical points are their points of view for expressing the universe. But when corporeal substances are compressed all their organs together form only a physical point to our sight. Thus physical points are only indivisible in appearance; mathematical points are so in reality but they are merely modalities; only metaphysical points or those of substance (constituted by forms or souls) are exact and real, and without them there would be nothing real, for without true unities there could not be multiplicity.” – Leibniz

“The expression ‘metaphysical points’ is not usual, and is only employed, apparently, to bring out the connection with infinite division. We may put the matter thus: Space consists of an assemblage of relations of distance; the terms of such relations, taken simply as terms, are mathematical points. They are thus mere modalities, being a mere aspect or quality of the actual terms, which are metaphysical points or monads. The physical point, on the contrary, is an infinitesimal extension, of the kind used in the Infinitesimal Calculus. Mathematical points are purely abstract, are not existents and do not compose extension. Bodies as such, i.e. as extended, are phenomenal but they are well-founded phenomena because they are the appearances of collections of real substances.” – Bertrand Russell

“These real unities are what Leibniz calls *entelechies* or *forms*. These terms, which he borrowed from Aristotle, denote, when accurately used, not the whole monad, but its activity, or that in it which is analogous to a soul, as opposed to its *materia prima*, which is passive, and is matter also in the Aristotelian sense, opposed to form.” – Bertrand Russell

A monad, in these terms, is a dual-aspect Aristotelian hylomorphic substance. One part of it is unclear, passive matter, and the other clear,

active form. The more evolved a soul is, the clearer it is, and the less matter it has. “Matter” here does not mean the sort of matter that scientists contemplate (i.e. stuff that exists completely independently of mind). It’s matter as a recalcitrant aspect of mind, yet, it’s functionally equivalent to scientific matter insofar as it can be slotted into all the usual scientific formulae concerning mass and matter. In other words, here is an entirely different way of thinking about matter, while still being able to use the standard, and successful, scientific equations. The equations work because they are mathematical, not because of the way scientists interpret them. You should *never* associate scientific materialist interpretations with Truth. They are always heuristic fictions, with no rational, ontological, epistemological basis.

For Leibniz, metaphysical points are *formal* atoms (atoms exhibiting form) and atoms of substance (i.e. monadic substance rather than any scientific materialist substance). Wikipedia says, “True substances were explained as metaphysical points which, Leibniz asserted, are both real and exact – mathematical points being exact but not real and physical ones being real but not exact.”

Mathematical points have no dimensions. They exist *in* space but they do not take up space. They are inherently indivisible. Physical points *do* take up space and can, in principle, be divided.

In ontological mathematics, metaphysical points and (ontological) mathematical points are one and the same. Leibniz was unable to say what a monad actually comprised in order to allow it to think. He regarded monads as inherently thinking entities, of the type Descartes had suggested, i.e. all unextended substance is thinking substance. However, he couldn’t state what a thought is ontologically. Modern Illuminism has rectified this inadequacy. A monad is a mathematical-metaphysical point, made of a complete and consistent set of sinusoidal waves. Each sinusoid is an individual thought (in itself). Each such thought has both Form and Content. i.e. a rational and empirical aspect. All thoughts are both quantia and qualia.

A mind experiencing a thought *never* experiences it as pure Form, pure rationalism, pure quantity. It is *always* experienced in terms of Content, empiricism and qualia. We experience thoughts in terms of feelings, desires, will, sensations, intuitions and practical reason. Only when we engage in

thinking about mathematics itself do we start to align our thinking with Form, rationalism, quantity and logic.

Reason – theoretical reason – concerns pure, analytic reason. We are at our least human – and yet most in contact with the fundamental nature and language of existence – when we are considering mathematics. Nothing is further from the human condition as an *experience* than mathematics. Mathematics defines the form, the ontology, of human existence, but we do not experience human existence mathematically. We do not experience the information carrier, only the information carried. We live experientially in a world of phenomena, not noumena.

The Unconscious

"This brings us to a very important advance which Leibniz made in Psychology. Locke thought there should be nothing in the mind of which the mind was not conscious. Leibniz pointed out the absolute necessity of unconscious mental states. He distinguished between perception, which consists merely in being conscious of something, and *apperception*, which consists in self-consciousness, i.e. in being aware of perception. An unconscious perception *is* a state of consciousness, but is unconscious in the sense that we are not aware of it, though in it we are aware of something else. ... as regards minute perceptions, Leibniz holds, with modern psychophysics, that a perception must reach a certain magnitude before we become aware of it, and thus sufficiently minute perceptions are necessarily unconscious." – Bertrand Russell

All animals are conscious in the sense of being aware of something, but they lack true consciousness, which involves *apperception*, and means being *aware* that one is perceiving rather than merely perceiving. Plants certainly don't have any consciousness at all, or only at the most primitive levels conceivable.

Substantial Space?

Leibniz said, "I have several demonstrations to confute the fancy of those who take space to be a substance, or at least an absolute being." Here, he was attacking Newton's concept of absolute space, and Newton's suggestion that space was the "sensorium" of God.

“For the traditional logic – the logic underlying all use of substance or of the Absolute – assumes ... that all propositions have a subject and a predicate. If, now, space be admitted to exist *per se*, while the doctrine of substance is retained, there will be a relation between substances and the spaces they occupy. But this relation will be *sui generis*; it will not be a relation of subject and predicate, since each term of the relation exists, and may continue to exist though the relation be changed. Neither the thing nor the part of space is annihilated when the part is evacuated by the thing and reoccupied by a different thing. The relation, then, between a place and the space occupying it, is one for which the traditional logic has no room. Accordingly, the independent existence of places was denied by careful philosophers, and admitted by Newton only because he was blind to its consequences. Clarke [Newton’s proxy] to evade the consequences, made space and time parts of God’s essence, a position which Leibniz easily showed to be absurd. The contention Leibniz was really combating was, that space exists per se. And not as a mere attribute of anything.” – Bertrand Russell

This is a critical point. You cannot have space as a substance, filled with other substances, since this would constitute the fatal problem of Cartesian substance dualism, and how different substances can interact (and indeed coexist in the same place). The universe can comprise only one substance (monism). There may be infinite instances of that one substance, but it’s one substance all the same. Space cannot be a substance since it would preclude the existence of any other substances. Space and time must, therefore, be *predicates of monadic subjects*.

Newton and Clarke had to make the astoundingly anti-scientific claim that space and time are attributes of God. Perhaps Stephen Hawking and Richard Dawkins would like to address the fanatical religious beliefs that underlie Newtonian science.

Space and time do not exist per se. They are properties of monads and exist only in relation to monads. They are produced by Fourier mathematics.

The ancient Greek notion of atoms moving in a void is substance dualism. If all things are made of atoms, then the void, if it’s a “thing”, must be made of atoms, which is a contradiction. If the void isn’t anything at all, it can’t support the presence of atoms (since there’s literally nothing there; even to have extension, as space must have, is not to be void at all since

space now has a specific property that needs to be explained, i.e. how does "void" support the property of extension; where does this property come from, and what is it ontologically?).

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"If space be an absolute reality, far from being a property or an accident opposed to substance, it will be more subsistent than substances." – Leibniz

"Mind itself consists properly in a single point of space, whereas a body occupies a place." – Leibniz

"If we give the mind a larger place than a point, it is already a body..." – Leibniz

"Body" is associated with the physical point. Soul is associated with the metaphysical point; the mathematical point is its point of view.

Force

Every body is moved not by other bodies but by its *own* force. Force is built into sinusoids. Force is to matter as *form* is to matter, i.e. force is just another way of talking about Aristotelian form – which is immaterial, not material. When sinusoids interact with each other, they give rise to new wavefunctions, and it may *seem* as if force has been transferred from one place to another. However, nothing at all has in fact been transferred. That's exactly why we can have perfect energy conservation.

Points

Leibniz thought of monads as real, indivisible *metaphysical* points, not mathematical points that are indivisible but unreal, or physical points that are real but divisible (infinitesimally extended).

Substance and Activity

"Substance is the being capable of activity." – Leibniz

Only entities with agency can be substances. Material atoms, which are simply passive objects being buffeted by forces over which they have no control, cannot be substances.

If the fundamental units of reality are metaphysically indivisible then physical atoms, which are infinitely metaphysically divisible, cannot be the fundamental units. Only non-physical atoms can be metaphysically indivisible, and these are monads.

In each monad, there is:

1) the principle of activity = form.

2) the principle of passivity = matter.

There are two aspects of matter:

1) primary matter = the principle of obscure and confused ideas.

2) secondary matter = the appearance of matter as "material substance." Secondary matter is how primary matter appears phenomenally in space and time.

Three Kinds of Points

1) Physical points are spatially perceivable.

2) Mathematical points are spatially conceivable.

3) Metaphysical points are not spatial but are representational perspectives or subjective points of view.

For Leibniz, mathematical points are "mere modalities", i.e. abstractions from reality rather than realities themselves. The realities are the metaphysical points. Mathematical points are the points of view from which the metaphysical points spatially perceive the universe. Physical points aren't true points at all since they are in fact divisible.

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"According to Leibniz, extended bodies somehow result from a multitude of metaphysical units, which have inherent vitality, power and perception. The fundamental elements are seen primarily as agents, endowed with power of activity and intrinsic appetite." – *Possibility, Agency, and Individuality in Leibniz's Metaphysics*, edited by Ohad Nachtomy

Thought is Motion

What is the mental analogue of physical motion? It's mental motion = thinking! The mind can *never* be at rest.

Physical and Mental Points

If matter consists of physical points ("atoms"), mind consists of mental points ("monads"). Thus we have a system of divisible versus indivisible points (atoms versus monads), and nothing else besides.

For Boscovich, point-atoms were distinguished from geometrical (mathematical) points by the fact that that they possessed the real property of inertia, and were surrounded by forces. This was to treat mathematics as non-ontological. In ontological mathematics, all properties that traditionally belong to science in fact belong to mathematics. Above all, mathematical monadic points are real things that project forces, so point-atoms cannot be distinguished from mathematical points.

Leibniz gave his metaphysical point-monads the properties of perception and appetition, in addition to an equivalent of inertia. In modern-day Illuminism, point-monads are ontological mathematical points, and are inherently thinking entities since they are made of sinusoids, which are basis thoughts (thoughts in themselves). In other words, in modern-day Illuminism, no distinction is drawn between mathematical and metaphysical points. They are the ontological centres of force, both mental and physical. The force of monads is a *vis viva* ("living force").

Boscovich opposed Leibniz's idea of a "living" force in relation to his physical point-atoms. He had two categories of monads: mental (living) and material (dead). For Leibniz and Illuminism, there are only living, mental monads, and all material things are derived from them. For Nietzsche too, all monads are mental since they all express Will to Power.

Interconnection

It was a fundamental aspect of Boscovich's system that every particle of matter was connected to every other particle, no matter how great the distance between them. A change, no matter how slight, in the position of any one of them would affect the whole universe. The same kind of thinking applies to modern quantum mechanics.

Continuous versus Discrete Space

1) Mathematical points have a precise position in space, but do not occupy any space.

2) Physical points have an imprecise position in space because of their infinitesimal extension.

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In Leibniz's system, a monad is a point, not a mathematical or a physical point, but a *metaphysical* point. In ontological mathematics, mathematical points *are* metaphysical points, i.e. they are thinking Cartesian minds. They are mental points that operate entirely mathematically (sinusoidally).

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A mathematical point – *punctum mathematicum* – is a location in mathematical-metaphysical space, improperly called "physical" space.

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All monads are "simple", therefore are not in physical space, for otherwise they would be "compound", hence divisible. They are mathematical-metaphysical points, which are indivisible. Physical space does not consist of indivisible points. Therefore, that which is in "physical" space does not consist of true points. This tallies with the modern claim of quantum mechanics that physical space is in fact granular. However, mental space – frequency space – isn't. The fundamental problem of modern physics lies in failing to understand the difference between metaphysically divisible physical space and metaphysically indivisible mental space, and failing to grasp that both types of space can coexist, but in ontologically distinct, yet inherently connected, domains.

Physical points are indivisible only in appearance; mathematical points are truly indivisible, but, for Leibniz, are mere modalities, or viewpoints for metaphysical points. Only metaphysical points – those of *substance* (constituted by forms/souls) – are exact and real in Leibniz's original system.

Ontological mathematical points are "spiritual", mental points since they are made of sinusoids, which are ontological thoughts. Once sinusoids are equated to thoughts, everything else follows. We inhabit a living, spiritual,

mental, teleological universe, not a dead universe of purposeless, meaningless matter.

Boscovich's points differ from traditional "abstract" mathematical points in that they possess the property of inertia, and there is a force acting between them.

How and Why

Scientists ask *how*. Mathematicians and philosophers ask *why*. Scientists have no interest in meaning and purpose because these are *why* questions.

Dynamics

"There are, speaking broadly, three great types of dynamical theory. There is the doctrine of hard extended atoms, for which the theory of impact is the appropriate weapon. There is the doctrine of the plenum, of an all-pervading fluid, for which there is the modern doctrine of the ether – the theory of Electricity, in fact – has at least partially forged the necessary weapons. And finally, there is the doctrine of unextended centres of force, with action at a distance, for which Newton supplied the required Mathematics. ... Leibniz's relational theory of space, and his whole doctrine of monads, should have led him, as it led Boscovich, Kant and Lotze, to the theory of unextended centres of force. ... Leibniz rejected gravitation as an ultimate account of things, giving as his reason that action at a distance is impossible. ... Boscovich differs from Newtonian Dynamics chiefly in assuming that, at very small distances, the force between two particles is repulsive. He differs from the Newtonian philosophy by regarding action at a distance as ultimate. ... The true Leibnizian Dynamics is not [Leibniz's] own, but that of Boscovich. This theory is a simple development of the Newtonian Dynamics, in which all matter consists of material points, and all action is action at a distance. These material points are unextended like the monads, to which Boscovich appeals as analogous; and in order to preserve their mutual independence, it is only necessary to regard the attraction or repulsion as due to the perception of one monad by the other, which, as a matter of fact, Leibniz actually does. ... Locke had maintained that there must be empty space, or else there would be no room for motion. Leibniz rightly replies that if matter be fluid, this difficulty is obviated. It should indeed be obvious, even to the non-mathematical, that motion in a

closed circuit is possible for a fluid. It is a pity philosophers have allowed themselves to repeat this argument, which a week's study of Hydrodynamics would suffice to dispel. The complete answer to it is contained in what is called the equation of continuity." – Bertrand Russell

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Impact involves particles travelling through space and colliding.

Action at a distance involves particles emanating forces.

Universal force involves a plenum, a kind of cosmic fluid or ocean.

Frequency = force = mind = form = active = plenum.

Spacetime = matter = passive = contact/impact.

Evidence versus Proof

Scientists believe in evidence. "Evidence" = belief in the senses.

Mathematicians deal with proof. "Proof" = the irrefutable application of reason.

Science is just applied mathematics with heuristic fictions added.

The Forbidden

What has science refused to contemplate? – 1) the ontology of mathematics, and 2) the ontology of mind. These are, of course, the same thing. Scientific materialism forbids that which refutes it ... exactly as religion has always done.

Intelligent Design

Humanity is now massively engaged in intelligent design ... with regard to medicine, agriculture, genetic engineering, chemicals, construction, energy, A.I., and so on.

If intelligent design is present in the universe now, why not in the past? If humanity is not the greatest intelligence in the universe (and why should it be?), there *must* be higher intelligences. What manner of intelligent design would these higher intelligences be capable of? Did they create the

universe itself? Did they create the stars and planets? Did they create humanity? Did they create evolution itself?

In the theory of *involution*, a higher state gives rise to a lower. In the theory of *evolution*, a lower states ascends to a higher. The Big Bang is an involution event. The future Big Crunch is the culmination of evolution.

We don't actually need a God, or Gods, to be at the root of intelligent design. It's implicit within the God Equation and within self-optimising, self-solving ontological mathematics.

The Topos of the Soul

The *topos* of the soul – the place of the soul – is, for Boscovich, the infinite, possible, potential, mathematical space ... the true continuum. It's not physical space. You will never find the soul in scientific space.

The Reconciliation

Thinkers such as Kant and Boscovich tried to reconcile Leibniz and Newton, Metaphysics and Physics, Rationalism and Empiricism, Mathematics and Science. Modern thinkers have long since abandoned this project. They are now dogmatic, ideological materialists and empiricists. They refuse to consider Leibniz's monads; rational, analytic principles; non-empirical logic; epistemology; the ontology of mathematics; metaphysical hidden variables and rational unobservables; intelligible noumena, and so on.

They have never at any time refuted any of these. They have simply chosen to blind themselves to them, and pretend they don't exist. Such is the foundation of modern scientific thinking. It's the most arrogant, deluded, irrational, illogical and unintelligible platform possible for addressing ultimate reality.

Science is the worst explanation of ultimate existence ever devised by the human race. All religions, no matter how crazy, are superior to science in their claims regarding fundamental existence since none of them say that existence miraculously, randomly sprang out of non-existence for no reason and via no conceivable mechanism whatsoever. Science is pure magic, and a total insult to our intelligence.

The Point of It

For Leibniz, physical points are indivisible only in appearance, hence are inexact, mathematical points are exact, but are mere modalities (unreal), and metaphysical points (points of substance, constituted by forms or souls) are both exact and real. Without them, there would be nothing real. They are the basis of ontology and thus epistemology.

The Divisibility Problem

According to Newton, absolute space is infinitely divisible, but atoms are indivisible. This raises a fundamental ontological problem. If all that physically exists are space and atoms, how do we account for the existence of two categories of incompatible existence: the infinitely divisible and the infinitely indivisible? This is Cartesian substance dualism, and it immediately leads to the classic Cartesian problem of how two incompatible substances can interact and co-exist. With regard to Descartes' mind and matter dualism, the school of materialism simply denied the existence of mind, while the school of idealism denied the existence of mind. The materialists then had to show how mind originates in matter (they never have), and the idealists to show how matter originated in mind (several plausible proposals have been made in this regard, but ontological Fourier mathematics is the true, analytic answer).

Using the same approach, there should be two schools of "science": 1) the school that denies true indivisibility and seeks to explain indivisibility in terms of divisibility, and 2) the school that denies true divisibility and seeks to explain divisibility in terms of indivisibility.

So, do divisible things have their origin in the inherently, ontologically and metaphysically indivisible (as Leibniz said) – i.e. we build up from the simplest points to complex things – or do indivisible things have their origin in divisible things, which is of course a blatant contradiction in terms?

To turn the indivisible into the divisible, you must add extension. To turn the divisible into the indivisible, you must subtract extension. There's only one way in which this can be ontologically accomplished – via Fourier mathematics. With Fourier mathematics, there's an indivisible domain (the frequency domain) and (at least superficially) a metaphysically divisible domain (the spacetime domain). Both are translatable into each other via inverse and forward Fourier transforms. We can ontologically collapse spacetime into the frequency domain, as we see with the formation of black

hole singularities. And we can ontologically explode the frequency domain Singularity into spacetime, as we see with the Big Bang.

Any explanation of reality must be able to rationally and logically account for the divisible and indivisible, and show how they are interconvertible. Science fails dismally. It prefers to throw a veil of Heisenberg uncertainty over the gap between the divisible and indivisible, and into this gap it can insert as many miracles and as much magic as it likes, because it can never be analytically contradicted. Into this gap pours acausation, indeterminism, wavefunction collapse, dead-alive cats, chance, accident, randomness, probabilities, potentialities, unreal wavefunctions, and statistics ... all the non-ontological, non-epistemological, irrational and illogical nonsense that powers modern science, and which scientists can't get enough of. Scientists really love this shit. Its mystical nature means that scientists get their share of religion and wonder via the backdoor. Heisenberg's uncertainty principle might as well be science's "God" because it's the Creator, the source of all, of magic, miracles and absolute faith.

In ontological mathematics, there's nothing ontologically mystical about Heisenberg's principle. It's nothing to do with uncertainty. It's actually to do with the ontological disjunction between the indivisible frequency domain and the divisible spacetime domain.

Any claim that science makes can invariably be reinterpreted from a mathematical perspective in completely different terms. Who are you going to believe ... sloppy scientists or analytic mathematicians? Is there even a question there?

Accuracy

Aristotle said, "The minute accuracy of mathematics is not to be demanded in all cases, but only in the case of things which have no matter. Therefore its method is not that of natural science; for presumably all nature has matter."

The Fourier frequency domain – the ontological Singularity outside space and time – has no matter, hence can be addressed purely by mathematics and not by natural science. That's a fact. The Singularity is unobservable, hence outside the empirical scientific method, predicated on observability.

Tragically and catastrophically, science regards anything beyond the reach of its method as non-existent. This makes it a religion rather than an intellectual, rational discipline.

Time

Does time *physically* exist?!! ... what would be meant by *physical* time? ... but if time isn't physical, it must be either mental or "imaginary".

Science has no idea what time is. It doesn't know if it's tensed or tenseless. It doesn't know if there's a timeless block universe or not. It doesn't know the ontological relationship between time and motion. It has never provided an ontological definition of either time or motion.

How can anyone think that science is saying anything meaningful when it refers to "time"? It's just another scientific heuristic fiction, another Mythos.

The "Reality" of Space and Time

"One of the most puzzling aspects of the tradition of German rationalism from G. W. Leibniz (1646 – 1716) to Martin Heidegger (1889 – 1976) is the claim that space is 'ideal', or merely a form of subjective representation. That is, the metaphysical world, or the world as it is 'in-itself', is not spatially organized. The claim has often been misconstrued, or at least over-interpreted. While the tradition of German rationalism aims to show that space and time are merely subjective forms of representation, it does not also claim that we cannot learn about the natural world and its organization from relations of space and time. Rather, the claim is that since space and time are subjective forms of representation, the fundamental nature of reality cannot be spatial and temporal.

"The positive thesis of the idealist claim is that the intelligible ground of nature can be known, even though it is not spatial or temporal. For Leibniz, this intelligible ground is 'internal force'; For Kant, it is 'body'; For Hegel, it is the 'concept'. In each case, the German rationalist foundation of our knowledge of nature draws on an Aristotelian conception of the nature of bodies as a principle of motion (*energeia*). The idealist claim of German rationalism is not the radical rejection of space and time and its objects. Rather, the claim is that some intelligible principle of dynamics is prior to and in fact grounds any explanation of the nature of bodies in space and

time. In this way, Leibniz and his idealist successors avoid having to accept actual infinitesimals in the explanations of natural philosophy.

"However, the solution proposed by Leibniz is not acceptable to Kant, since the contraction of all spatial and temporal representations into a 'metaphysical point' makes it impossible to understand how bodies interact in space and time. Thereby, it makes Newtonian mechanics impossible. In order for Kant to take up the work of both Newton and Leibniz, he will need to provide a new account of body. In particular, he will have to explain how it can be that bodies are indivisible, even though space and time are infinitely divisible. At the same time, the spatiality and temporality of bodies must be essential to the possibility of knowledge of natural bodies, and thereby also of the laws of natural physics. What Kant requires, therefore, is a way to negotiate a metaphysical conception of body that is both an intrinsic unity and an accidental compound." – Tyson Gofton

Sensing Types

It's odd to say, but everything that humanity says about reality is conditioned by its different psychological types. Sensing types cannot conceive of things not existing solidly in space and time, i.e. they are obsessed with dimensionality and tangibility. For a sensing type, everything must be capable of being sensed, or it can play no part in their schema of reality. The whole of scientific materialism/empiricism is predicated on the belief that we live in an exclusively sensory world. Scientists don't have any evidence or proof for this. They don't have any logical or rational arguments to defend it. It's sheer, blind prejudice, literally based on the way their brains are wired. They are victims of their own physicality.

Intuitives have no difficulty at all in conceiving of non-sensory, immaterial, intangible existence outside space and time. Moreover, since, by definition, intuitives can't use any sensory evidence to support this schema, the smartest of them turn to reason, logic, and intellect to defend their stance (while the more stupid drift off onto mysticism, faith, emotionalism, religion, spiritualism, Buddhism, New Age speculation, and so on).

Smart sensing types are very likely to be materialists, empiricists and dimensionalists. They will ignore anything outside space and time (i.e. the sensory arena), and they will be certain that science reveals the truth of reality.

Smart intuitives are very likely to be idealists and rationalists and to have no trouble with dimensionless (frequency) existence. They have no slavish devotion to space, time and tangibility. Every day, they have experiences that transcend materialism and defy space and time. They are certain that science *doesn't* reveal reality. The subject that does is, of course, pure, transcendental, ontological mathematics!

The central problem for science is why it has mathematics at its core, given that so much of mathematics is entirely incompatible with materialism, empiricism, space, time and "solidity".

Why is it so hard to convert people to new ways of thinking, to show them the Truth? It's because people are literally wired not to see it. Feeling types demand that everything is emotional (so they perceive ultimate reality in terms of love ... a loving God, a loving Oneness, a loving cosmic spirit, a loving, harmonious, peaceful force permeating the world, and so on). Sensing types demand that everything is sensory (so they love science which is all about the observable, and discards the unobservable).

Unthinking intuitives demand that everything is mystical. They love all-encompassing, grandiose visions of cosmic unity and harmony. They are often Buddhists, Hindus or Taoists. Eastern mysticism is their thing.

Thinking types demand a rational, logical world, but they can easily tip over into a machine-mentality, where they love computers, artificial intelligence, logic gates, and so on. They want reality to be an immense computer or machine.

So, who is correct? The people most likely to perceive the truth of reality are thinking intuitives (or intuitive thinkers). By its very nature, their intuition links them to the ontological Singularity outside space and time (in a manner which is impossible for sensing types), while their reason and logic then allow them to turn these intuitions into a rigorous system (unlike feeling types and mystical intuitives). After a while, it becomes clear to them that the quintessential rational and logical system, complete and consistent, already exists ... ontological mathematics.

If we live in a rational, intelligible universe, as we do, then anything irrational and unintelligible cannot explain it. The senses and emotions are irrational and unintelligible, so they are automatically ruled out. Irrational mysticism is equally ineligible. Reason (thinking) can also go astray, if it divorces itself from ontology (as we see with machine, computer thinking, which is concerned with "artificial" – non-ontological – existence). Reason

stays true when it remains umbilically linked to ontology, and the quality that furnishes that link to things as they are in themselves is *intuition*.

That's why we come back to Jungian "NTs" as having the best handle on reality. The INTs are better off than the ENTs, because they are facing towards the inner, mental reality rather than the outer, physical reality.

INTs are most likely to agree with us. Most other types will rail against us and calls us mad, liars, deluded, and so on. Such is life. The Truth is not for all ... only for those designed for it. We will *never* convince sensing types, emotionalists or mystics. That's a fact.

Death

Death is scary to spacetime obsessives, but not to intuitives. Sensory types entirely identify with their material body and brain and can't conceive of any other type of existence. So, death – as far as they are concerned – *must* be final.

Love

People have all kind of romantic, mystical ideas about love. Yet love is just like everything else. It has an ontology. It fits into an epistemological framework. Love, in common with everything else, is information. This means that it has Form and Content, quantity and quality, a rational and empirical aspect. This means that it has an information carrier – a "love" carrier, so to speak. The carrier is the same one that carries all other information: mathematical sinusoids.

Love is just a *wavefunction* that people experience in that characteristic way that makes them feel overwhelmingly, obsessively, possessively, intimately and inextricably connected to someone else. Love, in other words, is just another expression of math. It's not different in kind from music, and from the effects that music has on us. In fact, "love" and music are frequently closely connected. Most loved-up couples have their special "love song".

The Turing Test

Alan Turing was interested in how mathematics expresses itself in nature. He didn't think hard enough. Nature doesn't express mathematics; Nature *is* mathematics. Why have so few people grasped this truth?

Only something perfect can exist eternally. Anything imperfect would be destroyed by its own imperfections, contradictions and inconsistencies. Only mathematics is complete and consistent. Only mathematics is perfect. Therefore, ontology is mathematical.

Absolute Space and Time

Newton's Absolute Space and Absolute Time set the stage for Absolute Materialism. To this day, science is obsessed with space and time and refuses to consider anything outside space and time. All that Newton had to do to change this was refer to Absolute Frequency as well, and this would have been the dimensionless, unextended stage for Absolute Mind. We would thus have had a system catering for Matter *and* Mind rather than Matter alone.

Leibniz's *Monadology* is effectively all about a Mental Singularity, a Mind Arena, in which space and time appear as phenomena, not things in themselves (as they were for Newton). Ironically, Newton, when he referred to space as God's "sensorium", equated space to God's immaterial spiritual body – directly linked to God's mind – and thus "matter" was reduced to a collection of material things bounded by his immaterial body, or even to just ideas in God's mind (as Bishop Berkeley was later to suggest).

The "Hollow World" Problem

Critics of the Kant-Boscovich theory of matter raised a powerful argument against it that has come to be known as the "hollow world" problem.

The substantial punctum that lies at the core of the Kant-Boscovich force-shell atom is regarded as purely metaphysical. We can never get at it experimentally or observationally. What physically exists is the shell of force extended in space. So, why not get rid of the puncta, these "hidden variables"? (The same sort of argument appears in science over and over again, especially in quantum mechanics.)

With the puncta removed, the Kant-Boscovich matter theory reduces to a system of interacting fields of force, sometimes attracting one another, sometimes repelling. The puncta are rendered redundant, hence should not,

it seems, appear in the theory. It would thus be a theory purely of force, not of "matter". "Matter" would be a mere epiphenomenon of force.

But what happens when force is divorced from substance? It generates a bizarre system of pure contingency, of infinite contingent regress. Forces don't originate from anywhere, or inhere in anything. The whole system is empty, hollow. We are in a world of circular definitions: we define one thing in terms of another thing, and the other thing in terms of the first thing. There's no escape, no foundational level, no logical origin. Reality is swallowed up in infinite regress and circularity. This is spectral world of phantoms, a vacuous system one level up from pure void.

The same arguments apply to *all* systems that identify matter with forces or powers. Modern science, so reliant on forces, and with no clear-cut definition of matter, falls foul of these objections. It's nothing but a system of infinite contingent regress, and circular definitions. Science openly uses random miracles to get things going, hence is a system predicated on magic – total non-explanation.

Many people (sensing types) object to puncta for no other reason than that they are unextended, and materialists and empiricists demand extension in all things. Henry More explicitly said, "[It is] the very essence of whatsoever is, to have Parts or Extension... For to take away all Extension is to reduce a thing only to a Mathematical point, which is nothing else but pure Negation or Non-entity [i.e. the possession of magnitude is what makes something a physical existent]."

For some people, the punctum-core is forever beyond our knowledge (it's pure noumenon, in terms of the later Kant), hence cannot be part of scientific knowledge since it's entirely metaphysical. Michael Faraday made exactly this argument in 1844.

If all we ever encounter are the powers or forces that something projects, then, if we separate these powers or forces from the projector, what is left to define the projector? It seems to vanish into nothing. The projection is the "matter", not the projector, which doesn't seem to be anything at all.

Philosopher Anthony Quinton wrote, "The [Boscovichan] point is parasitic on its activities in the sense that the idea of a wholly inert material point seems to be entirely vacuous. The atom might just as well be identified with the extended system of forces it is said to be the source of."

The notion is that if a punctum does not project a force-shell, there's no possible reason to regard it as an existent. If it *does* project a force-shell, this projection is the reality, so who needs the punctum?

These arguments can be instantly dismissed as soon as it's realised that puncta are, in their essence, in the immaterial, unextended frequency domain, where they engage in the activity of *thinking*. Extension is one of their side-properties, not their essential property. Monads can project spacetime from the frequency domain, but they have a full mental existence without any such projection.

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"What are we to make of the hollow world problem? I think we have reached a serious difficulty in our understanding of the physical here. Scientific investigation into the nature of matter can only ever lead us to powers: to relational and dispositional properties. It cannot lead us to categorical or intrinsic properties, still less to their equally inscrutable ancestor, a quality-less substratum that stands behind all properties whatsoever. We never encounter a non-dispositional, non-relational, categorical property in the physicist's material world. And even if we could, it would not help us explain the powers or dispositional properties we do encounter. All this suggests that we must conceive of the material realm in dynamical terms: in terms of forces, powers, and dispositions. But nor can we make sense of the world where all is powers and dispositions. [This is] where matter is defined in terms of powers to affect the material. And, putting aside all worries about formal circularity, such a world seems simply an empty realm that is all promissory note and no payoff, all potentiality and no actuality, not the world of stubborn concrete materiality we think we know." – Thomas Holden

Exactly the same can be said of Copenhagen quantum mechanics. This interpretation of quantum mechanics is predicated on unreal, abstract mathematical potentiality wavefunctions, which are actualised via observations performed by observers. Neither "observations" nor "observers" are defined in this system. Moreover, in order to have observers capable of observing the world and "collapsing the wavefunction" (from potentiality into actuality), we need to have collapsed the wavefunction to

produce actual observers ... but for this we need actual observers ... and so on. We are caught in total circularity.

Sextus Empiricus wrote, “They [skeptics] hand down also two other modes leading to suspension of judgement. Since every object of apprehension seems to be apprehended either through itself or through another object, by showing that nothing is apprehended either through itself or through another thing, they introduce doubt, as they suppose, about everything. That nothing is apprehended through itself is plain, they say, from the controversy which exists amongst the physicists regarding, I imagine, all things, both sensibles and intelligibles; which controversy admits of no settlement because we can neither employ a sensible nor an intelligible criterion, since every criterion we may adopt is controverted and therefore discredited.

“And the reason why they do not allow that anything is apprehended through something else is this: If that through which an object is apprehended must always itself be apprehended through some other thing, one is involved in a process of circular reasoning or in regress *ad infinitum*. And if, on the other hand, one should choose to assume that the thing through which another object is apprehended is itself apprehended through itself, this is refuted by the fact that, for the reasons already stated, nothing is apprehended through itself. But as to how what conflicts with itself can possibly be apprehended either through itself or through some other thing we remain in doubt, so long as the criterion of truth or of apprehension is not apparent, and signs, even apart from demonstration, are rejected.”

Such arguments are indeed fatal to everything other than complete and consistent ontological mathematics (i.e. absolute rationalism, the incontrovertibly intelligible).

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“Modern physics has abandoned the dominant early modern picture of material microstructure. The corpuscularian model of rigid, sharply defined chunks of completely solid material has been rejected in favour of a dynamical image: following Boscovich and Kant, we are now to think of the space-filling ‘stuffing’ of matter in terms of diffused fields of force that range in intensity and have fuzzy, interpenetrating borders. Physicists disagree over whether we should think of these space-filling fields as undergirded by a system of ontologically prior point particles, or whether

we should think of the so-called particles as nothing more than focal concentrations or pulses propagated in fields. But in either case, I hope it is clear that the same basic framework of questions that plagued the early moderns still arises for the current conception of matter. Whether we think of a piece of matter as a cloud of point particles throwing out interlocking fields of force, or as a particle-free distribution of pure force across a region of space, either way we can still ask: how far forth can we rupture and separate the spatially distinct parts of this field (or fields, or fields-plus-particles)? Is this piece of matter finitely or infinitely divisible? Are the parts (smaller fields, or fields-plus-particles) into which it can be divided distinct beings, even prior to division? Or are they merely potential entities? Perhaps certain issues that faced the corpuscularian no longer arise – in particular, problems that presuppose sharp boundaries and immediate contact between rigid atoms. But the main questions that structure the early modern debate remain with us." – Thomas Holden

Matter *cannot* be explained. Only ontological mathematics can be explained. Only ontological mathematics is intelligible and avoids infinite regress.

Nietzsche and Boscovich

Boscovich was highly influential in Nietzsche's development of a physics of Will to Power. Nietzsche translated Boscovich's idea of matter as centres of force into matter as centres of will to power. By characterising "matter" in terms of will, Nietzsche converted matter into something mental. His theory wasn't far removed from Schopenhauer's, who produced the whole "physical", phenomenal world from a single cosmic Will. Of course, this comes as no surprise given that Nietzsche was, as a young man, a great admirer of Schopenhauer's philosophy. Where Schopenhauer posited a noumenal, unitary Will as the ground of all, Nietzsche posited a "physical" plurality of monadic centres of Will to Power as the ground of all.

If Leibniz's monads are regarded as centres of will to power then the thinking of Leibniz and Nietzsche starts to converge.

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"As regards materialistic atomism, it is one of the best-refuted theories that have been advanced, and in Europe there is now perhaps no one in the

learned world so unscholarly as to attach serious signification to it, except for convenient everyday use (as an abbreviation of the means of expression) –thanks chiefly to the Dalmatian Boscovich: he and the Pole Copernicus have hitherto been the greatest and most successful opponents of ocular evidence. For while Copernicus has persuaded us to believe, contrary to all the senses, that the earth does *not* stand fast, Boscovich has taught us to abjure the belief in the last thing that 'stood fast' of the earth – the belief in 'substance,' in 'matter,' in the earth-residuum, and particle-atom: it is the greatest triumph over the senses that has hitherto been gained on earth. One must, however, go still further, and also declare war, relentless war to the knife, against the 'atomistic requirements' which still lead a dangerous afterlife in places where no one suspects them, like the more celebrated 'metaphysical requirements': one must also above all give the finishing stroke to that other and more portentous atomism which Christianity has taught best and longest, the *soul-atomism*. Let it be permitted to designate by this expression the belief which regards the soul as something indestructible, eternal, indivisible, as a monad, as an *atomon*: this belief ought to be expelled from science!" – Nietzsche

Nietzsche's thinking was at its worst when he discussed two subjects: souls and mathematics, and both are of course united in ontological mathematics.

The Outsider

Boscovich, a Jesuit philosopher, was never part of mainstream science. Scientific outsiders do all the best thinking about science. In other words, the science establishment, upheld by the great bulk of scientists, is the greatest obstacle to scientific progress. What's truly remarkable is that there's probably no scientist alive who would admit to being a member of the science establishment. That's what makes the "establishment" so sinister. It's an unspoken mentality, a way of doing things, a means of rejecting "heretical" ideas, which people exhibit without even realising they're doing it. Scientists claim to be open-minded in the same breath that they howl at everything incompatible with materialism and empiricism. This "howl" is what the establishment actually is. You don't need explicit conspirators in order to have a conspiracy. You just need groupthink ...

people holding the same attitudes and beliefs. Groupthink shuts out all heretics, infidels, blasphemers, apostates and freethinkers.

The New Atoms

Boscovich defined atoms as centres of force, not as particles of solid matter, such as scientists classically believed in. Force is totally different from "matter". Force, in truth, is a "mind field". It's Aristotelian Form, not Aristotelian matter. Matter doesn't co-exist with Form: it's produced by Form.

Aristotle

Aristotle argued that nature is to be explained in part mechanically (in terms of matter) and in part teleologically (in terms of form). Science, without any reason or logic, has rejected all references to teleology and form.

For Leibniz, the whole world is teleological, yet can exhibit mechanical phenomena (deriving from the passive, "material" aspect of monads). Leibniz grounded physics in metaphysics, a stance that science wholly rejects, just as it rejects any formal ontology and epistemology.

The Wager

"...the world of sense may be very different according to the difference of sense perception in various world beholders, while the world of understanding which lies at its foundation remains always the same." – Kant

The sensing world is relative and subjective. The intelligible world is absolute and objective.

"[Swedenborg] regarded the sensuous world in space as only a '*Phaenome*' of the unspatial spiritual world, [and] applied precisely the same terms to both worlds which Kant has used: *mundus intelligibilis et sensibilis*." – Professor Vaihinger

"...one may use as a weapon against materialism the argument that the separation from the body is the end of our sense knowledge and the beginning of our intellectual knowledge. The body helps the sensual and animal part, but hinders the spiritual part of our nature. And against other

criticisms of the doctrine of Immortality one may adduce the transcendental hypothesis: All life is essentially only intellectual and not subject to time changes, neither beginning with birth nor ending with death. This world's life is only an appearance, a sensuous image of the pure spiritual life, and the whole world of sense only a picture swimming before our present knowing faculty like a dream, and having no reality in itself. For if we should see things and ourselves as they are we would see ourselves in a world of spiritual natures with which our entire real relation neither began at birth nor ended with the body's death." – Kant

Science has staked everything on our senses showing us "reality", and reason showing us unreality, abstraction, and empty tautology. In fact, the precise opposite is the case. It's our reason that reveals intelligible reality to us, that gives us knowledge and understanding, and it's our senses that show us an unreal, empty abstraction, onto which we can project endless opinions, beliefs, hopes, conjectures, hypotheses, speculations, suppositions and interpretations ... exactly as the history of human thought has demonstrated. The sensory world is pure Mythos. It's a grand fiction. Our reason is what shows us Logos ... the Truth. Sensory "facts" are nothing of the kind. They are interpretations that can never fit into any formal ontology and epistemology. The only thing that gives science any gravitas, and any logical basis, which separates it from religion or speculative philosophy, is ... *mathematics*!

The Mental Force

"But, perhaps, the chief conclusion to be derived from hypnotic experience is the value of suggestion or suggestibility. Even cool thinkers like Kant have recognised how much mere mental control has to do with bodily state – how each of us, in this way, is often for good or for ill his own physician. An idea is a force, and is only inactive in so far as it is held in check by other ideas." – William Wallace

All ideas are forces, and, as such, they should be able to be placed in force equations of science! This requires science to be able to accommodate mind.

Hypnotism and suggestion are forces. Radicalisation is a force. Religion is a force. Politics and economic systems are forces. Greed is a force, and love, hate, selfishness, happiness, laughter, trolling, celebrity, popularity,

coolness, and so on. As such, all of these should be able to be fitted into scientific equations.

Swedenborg

“This relation between the mind and matter ... is the problem which has exercised the wonder and the study of every fine genius since the world began; from the era of the Egyptians and the Brahmins, to that of Pythagoras, of Plato, of Bacon, of Leibniz, of Swedenborg. There sits the Sphinx at the roadside, and from age to age, as each prophet comes by, he tries his fortune at reading her riddle.” – Ralph Waldo Emerson

“[Leibniz’s ideas] came to be linked with those of Emmanuel Swedenborg, the Swedish scientist and purported clairvoyant who believed he could communicate with the spirits of the dead and prophesy future events.” – Paul Redding, *Continental Idealism: Leibniz to Nietzsche*

“Swedenborg claimed to have not only visions of future events but the capacity to see and speak to the *immaterial souls* of the dead ... Not only was the world made up of a community of bodies, it was made up of a community of immaterial immortal souls as well – individual spirits extended in space and somewhat like those conceived by Henry More a century earlier. ...

“For Kant, the mind was effectively *coextensive* with the body, an idea allowed by the notion that the point-like monads were themselves extensionless, together with the idea that mental monads lacked the repulsive force which gave physical monads their apparent space-occupying character. But repulsive force was that whereby physical monads interacted among themselves, and *without* repulsive force it became unclear how mental monads *could* act upon each other, or upon *physical* monads. ... if Swedenborg could in fact see and hear, say, the ghost of Aristotle, then Aristotle’s soul must be capable of interacting with Swedenborg’s *body* – it must have some repulsive force. But if that were the case, how then could Aristotle’s soul have occupied the same space as his own body for those years that it did so when Aristotle was alive?” – Paul Redding

The point Redding makes on behalf of Kant can immediately be rebutted in terms of the key classification of particles in modern physics: their division

into fermions and bosons. Fermions cannot occupy the same quantum state, while bosons can. In Kantian terms, think of "physical" particles as obeying a fermionic exclusion principle, so that no two fermions can occupy the same *physical* location. "Mental" particles do not obey this principle, hence can sit right on top of each other, or on top of a fermionic matter particle.

Think of electrons (fermions) absorbing photons (bosons) and rising to higher-energy electronic states. Why can't "physical" monads likewise absorb "mental" monads, so that the physical is then imbued with the mental, and why can't one of these mental monads be a "Queen monad" ... a controlling monad that serves as the soul of the linked body?

There's nothing impossible about Kant's scheme: it's perfectly compatible with modern physics. In fact, particle physics, with a little imagination added, is entirely suited to conceiving of reality as comprising "physical", space-occupying particles (matter particles = fermions), and "mental", non-space-occupying particles (mind particles = bosons). Imagine that your physical body is actually linked to an ultra-high-energy photonic system (soul) that isn't space-occupying. This system is massless and dimensionless, but mathematically links to your body and controls all of it via the mechanism of Fourier mathematics.

Kant's doubts about his own monadic system – prompted by Swedenborg's writings – can easily be overcome given present-day knowledge. Swedenborg didn't have to *physically* encounter the "ghost" of Aristotle. What he had to do was *mentally* encounter it, and then he himself could project a physical form onto it, exactly as we all do in dreams where we can easily imagine total strangers with physical bodies. If we can make up people in our dreams, why can't some of us – the most sensitive and attuned of us – encounter other souls in our dreams, and physicalise them?

Gregory R Johnson astutely wrote, "Moreover, Swedenborg himself did not think that souls can be the objects of sensuous intuition. Swedenborg did not think that visions of spirits, like visions of ordinary objects, are produced by stimulating the body's sense organs. Rather, spirits make themselves visible by directly stimulating the mind, causing it to experience the spirit as if it were an object of the external senses. Spirit apparitions, in short, are hallucinations, not sense experiences. But they are not 'mere' hallucinations, for the cause of the illusory vision is a genuine spiritual influx. Finally, Kant himself was well aware that Swedenborg did not think

that spirits were visible to the eyes, for he accurately presents Swedenborg's account of spirit cognition in *Dreams of a Spirit-Seer*."

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"In his earliest work, Kant had held to a type of monadological conception of the world, although, *contra* Leibniz, it was one allowing *actual* causal interaction between monads. In Kant's version of the monadology, monads considered as point-like, did not *occupy* a space conceived (as with Newton) as a type of absolute pre-existing 'container'. In another sense, however, they could be conceived as *in* space. Because they interacted by means of positive and negative forces, the idea of the space that they were 'in' could be understood as, in some way, a *product of* that interaction. Kant had believed that with these background ideas, one could solve the problem of how material and nonmaterial monads (the mind and the body) could interact.

"Kant's reflections on Swedenborg's implausible claims about seeing and communicating with nonmaterial monads (souls departed from their bodies after death) raised the question of how material and nonmaterial monads (bodies and souls) could interact in life. If a soul could have a causal effect on a body in life (the body of the person whose soul it is), why couldn't disembodied souls (souls after death) continue to have causal effects on *other bodies* – e.g., causal effects on their sense organs? Why couldn't we *all see* spirits as natural occurrences, as Swedenborg claimed to do? Kant seems to have answered this question by appealing to something like a 'category mistake' – the soul is a proper object of a distinct *kind* of cognition and knowledge, one based on concepts alone, and we should not confuse this type of knowledge with that gained from sensory experience. Rather than try to work out how souls interact with bodies, we should regard them as distinct *types of knowledge* (Kant's version of 'cognitive pluralism') related to distinct *kinds of things*, which he came to distinguish as 'phenomena' and 'noumena'.

"Traditional philosophy, Kant thought, made the same mistake seen in Swedenborg's 'spirits' – confusing objects properly belonging to different kinds of knowledge. The way forward in metaphysics was to pose the question of 'transcendental reflection'. Which particular kind (or source) of knowledge did a claim belong to? To confuse different types (or sources) of

knowledge was to fall into a distinct type of error that he first called the error of 'subreption' and later, the 'transcendental illusion'. ...

"The full title of Kant's Inaugural Dissertation, 'On the Form and Principles of the Sensible and Intelligible World', makes the issue at the heart of his Swedenborg critique clear. In conceiving of souls as ghostly analogues of bodies, Swedenborg was clearly confusing the 'form and principles' pertaining to the 'intelligible world' (the world of 'souls'). But while Swedenborg's error was overt, the same confusion in other more reputable philosophers (including Leibniz and Kant's earlier self) was more subtle.

"In the dissertation, Kant's separation of the 'form and principles' governing the sensible and intelligible world takes the form of a distinction between two kinds of mental representations: concepts and intuitions. ...

"Metaphysics is (purported) knowledge about the *intelligible*, not the *sensible*, world. In the *Inaugural Dissertation* Kant holds that one should reason about and come to know purely intelligible entities (such as the soul) with concepts alone: sensory intuitions should play no part in their representation. To employ sensory intuitions here – to try to *picture* the soul as a type of 'thing' in space and time – is what had led Swedenborg to picture souls as ghostly types of bodies." – Paul Redding, *Continental Idealism: Leibniz to Nietzsche*

"The 'soul' is an *intelligible*, not a *sensible* entity, and we must think of its operations and effects under *pure concepts alone*." – Paul Redding

In fact, what ought to be said is that the soul is a mathematical, not a scientific, entity, and we must think of its operations and effects under pure mathematics alone. Soul science = ontological mathematics. You cannot scientifically encounter a soul since it's immaterial and outside space and time (hence beyond the scientific method), but you can certainly encounter it mathematically ... if you know what you're doing!

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"As the Newtonian God is supposed to be omnipresent in space without being a space-filling body, so the pre-critical, Kantian mind is supposed to be omnipresent in the human body without being the body that fills the space. But just as Newton had no way to explain the special, noncorporeal way in which God is supposed to inhabit space, so Kant has no way to

explain the noncorporeal way in which the mind is supposed to inhabit space." – Paul Franks

The mind *doesn't* inhabit space. It inhabits, so to speak, a body that inhabits space.

Mind = Force. Mind is carried by bosons. "Matter" is carried by fermions.

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Kant can be interpreted as saying *not* that the mind is omnipresent in the physically extended body, but, rather, that every physical monad has a mental monad sitting right on top of it. Where two physical monads would automatically repel each other, a mental monad and physical monad can come together since the mental monad does not exert a repulsive force, and, being outside space and time, nor does it experience the repulsive force of the physical monad. So, a Kantian extended body of many physical monads could be saturated with mental monads, and one of these mental monads could be designated as the Queen Monad, i.e. the body's controlling *soul*.

Outer and Inner Man

Swedenborg said that a person consists of two entities: "outer man" and "inner man". The outer man is in the visible, physical world. The inner man is in the invisible, spirit world. However, typically, people are unaware of their intimate relations with the spirit-world.

Discussing Swedenborg's view, Kant said, "If a person should die, the soul of a person does not change its position; it becomes aware of itself as occupying the position it already occupied relative to other spirits in this life." That is, the soul suddenly perceives the other souls with which it was always surrounded, but which it never noticed while it was embodied.

Swedenborg himself said, "Every man while living in the body is in some society of spirits and of angels, though entirely unaware of it. And if he were not conjoined with heaven and with the world of spirits through the society in which he is, he could not live a moment."

In scientific terms, we could say that fermions ("bodies") could not exist for a moment without bosons (agents of mind).

Correspondences

“[Swedenborg] believed that the Bible has both an external and an internal sense, that he had been granted insight into this internal sense of the divine word, and believed that his vocation was to spread this inner word. To understand Swedenborg’s practice of Biblical exegesis, and the importance he placed on it, we must understand something about his doctrine of ‘correspondences’ and his account of the ages of mankind. According to this doctrine, everything we experience (spatio-temporally) in this life ‘corresponds’ to something in heaven, which for Swedenborg is understood to be an organic community of angels. The most frequent metaphor Swedenborg offers to explain this doctrine is the human face. When we look at someone’s face we can see their joy or sadness. Their outer appearance reveals their inner emotional state. The phenomenal world has the same relationship to the spiritual world as the expression on a person’s face has to their inner emotional state. Swedenborg believes that the phenomenal world is, in effect, the face of heaven. Unfortunately, in our current fallen state we are not able to see it in these terms. Swedenborg explains that, ‘we can see in the human face what correspondence is like. In a face that has not been taught to dissimulate, all the affections of the mind manifest themselves visibly in a natural form, as though in their very imprint, which is why we refer to the face as “the index of the mind.” This is our spiritual world within our natural world.’” – Lucas Thorpe

“Although we are unable to experience the natural world immediately as the face of the spiritual world, there was a time when human beings could. ... Swedenborg maintains that the earliest human beings were ‘heavenly people’ who could read the heavenly significance of phenomenal events and objects in the same way that we can read a face. The first age of mankind was a ‘Golden Age’; at this time humans ‘thought on the basis of actual correspondences, and ... the natural phenomena of the world that greeted their eyes served them as means for thinking in this way. Because they were of this character, they were in the company of angels and talked with them.’ In the Golden Age, which for Swedenborg was the age of Adam, humankind was face to face with heaven, or the community of angels. ... After the fall, however, humankind became separated from heaven and gradually lost this ‘face to face’ connection with the heavenly angels. In the following age, which Swedenborg calls the Silver Age, mankind had not lost all connection to heaven. In this age, ‘People did not think from actual correspondences but from a knowledge about

correspondences. There was still a union of heaven with humanity, but not such an intimate one.' After the fall, then, humans lost the ability to intuit heaven, but they retained an ability to understand the relationship between the phenomenal and the heavenly. In the age of the Old Testament prophets, mankind had lost the ability to intuit the phenomenal world as the face of heaven, but they still had knowledge of these correspondences, and this knowledge was collected in the Old Testament. The Bible, then, explains these correspondences. In the following age, the Bronze Age, this knowledge was replaced with a mere familiarity. In this age came people who 'were indeed familiar with correspondences but [who] did not do their thinking on the basis of their knowledge of correspondences'. This familiarity consisted in the ability to understand the true spiritual meaning of the bible. ... In our age, however, even this familiarity has been lost, for 'Humanity became more and more externally minded and at last physically minded. Then the knowledge of correspondences was completely lost, and with it any awareness of heaven and of its riches.'" – Lucas Thorpe

It's unquestionably true that humanity has become "more and more externally minded and at last physically minded". This is the "gift" to us of nihilistic, skeptical, cynical, atheistic, pointless, meaningless, and purposeless scientific materialism. The more that people fall under the spell of science, the more they become alienated from the mind, spirit and soul. Everything is rendered soulless. All things are turned into capitalist commodities. We all become "things". The world, and all the people in it, are totally objectified, and seen as the marionettes of forces over which they have no control. They have no subjective agency (free will) to change anything at all. We are all nothing but glorified machines. If you accept science as true, you literally might as well be dead. In fact, technically, you are dead since life makes no sense at all in a universe predicated on lifeless lumps of matter. It's *impossible* for life to emerge from lifelessness. Eternal death is not, and never can be, the parent of eternal life. "Life", in science, is just death behaving strangely!

"Swedenborg's mission in life is, at the very least, to restore our familiarity with heaven and its riches, for he was granted an intuition of the heavenly in order to be able to interpret the true spiritual meaning of the bible ... For Swedenborg, then, the Bible is like a textbook on physiognomy, but a textbook we do not know how to read. In the Bronze Age people could

understand it and use it as such. ... Unlike Adam, they could not see the heavenly in the phenomenal, but they could, by using the Bible, obtain knowledge of, or at least familiarity with, the heavenly. Gradually, however, humankind became even more separated from heaven, and in the modern world we cannot even understand the true inner meaning of the Bible." – Lucas Thorpe

What humanity has lost is the ability to reason mentally, spiritually, soulfully, dimensionlessly, intuitively ... without reliance on the physical senses. The ancient Greeks had this skill in abundance. Science has destroyed this capacity. All modern "intellectuals" dance to the physicalist, sensory tune, and scorn any reference to free will, subjective agency, monads, a non-spacetime reality, a reality where the laws of physics break down. But, of course, reality itself does *not* break down where physics fails. Instead, it's ruled by the laws of ontological mathematics.

The overthrow of the scientific materialist paradigm is essential to the rebirth of humanity. It cannot fulfil its divine destiny until scientific materialism is replaced by scientific idealism. Leibniz showed us the way three hundred years ago. Newton's star must fade, while Leibniz's must light up the world!

Reincarnation

Your mind is connected to your body. According to scientists, your mind is a *product of your body*, hence came into existence at the same time as your body. According to Abrahamism, God put your mind (soul) in your body at conception. If neither science nor Abrahamism is true, and we dismiss the "process theology" of Buddhism, then your mind is an eternal substance and essence, and it pre-exists any body. If this is the case then your mind *connected* to your current body at conception. Moreover, if it did it that time, it must have done it many times before too (since there's no sufficient reason to think otherwise), and it will also do so many times in the future. Once the protocol for linking a mind to a body exists (it's DNA that accomplishes this), reincarnation is guaranteed.

Reincarnation is nothing but the mathematical connection of an individual mathematical mind to a collective mathematical body. There's nothing mysterious or mystical about it. It's all in the math!

The Universal Truth

Kant wished to turn physics into an *a priori* universal truth. In fact, only mathematics can be *a priori*.

Kant and the Soul

“According to Alison Laywine, Kant’s encounter with Swedenborg led him to recognize deep difficulties in his own conception of the soul. The early Kant, claims Laywine, defined the soul as a simple rational substance. But, given Kant’s understanding of substance in general, this definition makes souls indistinguishable from bodies. Souls, like material bodies, would be visible and extended; one would be able to see them and even rap one’s knuckles on them. But this is obviously absurd. Absurd though it may be, however, Laywine argues that Kant only recognized its absurdity after reading Swedenborg’s *Arcana Coelestia*, the work of a real spirit-seer. Laywine argues that Kant found the *Arcana* self-evidently absurd. Then Kant noticed the similarity of his views to Swedenborg’s, and rejected his own theory as well. This led Kant to a radical reconception of the nature of the soul and its relationship to the body, a reconception which contributed to the formation of his mature critical philosophy.” – Gregory R Johnson

“Laywine claims that the early Kant also defines a soul as a simple substance. Kant encounters difficulties, however, when he tries to explain how the soul holds sway over an extended material body. As a simple substance, the soul cannot rule over the body by being extended throughout it, for extension presupposes a multiplicity of parts. The solution is to model the soul on the body, the spiritual monad on the physical monad, by saying that the soul can maintain itself as a simple substance while holding sway over the body by emitting a field of force. But what kind of force? As Laywine puts it: ‘Nothing in the story so far committed Kant to the view that the soul has an original force of repulsion, just as he said the physical monads do. But given that the soul resembles a monad in everything else and given that Kant was apparently committed to ascribing bodily forces of one kind or another to the soul, it was natural to wonder ... how he could show that the soul is not in space through an original force of repulsion?’” – Gregory R Johnson

“I admit that the proof we have in our possession for establishing that the soul is not matter is a good one. But take care that you do not infer from this that the soul is not of a material *nature*. For this latter claim is universally taken to mean not merely that the soul is not matter, but also that it is *not a simple substance of the kind which could be an element of matter*. But this requires a separate proof – the proof, namely, that this thinking being does not exist in space in the way in which a corporeal element exists in space, that is to say, in virtue of impenetrability; it also requires proof that this thinking being could not, when combined with other thinking beings, constitute something extended, a conglomerate. But no proof of these things has actually been given yet. Such a proof, were it to be discovered, would indicate the incomprehensibility of the way in which a spirit is present in space.” – Kant, 1762

Here, Kant is challenging Leibniz’s *Monadology*, but Leibniz’s system is fully defensible mathematically. The soul is immaterial (it’s in the massless Fourier frequency domain of mind), but is able to interact with the material world via Fourier spacetime mathematics, giving it a material “nature”, or at any rate, the means to connect to, and interact with, the material world of spacetime.

“Here Kant claims that the proof that the soul is immaterial – a proof he accepts – does not imply that the soul does not have a ‘material nature’ and is not, therefore, present in space in the same way as material beings, i.e., by emanating a sphere of repulsive force, in virtue of which a soul would be physically extended and capable of being compounded together with other souls, or with physical monads, into extended aggregates. Laywine presumes that Kant, in the absence of a proof to the contrary, is sympathetic to the idea that the soul, although immaterial, has a material nature insofar as it is present in space by means of repulsive forces. If, however, the soul is spatially present by means of repulsive forces, it would displace any material bodies that impinge upon its sphere of influence. This implies that the soul cannot be present in all parts of the body, for wherever the soul is present, bodies must be repelled. At best, the soul can occupy only a particular place in the body and exert its influence from there. Furthermore, if the soul is present in space by means of repulsive forces, it would, when sufficiently aggregated, become not only physically palpable but also

visible. In short, according to Laywine, Kant's early theory of the soul makes spirit-seers of us all." – Gregory R Johnson

If these discussions sound quite abstract, never forget that modern science claims that there would be no *material* things in the world were it not for the Higgs field. Susceptible things moving through this field acquire mass, and otherwise there would be no such thing as mass, material and bodies! However, other things – such as photons – are understood to move through the Higgs field without acquiring mass. Hence we have a physical field – the Higgs field – that seems to stand between the material and immaterial, and in some sense unites the material and immaterial.

Given that the Higgs boson, the carrier particle of the Higgs field, is called the "God particle", perhaps we should refer to the Higgs field as the "God field" or "Soul field". Particles that interact with the Higgs field are physical, and we could easily classify those that don't as *mental* (although scientific materialism would of course never take this step). At any rate, even within science, there is no insurmountable difficulty with physical and mental particles co-existing and interacting.

Science provides no ontological explanation whatsoever of why some particles don't interact with the Higgs field. The reason is in fact elementary: the Higgs field is a *spacetime* field, and all the particles that don't interact with it aren't in spacetime at all ... they're in the *frequency* domain, hence simply don't experience the Higgs field. The Higgs field is the Gnostic *horos* (boundary) separating the realm of light (*Pleroma*; fullness) from the realm of darkness (*Kenoma*; emptiness; void; the defective material world ... or *Hystêrema*; the Inferiority or Incompletion), the frequency domain from the spacetime domain, mind from matter.

"Enter Swedenborg. Laywine argues that Kant found Swedenborg interesting because Swedenborg, like the early Kant, claims that spirits are visible. But Swedenborg goes beyond the early Kant by claiming to have actually seen spirits. Kant, according to Laywine, saw this as so patently absurd that he regarded it as a *reductio ad absurdum* of his early metaphysics: 'Kant and the Swedish spirit-seer both treat immaterial things as though they could be objects of human sensibility.'" – Gregory R Johnson

"Laywine offers no good reason to believe that Kant was ever tempted to account for the power of soul over body in terms of repulsive forces. Thus

she offers no reason to think that Kant was ever genuinely troubled by the implication of this position, namely that the soul becomes functionally indistinguishable from material beings." – Gregory R Johnson

"[In Kant's *Dreams of a Spirit-Seer*], we find the argument that the soul, although simple and non-extended, nonetheless takes up space and has activity in it, but without filling up space. Kant explains this distinction with a revealing analogy. Souls are active in space without filling it by emanating a specifically *spiritual field of influence*, a field of influence that can be understood on the *analogy* of the repulsive fields emanated by physical monads. Kant is, however, careful to point out that souls do not, of course, emit fields of *actual repulsive force*, else they would be material beings. Instead, they emit fields of a distinctly spiritual kind of force, a field of force that allows them to suffuse and pervade material bodies – to occupy the same space as material bodies – and to influence them. This spiritual field of force is analogous, but not identical, to the repulsive force of material monads. ... Kant underscores the idea that the soul can pervade the body by arguing against the view that the soul occupies a particular place in the body and defending the 'scholastic' formula that, 'My soul is wholly in my whole body, and wholly in each of its parts.'" – Gregory R Johnson

Bosons without mass (such as photons) can easily be interpreted as applying to fermionic matter particles a mental (spiritual) rather than physical force. Bosons and fermions correspond more or less exactly to the scheme Kant describes in *Dreams of a Spirit-Seer*. In fact, had Kant possessed modern knowledge of bosons and fermions, and symmetry and antisymmetry, he would never have abandoned his monadic conception of reality, and never turned to his weird "critical" philosophy, where reality becomes little more than a mental projection, or systematic hallucination. There is no reason at all why the standard model of physics should not be conceived in terms of matter *and* mind, rather than matter alone. Photonic bosons are dimensionless, massless and unextended. They are not in space or time. These entirely accord with Descartes' definition of mental entities! The only obstacle that prevents science from adding mind to matter is ideology. Bosons are *begging* to be treated as mental entities! Science would undergo a paradigm shift overnight if they were.

“The following claims from *Dreams*, part I, chapter 1 reappear in many of Kant’s subsequent remarks on rational psychology: (1) that the soul does not occupy a particular place in the body, (2) that instead the soul pervades the whole body without taking up space and therefore cannot be present by means of materialistic repulsive forces, (3) that the ‘ancient’ or ‘scholastic’ formulation that the soul is wholly in the whole body and wholly in each part is essentially correct, and (4) that the nature of the interaction between soul and body is essentially incomprehensible. Furthermore, none of these claims is inconsistent with the mature critical treatment of rational psychology in the *Critique of Pure Reason’s* section on the ‘Paralogisms of Pure Reason.’” – Gregory R Johnson

There’s nothing incomprehensible about the interaction of body and soul ... as soon as ontological Fourier mathematics is accepted, i.e. dimensional and dimensionless mathematics, spacetime and frequency, the material and immaterial, waves in spacetime and waves in ontological frequency space, fermions and bosons, antisymmetry, symmetry and asymmetry.

“[In the] *Inaugural Dissertation* of 1770, in discussing the erroneous, ‘subreptive’ axiom that ‘Whatever is, is somewhere and somewhen,’ Kant claims that the soul has a virtual, not a local, presence in the material world: ‘By this spurious principle [Whatever is, is somewhere and somewhen] all beings, even if they were to be cognized by the understanding, are bound in their existence by the conditions of space and time. It is on this basis that there come to be bandied about those idle questions about the places in the corporeal universe of immaterial substances (though, just because they are immaterial, there is no sensitive intuition of them, not any representation of them under such a form), about the seat of the soul, and about other questions of the kind ... But the presence of immaterial things in the corporeal world is a *virtual* not a local presence ... But space contains the conditions of possible reciprocal actions only in respect of matter. But as to what constitutes the external relations of force in the case of immaterial substances, whether those relations be between the immaterial substances themselves or between immaterial substances and bodies: that is quite beyond the human understanding...” – Gregory R Johnson

What Kant refers to as “virtual space” is in fact “frequency space” and can be fully understood by anyone who understands the ontology of Fourier mathematics. Kant’s comments highlight the absurdity of trying to provide

spacetime, “physical” evidence for the soul. Only a moron – who has no concept of what a soul is – would demand scientific evidence for its existence. The soul is the most mathematical thing you can get – the very autonomous, functional unit of ontological mathematics – and only mathematics can address it.

It’s vital to realise, as Kant did, that the “presence of immaterial things in the corporeal world is a *virtual* not a *local* presence.” Science is all about localism. It has no concept of something being, on an enduring basis, virtually rather than actually present, but that’s the whole nature of the frequency domain with respect to the spacetime domain. Nothing in the frequency domain is actually, locally, in spacetime. Its interaction with spacetime is non-local and virtual, but science, given its ideology, misinterprets this as “local”. All of science’s problems with interpreting the meaning of quantum mechanics flow from its inability to understand the non-local and virtual ... the immaterial frequency domain outside space and time.

“Such spiritual natures would be present in space in such a manner that it would still be penetrable for corporeal beings. For by their presence they operate in space, but do not fill it, i.e., they cause no resistance, which is the basis of solidity. ...a spiritual substance, although it is simple, still can occupy a space, i.e., can immediately be active in it without *filling* it, which means without offering resistance to material substances in it. Such an immaterial substance also could not be said to possess expansion, any more than the units of matter. For only that which, existing separate and for itself alone, occupies a space, possesses extent; but the substances which are elements of matter occupy space only by the exterior effect which they have upon others. But for themselves alone, where no other things can be thought of as being in connection with them, and as they contain in themselves nothing which could exist separately, they contain no space. This applies to corporeal elements. The same would apply also to spiritual natures. The limits of extent are determined by the figure of a thing. Consequently, we cannot think of the figures of spiritual natures. These are reasons for the supposed possibility of the existence of immaterial beings in the universe, but they can be comprehended with difficulty. ... the fact that the soul is present in the whole body goes only to prove the extent of its sphere of exterior activity, but not a multiplicity of its inner parts and thus no extension or figure, for these exist only in a being which occupies a space

set apart for itself, i.e., if the being contains parts which exist outside of each other. ... how could an immaterial being be such an obstruction so that matter in its motion could collide with it, a spirit; and how could corporeal things act upon an unknown being which does not oppose them with impenetrability, and which does not hinder them in any way from being at the same time present in the space in which it is itself? It seems that a spiritual essence is inmostly present in matter, and that it does not act upon those forces which determine the mutual relations of elements, but upon the inner principle of their state. For every substance, even a simple element of matter, must have an inner activity as the reason for its external efficiency, although I cannot specify in what it consists. ... the parts in the body of man stand in relation to each other according to material laws. But in so far as the body is preserved by the spirit living in it, its various members and their functions are of value in indicating those powers of the soul by the operation of which they have their form, activity, and stability." – Kant

"The ideas of interior thought pertaining to man, although they are above material things, yet terminate in natural things, and where they terminate they appear to be. Thence the man perceives what he thinks. If the idea from time and space were taken away he would not know what he thinks. ... Man cannot in anywise think without the idea of time and space. The idea adheres to everything which man thinks. If the idea from time and space were taken away he would not know what he thinks scarcely whether he thinks. The ideas of space arise from measuring by times; wherefore where the one is there is the other." – Swedenborg, *Arcana Coelestia*

It's absolutely the case that the average human being cannot think in any terms other than those involving space and time. Space and time frame everything, as Kant insisted so emphatically. Space and time automatically support a materialist conception of reality: of solid objects moving around in a container, and which are amenable to our senses. What ontological mathematics requires you to do is conceive of an immaterial frequency domain outside space and time, which can be approached solely by reason, logic and mathematics. Your senses won't help you one jot. Space and time won't help you. Matter won't help you. Science won't help you.

Sensing types just can't think in terms of frequency. Only rationalists and intuitives can engage in this higher mode of thinking, one that doesn't rely on plebeian pictures and simplistic "common sense." You need to be

part of higher humanity to be able to understand Illuminism. The Holy Grail is accessible only to the elite few. Scientists don't qualify, only mathematical philosophers such as Pythagoras, Plato, Plotinus, Descartes, Leibniz, Hegel and Gödel.

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"If the soul is no object of the outer senses, then the conditions of outer intuitions also do not belong to it. The condition of outer intuition, however, is space. Now, since it is no object of outer intuition, it is also not in space, but rather *works only in space* – and although we say by analogy, it is in space, we still must not take this in a bodily way ..." – Kant

The soul is in the frequency domain outside space and time. It's not in space and time at all, but can interact with space and time via Fourier mathematics. Do the math! All of Kant's difficulties with the soul arose from his inability to anticipate the advent of Fourier mathematics, which spelt the end of the physicalists' insistence that nothing can exist outside space and time.

"We do not comprehend the possibility of this *commercio* [between the soul and body], but we must not posit the conditions of this *commercio* simply as they are among bodies among themselves, namely through impenetrability, for otherwise [the soul] becomes material. To indicate a location and a place in the body for it is nonsensical and materialistic." – Kant

"The soul is an object of inner sense and therefore occupies no space. But if I attribute spatiality to it, then I make it into an object of outer sense and into matter. Therefore, its presence in the body cannot be determined locally <*localiter*> but only *virtually* <*virtualiter*> by the influence it has on the body ..." – Kant

"With matter, presence at a location does precede influence, but not with a soul." – Kant

"The location of the soul is where the location of the human being is. The soul can never perceive its outer relation in space. A human being is ensouled – effects of a life principle occur in him. Soul in the body means a soul *works on the body*. Local presence is impossible with it (virtual however is possible)." – Kant

“An immaterial being cannot be assigned a location anywhere in space because that which is an object in space absolutely must be matter if all relations of a local presence are not to be lacking in it. One can therefore attribute to the soul only a dynamic relation, a virtuality, toward the body...” – Kant

“The principle of life is to be found in something in the world which seems to be of an immaterial nature.” – Kant

“When it is in a state of inertia and rest, dead matter, which fills the universe, is, according to its own proper nature, in a single self-same condition: it has solidity, extension and shape. Its manifestations, which are based upon all these grounds, permit a physical explanation which is also mathematical; this explanation, when the physical and the mathematical are combined, is called mechanical. On the other hand, there is a type of being which contains the ground of life in the universe. Such beings are, therefore, not of the kind which enlarge the mass of lifeless matter as constituents, or increase its extension. Nor are they affected by lifeless matter acting in accordance with the laws of contact and impact. They rather, by means of their inner activity, animate both themselves and also the dead stuff of nature. If one turns one’s attention to this type of being, one will find oneself persuaded, if not with the distinctness of a demonstration, then at least with the anticipation of a not untutored understanding, of the existence of immaterial beings. The particular causal laws in accordance with which they operate are called *pneumatic*, and, in so far as corporeal beings are the mediating causes of their effects in the material world, they are called organic. Since these immaterial beings are spontaneously active principles, and thus substances and natures existing in their own right, it follows that the conclusion which first suggests itself is this: these immaterial beings, if they are directly united may perhaps together constitute a great whole, which could be called the immaterial world (*mundus intelligibilis*).” – Kant

“Hence, the absolute and immediate location of the soul can be denied, though a hypothetical and mediate location can be attributed to it.” – Kant

“The ancients also said: *anima est tota in corpore, sed totum tamen in parte ejus* [the soul is whole in the body, but yet wholly in a part of it].” – Kant

“The ancients said: *the soul is wholly in the whole body, and wholly in each part*, i.e., nothing more than: where the human body is, there the soul is as well.” – Kant

“The ancients rather said: *anima est tota in toto corpore et tota in quavis parte* [the soul is whole in the whole body and whole in any part].” – Kant

The Scholastic principle – “My soul is wholly in my whole body, and wholly in each of its parts” – is an entirely holographic principle, hence compatible with Fourier mathematics.

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Kant said far more interesting things about the mind/soul than any scientist ever has. It’s about time scientists actually studied Kant, and all the great philosophers, rather than playing video games, watching Superhero movies, reading comics and being autistic. Scientists are staggeringly uncultured ignoramuses. You’ll never meet any of them who are well read, and who know anything about art, philosophy, culture, sociology, politics, religion and psychology. They are drones, drudges, functionaries and apparatchiks. They are some of the *least* enlightened, imaginative and intuitive people on the planet. They suffer from a sensory mania ... just like autistics.

The scientific mind is extremely strongly correlated with the autistic mind. The scientific mind is a defective mind. The scientist is a narrow, limited, deficient thinker. Scientists have failed to realise that reason and logic themselves are existents, but do not exist in space and time, and certainly aren’t “material”. They are strictly mathematical.

The Cosmic Game

The universe is a self-playing game. We are the players. The universe is a self-solving equation. We are the active nodes of that equation. *We* breathe fire into the equations and animate and propel them.

The universe is a self-optimising mathematical system. It’s the ultimate alchemical experiment. It turns bare, unclear monads (base metal; potential) into full, clear monads (gold; actuality).

The universe exists to transform souls into Gods. The universe is an evolving divinity – *a God factory* – a dialectical system for producing

mathematical perfection.

Reality

Reality, for Leibniz, comprised real unities (monads), and things made of real unities. Material bodies were not real unities, hence were aggregates of real unities (or resulted from them). Real unities were simple, indivisible, and imperishable. Real unities were souls. “High” souls had a high degrees of consciousness. “Low” souls were mostly unconscious.

Form and Matter

Objective idealism: idealism about Form = rational idealism.

Subjective idealism: idealism about matter (Content) = empirical idealism.

Thou Shalt Not

What does science forbid? – the dimensionless, the unextended, the immaterial, the mental, the hidden, the unseen, the invisible, the unmeasurable, the unobservable, singularities, ontological frequencies, ontological mathematics, all things noumenal.

It’s time to embrace the forbidden. It’s time for the light of reason, the light of Mathematics, both dimensional *and* dimensionless.

It’s time for Total War – the War of Math. Math is the greatest power in the universe. No one and nothing can withstand this supreme power. The Nietzschean Will to Power is in fact the Will to Math!

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Science is predicated on the fallacy that there’s no way to address dimensionless, unextended existence, so it might as well be regarded as non-existent. But there *is* a way ... frequency mathematics, i.e. ontological Fourier mathematics. This asserts that the whole of reality is about waves, i.e. everything is made of noumenal, ontological sinusoids.

Reality is a mathematical wave system, an information system, a vast system of interacting wavefunctions, both mental and “material”. There’s nothing else, nothing at all. There are no “atoms”. There is no Creator. There is no mystical Eastern “nonduality”.

All that exists are minds made of sinusoids, and the thoughts (sinusoids) they think. When minds think individually, they engage in "mental" activity. When minds think collectively, they engage in "material" activity. That's it. There's nothing else. It's the simplest, most beautiful, elegant, and economic yet fruitful system you can possibly get. It's the *God System*, the best of all possible worlds.

Nothing is more divine, more perfect, than math. Math is flawless, immutable, immaculate, incontrovertible, error-free, contradiction-free, positive, adamantine, irreducible, indestructible, continuous, a plenum, complete, consistent, analytic, logical, eternal and necessary. Math can't *not* exist, and, since it exists, it defines *everything*. It enshrines the Principle of Sufficient Reason and reflects all eternal truths of reason.

It's *impossible* for existence not to be made of mathematics, the *perfect* substance. Only the perfect substance can endure forever. Only a house built of perfect bricks, according to a perfect design, can exist forever. Anything else would fall down.

Ontological mathematics is none other than *light* ... the perfect substance. And light is none other than mind!

"Let there be light" means "Mind rules the universe; All is Mind; Let there be Mind."

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Thesis: The material world = dimensional, extended mathematics = Old Science.

Antithesis: The mental world = dimensionless, unextended mathematics.

Synthesis: The *actual* world = dimensional, extended mathematics *and* dimensionless, unextended mathematics = the material *and* mental worlds = the New Science.

Facts and Interpretations

Darwinism is not a fact, it's an interpretation.

Copenhagen quantum mechanics is not a fact, it's an interpretation.

Einsteinian relativity is not a fact, it's an interpretation.

"Matter" is not a fact, it's an interpretation.

Everything in science can be reinterpreted ... *mathematically*. That means rationally and logically, ontologically, epistemologically and metaphysically. Mathematics is the perfect, metaphysical underpinning of science.

How insane would a scientist have to be to imagine that he could beat math? No one can beat math. No one can beat perfection, and only math is, and can be, perfect. If you can't beat it, join it.

Only a universe with *perfect* foundations is intelligible and explicable. A universe with imperfect foundations can never make any sense. It will always be riddled with contradictions, inconsistencies, incompatibilities, and incompleteness. Therefore, the study of the fundamental basis of existence must be the study of eternal, necessary *perfection*.

In the past, naive thinkers called "God" the perfect foundation of existence. In fact, only math qualifies. Science makes no appeal at all to perfection, and explicitly repudiates it with its worldview based on intrinsic randomness, indeterminism, chance, accident, acausation, probability, fuzziness, blurriness, uncertainty and statistics.

There is no sufficient reason for the roots of existence to be imperfect (hence chaotic) rather than perfect (hence ordered). The fact that we live in a stable, ordered cosmos *proves* that existence has perfect, mathematical foundations.

Knowledge

There's a fundamental problem with "knowledge". What does this word actually mean? The reason for the ambiguity is that there are two radically different and incompatible claims to what knowledge is. Rationalists say that knowledge derives from our reason. Empiricists say that knowledge derives from our experiences, observations and senses. So, which is it – is knowledge rational or empirical? It can't be both.

Rationalism proceeds by way of reason, logic and intellect. Empiricism proceeds by way of the non-rational, non-logical, non-intellectual senses. Rationalism and empiricism are diametrically opposed epistemologically and ontologically. How each goes about its business is the total contradiction of the other.

What, then, is real knowledge? This question has plagued the human race. Do you gain true knowledge by precisely observing the world, or precisely reasoning about it? These are incompatible approaches. They

imply incompatible epistemologies. What's more, they imply radically contradictory ontologies, and epistemology must follow from ontology. There's only one true ontology (i.e. the one that actually reflects how reality is), but plenty of false ontologies, hence plenty of false epistemologies.

For rationalism to be true epistemologically, reality must be based on eternal, necessary, rational things ... indicating that reality is grounded in mathematics and its eternal truths of reason and logic. Ontological mathematics is predicated on exactly this. Reality is made of mathematical entities: sinusoids, grouped into autonomous monads = minds.

For empiricism to be true epistemologically, reality must be based on tangible, observable things ... indicating that reality is therefore *not* grounded in eternal, necessary, rational things, and does *not* reflect the eternal truths of reason and logic (since there is nothing in the impossible-to-define and utterly ambiguous, non-analytic and murky concept of "matter" that has any necessary connection with any of these). Scientific materialism is predicated on exactly this. Reality, in this view, is made of non-mathematical (therefore non-rational) "things" that can be observed and experienced.

You cannot be on the side of both mathematics *and* science. It's one or the other – rationalism or empiricism. You must choose.

Science is manifestly false since it's reliant on mathematics for its power (despite math being rational rather than empirical), whereas mathematics makes no reference at all to science. So, which is the cart and which the horse?

Science has never been able to explain what mathematics is, and why it's so essential to the success of science (without math, science would be astrology, alchemy and divination), and that's exactly why the ontology and epistemology of science *must* be false. Science responds to this objection by dismissing ontology and epistemology as "mere philosophy", and refusing to reply to *any* ontological and epistemological arguments levelled against it. You cannot be any kind of intellectual if you despise philosophy and refuse to address the arguments of your arch critics, who bring to bear the full force of reason and logic.

There's no bigger joke on earth than the claim of science that it's on the side of reason. Science is just one step removed from Luther who infamously declared, "Reason is the Devil's whore." Science hates reason too. If it didn't, it would address rational and logical arguments deployed

against it, and it *never* does. It would have rational and logical first principles, and it has *none*.

Science is all about the senses. It has nothing to do with reason, logic and intellect. It has no ontology, no epistemology, no rational principles. It does not reflect the principle of sufficient reason. It does not have logic built into it. It uses only those parts of mathematics that seem consistent with empiricism and materialism, and all the rest of mathematics – the vast bulk of mathematics! – is junked as unreal and abstract. No scientist ever explains why some of math is "real", and the vast majority "unreal".

Science is irrational and illogical. It has contempt for reason and logic. No intellectual would ever hold it in high regard. It's nothing but a modelling system, a tool, an instrument, a pragmatic method, a simulator of the observable world (much like a computer game is!). It can tell you *zero* about ultimate reality, about the fundamental nature of reality. That's a fact.

The intelligentsia must kick science off its pedestal if the human race is ever to embrace the ontology and epistemology of Absolute, Infallible Truth. Science is the great enemy of Reason, even worse than mainstream religion. It's the wolf in sheep's clothing. It claims to be on the side of reason while totally subverting reason.

Science is about experiences, the senses and *observations*. That means that it denies the existence of anything that cannot be experienced, detected with the senses, or is unobservable. So, you have to ask yourself the most fundamental question ... is reality in itself observable or unobservable, empirical or rational, phenomenal or noumenal?

Science ideologically and dogmatically denies all noumena, everything unobservable, everything non-experienceable. It denies all hidden variables and all rational unobservables. Nothing is more noumenal and unobservable than the mind, and the thoughts the mind contains ... than reason itself. Has any scientist ever seen, tasted, heard, touched or smelled reason? Has any scientist ever experimented on reason, observed it or experienced it as some scientific object? So how dare they claim to be on the side of reason? According to their own ideology and modus operandi, reason itself is a hidden variable, hence doesn't exist! They have failed to understand the first rule of Reality Club ... reason is ontological. Reason exists ontologically as math.

Ask yourself a few simple questions: what is reason, where is reason, how is reason, why is reason? Do you seriously imagine that science can

explain why reason exists in the world, what it is, and how we are able to access and use it? If scientists can't explain what reason *is*, how they be on the side of reason? How can they say they are using reason? How would they know?

Only rationalists are on the side of reason. All people of faith (feeling types) are against it, all mystics (irrational intuitives) are against it, and all empiricists (sensing types) are against it. The vast majority of the human race despise reason, logic and intellect. They despise philosophy, and, above all, they despise mathematics, the quintessence of rationalism. Nothing could be more bizarre and distasteful to them than the idea that reality is *made* of math. They will rail against that, and denounce and rubbish it forever.

The human race is almost entirely alienated from the Truth. Such is the human tragedy. Humanity prefers anything to the Truth. It's a Mythos species, not a Logos species. It's a lying species, not a Truthful one. More or less 100% of what average humans believe about reality is false. Isn't that truly extraordinary?

Consent

If you don't agree with scientific materialism, or mainstream religion, you must speak out against them and deny them your implicit agreement. As Plato said so damningly, "Your silence gives consent."

Science, and each individual religion, would collapse if all those opposed to them spoke out against them. The whole philosophical world should stop what it's doing and turn its full firepower against all mainstream religions ... *and* against scientific materialism. Scientists have to be told in no uncertain terms that they are *not* on the side of reason and logic. Only rationalists, not empiricists, can validly say they advocate reason. It's all in the name: *rationalism*!

Agency

"Even if there is only one possible unified theory, it is just a set of rules and equations. What is it that breathes fire into the equations and makes a universe for them to describe? The usual approach of science of constructing a mathematical model cannot answer the questions of why there should be a universe for the model to describe. Why does the universe

go to all the bother of existing?" – Stephen Hawking, *A Brief History of Time*

All scientific equations and formulae are passive. They lack agency. As Hawking said, they have no fire in them, no spirit, no life, no purpose, and no reason to be. So, what *is* it that puts the fire into the universe?

Science is all about *avoiding* agency. Agents have purposes. They do things for reasons. They reflect teleology. Science has done everything it can to ridicule teleology and deny that it exists in Nature. It thereby denies agency and equations with any fire. Nothing without a purpose can be an agent. Mind is all about agency, but mind doesn't exist in science (it's just a epiphenomenon of matter, and, supposedly, wouldn't exist without matter being organised in a certain way).

Science is about *how*, and never *why*. *How* is about process. *Why* is about purpose.

Science denies subjectivity. It seeks to be about pure objectivity. That means it seeks to deny agency since only active *subjects* can be agents. Passive objects – the "atoms" of science – can never have agency. They have no aims.

In science, nothing acts for any reason or purpose. Everything is passive. Everything is reactive. How can anything get going in such a system? How did the system even begin?

In Abrahamism, God is the ultimate agent who gets everything started, but, if there's no God, what then? Science can't appeal to any kind of agent, and that means it has to invoke magic and miracles. In science, things have to get started for no reason at all. Things must happen randomly, accidentally, by chance, probabilistically, statistically, indeterministically, acausally. They certainly can't happen for any reason, with any purpose, with any plan and agency ... with any *mind*. Mind is the opposite of everything scientific materialism stands for. Mind is all about teleology, subjectivity, agency ... everything deemed impossible by science. Without mind, there's nowhere else to go but random miracles ... things happening magically for no reason. Science has declared itself perfectly happy with that. In fact, it loves it.

In science, existence must bootstrap itself for no reason. It does so randomly, blindly, without rhyme or reason. All reasons are absent from science. It's the opposite of the principle of sufficient reason.

Without agents, things have to happen agentlessly, and that means for no reason whatsoever. Science is fully committed to this insane position. Science defies the principle of sufficient reason and the eternal truths of reason. It rejects logic. According to science, things happen without reasons, purposes, causes. Nothing is determined. Nothing has agency. Scratch any theory of science and you will soon enough see that it's making some kind of agentless, randomist claim. Look at Big Bang theory ... the universe erupts out of nothing for no reason at all. Look at Darwinism ... genes mutate randomly for no reason at all. Look at Copenhagen quantum mechanics ... wavefunctions collapse and produce a random outcome. Look at Multiverse thinking ... everything that can happen will happen. Nothing happens for any reason or purpose ... it simply happens because it's possible. It happens randomly, for no reason at all.

No scientist ever refers to agency, subjectivity, purpose, reasons. Even causation and determinism, which were essential to classical science, are now denied. Causation and determinism look far too much like agency and purpose, which is totally unacceptable to science. They imply first causes or an eternal rational order.

The defining equation of ontological mathematics – the God Equation – is imbued with fire because it defines life itself. The God Equation defines living monadic minds. These are subjective agents with purposes. They drive the whole of existence. They are the fire itself. They're not evolving: they *are* evolution. It's their essence.

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Science is about objects, not subjects. It's about non-agents, not agents. It's about how, not why. It's about matter, not mind. It has no purpose. Things happen for no reason. They happen randomly, indeterministically.

Science is about chance and accident.

Science rejects causation. Things happen probabilistically and statistically, not for any precise, analytic reasons and causes.

Science has no fire in it. It's propelled by miracles and randomness.

Science rejects free will.

Science is not about life. It's about death. It's about inertness, lack of animation, lack of agency.

Science is totally devoid of meaning. It's totally opposed to meaning. It openly rejects meaning. It has absolute contempt for meaning. The last thing you will find at the bottom of science is meaning. What kind of person is attracted to meaninglessness? Isn't that a form of mental illness? What's for sure is that it's pure nihilism and skepticism. Science and atheism go hand in hand.

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Existence is either about agency or non-agency. If the former, mind is the ultimate reality; if the latter, "matter" is the ultimate reality. If the former, teleology is true: things act for purposes; they design the world. If the latter, randomness is true: things act for no reasons (design, to the extent that it's possible at all, happens by chance and accident). If the former, the universe is alive; if the latter, it's dead. If the former, the universe is an organism; if the latter, it's a machine, or a random event generator.

Agents are substances. They are eternal and necessary. Non-agents aren't substances. They are temporal and contingent.

Agents drive the world and give it its fire. Non-agents are driven by randomness, and have no fire.

With agents, action is permanently built into the world. Without agents, there's no reason for anything to happen, so the advocates of non-agency (scientists and atheists) have to appeal to random miracles to get things going (because otherwise nothing would get going at all).

Randomness operates by magic. It has no mechanism. No one ever has, or ever could, observe a random event. Randomness is wholly non-empirical. People who support randomness have no evidence or proof that randomness exists. But randomness is all you have left once you have dismissed agency, subjectivity, teleology, meaning, design and mind.

It's inevitable for materialism and atheism to arrive at randomness. If God didn't make the world, if agents didn't make it, if minds didn't make it, then what did? It made itself! It didn't make itself for any reason since there are no reasons without God, agents or minds, so it made itself randomly, accidentally, by chance, indeterministically. In this view, probability and statistics replace causality.

Once you have embraced materialism and atheism – once you have dismissed an eternal order of God, agency or mind – you have no alternative but to claim that existence jumps out of nothing for no reason, and proceeds meaninglessly, purposelessly and without agency ... exactly all of the conclusions scientific materialism has actually arrived at.

The fundamental problem for science is that it's logically *impossible* for something to come from nothing at all, for existence to spring out of non-existence. It's a fundamental repudiation of the principle of sufficient reason, the eternal truths of reason, mathematics, all eternal, necessary laws and all laws of conservation.

Science claims that religion is about ridiculous miracles and absurd magic. In fact, no subject is more steeped in absurd magic, miracles and impossibilities than science itself. In terms of its ultimate claims, science is absolutely predicated on things happening for no reason, via no mechanisms.

Incredibly, science considers itself a system of rational explanation ... but how can chance and accident rationally explain anything? They are the denial of explanation. They are non-explanation. No reason, hence no explanation, can be given for them. You just have to accept them, and shrug your shoulders.

The most basic principle of the ancient Greeks was that something could never come from nothing (non-existence). Science, insanely, rejects this foundational ontological principle. Its hatred of God and mind has led it to conclude that impossibility is to be preferred over the principle of sufficient reason.

Science says that the universe is an invisible, unreal magician's top hat that miraculously pulls *itself* out of unreality and makes itself actual. With science, rabbits from nowhere pull themselves out of non-existent hats. Scientists love this stuff. They think it's *fantastic*. All because it makes no reference to God, Spirit, agency, subjectivity, teleology, design, causation, eternity, necessity, the principle of sufficient reason, or mind.

Scientists are even less rational than religious believers. They're more or less deranged. It's unquestionable that the vast majority of them are on the autistic spectrum, hence have a fundamental problem with the Theory of Mind. You are suffering from a diagnosable defect of mind if you find science persuasive.

The Theory of Mind involves knowing that other people have minds different from yours, that they have their own, different beliefs and ideas. Only a person with a Theory of Mind can tell a lie to another person since the lie relies on the other person not knowing what you know, and finding your lie credible. Severe autistics have a fundamental difficulty with the Theory of Mind, which goes to the heart of their communication problems and their strangeness. The vast majority of animals have no theory of mind, and we might almost say that severe autistics reflect the animal rather than human world.

If we take difficulties with the Theory of Mind to their logical conclusion, it becomes a Theory that there's no Mind at all ... which is in fact a fundamental tenet of scientific materialism. "Mind" for scientists is actually matter, *not* mind!

We could equally call Theory of Mind *Theory of Autonomous Agency*, and, of course, agency is also denied by science.

In many ways, religious believers – who are overly emotional – appeal too much to Theory of Mind, so that they see conscious Mind and Agency everywhere and call it "God". Scientists – who are underly emotional – have too little Theory of Mind, so that they see Mind and Agency nowhere at all. Once you've rejected Mind and Agency, you have no choice but to conclude that things happen randomly, indeterministically, for no reason. Nothing has any agency or purpose.

Ontological mathematics is the perfect compromise between these two positions because it's all about mind, but, crucially, not *conscious* mind. The default position of mind is unconsciousness. Consciousness is something that has to evolve over an immensely long period.

A universe of primitive, unconscious mathematical minds with limited agency looks, superficially, exactly like a universe with no mind at all, i.e. like science's universe, rather than a living, evolving organism. It's only after eons that minds develop sufficient consciousness and agency to refute the scientific worldview.

What's truly incredible is that human beings themselves are the irrefutable proof that science is wrong – that mind, agency, consciousness and free will truly exist – yet scientists refuse to accept this fact. There's only one possible for reason for that ... they are markedly on the autistic spectrum, hence fundamentally struggle with the entire concept of mind.

No one with a strong mind and sense of self could ever doubt the power and primacy of mind. No one with a strong mind and sense of self could ever conclude that they actually have no mind and no self at all, but are just the products of atoms – little lumps of mindless, lifeless "stuff" – behaving randomly and probabilistically, according to temporal, contingent, statistical laws.

Modern science isn't an intellectual discipline. It's a psychiatric disorder, a mental illness, an autistic fixation with the senses and "physicality", and an extreme aversion to mind and "hidden variables" (of which mind is the greatest example).

A thousand years ago, the intellectual agenda of humanity was driven by emotional nutcases ... religious hysterics and maniacs (as we see with Islam in today's world). Feeling types ruled the world, and viewed everything in terms of humanity's emotional relationship with God. God loved you if you obeyed his law, and rewarded you with heaven. God hated you if you disobeyed his law, and punished you in hell. Abrahamism is all about love and hate, heaven and hell ... total emotionalism. Abrahamists were, and are, mentally ill. Their mental illness derives from their hysterical emotionalism.

Eastern religion is a different type of mental illness and involves over-emphasis on visionary, mystical intuitions.

Today's intellectual agenda is dominated by science ... by autism! Sensory maniacs and hysterics have reduced reality to only what is available to the senses and the empirical, sensory scientific method of experimentation. Where previously feeling types and mystical intuitives ruled the world, now sensing types rule the world, and reject everything that the feeling types and intuitives once preached.

Autistic scientists, enslaved by their senses, have a secondary problem arising from their sensory mania. Their thinking – their "reasoning" – is entirely yoked to their senses. Therefore, it's machinelike, non-emotional, non-intuitive, and non-imaginative. It automatically rejects all unseen things (all non-sensory things).

Science does nothing but reflect sensory obsession, the denial of all non-sensory things, hence is all about visible "matter" and totally repudiates invisible mind. Materialism and atheism flow automatically from the way the scientific brain is wired.

People suffering from one mental disorder or the other, whether it be excessive emotionalism, excessive mystical intuition or excessive devotion

to the senses, have always set humanity's intellectual agenda. The only antidote is pure reason. Reason alone can cure humanity's madness. Don't believe your feelings, your intuitions or your senses. Rely on your reason.

Reason, when it's detached from the emotions and senses, becomes a precise, analytic "organ of Truth". Reason, as it turns out, works extremely well with intuition because intuition allows reason to escape the sensory obsession of science. Where the senses are local and concern the visible and tangible, intuition is non-local and concerns the invisible and intangible. Reason tied to the emotions or mystical intuitions leads to religion. Reason tied to the senses leads to scientific materialism and atheism. Reason, assisted by intuition (but not overwhelmed by it) leads to ontological mathematics and noumenal idealism/panpsychism.

The intellectual progress of humanity has always been a struggle *against* our feelings, senses and mystical intuitions, i.e. against the human condition itself. To see reality in itself, we must transcend our humanity and master the eternal, necessary language of existence itself ... mathematics! Mathematics is nothing other than the ontological expression of the principle of sufficient reason, hence is the quintessence of thinking, reasoning and logic. Nothing can beat math. Math is pure Logos, pure Truth, and everything else is pure Mythos, pure Lie.

Humanity is a lying species. Only math can remedy our lies, our delusions, our fantasies, our endless self-serving stories (Mythos). Math is the opposite of the Lie. Math is Truth.

In the search for Truth, the first things you have to reject are your deceptive, deceitful feelings, senses and mystical intuitions. When you have done so, you realise that all that remains is pure reason = math. Math is the language of Logos, of existence itself. Everything else is the language of Mythos, of the fantasy of what existence is.

You can arrive at the truth of existence only if you correctly identify the language of existence. Existence has only one language ... math. Existence has only one answer ... math. There aren't countless answers to existence, countless different languages, paths, routes and approaches. There's only one ... math. Soz!

This is an absolute universe with an absolute answer. It's not at all relativistic. One "answer" isn't as good as another. There's only one true answer and all the other "answers" are false. That's an indisputable rational fact.

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“Dreams, magic terrors, spells of mighty power, witches, and ghosts who rove at the midnight hour.” – Horace

“Matter, randomness, statistics, probability, indeterminism, pointlessness, purposelessness, nihilism, skepticism, atheism, acausation, no free will, no agency, no subjectivity, no mind, chance, accident, total meaninglessness.” – Science

The Waking Dream

“When we are awake, we have a common world but when we dream, everybody has his own.” – Heraclitus

“For the waking there is one and the same [common] cosmos, but of the sleeping, each turns away to his own [cosmos when dreaming].” – Heraclitus

Waking: Common to all people. (The objective, collective dream.)

Sleeping: Particular to each person. (The subjective, individual dream.)

The Waking World = Public.

The Sleeping World = Private.

There’s more insight in Heraclitus’ statement than in the whole of scientific materialism. You understand nothing until you realise that the material world is in fact a mental dream *common to all minds*. The waking world is a collective, objective dream rather than an individual, subjective dream. Just as there’s no “matter” in our private dreams, there’s no “matter” in the public dream either. That being the case, scientific materialism is false. “Matter” is entirely a product of mind and has no reality beyond mind. That’s a fact.

Knowing What You’re Talking About

Given that atoms are defined by mathematical equations, how many scientists can explain what an atom is without referring to math? And if an

atom can't be explained non-mathematically, why don't we just cut to the chase ... why don't we just cut out the middleman ... and go to straight to the math, bypassing science entirely? Who needs these scientific heuristic fictions? The intellectual world needs to launch a rational crusade against irrational science. The only part of science that is rational is its mathematical engine, but science has never once explained what mathematics actually *is*. How irrational is that?! How can science explain anything if it can't explain math?

Enlightenment

How can you be enlightened if you don't know what reality is? The first thing you have to do on the road to enlightenment is know what you're dealing with. Unless you have worked out that this is a self-solving, self-optimising, dialectical universe of living reason, expressed through ontological mathematics, you will never be enlightened.

How could any universe other than a mathematical one solve itself? How could any universe other than a mathematical one converge on an answer to itself – at the Omega Point? Only a mathematical universe can have an answer. Only such a universe is *equipped* to provide an answer. If the universe isn't mathematical, it doesn't have an answer, and a universe with no answer is logically impossible. There's no sufficient reason for a magical, miraculous, inexplicable universe. Who wants to live in a universe with no answer? ... certainly not any rational, logical person. What would be the point of reason and logic if the universe is a magic act? How could math exist at all in a universe of miracles?

The Immune System

"Fortunately, some are born with spiritual immune systems that sooner or later give rejection to the illusory worldview grafted upon them from birth through social conditioning. They begin sensing that something is amiss, and start looking for answers. Inner knowledge and anomalous outer experiences show them a side of reality others are oblivious to, and so begins their journey of awakening. Each step of the journey is made by

following the heart instead of following the crowd and by choosing knowledge over the veils of ignorance." – Henri Bergson

Follow your head, not your heart. To choose heart over head (emotions over reason), or gut over head (the senses over reason), is to prefer the veil of ignorance to knowledge. Only intuitives have the spiritual immune system that allows them to resist the indoctrination of religious emotionalism and scientific materialism.

Change Your Beliefs!

Isaac Asimov said, "So the universe is not quite as you thought it was. You'd better rearrange your beliefs, then. Because you certainly can't rearrange the universe." This admonition applies as much to science as to religion. The universe in itself is mathematical, not scientific; intelligible, not sensible; rational, not empirical. It's ruled by eternal, necessary, infallible reason, not by the temporal, contingent, delusional human senses, on which science is predicated!

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Richard Dawkins said, "I am against religion because it teaches us to be satisfied with not understanding the world." That's exactly what we say about science and Darwinism! Religion provides a far better explanation of ultimate reality than science does. Science offers no explanation at all, unless you regard magic and random miracles as explanations. The moment you are happy to say that existence can erupt out of non-existence for no reason via no mechanism, understanding reality plainly isn't on your agenda.

A popular internet meme says, "Atheism – the belief that there was nothing and nothing happened to nothing and then nothing magically exploded for no reason, creating everything, and then a bunch of everything magically rearranged itself for no reason, which then turned into dinosaurs. Makes perfect sense, doesn't it?!"

This is a witheringly accurate summation of scientific materialism and the atheism that flows from it. This is what Dawkins defends, and he considers himself the epitome of rationalism in doing so. In fact, he's a total irrationalist who rejects the principle of sufficient reason in every possible

way. It's simply staggering that anyone without a formal ontology and epistemology, without a complete and consistent system, who disregards the eternal, necessary truths of reason, can believe himself on the side of reason and logic.

Science relies on a sensory *method*, not a system of analytic reason. This method automatically excludes everything not amenable to the method (i.e. everything non-sensory), and its fanatical advocates then absurdly claim that anything not amenable to the method doesn't and can't exist. That's the purest magical thinking. It's an irrational belief system that can *never* reveal true knowledge of reality in itself. Science believes that anything unseen is religious, superstitious and irrational, with no evidence for it ... which includes the mind itself, of course. In fact, the true unseen things are purely rational, logical and mathematical ... including the mind.

The moment you grant the existence of hidden variables, rational unobservables, mathematical, rational and logical entities that are intelligible but not sensible, that are inherently non-sensory, you have ceased to be on the side of science. Science is nothing but a sensory Mythos and it stands opposed to non-sensory Logos ... *mathematics*.

Conclusion

Science doesn't burn today's Giordano Brunos at the stake (even Catholicism has stopped doing that, but not Islam!). Instead, it calls them cranks and loonies, crazies and "woo" merchants, and makes sure that they get zero funding and that their ideas are never discussed in scientific circles.

It's a disgrace that scientific materialists claim Bruno as a hero and martyr of science. Bruno would have been sickened to the core of his being with scientific materialism and empiricism. He would unquestionably have preferred philosophical Catholicism to modern science. Bruno belonged to the tradition of the forbidden science, not the "halal" science taught in schools today. He was a panpsychic and forerunner of Leibniz.

Science needs to go right back to Nicholas of Cusa and Bruno, and then find Leibniz through them. It then, retrospectively, needs to take Leibniz's side against Newton. It needs to study the post-Leibnizian school, comprising Kant, Fichte, Schelling, Hegel, Schopenhauer, Hartmann, Nietzsche, Herbart, Fechner, Lotze, Haeckel, Paulsen and Jung. It needs to put mind, not matter, at the heart of science; the dimensionless, not the

dimensional; frequency, not spacetime; the noumenal, not the phenomenal; the rational, not the empirical; Form, not Content; the metaphysical, not the physical.

Of course, this can't be done in any old way. The New Science mustn't be based on old-style philosophical speculation, no matter how wondrous and ingenious. It must be strictly grounded in the quintessential rationalist subject, the subject that's all about a provable, complete and consistent system, the subject that's the basis of order, organisation and pattern, the subject that concerns eternity and necessity ... *ontological mathematics*.

The Old Science is all about empirical experiments and observations on the world of appearances. It has literally nothing to say about the noumenal hidden variables that define existence.

The New Science must be all about mathematical reason, logic, ontology and epistemology. In other words, if we wish to address ultimate reality, the true operations of existence, and the meaning and purpose of existence, we must turn to our reason and intellect, not our senses and experiences (as the Old Science does). That has always been the choice facing humanity, and humanity has always turned its face away from reason and logic.

Leibniz was a rationalist committed to the principle of sufficient reason and logic, while Newton was an empiricist committed to matching mathematical guesses to experimental observations, and making no attempt to rationally explain why such guesses worked or meant anything ontologically and epistemologically. Nothing has changed. To this day, science does not recognise any first principles, any rational principles, any logical principles. It provides no ontological definitions and has no formal epistemology. It absurdly pronounces anything that cannot be empirically observed as non-existent, although it has zero rational grounds for this conclusion. It denies the existence of mind as a real thing.

The plain fact is that science took the wrong turn. It followed the path of sensory, observable success rather than rational, logical, unobservable Truth. Today's science has no relationship at all with the Truth, and never could. Science tells us nothing whatsoever about the ultimate nature of existence. It can never answer what existence is. That's a simple, stark fact. But the Forbidden Science can. The Forbidden Science is everything that conventional science isn't. It's all about eternal provability and necessity rather than mere sensory "evidence" that proves nothing, and which is

mired in temporality, contingency, opinion, belief, conjecture, hypothesis and interpretation.

You are faced with a very simple choice ... is reality mathematical (rational, logical and intelligible) or scientific (irrational, illogical and sensible)? It's one or the other. How do we understand reality ... with our reason or our senses?

There's only one rational answer to existence. There are countless irrational non-answers. Do you want an answer or not? Most people don't. They want to believe in any old nonsense that comforts them.

Let's have the New Science. But, in truth, it's really a very old science, the *Forbidden* Science of idealism rather than materialism, of rationalism rather than empiricism. Science could have taken the right path long ago if it had listened to Leibniz rather than Newton.

What's most shocking of all is that the Forbidden Science is nothing but ontological mathematics, and no rational, logical person could ever stand against math. Why is it that science, which would be nothing without mathematics, is so opposed to the simple, rational, logical idea that existence is intelligible precisely because it's pure, eternal, necessary, analytic math?!

The New Science doesn't require anyone to engage in absurd speculation or mysticism. It doesn't require faith. It has no need of believers. All it requires is that human beings embrace reason, logic, ontology, epistemology and mathematics. Why is that so impossible and forbidden for the Old Scientists? What have they got against intelligence, logic and reason? Against *math*?

Ultima Ratio (The Last Reason)