

## Origin 6: Unification!

I'm starting work on Origin Part 6: Unification, where I bring forth the idea that unification of forces naturally occurs in nature. There is some evidence of this ("electroweak stars" — unification of the electromagnetic force and weak nuclear force inside neutron stars) but I'm bringing forth the idea that ALL the forces are unified inside black holes, and this unification is what creates the black hole in the first place— not gravitational collapse. Going forth with the idea that "Things are more than they seem" theme, I'm going to use that to create a model whereby black holes are presented as the fabric of space-time being "inside out" or reversed, much like quantum loop cosmology predicts is what happened during the big bang. You can see where this is leading to— that black holes contain bubble universes (like ours) that exist in a sea of exotic matter where all the forces are unified.

There is a hierarchical fractal order to the universe on many different levels and I believe that what we call "natural law" is simply an intrinsic property of the universe— like a basic property of a subatomic particle (charge, spin, etc.) The universe was just a particle at some point and I believe the properties from its infancy have been retained and express themselves in varied ways in the reality we see around us.

Similarly, particle universes with different properties would result in universes with different "natural laws."

Actually, you can consider life itself a fundamental property of the universe. Did you know that quantum linkages have been found to exist inside biological systems, including DNA? It makes me think that life is— literally— universal.

This is another example of hierarchical fractal layers: Think of a sea of exotic matter with small bubbles with spontaneously decreasing entropy that BANG.... these would be bubble universes, like the one from which our universe was born. So life would also be like this— spontaneous areas of order that pop up and slowly wind down (like what our universe itself is doing.) This natural law / property of the bubble universe exists from the quantum level all the way up to the largest structures — including life itself. It's as if we have been branded by the particular universe we exist in by the very nature of its formation.

What about the idea of a universe created within another universe by an advanced alien civilization? This idea has been proposed by some physicists and cosmologists and of course then we have the problem of where those aliens came from. In an infinite but self-limited fractal omniverse hierarchy which exists both inside and outside of space-time, of course, you can create a loop whereby cause and effect become one and the same and the creation becomes the creator— thereby solving that problem.

Regarding supersymmetry: Are sparticles really separate higher dimensional versions of "conventional" particles or could it be that "conventional" particles are actually the part of sparticles that we can actually see, because we can't detect the whole particle with our limited perspective.... sort of like the particles' "soul?" I envision conventional particles

as the part we can see through our “peephole” (like when Saturn’s rings are seen edge on through a telescope) while the sparticle itself represents the full extent of the same particle. In this case, a conventional particle would merely be a shadow of a sparticle. Perhaps we will be able to see them with the LHC— which could open up a whole new avenue into research of that which we can’t detect with the conventional senses or at lower energies.... getting us closer to a more fundamental and wide-ranging view of reality.... both from the reductionist and the wholistic point of view!

There is no initial cosmological singularity. The singularity you speak of originates from the failing of relativity to explain the initial boundary conditions of our universe. Once we find a way to unify quantum mechanics and relativity the singularity problem will disappear — not only from the beginning of the universe, but also from what we call “black holes.” As a matter of fact, physics right now is leaning towards the idea that black holes are the birth places of other universes just like ours did inside a relatively larger universe.

And something did exist before the space-time dimensions which we perceive, because our universe originated as a quantum particle inside a cosmic soup of particles, the existence and destruction of which depends on the extant physical laws and constants present inside each universe. Consider it the quantum version of the laws of evolution and natural selection. Hawkings’ terms for the original time dimension that existed before the big bang is called “Imaginary Time.” Consider imaginary time to be a dimension of time that runs perpendicular to the one of which we are aware. Sort of like the Y-axis of time compared to the X-axis of our time. When this is taken into account, the singularity at the big bang disappears. (It also allows us to graphically represent parallel timeverses, but that’s beyond the scope of this post— see Origin 1 and 2 for more details.) A competing model, called quantum loop cosmology also resolves the singularity by stating that at extremely small volumes, the density formula ( $D=M/V$ ) fails and therefore there is no singularity. As a matter of fact, at diameters below 10 Planck lengths, density actually goes down, even if you pack more mass into a given volume — thus the idea of baby universes inside black holes. When thinking about this, I thought it reasonable to assume that one of the reasons that black holes present themselves as singularities is because all the forces are unified just inside their boundaries. This makes sense when you think about it, because we already have electroweak stars which unify the electromagnetic and weak nuclear forces and presenting black holes as the final result of compact force unification rather than simple gravitational collapse is also a graphic way to explain what happens when the matter inside is crushed to a pulp and converted into exotic matter that no longer follows the laws of our universe. Also, force unification inside black holes would satisfy the initial boundary conditions that led to the formation of our own universe and should thus also be a prerequisite to the creation of other universes and the breakdown of relativity on that scale— because it doesn’t allow for unification (something which Einstein spent the rest of his life in a futile pursuit of attempting to achieve — along with a similarly futile pursuit of trying to disprove quantum mechanics. Verification of this should be possible at the LHC when it is up and running at full capacity— as a matter of fact, physicists have toyed with the idea of creating designer baby universes (most notably Andrei Linde) that would expand

into their own dimensions and curve into themselves. This is where the idea of a universe being designed by an intelligent being with physical laws and constants of his/her/its/their choosing (as their signature) originated from. What most people don't know is that Einstein was actually working on a theory of multiple dimensions very similar to string theory just prior to his death.) According to QLC, instead of a singularity, the universe doesn't bang at all, instead it goes "inside out" at each point of apparent origin and thus is both infinite and self-limited. Like a Mobius strip. Dimensions are in loops. Travel far enough in one direction and you end up back at your starting point. The funny thing is that relativity already allows for this close to the outer boundaries of black holes in the form of closed time like curves (CTCs), which is time looping back in on itself. As the universe expands, the size of the loops would expand also. As a matter of fact, the whole universe would be one large loop that goes back to the beginning each time. The loops would have bridges or tunnels between them (seen from the "surface" of the strip as black holes or worm holes) inside which the forces are unified and where baby universes are formed which exchange matter and energy with the parent universe. With time, as the universe expands, the bridges would distend and eventually the baby universe would be cut off from its parent, much like a biological baby gets cut off from the mother's placenta, even as new connections were formed, both between the parent and new baby universes, and also between the babies and the baby universes would give birth to their own. Since the fractal hierarchy is preserved, this loop-like structure would also exist on the omniverse level, where the universes of each megaverse would be connected like spokes on a wheel, with new connections being developed even as old ones are broken, and the free flow of matter and energy keeping everything in balance. The question of the beginning of the omniverse would have no real answer as the cosmic loop with connecting bridges ensures that all moments in time exist simultaneously so there is no beginning or end— just like with our own universe! Causality doesn't exist on this fundamental level— just like it doesn't exist at the quantum level— and neither does the speed of light limit, which is more of a natural boundary condition meant to separate the universes (but which can be gated with wormholes to keep the whole system in balance— gravity being the agent of entropy which keeps everything flowing and keeps the omniverse in dynamic equilibrium.)

As far as space and time giving way to something more basic at the big bang and prior, this is also used as a way to explain quantum mechanics nonlocality properties like superposition (two particles being in exactly the same place at the same time), teleportation, tunneling, entanglement etc. Since the universe was once a quantum particle, it once behaved according to the same rules (and might still, depending on perspective.) On the quantum scale, space and time don't exist as we see them on the macroscopic scale; they give way to more fundamental nonlocal properties which make the quantum effects ("spooky action at a distance") possible.

I like many of Penrose's ideas as well (specifically quantum theories of consciousness— but even that has given way to a more likely David Bohm interpretation.) See Origin 4: Consciousness for more details.

BTW, in the above post, I haven't even mentioned the most fascinating aspect of cosmology— the fact that the holographic principle seems to hold true — that our universe can actually be described in  $D-1$  dimensions ( $D=$  the 3 spatial dimensions in our case) and the fact that the holographic principle can be used to test the multiple universe theory, which should exist as (for lack of a better term) shadows in the background of the cosmic background radiation (CMB) which contains the holographic information of our universe— just like our universe's black holes (other universes) contain all their information at the holographic boundary (another sign of fractalization.) Such testing is already underway.

Earlier I had mentioned parallel timeverses. Since universes are fractal in nature and the size of the dimensions depends on the scale being used, they are subject to quantum effects. The same way that multiple universes can be quantumly entangled, I believe that parallel timeverses (or Layer 1 multiverses) are quantumly superpositioned on top of the parent protoverse. In reality, all time exists at every moment (something Newton and Einstein also intuited) and since all time exists at every moment at a very fundamental level, causality doesn't need to exist on that level and is just a function of the limits of human perception not to be able to process the wholeness of All Time. The speed of light compartmentalizes these parallel timeverses and we need Layer 1 (stellar) wormholes to tunnel through the luxon wall to travel between them.... but one way to think about it is that all these parallel timeverses are merely different compartments of the same universe and only appear to be different universes because the luxon wall is the barrier between them— and this makes the idea of all time existing at every moment and polycasuality more clear and especially apparent at the basic quantum level where locality and causality don't exist because the dimensions of space and time break down and Pauli's Exclusionary Principle no longer applies. Consider that an alien scientist who was observing our universe from the outside of our parallel multiverse (as a supermassive black hole) would only see ONE universe (if any at all) — because the parallel timeverses are all part of the same universe, they are just superpositioned together and our speed of light barrier would not be a barrier to an observer outside of the universe and so he/she/it would not perceive single moments of time like we do (of our temporal dimension, at any rate.) That observer would only see a single quantum particle, the quantum superposition of all the parallel timeverses, and the combined quantum states of all of them.... all the pasts, presents and futures, the whole spectrum rather than just one small segment— which maybe is what we see when we witness quantum wave collapse (while we can observe only one energy level of our universe because the speed of light barrier compartmentalizes it, we can only see one energy level of a universe outside our parallel multiverse because we see the sum total of all the energy levels as one and the same would apply, in reverse, to someone on the outside looking in) — which shows just how fractally circular the omniverse really is! Instead of wave collapse what's really going on is that all causes and all effects are actually occurring simultaneously— which is why quantum effects seem so weird, since macroscopic reality (or our perception of it) is just an averaging out of everything (and I mean that literally) that occurs at the quantum level. Where fractal hierarchy comes in is when we consider the fact that what is quantum to us is macroscopic to a lower order megaverse which is nested within ours and what we consider macroscopic is quantum

to a higher level megaverse in which ours is nested. What causes parallel timeverse formation? Spontaneous symmetry breaking! While we could only see the current state of the CMB on our holographic boundary, on the outside they would see it completely—past, present and future all rolled into one at the holographic boundary. Of course this would also apply if we were viewing a universe outside of our parallel multiverse— like inside a supermassive black hole or one created in a lab supercollider, for instance. Heisenberg's Uncertainty Principle will break down at this level (as experiments are already starting to indicate) as a more fundamental structure (higher order quantum function) takes over. As I've already explained in Origin 1, I view single stellar black holes as portals to the different compartments of our parallel multiverse (mini black holes would connect intrauniverse), while I feel that supermassive black holes are the gateways to outside parallel multiverses, or other megaverses (universes with different physical laws, constants and/or dimensions.)

I think one of the great tragedies in modern times is specialization— people concentrating so hard in one area that they don't see how it connects to other disciplines. I look up to polymaths and renaissance people, as I think they "got it" as far as being able to see the connections that underlie all of reality. I think it's all a matter of perspective— the universe exists in many, many layers— we are on the inside in some, on the outside in others— and this results in vastly different perceptions of how reality works. The reason we don't see the changes happening when we are on the outside is because (I believe) different dimensional perspectives— different dimensions of space and time. And when we're on the inside we lack the wholistic, overall perspective of what causes our environment to be the way it is. Thus the differences between quantum mechanics and relativity and the nonlocality problems we face when changing perspectives. However, true unity will mean that all dimensions are reflections of a small basic set of dimensions— and our 3 dimensions of space and 1 of time wont prove to be any more fundamental than the proton and neutron are (which are made of three quarks each.)

Its just been shown that solar flares and cycles actually influence the half lives of radioactive isotopes. It's funny that we seek to find the theory that unifies everything; perhaps unification already exists around us, but we just keep missing it.

I outlined a thought that life is a reflection of one of the basic properties of our universe. I meant to also add that I believe consciousness goes part and parcel with that— because consciousness can be explained on the quantum level also. Everything is interlinked in a harmonious way to create the wondrously complex and intricate reality all around us and yet the basis for it is marvelously simple and elegant. The Sloan Digital Sky Survey has shown that our universe has a fractal hierarchy to it, and I believe that fractal nature exists on every level— it shows how simple elegance can be arranged to create apparent complexity and variety when influenced by various forces and fields.

Not only that, but natural selection has been proven to exist on the quantum level also..... and bubble theories of the universe state that natural selection may be how

certain bubbles with particular sets of physical laws and constants expand while others do not.

DNA not only forms its linkages through the electromagnetic force— but it's also been shown that quantum interactions such as tunneling and superposition create its properties also. Quantum mechanics has also been linked to such biochemical processes as photosynthesis and neurological processes such as how birds navigate during migration.

I don't think you can just separate and box up the different forces — they're all interrelated and function as a whole. You can see the connections when you analyze the whole system and don't separate it into "chemical" "biological" "physical" or by what forces they interact with "weak" "strong" "EM" "gravity"!

We'll never have the entire puzzle figured out, but we'll be able to add more and more pieces so that we get a better idea of the whole picture. Of course the more pieces we add, the more we'll realize the picture is larger than what we originally thought (has more layers to it) – which will keep us from ever solving it entirely, but will add to the fun of the whole process. After all, if you figure something out completely (if that were even possible) then it loses its purpose and meaning....

I find this really intriguing and the precise values and relative strengths of all the forces being within a strictly defined range is what makes our universe what it is. Even a small deviation would have resulted in something completely different— a universe in which life might not be possible at all. As a matter of fact, what we call constants might have varied from one end of the universe to the other and even changed with time. This is why I like the bubble universe idea, because if you're not a fan of fine tuning or intelligent design, the existence of a multitude of universes with their own physical laws as per Tegmark, is the way to go. This is where natural selection also comes in, like at the quantum level, deciding which outcomes would result in a "big bang" universe and which would result in a "big poof" that would be just a virtual particle disappearing back into the sea of exotic matter.

Also, unification of forces that already exists in nature, such as electroweak stars or possibly, black holes, provide us keys as to what the universe was like in its extreme infancy, when the forces had not yet precipitated out of their "solution." As a matter of fact, unification may be much closer than we think as I recently read a research article that explains superconductivity using the same physics as is used to explain black holes. This might even result in the first \*gasp\* tangible victory for string theory.

The inspiration for Origin 6

Nikodem Poplawski's Cosmology with Torsion  
[arxiv.org/abs/1007.0587](https://arxiv.org/abs/1007.0587)

## Baby Universe Creation by Black Holes confirmed theoretically Why Our Universe Must Have Been Born Inside a Black Hole

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A small change to the theory of gravity implies that our universe inherited its arrow of time from the black hole in which it was born.

“Accordingly, our own Universe may be the interior of a black hole existing in another universe.” So concludes Nikodem Poplawski at Indiana University in a remarkable paper about the nature of space and the origin of time.

The idea that new universes can be created inside black holes and that our own may have originated in this way has been the raw fodder of science fiction for many years. But a proper scientific derivation of the notion has never emerged.

Today Poplawski provides such a derivation. He says the idea that black holes are the cosmic mothers of new universes is a natural consequence of a simple new assumption about the nature of spacetime.

Poplawski points out that the standard derivation of general relativity takes no account of the intrinsic momentum of spin half particles. However there is another version of the theory, called the Einstein-Cartan-Kibble-Sciama theory of gravity, which does.