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The Einstein Field Equations

part 3

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In part 2, we found that Einstein's proof of the field equations had already collapsed by subsection 5. Since time and distance must be in inverse proportion in the field at all times, his initial metric contradicts both the metric of Special Relativity and the current transforms containing *gamma*. The initial metric of GR contradicts SR because in SR it is light moving in S and S' that creates the transforms. In the proof of SR, light moves by the equation x = ct, so that the variable t is the time it takes light to go x. Because it is explicitly assigned to light, that variable t cannot be the 4^{th} vector in any tensor. In the 4-vector metric of Minkowski and Einstein, the time term is attached to the coordinate system itself. It is part of the underlying and defining grid, and does *not* belong to light alone. The initial metric of GR contradicts *gamma*, because although the time and distance transforms using *gamma* are inverse, time and distance in the 4-vector are *not* inverse. These contradictions doom Einstein's proof from the very beginning.

I ended my last paper at subsection 5, but we are now going to skip ahead to subsection 13. The intervening sections are all lessons in tensor manipulation, and we must assume they are there mainly as misdirection. We would expect a proof to start with a defining of variables and fields, but Einstein turns this logic on its head. He starts his proof with 12 subsections and 31 pages of undefined math, before he gets to a subsection entitled "Theory of the Gravitational Field." That is to say, the reader is dunked in a deep pool of new, fluffy math for dozens of pages, before Einstein even thinks of telling him what is going on. This is now the default method of physics. It worked so well for Einstein, most physicists now write this way. Feynman was the master of this sort of misdirection, and he made sure to give you an extended baptism in undefined math at the beginning of every lecture or proof. After ten or twenty pages underwater, the reader or listener was in no position to argue anything, and this is just as Feynman and the new physicists want it.

At any rate, I have already shown that the 4-vector equation should be equal to either 0 or 1, depending on whether we are following the explicit assignments in Einstein's SR proofs, or whether we are following the mysticism of Minkowski, to manufacture a symmetrical field. Equation 10 from the appendix 1 to *Relativity* is

$$r = ct = \sqrt{(x^2 + y^2 + z^2)}$$

Which leads to

$$x^2 + y^2 + z^2 - c^2t^2 = 0$$

All Einstein is doing at the beginning of his GR proof is taking that 4-vector down to a limit or infinitesimal, using the d-notation.

$ds^2 = -dx^2 - dy^2 - dz^2 + c^2dt^2$

Already you can see that s should be equal to 0.

Or, if we follow Minkowski [p. 77, Dover edition], we let that equation equal 1:

$1 = -x^2 - y^2 - z^2 + c^2t^2$

In that case, s = 1.

I will be told that Minkowski's equation doesn't have the d's, so it isn't at the limit, but that just doubles my argument. You can't take either the number 1 or the number 0 to a limit, so ds is not only undefined, it is meaningless. Einstein has assigned a variable or infinitesimal to the limit of 0 or 1. In both cases, the equation is simply bombast.

We can see this by looking at equation 46, subsection 13, p. 143 Dover edition.

$d^2x_\tau/ds^2 = \Gamma^\tau_{\mu\nu}(dx_\mu/ds)(dx_\nu/ds)$

That is supposed to be the equation of motion of a point with respect to K_1, but of course if ds equals either 0 or 1, that equation is destroyed. In that equation, ds needs to be an infinitesimal, not some manufactured limit of the number 0 or 1.

You see, what Einstein and his tensor calculus experts are trying to do here is develop an equation for acceleration. The above equation can be boiled down to

a = vv

They are trying to integrate two velocities into an acceleration. The term $\Gamma^\tau_{\mu\nu}$ is then just the curvature of the field in that area. Therefore, they have been pushing all their tensors toward this. However, because they never understood how SR was affecting Newton's field, they have made a hash of the proof.

Since Newton's field was already based on an acceleration, the mathematical field of gravitation was already curved even before Einstein came along with his Relativity. Every acceleration is already a curve on a *Cartesian* space. Even if you accelerate your car in a straight line, if you import that motion into any graph or mathematical space, it will become a curve. Now, if you add time differentials to that, you have added another motion (of light), which is like adding another velocity. That velocity in your curved Newtonian space is also curved, so you have two curves stacked in the math. That is still not understood.

But none of these motions can be represented by ds, or as functions of ds, since ds is a phantom. Einstein defined ds as a line element along a diagonal, and neither light nor anything else moves *with a velocity* along a diagonal in any field. All velocities are along orthogonal vectors, that is x,y,z. Any diagonal is already an acceleration in a 3 or 4-vector field. Therefore, *even if* Einstein had been able to legally assign ds to that diagonal, his subsequent equations would still be false because ds would then be an acceleration. If ds is already an acceleration, you don't need to turn it into one by tensor calculus tricks.

So, even if ds were not 0 or 1, by previous assignment, it could not be written into equation 46 as it was. You cannot put an acceleration in the denominator of any of these ratios. It would be circular to do so, and equation 46 is either circular or it is nothing. At best, it is circular. At worst, it is bombast.

You don't need tensors to express the motion of a point in a curved field K_1. You just need to integrate all the possible motions, while doing a time differential. That is what Einstein is trying to do here, without success. We start with what Newton called the body's "innate motion." If we can flatten out the field from the beginning, that innate motion can be uncurved. In that case, the motion would just be a velocity, in the form x/t or, if you like, dx/dt. The accelerations from large bodies can then be integrated into the field by just reversing their vectors. This brings them into the equations without curving the field. All curvature is then expressed by their own expansions, not by curvature in the field. This manipulation can be just mathematical if you like, and the accelerations can be turned back in later if that is desired.

Since the gravitational vector at any point in the field is just the sum of the accelerations from all surrounding bodies, the total will also be an acceleration. We then just do a vector integration of that velocity and that acceleration, giving us a higher order or cubed acceleration. That is, *three* velocities integrated over the same differential, giving us a motion of the form x/t^3. As I have shown in previous papers, every orbit can and should be expressed not as an orbital velocity, but as an orbital cubed acceleration, of the form x/t^3.

This means that equation 46 needs to be in the form

a = vvv

where we are integrating three velocities. In a way, the equation *is* in that form, since the tensor Γ can stand for the third velocity. But we still have many problems, since the velocities cannot be functions of ds. They have to be functions of time. The innate motion of our object should be written as dx_1/dt, if anything. And then the other two velocities are both caused by the large objects in the field. That would be d^2x_2/dt. So we get

$$d^3x_3/dt = (d^2x_2/dt)\,(dx_1/dt)$$

Where our multiplication implies an integration over the same dt, and where d^3x_3/dt expresses the vector integration of those three velocities.

I have already shown how to do that calculation in real problems in my paper correcting the equation $v = v_0 + at$. I show how to integrate three velocities with simple field math. I solved the muon muddle that way, and that is all we have to do here as well.

Yes, we could also use tensors, if we did it right, but Einstein isn't doing it right. He has two velocities before the tensor, and then tries to add curvature with the tensor. He says that "If the $\Gamma^\tau_{\mu\nu}$ vanish, then the point moves uniformly in a straight line." Not according to his own definitions, it doesn't. If you go back to p. 120, you will find he has his point moving in a curve as soon as it hits the matrix. And we should have known this regardless, straight from the form of equation 46. If we let $\Gamma^\tau_{\mu\nu}$ vanish, we still have,

$d^2x_\tau/ds^2 = (dx_\mu/ds)(dx_\nu/ds)$

Since both terms on the right can be read as velocities, given Einstein's assignments and definitions, the right side is already an acceleration. As I reminded you, any acceleration is already a curve. This is proved by the left side, which is explicitly written as an acceleration. That is a curve. And once Einstein puts $\Gamma^\tau_{\mu\nu}$ back in, the left side must be something other than a simple acceleration. Three terms multiplied on the right side can't give him a d^2 on the left side. As I said, he must have a d^3 over there.

So you see, the princes of tensors like Minkowski and Hilbert didn't even understand enough about kinematics to be able to get these equations right. Einstein then imported the whole mess on a recommendation, but he wasn't qualified to critique it either. He was even worse at math than Hilbert and Klein and Minkowski, so he simply trusted them and did a copyjob on their derivations.

I know that many readers will cough and spit when I accuse Hilbert and Minkowski and others of being bad mathematicians, but they were. Although they we pretty good at juggling coefficients and selling equations to the physics department, they were actually rotten at defining their variables and terms and applying them in a consistent manner—obeying all the rules of physics. As we have seen, applied math just confused them, and they weren't even clear on how to apply dimensions to real spaces. That is why this proof of Einstein's field equations is such a terrible mess. It nothing but a series of ham-handed pushes. The worst mistake Einstein ever made was letting his equations be cast into tensors. His proof of Special Relativity was already too dense by far, and riddled with basic errors. The last thing he needed to do was bury all that under a pile of undefined coefficients and sloppy manipulations.

I will be told that I can't be right, since the field equations have been confirmed over and over in the real world. No they haven't. That is all propaganda. I have shown in great detail that the major problems claimed to be solved by these field equations haven't been solved at all. And that isn't just the Pioneer anomaly, the Saturn anomaly, and other admitted anomalies. Even the problems claimed to be solved haven't been solved. Take the perihelion of Mercury. I have shown that the current solution is off by 4%. The given numbers still don't resolve, and they don't tell you that. They hide it. In that paper, I am able to solve the problem in a few lines of Euclidean algebra. I use time differentials in a gravitational field, so it might be said I am still doing General Relativity. But I don't use the tensor calculus. I don't use it for two reasons: 1) it is full of fundamental errors, as I have shown, so it is easier to use my corrected algebra in a flat field than to try to correct all the equations of the tensor calculus, 2) it is too hard to use, regardless. Even in perfect form, it is way too bulky. A large percentage of it is unnecessary. As presented by Einstein and his mentors, it is simply a lot of jargon and number juggling, create to impress insiders and confuse outsiders. This is been proved on a daily basis, since no one has ever learned to use it. Those who try only end up mucking up their solutions, getting lost along the way.

I will be told that people like Feynman were masters of the Hamiltonians and tensors and so on, but they weren't. Yes, they could fill blackboards with mystical figures, but they couldn't solve real problems. If they could, I wouldn't have had to solve them myself. Not only did they fail to solve the perihelion of Mercury, they failed to solve the muon problem. They used field equations to explain why muons reach the Earth from high altitudes, but they got it wrong by huge margins. As I have shown, they don't even know how to integrate a velocity with an acceleration. They try to solve with Special Relativity, when the solution requires General Relativity. But because they can't figure out how to integrate the acceleration with the velocity when all motion is in a straight line, they basically give up and fudge an answer.

The same can be said of the Explorer anomalies in the late 1950's. Einstein's field equations had existed in the same form for 42 years—since 1916—so they should have been able to solve a simple problem like creating an orbit or hitting the Moon with a satellite. Instead, the rockets missed their targets by at least 19%. Feynman was around in 1958 to help them with this, but he couldn't have done it if they asked him. He never discovered the problems I have discovered. No one has. Yes, we hit the Moon eventually, but that was by pushing the equations, not by correcting them. The engineers solved that one, not the theorists. General Relativity is still the same mess it has always been. No, it is even worse now that it was in 1916, since all the pushes to the cosmological constant have further confused a field that was already monumentally confused.

For another example of how the field math has failed, we can look at the Pound-Rebka experiment, which I have shown is wrongly explained to this day. Again, they apply the transforms in incomplete and faulty ways, including writing them upside down. And Feynman actually worked on this one, mirroring the current solution in his books. Which is to say it is another one he failed to solve. His proof is full of basic errors.

The truth is, they don't know how to use this tensor calculus they have embraced. Sometimes they can push the equations toward known data, since the math is infinitely pushable. But even then, if you check their equations, you always find they have either hidden data or used bold cheats in the math—usually both.

One of the basic problems of Einstein field equations is that because they are written in terms of metric and stress tensors instead of forces, the equations don't properly represent all the field transforms that are necessary. So, ironically, this huge math is actually incomplete. It does a lot of things it doesn't need to to, and then neglects to do one of the few things it *must* do. I first showed in my paper on Mercury's perihelion that even after we have the proper "metric" set, we have to do a proper transform. To do that, we have to transform time, distance, and mass, *all at the same time*. Einstein's field equations never actually get around to doing that.

Since the field is accelerations acting upon masses, we need to start with the force equation F=ma. Then we just do a dimensional analysis. A Newton is defined as a kilogram meter/second^2. So we have to transform kilograms, meters, and seconds, to fit that equation. What will skew the problem is that the meter and the kilogram and the second don't transform in the same way. The meter and the second do, since they are basically measuring the same thing, but the kilogram and the meter don't. Since real objects in these problems are spherical, we must monitor not just a length in the metric, as with the meter; with mass, we must monitor *volume*. By this equation

$$D = M/V$$

You can see that if we keep the field density constant, and we are monitoring mass changes due to time differentials, was also have to monitor volume. Volume doesn't change as a function of the radius, it changes as a function of the radius *cubed*. Because of this, I found a mass change to Mercury in the perihelion problem of 1.57x, when we found a radius change of only 1.04x. If we put those numbers into the force equation, we get

$$N = (1.57)(1.04)/(1.04)^2 = 1.51$$

So, the mass of Mercury increases by a factor of 1.57, but the field force increases by a factor of 1.51.

Therefore the total transform must decrease by about 4%. This correction to General Relativity gives us a 4% decrease in the perturbation, and therefore in the solution.

The 1983 experiments of Bonse and Wroblewski also prove this, since they not only show a 4% failure of the Einstein field equations in real data, they also confirm my number for the failure. That is, they confirm my math above. Just as with the Saturn anomaly, we have a 4% failure.

All the various tensor manipulations don't include this fact, which is why we have Pioneer anomalies, Saturn anomalies, and all the rest. I have shown that this one fix solves the Saturn anomaly. The Saturn anomaly happens to be an error of 4%. It likely solves the Pioneer anomaly as well, although I haven't been given the data for that.

In part 4, I will continue to pull apart the tensor equations, showing where they fail.