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Gauss' Law

as a Unified Field Equation

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In a series of recent papers, I have proved that Maxwell's equations are unified field equations. I ended that series by showing the shortest form of the unified field equation

$E = C/g$

Those who understood me knew that is just another way to write Gauss' Law

$\Phi_E = Q/\varepsilon_0$

My C equals the current Q, since both stand for charge. And I showed in those previous papers that ε_0 is actually gravity at the quantum level. But I wanted to write this paper to make that connection explicit, as well as to expand on what this unification means for Gauss' Law.

I ended my last paper by saying that the ratio of C to g showed the unification of the two fields—gravity and charge—but some will have found that statement to be esoteric or mystical. Exactly *how* does the ratio show the unification?

Well, to start with, we can see mathematical proof of my claim that the E/M field is unified. As far as

the Electrical field E goes, the equation is blistering clear and simple: $E = C/g$. E is the ratio of two fields, C and g. One way to unify two variables is to put them in a ratio. Two variables: one term: hence, unification. Two become one: that is what "unify" means.

I had been stating for years that the E/M field was unified. I showed that Coulomb's equation is a unified field equation, and since Coulomb's equation is an E/M field equation, the E/M field must be unified. The E/M field contains gravity, so the field must be unified. Some may have thought I meant E/M was unified with gravity, and my early papers don't always clearly differentiate the E/M field and the charge field. Which is another reason I am writing this. I wish to make it crystal clear what I am intending. My papers have been hammering home this difference between charge and electricity for several years, but I find some readers still aren't getting it. The gravity field is unified with the *charge field*. In Coulomb's equation, this gives us the E/M field, which is then a compound field containing both gravity and charge. In Newton's equation, this gives us the celestial field, which is then a compound of gravity and charge, normally at a larger level of size.

[There is also some confusion here, with Newton's equation. Because Newton's equation has always been assigned to the gravity field, I continued that assignment. I simply made it so the old gravity field was now composed of my *solo* gravity field plus charge. But to get beyond the confusion, we should probably stop calling the unified field at the macro-level "gravity." Since gravity proper is just one part of the unified field, I shouldn't continue to call the unified field itself "gravity." I should try to always call it the unified field, or the celestial field, or something like that.]

But back to the E/M field. I have shown that the E/M field is a unification of gravity and charge, and I have now translated Gauss' equation as that unified field equation. That was simple enough, because all I had to do was show that the variable we now assign to permittivity or the electric constant, ε_0, is really gravity at the quantum level. It is mainly the gravity of the proton.

But some will still have questions. The most sensible question would be this one, "If the Electrical field E is unified, and includes both charge and gravity, why is this unification represented by a ratio? Why not a product? Why not $\Phi_E = Q\varepsilon_0$? Wouldn't a product be the more natural expression of unification?"

Well, if the mechanics were other than they are, that might be so. If, for instance, the two fields were stacked, with one field existing right on top of the other, then we would expect a product. But that is not the mechanics we have. As it happens—and as we can see by simply studying the real interactions—the fields are *not* stacked. We do not have charge existing on top of gravity. We do not have a situation that would logically call for integration or multiplication of fields. What we have physically is a charge field that is operating *inside of* the gravity field. We do "integrate" the charge field into the gravity field, by one meaning of the word "integrate." We put it in there, which is one meaning of integrate. So some would jump to the conclusion that we should "integrate" with our math as well. To integrate would imply multiplication, not division. The reason we don't is because charge is determined by the real motion of real photons, and like everything else, these photons are moving *inside* the gravity field.

The cleverest readers will say, "That still isn't enough to decide the question. Inserting one field into another could either give us a product or a ratio. Just because the photons are moving inside the gravity field doesn't automatically give us a ratio." True. We need to look even closer. We need to look at HOW the photons are moving in the gravity field. In almost all situations, the photons will be moving as a summed vector *against* the gravity field vector. In both Newton's equation and Coulomb's

equation (and in the Lagrangian and Maxwell's equation) charge is moving as a vector against the gravity vector. So, depending on the form of our math, this should either give us a differential (subtraction) or a ratio. If we are calculating single events, or single positions of individual objects, we will often use subtraction, as I have in many of my papers. If we are combining entire fields to get a flux or something like that, we will use a ratio, as here.

So why does the charge vector normally sum opposite to the gravity vector? I have explained this several times before, but I will explain it here again. Photons are actually recycled through matter. They are recycled through the bodies of protons, neutrons, electrons, mesons, and so on. In this recycling, they must go both in and out, so at various times in the cycle they are moving both in and out. This would mean they are moving both with and against gravity, depending on where you measure them. Gravity always points in toward the center of any real object, and if photons are being recycled, they are moving both in and out. But in almost all cases, what we call charge is the photons going out, not the photons going in. Why? Because the greatest *results* of charge normally happen near the nucleus or proton. Matter tends to take a chaotic and undirectionalized ambient charge field and focus it.

To see how this works, it is easier to look at the Sun. The Sun focuses the charge field just like smaller bodies, but it is easier for most people to visual the Sun doing things than to visualize protons doing things. If you take a sphere like the Sun, you will find it spinning in one direction only. It is possible that it is made up of smaller bodies spinning randomly, but as a whole it can have only one spin. Or, its outer surface can have only one spin. The outer surface cannot spin x and -x at the same time. Nor can it spin x and y at the same time. If the body is any sort of solid, it has one and only one main spin on its outer surface. This is what we find with the Sun and galaxy and Earth and so on. It is both logical and it is all data. The Sun is spinning to the left, but it is not also spinning to the right. Therefore, if it recycles charge using this spin, it must tend to focus or directionalize that charge. Say that charge is coming into the Sun from the galaxy from all directions. The ambient field is more or less random. But if the spin of the Sun causes it to pull in photons at the poles and emit more at the equator—as I have shown—then the emitted charge field of the Sun will be more ordered than the ambient field. And again, this is what we see. The emitted charge field of the Sun is emitted most heavily in a disk, which travels out in the Solar plane. It is this plane where the planets exist.

Well, protons and nuclei work the same way. They give more order to a less ordered charge field. The charge emitted from the nucleus is both more focused and more ordered than the charge coming in. Because it is more focused and more ordered, it has more power to cause things to happen. A disordered charge field cannot drive ions, because the ions are hit from all directions. They don't move. But an ordered charge field causes motion. The ions are hit from one direction instead of many, and they move. The movement of ions is what we call the E/M field.

For this reason, the charge coming out of the nucleus is more important than the charge going in. It is the charge going out that defines the E/M field, so it this charge that we are normally concerned with in our equations. Since this charge is going out, and gravity is pointing in, the two fields will normally be in vector opposition.

That said, I warn that we must always be aware of the mechanics, because I have already shown that even this rule is broken. We have to follow our photons like wind or a vector potential, since in a few special and limited cases charge and gravity will not be moving in opposite directions. If we are near the proton pole or nuclear pole, we may be monitoring photons going in. If we are inside the nucleus studying some phenomenon, we may be monitoring photons going in. In that case, the vectors may

add. This will also be the case in some situations near the Earth's pole, the Sun's pole, or the galactic pole, and you have seen me add field vectors in previous papers. There is no blanket rule of math, there is only mechanics, and you must be aware of the actual mechanics in each problem, and in each line of each problem.

To read more on this, you may now consult part two of this paper, where I show you how to go from Gauss' Electrical Law to Gauss' Gravity Law in about four lines of simple math, by making one simple substitution. This *unifies* gravity and E/M in the most direct manner possible.