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THE COMPTON WAVELENGTH as evidence of THE PHOTON WAVEFUNCTION

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I was re-reading my paper from several years ago [on the Compton Scattering equations](#), and I suddenly realized that the current definition of the Compton Wavelength is a veiled confirmation of a more recent discovery of mine. In the past couple of years I have published [several papers](#) showing that the wavefunction itself should have originally been assigned to the photon instead of the electron. Of course this revolutionizes quantum mechanics from the ground up, not only the particle physics but the field physics. Although [I have shown convincing evidence](#) of this from many sources in both the math and the experiments, and have used this discovery to correct fundamental and longstanding errors in the quantum equations—[going all the way back to Maxwell](#)—most mainstream physicists have so far ignored me, preferring their familiar messes. Although this is understandable as a matter of human nature, it is unfortunate. None of the current theoretical problems in physics will be solved until the charge field is recognized as the fundamental field of E/M, and the equal partner of gravity in the unified field.

The Compton Wavelength is defined as “the wavelength of a photon whose energy is the same as the resting energy of the particle.” This is both curious and confusing, since “the particle” is normally the electron. It is the electron that is given a Compton Wavelength. Compton himself gave the wavelength to the electron, in order to explain photon scattering. And in Schrödinger's equations, the Compton Wavelength is also implicitly assigned to the electron, as Wikipedia admits to this day:

The following is the traditional representation of Schrödinger's equation for an electron in a hydrogen-like atom:

$$i\hbar \frac{\partial}{\partial t} \psi = -\frac{\hbar^2}{2m} \nabla^2 \psi - \frac{1}{4\pi\epsilon_0} \frac{Ze^2}{r} \psi$$

Dividing through by \hbar , and rewriting in terms of the fine structure constant, one obtains:

$$\frac{i}{c} \frac{\partial}{\partial t} \psi = -\frac{1}{2} \left(\frac{\hbar}{mc} \right) \nabla^2 \psi - \frac{\alpha Z}{r} \psi$$

The term (\hbar/mc) is then the reduced Compton Wavelength. In that equation, both the wavelength and the wavefunction are given to the electron. We are told that explicitly: that is “Schrödinger's equation

for an electron.” But if we return to the definition of the Compton Wavelength, we remember that it is the “wavelength of a photon.”

I recommend you take a beat and let that sink in properly.

The Compton wavelength can't belong to the electron, because the electron in experiment isn't at rest. But if the wavelength in Schrödinger's equation belongs to the photon, then the wavefunction must as well. Say to yourself outloud, *wavelength, wavefunction. Wavelength, wavefunction.* The wavefunction is a *function* of the wavelength. That's why they call it a *wavefunction*. That is why they are both in same defining equation, with one being written in terms of the other.

Once you have reminded yourself of that, remind yourself what a function is, in math. It is a matter of dependent variables. The wavefunction is dependent on the wavelength. Therefore, if the wavelength is “the wavelength of a photon,” and if the wavefunction is dependent on that wavelength, **then the wavefunction applies to the photon.**

That's right, it is the photon that is quantized in the quantum equations, not the electron. The electron is only responding to a quantized field of photons, and so it seems to be quantized as well. But in the actual equations, both the wavefunction and the quantization applies to the photon. The underlying quantized field is the photon field, which I have shown is simply the charge field.

I provided perfect proof of this in [my third paper on Bohr's equations](#), where I showed that Bohr had conflated the momentum of the electron and the momentum of the photon. He begins by assigning p to the electron and Δp to the “emitted” photon. But halfway through the derivation, he makes a mistake (or purposely fudges—hard to say). Although he finds a value for Δp , he assigns it to the electron instead of the photon. So his assignments at the end of his proof don't match the assignments at the beginning. No one has ever spotted this monumental error, which is why the wavefunction is given to the electron to this day. Schrödinger borrowed Bohr's math and assumptions, but didn't spot this error, and the problem has been buried for 90 years.

More recently, I showed how this also helped to bury the reality of the charge field, which is a field of real photons. Beneath Maxwell's electromagnetic field equations is a field [he called the displacement field](#). He saw that it was necessary to the correct working of his equations, but he never understood what it was. He never assigned it to a real field of particles. He also never connected it to charge. But I have shown Maxwell's displacement field is my charge field. It is also the photon field in Schrödinger's equations. It is the field of the wavefunction. But since Maxwell buried it by failing to assign it, and since Bohr re-buried it by falsely assigning it to electrons, all this has remained unknown until now.

For almost a century, physicists have been assigning motions and interactions to the electron, when in fact the electron is only a field result. The electron *causes* nothing, and it only acts as a sort of buoy in the photon field, signaling to us the photon density at that point. Although Schrödinger saw this darkly, later assigning the wavefunction to charge density, his assignment has mostly been ignored. The wavefunction is currently defined as a probability amplitude, and that probability is again a probability that belongs to an electron. Born interpreted the wavefunction as the probability of finding an electron at a given place, and that interpretation has been the accepted one since then. This interpretation re-buried the photon field a third time, keeping future physicists from seeing that the wavefunction must apply to the photon.

To say it again, Schrödinger himself assigned the wavefunction in his own equation to charge density, which we now see is basically correct. But that being so, the wavelengths, momenta, and quantization in the equation also have to apply to charge and the charge field. The electron is not a charge entity. We have long *known* that the electron is not the mediating particle of charge. How could it be, *when it is charged?* A particle cannot charge itself. If Schrödinger's equation is a charge density equation, and if the variable Δp is given to the photon in the equations leading up to it (as it was by Bohr), then the photon must become the mediating particle of the charge field. The quantum equations have always applied to the photon, not to the electron.

Of course this discovery must have many profound implications, but one of the most profound is the assignment of energy levels in the atom. I have shown in related but independent findings that atomic bonding is a function not of electron bonding, but of charge field bonding. I say this finding is independent because I did not discover charge bonding by following the wavefunction. I didn't first discover that the wavefunction applied to the photon and then propose that bonding theory had to be given to the photon. I could have, but in fact I didn't. Rather, I first proved that [electron bonding had to be false](#) because it contradicted its own field definitions. I then connected that to [my disproof of the strong force](#), which followed the same logic. I knew the strong force must be false, because it contradicted itself. It was a field inside-out to its own field definitions, so it simply couldn't be true. The reversed fluxes were not physical or mechanical, which is what caused later [fudging like asymptotic freedom](#) and all the rest. Having these two things in hand, and knowing the necessary reality of the charge field, I then took a close look at the Periodic Table. I could immediately see that charge channeling was the logical answer to the problem, since given directionalized charge densities, it was easy to show how and why elements would bond. I could see that [the nucleus must be channeling charge](#), creating these field potentials. And since I had already defined charge as real photons, it was also easy to connect all this back to the wavefunction when I finished. As you now see, I was able to complete the circle, showing that the wavefunction had always applied to these real photons in the Bohr equations. The wavefunction was never tracking p , as it applied to the electron. The wavefunction was always tracking Δp , as it applied to a real photon in the real charge field. Quantum mechanics is the mechanics of the photon field, not the electron field. Quantum mechanics applies to Maxwell's displacement field, not his E/M field. And when we apply quantum mechanics to atomic bonding, it is not electron orbitals that explain bonding, it is the charge channels.

In conclusion, I must say again that this decades-old failure of fundamental theory is due in large part to [the Copenhagen Interpretation](#), which convinced physicists that quantum mechanics had achieved a final form by the late 1920's. This successful propaganda prevented serious work on the foundations of quantum theory for the rest of the 20th century, and has caused all the current meltdowns. Because physicists were forbidden from questioning the central math and theory of Bohr, Heisenberg, and all the rest, they were forced to jerry-rig the equations with a century of embarrassing tack-ons. These tack-ons required further tack-ons, and the game has now spun-out into a mess the likes of which the world has never seen.

This successful propaganda also helped prevent unification, and led directly to the vacuum catastrophe, the dark matter tragedy, the black hole meltdown, and the cosmological constant implosion. Even worse, it has led to the self-destruction of physics, whereby all rigor and sense have been replaced by bluster and fudge. Mechanics has been jettisoned from physics and replaced by computer model pushing. In this self-destruction, physics has taken math down with it, and the math department has followed the physics department in ignoring and slandering all the old rules.

I can't really finish here without paraphrasing one of my readers, who wondered how I could be any

clearer or more convincing. He asked me how the mainstream physicists lurking in the forums could read papers like this and still dismiss me with a sneer. He quoted one who said I “had a tenuous understanding of the wavefunction.” We had to laugh, because we could both see that as the pathetic dodge it is. Although I have actually [rewritten and expanded the wavefunction](#) to conform to real data, that fact is ignored, and these physicists don't feel required to respond to my new equations. They skim a couple of pages in one isolated paper, refuse to take any of the embedded links*, and then go back to their forums and claim I have only written a couple of pages. Apparently they can't comprehend the counter at the bottom of my homepage, which now reads 2,700 pages (and which doesn't even include the 40 papers from the past six months).

Because I don't *accept* the current definitions of the wavefunction (which, remember, I have shown are monumentally flawed, in line-by-line analysis of the original proofs), I must not *understand* them. In the mind of a contemporary physicist, to read them is to accept them, because they are perfect, self-evident, final, and all the other adjectives applied by Bohr to his own theory. One cannot question them, because they are beyond questioning. The very fact that I question them is all the proof the contemporary physicist needs that I don't understand them. For this reason, these physicists aren't required to actually read my papers; and from their comments, we can see that they don't. They rely on what they have been told by other people who have also not read them, who confirm that I have a tenuous understanding of physics because I don't agree with them about everything. I don't confirm everything they have been taught, so I must be wrong. Why bother to respond to my line-by-line disproofs when you can just spit on the ground and call me a crank?

But even this attitude can be traced back to the Copenhagen Interpretation. The current ingrained disrespect for mechanics came from the CI, which confirmed that quantum mechanics was not mechanical, didn't obey any of the old rules, but was thereby *superior*. Therefore, all future physics would follow that pattern. Future theorists that wished their theories to become as famous as QM and QED would have to be as flagrantly non-mechanical—which is where string theory came from. But as soon as physics dislodged itself from mechanics, it found it was also dislodged from logic and rigor. And once a field is dislodged from logic and rigor, those in it are also dislodged from having to make sense in argument or debate. They don't see it as necessary to respond intelligently to obvious disproofs, mathematical or evidentiary, because their physics is no longer based on either one. A physics like quantum mechanics that is “self-evident” is above any disproof. With quantum mechanics, the data is not a test of the theory, the theory is a test of the data. Any data that conflicts with theory is either ignored, buried, or spun. There *can be* no conflicting data, because the theory is self-evident. If there is a conflict, it must be in the interpretation, and the interpretation is then simply tweaked to fit both the theory and the upside-down data. Since physics and math are no longer burdened by logical or mechanical rules, such a fitting is easy.

In such a milieu, any correction to mainstream theory is impossible, as is any sensible critique or debate. Academic physicists have been brought up in an atmosphere heavy with nonsense, illogic, and mysticism, so expecting any meaningful response from them is like expecting to find apples under a cactus tree. This is why I long ago decided to drive around them. I don't submit anything to their journals, I don't waste time in their forums, and I don't ask for or expect their approval. I have zero respect for them, so why would I even include them on my tour bus? Although I occasionally swerve to hit them, I have found even that to be a waste of gas and tire tread, and the most enjoyable thing is just to let my passengers moon them out the window at full speed, as they stand gasping on the side of the road.

*One of my readers suggested that maybe some of those who come to my site think my embedded links are like embedded links at Wikipedia, and are just general info links. They honestly don't understand that when I link text, I am sending them to other papers that contain proofs of claims in this paper. Modern readers are not used to reading well researched new theory from anyone, much less on a broad range of interlinking topics, and they truly cannot comprehend my network of revolutionary proofs and disproofs.

Maybe. Although I think most trained physicists are smart enough to take embedded links, I will provide an old-fashioned bibliography at the end of this paper, just to show a partial list of the papers that stand behind this paper:

Mathis, Miles. [*Rewriting the Schrödinger Equation*](#). 2012. 11pp. pdf. I show the specific mathematical mistakes in the historical derivation of the equation, then correct them, proving that both the equation and the wavefunction belong to the photon, not the electron.

Mathis, Miles. [*On Quantum Nonlocality*](#). 2013. 5pp. pdf. I show how to expand the historical H/V wavefunction equation, proving that the new wavefunction encounters no superposition or entanglement problems.

Mathis, Miles. [*More Problems with Bohr*](#). 2102. 8pp, pdf. I go line-by-line through Bohr's derivation of the Bohr equation, showing his conflation of p and Δp . I then correct the equation, showing that quantization should have been assigned to the photon, not the electron.

Mathis, Miles. [*How the Elements are Built*](#). 2011. 25pp, pdf. I diagram many nuclei, proving charge channeling. This also disproves the strong force and assigns atomic bonding to the charge field, not the electron orbitals.

Mathis, Miles. [*The Copenhagen Interpretation*](#). 2012. 11pp, pdf. I show how and why the Copenhagen Interpretation was the worst thing to ever happen to physics.

Mathis, Miles. [*Compton Scattering*](#). 2010. 10pp, html. I show that the electron radius is determined by the photon radius, and that the charge field underlies all electron motions and energies. I also prove that quantum equations must include real spin, since photon spin mechanics explains the entire field.

Mathis, Miles. [*Electron Bonding is a Myth*](#). 2011. 9pp, pdf. I show how covalent and ionic bonding are pushed to match data, and that they actually contradict their own field definitions. This proves that electron bonding cannot possibly work as we have been taught.

Mathis, Miles. [*Maxwell's Equations are Unified Field Equations*](#). 2013. 2 parts, 15pp, pdf. I show that Maxwell's displacement field is really the charge field, that ϵ_0 is really the gravity of the proton, and that the equations were therefore unified from the start.

Mathis, Miles. [*The Compton Effect, Duality, and the Klein-Nishina Formula*](#). 2010. 14pp, html. I explain the Compton Effect by giving real photons real spin. This creates spin waves rather than field waves or oscillations, and allows me to correct all the equations and field assignments. It also allows me to rewrite the K-N formula in terms of my corrected electron radius instead of the Compton radius.

Mathis, Miles. [*A Disproof of Asymptotic Freedom*](#). 2008. 14pp, html. I show the pushes in the

equations, including the early pushes of Landau and the horrible push in Gross' Nobel lecture. In so doing, I remind my reader that the flux of the strong force is upside down to any real physics, which is what causes the need for the fudges in Asymptotic Freedom.

Since all my papers are linked and cross-referenced, it is very difficult to know where to stop in any bibliography at the end of any given paper. I could list dozens of my own papers that act as proof or confirmation of this paper, since once you have a unified field theory, everything that happens in the field anywhere is linked to all other things. For instance, once I reference my paper on nuclear bonding, I could reference *all* [my papers on nuclear bonding](#), since they all confirm that my charge field theory is correct and that the quantum world is defined by the photon, not the electron. The same could be said of my nonlocality reference. Once I reference that paper, I could and probably should reference all my [superposition](#) and [entanglement papers](#).