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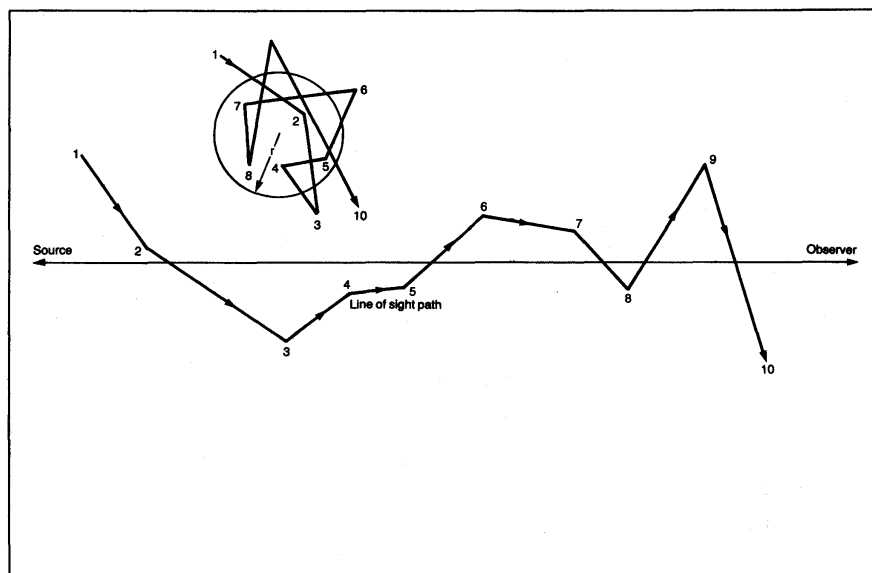
# The THEORY of TIRED LIGHT

*why it is wrong and why it is right*

*by Miles Mathis*

The theory of tired light was first proposed by Fritz Zwicky in 1929 to explain Hubble's redshifts. It was still being defended in print in its original form by Grote Reber in 1989, as we saw in [my last paper \(on Bremsstrahlung\)](#). And it is still being defended in updated forms to this day, by various physicists. What I will show in this paper is that no one to this day has correctly analyzed the mechanism of redshift, which means that no one is in possession of the correct theory.

We will start by analyzing Reber's diagrams from the paper I previously quoted.



That diagram is a bit ridiculous, and I can see why Reber was being ignored on this question. At least Zwicky and Hubble and the rest appeared to see that the so-called Compton solution didn't work, and they moved on (Zwicky) or got quiet (Hubble). Why doesn't that work? For a start, the light isn't even directed at the observer at the end, so it wouldn't be observed. Light can't have any angle to the observer, or it will miss the observer. This immediately destroys the entire theory, such as it is. Beyond that, this light is not being redshifted the whole way, even if we accept the diagram. When it shifts toward the normal, it should blueshift, and when it shifts away, it should redshift. So on some of these jags, it is blueshifted. For example, the very first interaction at point 2 is blue-shifting the light. Number 9 is a redshift, because the light is at a greater angle than the original angle, but most of the others are blue.

But the most absurd thing about this diagram is that it is trying to create wave shifts by varying the linear motion. According to Relativity, that can't work regardless, since no matter what path the photon is taking, it must be going  $c$  when it reaches the observer. If it is the same photon with the same linear energy, the wavelength cannot have been affected. If you don't like my bringing Relativity into it, think of it this way: since no theory has ever told us how the wave is actually created, it must be somewhat

absurd to claim the wave can be changed by changing the angle to the observer. To accept that the wave can be changed by changing the angle, you must accept that the wave is a wave pattern in the ether. Either that, or you have to propose that either the observer or the photon knows the original angle (the angle to the observer at point 1). As for the second, it is not at all clear how either the photon or the observer would know that angle, or keep track of it. As for the first, it has been proven that light does not travel via an ether like this. There may *be* an ether of some sort, and if you call [my charge field](#) an ether, then of course I agree there is an ether; but even *with* this ether, we know that the waves are not waves in the ether. All the experiments of the last century have proved that. And besides, I have shown that [the wave is part of the photon itself](#). It is not a field wave. I should have proved that even for those who don't believe in Relativity or any of the experiments of the century.

Yes, I knew this diagram was incorrect not because of anything I learned from Relativity. I knew it was incorrect because I knew that the wave was caused by spin. I knew immediately, the first instant I saw this diagram, that trying to explain wave shifts by linear motion was naïve. Since the waves are caused by the spins, any shift of the wave must be caused by a shift of the spins. In other words, it is not the linear motion that is shifted, it is the angular motion. I have already shown the mechanism for this in my previous paper on Bremsstrahlung.

So far I have appeared to agree with the mainstream, and I have appeared to belittle Reber and the tired light theory. This will alarm my regular readers no doubt, but they should be patient. For I will now hit the other side. If we go to Wikipedia and read the current propaganda for cosmic expansion, we are told that any tired light theory must explain dozens of things, including

- admit the same measurement in any wavelength-band
- not exhibit blurring
- follow the detailed Hubble relation observed with supernova data (see accelerating universe)
- explain associated time dilation of cosmologically distant events

And so on. What the writers don't tell you is that cosmic expansion theories basically jerry-rigged their math and explanations after the fact to answer the various problems they encountered, and that they have actually had to invent entire cosmic scenarios, including bags full of revolutionary hypotheses, to do this. The mainstream acts like it has simple and logical explanations for all these things (and more), but what it actually has are lots of complex maths like the [inflationary model](#), which are neither logical nor simple. It has tortured theories and equations, many of which ignore basic rules of logic and math, and others that purposefully misuse time transforms (see last bullet point above, and then my papers on [the muon](#)).

But the most amazing thing about the mainstream is that they have had time to concoct all these esoteric theories and maths, but they have never found the time to propose that maybe, just maybe, the photon is spinning. This is amazing since they found the gumption to give the electron some spin quantum numbers about 90 years ago. They don't actually admit that the electron is spinning, but it has several quantum numbers with names like that (spin, angular momentum, magnetic). But the photon has nothing like that. Not only no spin, but no quantum numbers. The photon has remained an unanalyzed particle. Although quantum physicists have asked how the electron can do what it does, and have assigned quantum numbers to make it do these things, they haven't done the same with photons. Although photons do a lot of inexplicable things, as we see again here, no one has bothered to give them more characteristics, beyond speed  $c$  and a wavelength. And even the wavelength is unassigned. It is the length of what? The wave. Yes. But since the mainstream knows that isn't a field

or ether wave, it has no assignment. We know what it isn't, but what is it?

What I have done is simply make the first assumption that comes to mind. If the wave isn't a field wave, then the very first thing you would look at is a wave caused by the spin of the photon itself. I made that assumption and found that it explained many things, including [superposition](#), [entanglement](#), and a host of other famous things. So am I really the first to seriously consider it? If so, how can that be? How can something so elementary and simple have evaded notice for this long? I would say it isn't credible. Photon spin has been ignored *on purpose*, to keep it from interfering with other theories. As I have said elsewhere, common sense is buried to prevent it from sabotaging famous theories that lack common sense. Bad physicists got their theories up first, for various reasons of accident and intrigue, and they then block good theories for political reasons. That is not so hard to understand, is it?

Actually, we know I wasn't the first to consider a spinning photon. Newton may be the first to have done that, but he gave it up as a bad job. Maxwell, too. Maxwell had a theory of vortices which mirror my mechanics in some ways, but he too gave it up. Neither man was able to make it work, and besides, because they were insiders, they felt incredible pressure from their colleagues to get it right the first time. I feel no such pressure. My contemporaries attempt to apply such pressure, it is true, but the current physics container has so many leaks, it won't hold any air. You can't apply pressure inside a swiss cheese.

At any rate, it wasn't until I looked closely at Reber's diagram that I realized how to correct it. If you are looking at a way to explain redshifts without Doppler, you don't look at linear velocity, you look at spin velocity. Since spin is what causes waves and determines wavelength, any change in wavelength not caused by Doppler will have to come from a change in spin velocity or radius. And once [I had analzed the mechanism of Bremsstrahlung](#), I understood the mechanism of redshift. Zwicky was right to begin with: the redshift is caused by photons interacting with interstellar media (not just electrons, it could be any ions). The important thing is not the material, it is the mechanism. Just as an electron has its outer spin damped or stripped in Bremsstrahlung, a photon has its outer spin damped or stripped in a similar close pass with electron or other ion. It is not  $c$  or the angle to the observer that is affected in this interaction, it is the outer spin radius. A collision at this spin radius slows the spin velocity, which increases the spin radius, which increases the wavelength. The photon has been redshifted.

Because the photon is so much smaller than the electron, this energy shift is much much smaller than Bremsstrahlung. It requires millions or billions of interactions to create any measurable shift.

Alert readers will perk up here and ask me, "haven't you said that we can have both photons and anti-photons? To lose energy, this photon must be interacting with anti-matter. Reversed spins cause an energy loss, right? If the spins were the same, the photons would actually gain energy from the interation, right? So why don't we see blueshifts sometimes? Can't photons interact with matter, or anti-photons with anti-matter?"

Good question. We don't see blueshifts because this isn't Doppler. With Doppler, the reverse of a redshift is a blueshift. But we don't have Doppler here, we have a collision of spins. If the spins of photon and electron, say, are reversed, then we get a spin damping and a redshift. But if the spins are the same, we get a spin augmentation. The photon gains energy. But it doesn't show this gain by a blueshift, it shows it by exhibiting what I call "reverse Bremsstrahlung." In the previous paper, I showed that in Bremsstrahlung, the electron didn't emit the photon, it *became* the photon. The electron lost its outer spin, and an electron that loses its spin is, by definition (in my theory), a photon. An

electron is just a photon with extra spins. That is what my particle unification was about. All the fundamental particles, including photon, electron, meson, proton, and neutron, are just different spin levels of the same particle. So if our photon in this Hubble problem encounters matter with the same spin as itself, it will gain a spin. The photon won't blueshift, it will become an electron. This is why we don't see blueshifted light from this mechanism. We don't see energy gains as blueshifts, we see them as electron production.

Mainstream physicists will balk at giving the photon spin, since they have been taught the photon is a point particle with no mass. But we have no evidence of this. We have lots of evidence the photon is very small, but no evidence it has a radius or mass of zero. In fact, we have lots of evidence to the contrary. All physical evidence points to mass and radius above zero, and all logic points to that as well. The real reason current physicists believe in a zero mass and radius for the photon has nothing to do with data, physics or logic; it is that their gauge math requires it. But that is not physics. That is just mathematical obstinacy. The gauge math was created not by Nature, but by previous physicists (or, more rigorously, previous mathematicians). As I have said before, you don't fit Nature to math, you fit math to Nature. Any physicist who puts his math before his physics is a very confused person. He isn't really a physicist at all. He is in the wrong building and should get his check from the math department.

Yes, we have some recent estimates that suggest an upper limit for the size of the photon of something on the order of  $10^{-36}$ kg. Fortunately, I found a mass of about  $10^{-37}$  kg, and I did it before I knew of this upper limit. I didn't push equations to get below this estimate, I wrote equations that came from other simple and longstanding equations, and used old mainstream numbers and constants to get my number. For instance, [I have shown a method](#) for getting this mass straight from Planck's constant, in about two lines of simple math. Planck's constant is their math, not mine.

Conclusion: the tired light theory is correct in its main lines, being wrong only in mechanism and theory. The light is not tired, and the path is not changed by the interaction; but as an alternative to Doppler, it is correct. This means that Reber was right: all of the expansion and Big Bang models are castles in the air, based on a disastrous initial misreading of data and on a desire to build complex models of nothing, in order to win prizes.

But does my correction to the tired light model answer the bullet points of the mainstream? Yes. It answers the ones that aren't manufactured or pushed. For instance, I have a lot of data thrown at me by the mainstream, from supernovas, large-scale structures, age-of-the-universe models, and so on, but in each case I have shown their assumptions hold no water. As just the first and most important example, I have shown that their dark matter theories are all defunct, since they never account for charge. Their own equations--ones sitting around for more than a century and still in all physics books—show a charge field that outweighs the matter field by 19 to 1, but they aren't even aware of it. If they aren't aware of the fields in their own equations—and in this case we are talking about the number one field in physics—then how can they have answers to their own bullet points? How are they even qualified to make up these bullet points? I should be telling them what to look at, not the reverse.

As other very potent examples, I point out that they don't know that Newton's gravity equation [is already unified](#), that Coulomb's equation is already unified, that [the Lagrangian is already unified](#), and so on. These physicists aren't in command of the largest pieces of the puzzle, so none of their theories are worth much. All of their models are based on a hopelessly outmoded physics, where celestial mechanics is gravity only, where QED is E/M only, and where most forces are virtual. This is why I can dismiss most of their questions and “requirements” as useless. It is not up to me to match or

confirm their theories, is it? What they think of large structures is beside the point, for example, given all the mistakes they have made. None of their data will be explained until I explain it. If they had any real desire to solve these problems, they wouldn't be sitting on me, they would be calling me in for consultation.

One final question. Those who are following my papers closely will say I now have two alternate theories for Hubble redshifts. In [my Hubble paper](#) I proposed curvature as a mechanism, and now I have proposed a reverse Bremsstrahlung as another. Which is it? Both. I have not written this paper to replace that earlier paper, but to bolster it. I suspect that both mechanisms are at work to produce the shift we see, and there may be others. Remember that I have done no math to show that either mechanism is capable of producing the precise amount of shift we see. That is the next step.

However, before you try to use this admission against me, you need to be reminded that the mainstream has never shown why their universe has the particular shift it has. Notice that they just work backwards from the data. They calculate the shift from data, and then match all their other numbers to that. They are nowhere near explaining why the shift is what it is, and they actually make some effort to hide the question. Odds are, you have never even considered it before now. In fact, the current theory may have been chosen, in part, because it is best able to avoid this question. If the shift is just Doppler, you have no interaction to explain, and you have no amount of shift to justify theoretically. The Doppler theory can contain any number for the shift, since the age of the universe and all the other numbers can be adjusted to fit any value found by experiment *after the fact*. And that is precisely what we have seen. As new data comes in, the other numbers are adjusted to fit the data. Physicists love open-ended theories like that, for pretty obvious reasons.

But I am getting near being able to actually do the math. First I had to have the ideas, and the math comes after that. Notice that this is the opposite of the current method, which starts with the math and then forces the ideas to match the math. Only when I do the math will I be able to tell how much of the shift is due to curvature and how much is due to reverse Bremsstrahlung. If one or the other, or both together, match the current shift, another sky will fall on the head of mainstream physics.

You may say, "Good lord, if you make some big assumptions, you may be able to do the curvature math, since we have pretty good numbers for the curve of the Earth in the galaxy and Solar system, but how are you going to do this Bremsstrahlung math? You would have to know how much matter the light is interacting with, for a start, and you can't calculate that. Estimates vary widely, and the whole question is currently a mess. Beyond that, you would need a density of photons relative to that matter, and photons have no density." It is true that the mainstream could not begin to calculate such things, since you cannot calculate an interaction when one of the particles interacting is a point particle. If the photon has no mass or radius, you have no way to calculate the odds of a photon interacting with matter. But since I have a mass and radius for my photon, I can do the calculation. I also have relative densities of matter and photons, since I have shown that the 19 to 1 ratio applies not to some form of exotic new matter, it applies to the photon/matter ratio. This finding, which I discovered only recently, immediately pushes this math a long way forward.

Again, you have to consider what the zero photon mass has meant for the mainstream, over the past century or half-century. With no photon mass or radius, many things are not even potentially calculable, as we have just seen. This rules out large swaths of math and theory. With a photon as a point particle, your theory MUST move toward open-ended theories like the metric expansion theory. Simply because you cannot calculate densities, you MUST choose theories with a lot of correctibility and give. You need a theory that you can build around your photon hole, since you can calculate

nothing about your photon to start with. Ask yourself this: How much of current theory has been predetermined in this way? How much current theory was forced to go the way it has either because previous physicists made a bad fundamental assumption, or because they chose a math that had these bad assumptions built in, out of sight?

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