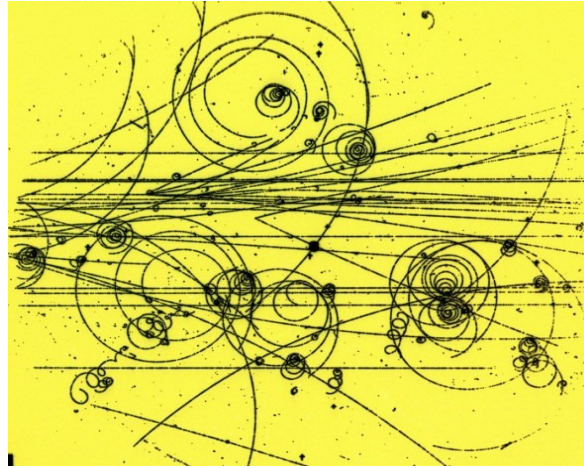# More on the MASS GAP and YANG-MILLS



*by Miles Mathis*

I just got an email from a well-positioned reader who didn't comprehend my critique of Yang-Mills. He said that even if my correction to the calculus were accepted, it wouldn't explain how photons with mass can travel c. He pointed out that my own photons have mass, and told me that I never explained how that could be, given Einstein's equations. He reminded me that I have said many times that I am not jettisoning GR, I am only correcting it. But he did not see how my correction solved the problem at Claymath, that being the bridging of the mass gap. How can my massive photons go c?

The answer is that I treat c as a piece of data in my theory, not as a limit. To say it another way, c is an experimental fact, not a mathematical asymptote. When I say that I accept Einstein's use of c, I mean that I accept his initial postulates that use c. I accept that c is a constant as a question of measurement, and I accept that c is a useful first postulate. That is, I accept that using the constancy of c as a first principle is a good idea. I find Einstein's basic method useful, and I have not challenged it or changed it.

But I do not accept c as a mathematical limit. I have corrected this part of Einstein's math, and it no longer stands. To be specific, I showed in my papers on the mass transforms that Einstein's faulty proof of *gamma* pushes him into a solution that looks like a power series, and he mistakenly interprets this power series as an approach to a limit, the limit being Newton's equation. Remember that he finds a square root in the denominator of *gamma*, and it is this square root that gives him the power series. Well, I have shown that *gamma* is in the wrong form, and that it has no square root.

Furthermore, I have shown (in the same paper) that Newton's field is not the limit of Einstein's field, as is claimed. I have done all the math, showing that Newton's kinetic energy equation $K=\frac{1}{2}mv^2$ is *not* an approximation that only applies to low speeds. No, it is a precise equation, and I have shown how to go from $e=mc^2$ to $K=\frac{1}{2}mv^2$ with simple algebra, using no limits and no approximations.

For this reason and others, c is no longer a mathematical limit.  It is only an experimental fact.  With the new transforms, mass does not go to infinity at c.  Neither mass nor any other variable goes to infinity or zero.  The transforms were simply in the wrong form, implying limits of this sort.

This is what I meant when I said in my Yang-Mills paper that my correction to the calculus solved the mass gap problem.  It was my correction to the foundation of the calculus that allowed me to see the problems in Einstein's proofs.

So my solution is not a bridging of the mass gap, it is a tearing down of the mass gap.  I have shown that the problem is a manufactured problem, created only by faulty math.  There is no mass gap because there is no limit at c, and there is no limit at c because *gamma* has been in the wrong form from the beginning.

I will be told, "Well, in that case, there is no problem with Yang-Mills.  If there is no mass gap, then Yang-Mills is in the clear!"  Wrong.  Yang-Mills math relies on much more than just *gamma* and the implied limit at c.  Yang-Mills relies on the entire modern interpretation of the strong field as a reaction to the E/M field, which relies on 19th and early 20th century interpretations of the E/M field, and all are faulty in multiple ways, as I have shown in dozens of papers.  To start with, the strong force is just a hole filler.  But, as with the mass gap, I have shown that the hole doesn't exist.  It was a hole in bad math, not a hole in the physical field that needed to be explained.  In other words, if the E/M field doesn't exist in the nucleus, then we don't need the strong force to counteract it.  We required the strong force only because we misunderstood the E/M field.

Therefore, the correction to Yang-Mills is not achieved by another layer of new math or theory over the top, it is achieved by a return to the underlying E/M field, and to a better understanding of the mechanics of the field.  As I corrected Einstein's mass transforms by using simple algebra (rather than using gauge fields or Hamiltonians or whatnot), I have corrected quantum field theory by jettisoning all the new math in the same way.  Rather than studying the math, I have studied the mechanical interactions of the particles involved.  I have given the field a physical presence (rather than a virtual presence), and have explained all the interactions by giving photons real radius and spin.  Both Newton and Maxwell tried to do the same thing, initially, but got caught up in petty politics.  Because I have no links to the universities, I am free to ignore all that.  What I have found is that these photon spins act as new quantum numbers, allowing for more degrees of freedom in the math and the fields, and thereby allowing for new and better explanations of the various phenomena.  We have been warned not to try to visualize these motions, but those warnings have turned out to be the worst of all possible advice.  *Only* by visualizing the real motions and interactions can we understand the data.

Most have not understood how my background as an artist helps me, but in this visualization it is a great help.  I can see these quantum interactions in my mind precisely because I am more visual than your average person, and much more visual than your average scientist.  Mathematicians, who are proudly non-visual, have tried to convince everyone that math and science should be "pure", that is, non-visual and non-material.  This way of thinking has completely co-opted physics, and we have been taught that this is a good thing.  It is not.  It is the worst thing that could have happened, since via this co-option physics has become non-physical.

Only through this mistaken idea of purity could mechanics have been dislodged from physics.  Only in a physics that had become diseased in this way could we reach a point where prominent physicists can openly scoff at mechanics, telling us we can or should no longer think that way.  But this reminds me of Nietzsche's critique of Wagner: "Where he lacks a capacity he posits a principle."  The modern scientist

has defined his disability as a talent. Because he cannot visualize, one *should not* visualize. The incapacity to visualize is redefined as a virtuosity, and all of physics is refashioned to suit this sort of person. Because this sort of person could not solve the wave-particle duality, one *should not try* to solve the wave-particle duality—hence, the Copenhagen interpretation. Because this sort of person could not visualize the quantum field, one *should not try* to visualize the quantum field—hence Pauli and Dirac and Feynman and all the rest.

What all this means is that the mass gap was always the least of the problems of Yang-Mills. The mass gap was just one fake hole among many. Quantum field theory is little more than a field of holes, and it has always looked to me like a prairie dog town covered in layers and layers of masking tape. The new theorist is like Bill Murray in *Caddyshack*, trying to solve a problem by sticking his hose down one gopher hole. I have shown that you can't solve Yang-Mills or any of the other myriad problems of quantum field theory by sticking your hose down any of their holes. Eventually you see that the best solution is just to drive around them and build your golf course somewhere else.

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