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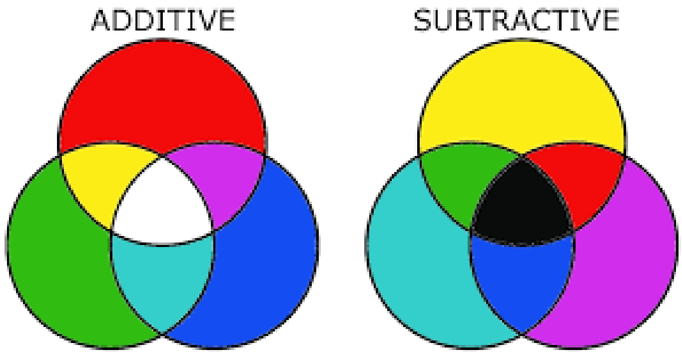
Additive Color Theory
and antiphotons



by Miles Mathis

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I have finally returned to color theory after several years. You may remember that I wrote a colorful paper on rainbows, then followed up with a long paper on Goethe and light theory. Although that second paper was quite comprehensive as well as revolutionary, of course it still only got us started on a very big subject. Light theory is still in its infancy, and that paper only pushed it a baby-step forward. Here I hope to push it another baby-step.

Additive color theory was one of the things I only touched on before, and I have come back to it because it is so mysterious to me. Adding red and green to get yellow thumped my brain the first time I saw it, and it is possible I have sat on it so long for that reason. Remember, I am a painter, and if you add red and green paint, you get a grey mess. In paint mixing, red and green are opposites, and it is hard to intuit adding them and getting yellow. A painter can intuit adding blue and yellow to get green, since even after you have the green, you can *see* the blue and yellow in the green. You can see and feel how green contains them both. But if you mix red and green light, there is no way you can see red and green in the yellow. Yellow is just yellow: it doesn't appear to contain either red or green. That is what I mean by intuit. It makes no sense.

Now, I said in that previous paper that this works because green light already contains yellow and cyan as it comes out of the projector. Red then knocks the cyan out, leaving yellow. But of course that isn't the mainstream interpretation. While I assume subtractive color is primary, the mainstream has for a long time assumed additive color is primary. They don't care about paint mixing because they aren't artists. That means nothing to them. All they know is experiment, and they accept the additive color mixing without really questioning it. There is no question of intuition here for them, or for asking if anything makes sense. If red and green combine to make yellow, they do, that's all. Plus, there doesn't seem to be any way for red to “knock the cyan out”, as I claim, so they never even consider that possibility. How and why could red be knocking cyan out of overlapping beams of light? There is no easy answer to that, so why ask the question?

Well, I have told you why I have asked the question, here and in the previous long paper. It is a question to ask, because these experiments should make sense. We shouldn't just accept them without trying to really understand them at the fundamental level. I don't think many people besides me have tried to do that. I didn't demand an answer from myself in that previous paper because I wasn't prepared to give it at that time. I had no answer. Or, I could intuit the raw answer, but I couldn't justify it with any convincing mechanics. Again, I could see that the red must be "knocking the cyan out of green", but I couldn't understand how it was actually doing that as a matter of field mechanics. Only now can I begin to tell you that.

Remember, we aren't actually seeing the photons combine in the air to give us the colors. I reminded you of that in the previous paper. What we are seeing is the colored light *reflected off of a white wall*. This is very important, since white already contains all colors. Therefore, in both additive and subtractive situtations, we have light bouncing off a surface: the two phenomena aren't that different. In one, we have white light bouncing off colored objects, and in the other we have colored light bouncing off a white object. It is not clear at a glance why they give us such different combinations.

Now, red light is also a mixture: a mixture of yellow and magenta. So it must be the magenta that is opposite in phase somehow to the cyan. They cancel, leaving yellow. But cyan and magenta aren't even color opposites: why would they be out of phase? What makes this doubly hard is that magenta isn't even on the prismatic color spectrum, so if you look up a wavelength for it, you can't look on the spectrum. If you insist on a wavelength, you find magenta is sold as a mix, being an average of red and violet, at about 520. Since that is also the wavelength of green, we seem to have a major problem. Green and magenta are opposites, but they have the same average wavelength?

The mainstream can't tell you what is going on here, but I am going to "digress" to try to figure it out. The mainstream tells us the brain simply makes up magenta as the opposite of green, to fill a slot. But since that makes no sense, we have to search for a better explanation. Using my photon mechanics, we can already see a way out of this mess. Although green and magenta do have the same average wavelength, even in my theory, there must be more here than average wavelength. Green and magenta must be opposite in some real mechanical sense. **Since my theory contains both photons and antiphotons, I suggest we use them here.** Antiphotons are not mysterious in any sense: they are simply photons spinning the opposite way. If photons in a field are spinning left, antiphotons are spinning right. About 1/3rd of all photons on the Earth are antiphotons, and we have seen proof of that in my other experiments and papers—including any paper that addresses positrons. Therefore, it appears we need to rewrite all color theory and charts to include antiphotons. I would say a good first guess would be that while green and the other colors of the spectrum are photon colors, magenta is an antiphoton color.

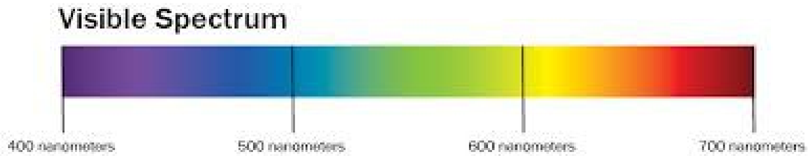
However, it appears it is even deeper than that. Notice that yellow and blue are opposites in additive color, and so are red and cyan. But on the spectrum, cyan is above red, while yellow is below blue. So we see the same weird dance there that we see with green and magenta. We seem to have a bending one way with one pair and the opposite bending with the other pair. More on this below. Also worth noticing is that red-green-blue are richer and more saturated to our eyes in the first instance than cyan-magenta-yellow. I have shown that this is because RGB are mixtures, but it may also be because RGB are photonic while CMY are antiphotonic. Since the ambient field is twice as rich in photons to start with, this may explain the basic saturation of RGB.

It would also explain the strange nature of magenta, which is the odd man out on both color wheels. Its nature would be explained if its “average wavelength” was actually found in a different way than that of green. In other words, green may be the average of photons and photons, while magenta is the average of photons and antiphotons. You can't average photons and antiphotons in the same way, obviously.

So let's return to the meeting of green and red to get some hints as to what is happening here. I have proposed that magenta and cyan are cancelling in some way, leaving yellow. But if magenta itself is a mix of red and violet, we are in a vicious circle. Red cannot be composed of magenta, and then magenta be composed of red. For this reason, I would say it is very doubtful magenta is composed of red and violet. Because it has some similarities in our eyes to some shades of red-violet, it can be faked in paint mixing that way. But it is likely that true magenta is its own color.

You can already see that including antiphotons in light theory complicates the mechanics considerably—especially if antiphoton colors and photons colors are similar and overlap like this. For instance, if some shades of yellow are photon and some antiphoton, we are in the middle of a real mess. I would say we are indeed in a mess, since it looks to me like almost all colors in nature are mixtures of photons and antiphotons. If 1/3rd of all photons in the ambient field are antiphotons, then the light spectrum we know and love must be composed of both. In that case, the lack of magenta on the spectrum would be explained by the fact that the spectrum is a natural phenomenon. It is what we see in nature, in the spectrum of stars, for instance. We don't see magenta there because in nature we never see antiphotonic light only. It is always mixed with photonic light, and is always outnumbered by that photonic light two to one. The only way we can see true magenta is to create it with specific set-ups, filtering it out of mixed light. This is probably true of some shade of cyan and yellow as well, but since these shades of yellow and cyan are very close to natural shades that are mixtures, we haven't yet figured that out. After all, we only figured out the mystery of magenta recently. Neither Newton nor Goethe knew there was any difference between magenta and red-violet, or that magenta “didn't have a wavelength”.

If that is true, what does it mean for us here? Well, it means that we have a pretty simple mechanism for color cancellation. Notice that if magenta is the antiphotonic equivalent of the photonic cyan, the two would cancel in some situations, leaving yellow. In other words, the photons of magenta are the same size as cyan, but spinning opposite. This would create the equivalent of a wave cancellation, and the loss of both colors. I will be told it is magenta and green that are supposed to have the same wavelength, not magenta and cyan. However, there is some mystification online on this as well. Not only do they generally refuse to tell you the energy or wavelength of magenta, they slide the 500nm mark all over the place. It generally hits green, but here we see it marked *below* cyan.



Wiki gives the wavelength of cyan up to 520, which could match the energy of magenta. Wiki also tells us complements of magenta have wavelengths of 500-530. So we appear to have a match.

But that was only to find the energies of magenta and cyan, since in my theory we won't be using wavelength to explain anything. We are using opposing spins, and these spins are the real spins of the photons. Yes, those spins create wavelengths, but since the wavelengths are one more step abstract, I prefer not to use them in my mechanical explanations.

So, how exactly does this cancelling of spins work? Well, all that would be required is some jostling of photons as they travel side by side in the mix. Most photons don't affect eachother's spins much in that situation, since the spins aren't greatly different. But when photons and antiphotons jostle like that, they are strongly affected, since the spins are opposite. The spins catch like little gears and the outer spins are tamped down. This is why and how magenta cancels cyan in this situation.

This tells us two things: 1) this is another analogue of magnetic reconnection, since I have used the same mechanics to explain that. We should call it photonic reconnection, or just photonic connection, since it is actually a sub-magnetic effect. All magnetism is a spin effect, so it isn't wrong to call it magnetic reconnection. But previously the name has led us to believe all such phenomena are EM or ionic. They are not, they are photonic. 2) such magnetic reconnection must *always* be present, and is only a matter of degree. Previously we have only studied it in extreme cases, as in the Solar corona. But it now looks like this photonic connection is happening all the time in all places. In the current effect, it is much more subtle, causing only color changes rather than spin ups or spin downs that lead to extreme heating or lepton creation.

This also implies that any coherence that would minimize this jostling would also minimize this effect. In other words, if we can force the photons to travel in perfectly straight lines to the target, they will not jostle. If they don't jostle, they can't cancel spins. Of course, to do that, we would also have to create a near perfect vacuum, including a charge vacuum. In normal situations, the ambient field is full of ions, molecules and charge, which interact with the light, re-jostling it.

So, do we have any other indication my theory is correct? Yes. We discovered in my previous light papers that when we look at this black print on a computer screen through a prism, the letters are split into CMY. Here is what I said there:

If you look at this black print through a prism, you find it turns magenta. Depending on the orientation of the prism, you also get two ghosts. If the point of the prism is up, you get a yellow ghost above and a cyan ghost below, with the yellow ghost higher than the cyan ghost is low: the yellow ghost is about a full character above, while the cyan ghost is about a half character below. If the point of the prism is down, you get a reversed effect.

That was always curious, though no one has commented on it until now. Even I didn't see anything in it the first time. Why would yellow be bent up and cyan be bent down? And why would yellow be bent twice as much? The only possible answer is that the yellow photons are spinning opposite the cyan photons. So one or the other must be antiphotonic. And we can tell that although yellow and cyan are opposite here, they do not have the same spin radius or energy.

What can we tell about magenta from this experiment? We can tell it is opposite to either cyan or yellow, and that it is equal in energy to neither. This would seem to contradict my previous theory, since we need magenta and cyan to have equal energies in order to cancel. However, as with magenta and red-violet, we may have more than one cyan to work with. The cyan here may not be the same cyan we were looking at above. In other words, we may have a photonic cyan and an antiphotonic cyan. Only one of those is opposite to magenta. If magenta is antiphotonic, it is opposite the photonic cyan. That would mean we have the antiphotonic cyan being bent down by the prism, and the photonic yellow being bent up.

It is also curious that magenta is not bent at all by the prism. This would seem to make it even more special, though I don't see how to read that right now. Much more work needs to be done in this line. But if nothing else, I believe we have strong proof of antiphotons here, as well as their inclusion in the basic light spectrum. I think you will agree this requires a complete rewrite of color theory.

One thing this tells us is that our eyes have a way to distinguish opposite spins. Since they can tell magenta from green, they must be able to differentiate a spin from its opposite, or a waveform from its opposite. If we speak in terms of waves, it appears that given waves of equal energy, amplitude, and wavelength, our eyes can tell a left-wave from a right-wave. If they couldn't, we would see magenta as green. It has always been assumed that our eyes register only wavelength, amplitude, or energy, but if that were so we wouldn't see magenta. The brain doesn't make up magenta to fill a slot. That idea was always daffy. The brain sees magenta just as much as it sees any other color, and it sees it by being able to "see" spin differences in some way. So we are finding clear evidence that organic bodies know the difference between photons and antiphotons. That should not be surprising, since although antiphotons are not evil, they do work differently than photons. In some situations they may cause cooling rather than heating, for instance, and the body would naturally be interested in that.