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# THE DRESS



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OK, we have a bit lighter fare today. And yes, I am getting to this one rather late. It was a big deal in 2015, apparently, but I was working on other things. Not being hooked into the usual tubes, I often miss the current conversations. However, I do find this story fascinating. Maybe you will as well.

You will say that surely everything important was said about this trivial subject back then. Well, you would have thought so, but I didn't find that to be the case in my search. And it isn't trivial, as you are about to see. It is very compelling for those interested in light theory and color theory. Because I am both artist and scientist, I may have a perspective on this that few others have. Which is why I am on this page today.

It was found that people couldn't agree what color that dress is. What color do you think it is? Mainstream scientists ended up asking thousands of people, and there was no agreement. In fact, people got hostile, defending their own eyes. I can see why. I didn't get hostile, but I do have a strong opinion, which you are about to see. Since my opinion differs from most others, it may be worth reading. Or not.

Just so you know, the results of the polls varied somewhat, but they all found the same general numbers. Uncued, about 30% said the dress was blue and black. About 60% said it was white and gold. About 5% said they could see it either way. And about 1-2% said they saw it as blue and gold.

You will say people just aren't very good at reporting what they are seeing, or don't know much about

color. Although that is partially true, it turns out that isn't the answer here. People really are seeing different things, and that was proved by further study. For instance, if you told those who thought it was white to look closer, showing them it was a pale blue, they got upset, insisting it wasn't. And if you did the same thing with those who saw the light part as blue, telling them to look closer at the darker part for a yellow cast, they again got angry or frustrated, since they really didn't see it that way.

Oh, I forgot to tell you: I see the dress as pale blue and gold. So I am one of the “weird ones”. In the biggest tests, [such as here](#), we are completely ignored. The scientist there (Wallisch) took the time to comment on the small percent that could see the dress both ways, but he had nothing to say about those of us who saw the dress as only blue and gold. Although I am fluid and ambidextrous, I cannot see this dress both ways. I see it only as blue and gold.

The reason this is so fascinating for me is that I have noticed the phenomenon before, but couldn't get anyone to take it seriously. I have known for a long time that people don't see what I see. I have to hear their comments when they look at my paintings, you know. It is clear they aren't seeing what is there. And it isn't just color. They aren't seeing lines very well, either, or shapes. I also know this from teaching painting workshops. It became clear to me pretty fast that most of my students weren't seeing what I was seeing. Their brains were making corrections on the world, instead of seeing what was actually there. I noticed this first with slants, not colors. My students were always trying to straighten slants, to make everything square. For instance, if a line—the corner of a house, say, or the main line of someone's leg—was leaning 20% left, most students would draw it straight up. Of course this would screw up all the other angles in the drawing, leaving them gasping for air. Even after I would point this out to them, telling them to get out the calipers and protractors, they still couldn't get it right. Their brain kept making the correction for them, and they couldn't turn it off.

Well, a similar thing is happening here, although none of the professional or amateurs analyzing the results seemed to understand that. Yes, some of them understood it had to do with white balance, which it does. Your brain knows that white things gain color from the things around them, or simply from the color of the light falling on them. A white dress in the sun looks yellow, while the same dress in the shade will have a blue cast. Since most people aren't artists and don't have to reproduce that specific color on a canvas, that knowledge isn't really useful to them. What is useful to them is knowing the color is really white behind that false cast. So their brains actually make the correction for them, printing the real color on their minds instead of the perceived color. In other words, their brains remove the false cast. The brain does a white-balance correction for them. But it doesn't do it just on the white section. It does it across the spectrum. It shifts the entire spectrum so that white looks white. To do that, all the colors have to be warmed up, just like the white. To make the pale blue look white, you have to add the opposite, which is kind of a pale yellow-orange. So the darker parts of the dress will turn a bit yellow-orange, which is about the same as gold. So these people are seeing the gold part even golder than I am. They are seeing a shift, where I'm not.

So what's happening with the people who see blue and black? Just the opposite. Their brains are doing a black balance instead of a white balance. They are trying to shift the darker color rather than the lighter. As with the others, their brain senses something is wrong with this photo, and the brain tries to correct it automatically for them. Instead of trying to make the light color whiter, they try to make the dark color more perfectly black. Since it has a yellow cast to it, their brains try to remove that. To do that, the brain has to add blue across the spectrum, which has the effect of making the pale blue turn even bluer. So they are seeing the blue even bluer than I am. They are seeing a shift, while I am seeing none.

This means that when the analysts have tried to calm everyone down by saying everyone is right here, they are wrong. The fact is, *almost everyone is wrong here*, if by “right” you mean seeing what is actually there. That is pretty easy to prove by analyzing the local color with a computer. Your Photoshop dropper will tell you the light areas do indeed have a cool blue cast in that photo, and the darker areas do indeed have a yellow or gold cast. If you wanted to reproduce that image on a canvas as a painting, you would have to use blue in the lighter areas and gold in the darker.

But while some can see the blues and some can see the golds, very few can see both. This is because the blues and golds are moving in opposite directions. They are opposite on the color wheel and opposite in any balancing correction. Your brain can't color correct in both directions at once, you see. So your only hope of seeing what is there is to turn off the color correction in your brain—which most people simply cannot do. Just as my painting students couldn't quit straightening up their verticals, most people cannot quit color correcting.

I will be told that I am wrong, too, since the dress in real life is dark blue and black. But that wasn't the question. The original question wasn't “what color was the dress in real life?” The question was, “what colors appear in that photo?” The colors that appear in that photo are pale blue and gold.

It doesn't mean I am wrong, but it does mean that those who shifted toward blue were more right than those who shifted toward white. Their brains made the correct shift, based on some reading of that photo, which is also interesting. As Wallisch correctly surmised, those who shifted toward blue and black did so because their brains assumed the dress was lit by incandescent yellow light. So they subtracted out the yellow. Those who shifted toward white assumed the dress was lit by the sun, but was in the shade. So they subtracted out the blue. More people assumed the latter since most people rise pretty early and are awake while the sun is up. Those who assumed the light was man-made turned out to be night owls, according to the research. They spend more time under man-made lighting, so they naturally made that assumption.

Take note, I am not claiming that optical illusions don't work on me. I am not claiming to be special, just an artist. Most optical illusions *do* work on me, because my brain is making many of the same corrections yours are. Just not this one, and a few others. There are some other optical illusions that don't work on me, due to my time at the canvas or for native reasons, but most do fool me. Because the brain makes so many corrections on the world for its own reasons, it is pretty easy to fool with optical illusions.

So why can only 1-2% see what is actually there? Is it from years of practice? Another way to ask the question is, “Do people become artists because they naturally have this ability? Or do they develop this ability due to the things they have to do as artists?” This is another interesting question, and I think I have some insight into it.

Before we get into, it is worth pointing out that most people who call themselves artists these days have no use for this ability one way or the other. Seeing correct colors or slants isn't necessary if you are arranging rocks on the ground, putting your bed in a museum, or framing white canvases with nothing on them.

Anyway, my own experience is that the ability was innate. I didn't learn it. I am self-taught, so I know exactly what I had to learn—I had to teach it to myself. This wasn't one of the things I had to learn. But that doesn't mean that you can't learn it. I have seen some of my students make progress in this area, so you can force your brain to quit correcting with long effort. Your brain will eventually

understand that you have more use for seeing what color is there locally than for seeing the color that *should* be there, given perfect light.

However, since most people aren't artists and don't desire to be, none of this will mean much to them. It may be just as well their brains make these corrections for them, I don't know. Probably their own brains know what is necessary to their existence better than I do. I wouldn't find it useful to see a color-corrected world, but maybe they do.

Well, it works for them until they start looking at art, anyway. For us artists, the fact that 99% of viewers aren't seeing what is there is a tragedy. We have to listen to the stupidest comments from people who are quite literally blind in some important ways.

Now, I fully realize that most of my readers will fall into that 99% category, and they will be bristling at my comments to some extent. Some will think I am just being a snob, as usual. No, I'm not being a snob, I am just telling you my truth. I have to bow to the majority most of the time, giving in to the way it sees the world. But when I am alone at my computer, I can state my truth. If you find it intolerable, that is certainly your right. Some others may find it informative. The scientists and artists will surely find it informative, and since my readers possibly desire to be more scientific or artistic—else why would they be here—they should also.

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Which allows me a short diversion. I have said about all I want to about the dress, but my brain is still overfull. It is that word “snob”, which I have always found curious. Here is the dictionary definition:

**A person who believes that their tastes in a particular area are superior to those of other people.**

Does that make any sense to you? It makes no sense to me. You will say, “Of course not, because you are a snob”. Possibly. In fact, I am so much a snob that I will take the time to point out that Google is manned by boobies. The sentence should read **a person who believes that *his* tastes in a particular area are superior to those of other people.** You will say I have sometimes made a similar error in my writings. True, but I am a single person writing quickly for a personal blog, with no editor and a non-functioning spellcheck.\* This is a dictionary entry at the top of the page, on the worldwide internet. It looks like they could hire someone who knew basic grammar.

Anyway, the definition of snob has never made any sense to me, since it is used in a pejorative sense. Pejorative means looking down on something or someone. How can you look down on someone for looking down on others? So the word snob is hypocritical to start with. More than that, it is a contradiction. Calling someone a snob implies you know better than they do, since you are contemptuous or disapproving of their actions. But if you are claiming to know better than they do, you are perforce a snob. Contradiction.

Plus, it is a simple fact that some people do have better taste *in some areas* than others. To have any assignable meaning, taste must have some real content, in which case some people will have more of it than others. Taste is a noun, like “girl”, or “height”. Some people are taller than others, so if a tall guy thought he was taller than shorter people, would he be a snob? Or would he simply be correct? I could see some use for this definition of snob:

**A person who thinks he has better taste than others, but is incorrect in thinking so.**

That person would be a bit ridiculous, and perhaps we all push that boundary occasionally. But as stated, the current definition is worthless, since as far as you are correct in your taste, and your assessment of your taste, you should not be open to ridicule or judgment. If one is tall, one can hardly be taken to task for knowing it. Likewise, if one has good taste, one can hardly be taken to task for knowing it.

It seems to me that words like “snob” are only useful in a society like ours, where the governors are trying to push everyone down or toward the middle. A general resentment has been created and maintained against anyone who can do anything well, precisely to *prevent* anything from being done well. Only the ruling class is allowed to do things well, and if you aren't in the ruling class, you shouldn't have any such pretensions. Those in the ruling class dodge the snob epithet by pretending to be from middle class roots and by parading a phony humility all the time. See Hollywood for the perfect example of that. And now that the ruling class no longer *can* do anything well, they have all the more reason for shaming you into mediocrity. I learned this first in art—which is still the most obvious example—but it is now true in all fields. The ruling class still owns art, but it no longer creates any, by the old definition. The children of the very rich are the only ones that become artists, but they tend to have zero creative talent. So of course they are going to come down hard on anyone not in the ruling class who still wishes to create real art. They don't want to compete with me, you see, so they use every trick in the book to make sure those such as me don't arise. Words like “snob” are among the many tools they use to this effect. They use people from my own class to shame me into inaction.

But it is actually even more sinister than that, since I have found that it is usually *not* people from my own class doing that. When I have been called a snob, it was usually not by people from the lower or middle classes doing it. Most of these people are not threatened by achievement—though we are told they are. Many find real joy in art, and have no problem with my existence. Although those calling me a snob may have seemed to be from the middle classes, on closer inspection they almost always turned out to be from the ruling class. Only the ruling class would think to use the word snob, you know. It is not a word the middle class uses, ironically. And what the ruling class meant by calling me a snob was “how dare you dare to compete with us on an equal footing! How dare you think you have some right to be a poet or a painter or a scientist. Don't you know these titles are reserved for us? How dare you advance without our permissions!” That is how I see the word snob. As a raw word, it has no logic to it. It only makes sense as another bit of veiled propaganda.

\*I use a very old Mac, and for some reason unknown to me, the spellcheck function in Open Office doesn't work. I am a reasonably good speller and am not wonky in that regard, so it doesn't keep me up at night. I figure my readers will forgive a few typos, misspellings, ungrammatical constructions, and even the occasional purposeful idiosyncrasy or trope—such as “eachother”.