



Grasshopper green?
It's not as easy to relish
this beer.



Blue traffic lights?
If standard colors
were changed,
traffic would come
to a halt.

PSYCHOLOGY

“Color influences our sense of taste”

Does red evoke infatuation or trigger anger? Does pink have a calming effect? And how does green light influence wine tastings? Psychologist Dr. Daniel Oberfeld-Twistel explains how colors can outwit the psyche.

Interview: Bettina Langer



**Red heat?
A stadium with red grass
would disturb even
hardcore soccer fans.**

Dr. Oberfeld-Twistel, have you ever tasted white wine with red food coloring?

No, not yet. It is well known, however, that even experienced wine experts can be fooled and suddenly believe their white wine that looks red has the flavor of red wine.

Your research has shown that the effects of color are even more far-reaching.

Yes, that's true. At tastings done with our partner, the Fritz Allendorf wine estate, we served wine in rooms with differently colored lighting. We found that this ambient light also affects taste. People in red rooms described their wines as significantly sweeter and fruitier than those in green or blue surroundings. They would spend nearly six euros a bottle for wine tasted in red lighting, but only four euros for the same wine in green lighting.

Why does color influence us so strongly?

It makes sense that color would help us classify food and gauge its edibility. Food that

looks unusual, like brownish spoiled fruit or the green beer they serve in Ireland on Saint Patrick's Day, gives us pause. But we haven't yet been able to explain why light too has an effect on taste.

Which colors do people find most desirable?

Blue lighting was considered very pleasant at our wine tastings. That fits in with general color preferences. In western cultures, adults list blue as their favorite color by far. Red and green are also well liked. But yellow, orange, brown, and all the others bring up the rear. Children show much greater variation in their favorite colors.

What goes on in our minds when we see something like a violet fire engine?

Even if we're fond of the color violet, something that doesn't meet our expectations makes us suspicious, or at least cautious. Psychologists refer to this as cognitive dissonance.

Do colors make people happy?

We know that strong colors—or more pre-



DR. DANIEL OBERFELD-TWISTEL
researches and teaches at the Department of Psychology at the Johannes Gutenberg University in Mainz. His work focuses on visual perception, psychoacoustics, methods, and statistics. His favorite color is blue.

Photos: shutterstock/Natursports; shutterstock/Arseniy Krasnevsky; Angelika Stehle



A violet fire truck?
Hard to imagine a vehicle
of this color fighting
its way through traffic.

“Food that looks unusual, like brownish spoiled fruit or beer dyed green, gives us pause.”

Dr. Daniel Oberfeld-Twistel

cisely, saturated colors—can trigger emotions. Red, for example, excites or arouses us, an effect that can be measured in physical responses such as pulse rates and skin conductivity.

Why? Is that because we have come to associate red with danger or sexual attraction over the course of evolution?

Probably not. A red strawberry, for example, is not in any way dangerous. It's more likely that a culturally acquired association is at work. Many warning signs, for example, are painted red. The exact reason for this is still unclear.

What goes on in our eyes when we see color?

Our retinas have three types of light-sensitive cells, or cones, that are involved in our perception of color. When the cones that are most sensitive to light with the longest wavelengths are stimulated, we see red. It's possible that their activity may trigger greater stimulation and arousal in purely physiological terms than that of the other cones. But we still know very little about this.

Psychological studies have shown that men find the same woman more attractive in a red than a blue shirt.

That's true. The authors surmise that this is due to the cultural association between red and sex. Or maybe the reasons are entirely unromantic: the man is aroused by the color red and projects this emotion onto the woman. The infatuation that he feels would then just be his own physical response to the color.

Is this stimulating effect one reason why many sports cars are red?

That's possible. There's a study, not about sports cars but about locomotives, that shows how color alters our perception of sound. People were shown slides of trains with red or green shading, with a soundtrack of train noises in the background. The soundtrack played with the red trains was perceived as louder than that with the green trains.

Pink, on the other hand, is said to have a calming effect ...

This idea arose in the USA in the 1970s in connection with the question of what color to

paint prison cells. “Drunk tank” pink cells were built, which supposedly had an incredible effect. We have cells like this in Germany today too. But there isn't a single study with rigorous methodology that has actually demonstrated this effect. We've also come to realize that concentrating on the shade can lead to incorrect conclusions. Brightness and saturation are every bit as important. Emotional effects are only achieved with strong, saturated colors. In fact, saturation has a greater effect on stimulation than the shade. If the shade has too high a component of white or black, the effect fades.

What do you think of books that extol the healing properties of colors, or recommend that rooms be painted in certain colors to promote creativity?

There are all kinds of theories out there about color. Very few of them are grounded in science, however. Most are derived from fables and legends. Many questions about the psychological effects of color simply do not yet have answers. Which is what makes this area of study so intriguing ...