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Lilac and turquoise are as basic as red and orange

By Jacob Aron



How many separate colours do you see?

(Image: D. Mylonas/L. MacDonald)

Ever struggled to tell the difference between two shades of paint? When it comes to colour, one person's peach is another's puce, but there are 11 basic colours that we all agree on. Now it seems two more should be in the mix: lilac and turquoise.

In 1969, two researchers looked at 100 languages and found that all had words for black, white, red, green, yellow, blue, brown, purple, pink, orange and grey. These terms pass a number of tests: they refer to easily distinguishable colours, are widely used and are single words.



The chart divided into basic colours (*Image: D.Mylonas/L.MacDonald*)

We might quibble over which shade is cream or peach, for example, but everyone knows yellow when they see it. There are exceptions – Russian and Greek speakers have separate words for light and dark blue.

Now Dimitris Mylonas of Queen Mary University of London and Lindsay MacDonald of University College London says the same applies to two more colours, in the case of English-speakers, at least. For the past seven years, they've been running an online test in which people name a range of shades – you can try it for yourself.

Results from 330 participants were analysed to pick out basic names. These were ranked in a number of ways, such as how often each colour name came up and whether the name was unique to one shade or common to many. Lilac and turquoise came ninth and tenth overall, beating white, red and orange.

The only measure turquoise didn't score highly on was the time it took people to enter an answer, says Mylonas. "Our observers had problems spelling it correctly."



The new basic colour chart, with lilac and turquoise (*Image: D.Mylonas/L.MacDonald*)

Evolving colour

Other studies have previously thrown up additional basic colours, but Mylonas says their large sample gives their findings more weight, at least among English speakers. One notable exception is the web comic *xkcd*, which in 2010 ran a similar survey with a quarter of a million people, but it wasn't a rigorously scientific study.

"We don't suggest this is a definitive number of basic colour terms," says Mylonas. Instead, he thinks the list changes over time. An explanation for these new basic words might be that people are exposed to many more colours than they were 50 years ago, thanks to the ubiquity of colour screens, he says.

But Angela Brown of Ohio State University isn't convinced by this theory. "We've had artificial dyes now for hundreds of years and it's very hard to see how computer graphics raises the colours we have."

She says studying how basic colour names evolve is about more than just what to paint your walls with. “We’re interested in how words come to be associated with things in your environment,” she says. “It’s a paradigm for studying human cognition.”

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