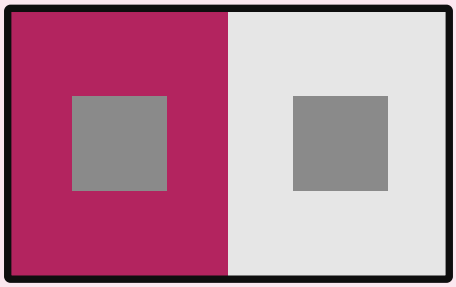
Theory

Interaction of color

The same color looks different depending on the colors around it: lighter, darker or a different hue. One color can look like two, and two colors like one.



In Spanish
Interacción del color

Origin
Chevreul (1839); in design, Albers (1963)

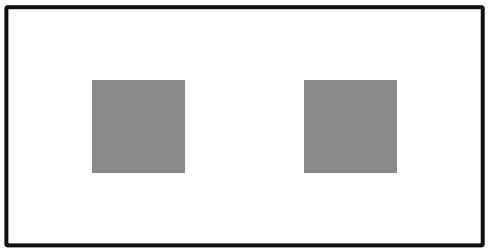
What problem it addresses

It explains why a color that worked on the swatch changes once it is placed in the piece. Design learns from it to choose colors together, never one by one.

An example

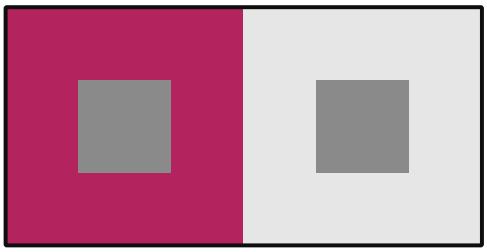
Two squares painted with the same gray, exactly the same ink.

On the same background



Both grays sit on white. **They look the same.**

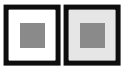
Each on its own background



One sits on a strong color and the other on light gray. **They look like two different grays.**

The ink did not change; its surroundings did. Albers asked his students to do exactly this: make one color look like two.

Why it happens

1 

We don’t see colors in isolation. The eye compares each color with its neighbors.

2 

That comparison exaggerates differences. Next to a dark background a color looks lighter; next to a light one, darker.

3 

So a color changes from neighbor to neighbor, even though the ink is the same.

Applications in design

Use it like this

Test each color on its real background and next to the colors it will live with in the piece.

Avoid

Approving a color from an isolated swatch or a palette on white.

Don’t fall for it

If you are unsure whether two colors are the same, cover what surrounds them: if they change once isolated, it was the context.

57% and 30%

Blue and black 

White and gold 

What the research says

Of 1,401 people who saw the same photo of a dress, 57% saw it as blue and black, and 30% as white and gold (Lafer-Sousa, Hermann and Conway, 2015).

●●● **Solid evidence.** Each person assumes a different light and discounts it: context decides the color. The phenomenon is well established, but Albers’s book is not experiments; it is studio exercises.

Connections

Used in

- Color, material and finish (CMF) design

Related to

- Accuracy of visual encodings
- Gestalt principles of perceptual organization

Authors and works

1839	**Michel-Eugène Chevreul**	A dye chemist, he saw that some blacks looked dull because of the colors next to them, not the dye, and stated the law of simultaneous contrast.
1963	**Josef Albers**	Taught color through cut-paper exercises: make one color look like two, and two colors look like one.
2015	**Rosa Lafer-Sousa, Katherine L. Hermann and Bevil R. Conway**	Measured how many people saw the same photo in different colors and how their answers changed when another light was simulated.

Sources

Original sources

- Albers, J. (1963). Interaction of color. Yale University Press.
- Chevreul, M.-E. (1839). De la loi du contraste simultané des couleurs et de l'assortiment des objets colorés. Pitois-Levrault.
- Lafer-Sousa, R., Hermann, K. L., & Conway, B. R. (2015). Striking individual differences in color perception uncovered by "the dress" photograph. Current Biology, 25. View source (https://doi.org/10.1016/j.cub.2015.04.053)

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