

The science of beauty: How aesthetics can boost your mood and cognition

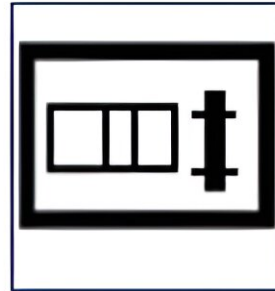
June 25 2024, by Irene Reppa



Credit: Pixabay/CC0 Public Domain

Your spacecraft is spiraling out of control, and you will hit planet Arakis unless you fire up the thermal after-boosters. Which of the two buttons below would help you fire up the boosters on time? Would you be more

likely to survive if the cockpit designer had installed the button on the left or the right?



Spacecraft buttons. Credit: Irene Reppa/International Organization for Standardization, [CC BY-SA](#)

If you picked the left button, congratulations! Science suggests you might have just survived the crash landing. But what is it about these buttons that made you pick one button over the other?

The short answer is [beauty](#), with the button on the left being more aesthetically appealing than the one on the right—making us spot it quicker. That may seem surprising. But beauty is more important to us than we tend to realize. As the poet John Keats [put it](#): "Beauty is truth, truth beauty. That is all ye know on Earth and all ye need to know."

How much we like something and how beautiful we find it, can have a compelling effect on our experience and behavior. Research shows that

when we see beautiful things—be it a person, a painting or a kettle—we attribute a whole host of positive affectations to them like [truth](#), [innocence](#) and [efficiency](#).

Beauty emerges from different properties of the loved thing. Sure, though there is a certain degree of subjectivity in what we like—I may love something that you don't—but, when it comes to beauty, there are some well-established properties that matter.

These include certain properties of the object itself, such as proportion, symmetry and curvature, as well as the relationship between the object and the viewer, including the degree of familiarity.

For instance, we tend to like classic architecture such as the Parthenon, because of its alluring proportions (such as [the golden ratio](#)), and we tend to find paintings [of familiar motifs more beautiful](#) than those of unfamiliar ones.

A generally accepted principle accounting for what we like is the [processing fluency theory](#): the easier it is to understand something, the more we like it.

Aesthetics matter

But why care about beauty? Why not take a utilitarian approach and embrace the functional above all things? Put simply: aesthetics matter, and it shows in our behavior and performance.

We surround ourselves with things we like, objects that are appealing to the eye. We visit art galleries and look at beautiful paintings. We surround ourselves with nice things at home.

We also tend to persevere more with things we like. A case in point is

mathematics, where an elegant and beautiful equation is preferred over a clumsy one. We tend to think that beautiful things will work better and be easier to learn and use. And sometimes we are correct—such as when we reach for a simple pencil sharpener because we think it will work better than a more cumbersome design.

But aesthetics can also influence performance in tasks where efficiency—speed and accuracy—matters. Even when we're not aware of it. In my own research, my colleague and I asked participants in our lab [to find icons on a screen](#). After controlling for several variables—such as complexity, meaningfulness, familiarity and concreteness—we found that participants spotted appealing icons faster than their less appealing counterparts.

But this was only when the task was difficult. That is, when the icons were complex, abstract or unfamiliar, there was a clear advantage for the more aesthetically appealing targets. By contrast, when the icons were visually simple, concrete or familiar, aesthetic appeal no longer mattered—the task was easy enough already.

In the figure at the top, both spaceship booster icons are complex, but the one on the left has greater aesthetic appeal—and that is why the left button would be the better one to put into your spaceship.

Aesthetics can beat the blues

Shops often carefully select music, objects and scents that can influence our buying behavior. [In our recent study](#), we showed how and why this works.

We put participants in a positive or negative mood by listening to either a happy or sad piece of music and reading a list of statements. We then asked them to complete a timed search task. Previous research shows

that negative moods can [negatively affect](#) our performance.

People in a positive mood found the appealing icons more easily than the unappealing icons. This benefit, however, also emerged for participants in a negative mood, but a little later. We concluded that the appealing stimuli must be inherently rewarding, with aesthetic appeal helping to overcome the detrimental effects of negative mood on performance—that is, appeal can beat the blues.

It seems that being in a positive mood makes us more likely to engage with beautiful things. But even in a negative mood, appealing items are likely to capture attention and influence behavior—as long as we remain exposed to them long enough.

There's increasing evidence that small doses of psychedelics in a [controlled environment](#) such as a clinic [can help treat depression](#). Such drugs typically produce [intense experiences of beauty](#)—in terms of colors and shapes—and help us feel more at one with our surroundings.

Small but significant effect

Aesthetic appeal can decrease a participant's response time by roughly one tenth of a second. This may seem small but can be quite significant: savings of even a few milliseconds at a time all add up when dealing with a bad wifi connection or a slow 3G signal on a smartphone.

Visionary leaders and innovators have long had an intuitive grasp of the importance of aesthetic appeal and simplicity in [industrial design](#)—perhaps none more so than Apple's founder Steve Jobs, whose [commitments to aesthetics and simplicity](#) were legendary.

Sadly, it appears as though many designers did not follow Jobs' visionary intuition. Perhaps the accumulating data will finally convince them that

design has an important impact on performance.

The next time you're designing a disruptive mobile app, or even the control center for your spacecraft, remember how important aesthetics and beauty are—it just might save your crash landing.

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