



## Q&A David Deutsch

# Objective beauty

Physicist David Deutsch is considered the founding father of quantum computing. In his 2011 book, *The Beginning of Infinity*, Deutsch argues that there is such a thing as objective beauty.

### What is your argument for the existence of objective beauty?

The argument I like best is about why flowers are beautiful. Flowers evolved to attract insects, and insects evolved to be attracted to flowers. But this explanation leaves a massive gap: it only explains why insects like flowers. So how is it possible that something that evolved to attract insects can be attractive to humans too? I conclude that there must be objective beauty — aspects of beauty exist outside cultural fads or sexual selection. And these aesthetic truths are as objective as the laws of physics or maths.

### If beauty is objective, why is there so much variation in what people consider beautiful?

Beauty has both a subjective and objective part. Human aesthetic judgment is a complicated mixture of genetic, cultural and objective factors. If you look at paintings from centuries ago, you will find that the women tend to be considerably heavier than what we now consider to be ideal. That can be neither objective nor genetic, so it must be cultural. Our preference for symmetry is probably related to our preference for healthy mates — many diseases and deformities make people less symmetrical. So that one could be genetic.

Our knowledge of the nature of objective beauty is still primitive. We cannot reliably distinguish between subjective and objective beauty, certainly not by just looking. Things that

meet aesthetic preferences built into our brains or instilled by culture look just as beautiful to us as those that are objectively beautiful.

### Why is it important to acknowledge the existence of objective beauty?

During the twentieth century, some movements denied that there was such a thing as objective truth in science. These movements significantly held back scientific progress. For example, I'm pretty sure quantum computing would have been proposed in the 1950s rather than in the 1980s if it had not been for these beliefs. Because our culture generally denies the existence of objective beauty, research into it is substantially cut down. I'm not aware of any research that looks at the nature of objective beauty.

### How do you counter those who insist that beauty is always subjective?

It is remarkable how the arguments against objectivity in aesthetics, and in morality, have exact counterparts in classic arguments against objectivity in science. People say we do not have access to the world; we only have access to the interpretations that we put on the world through our senses. The second part is right, but that does not mean we cannot achieve truth. To think that, is to confuse truth itself with some sort of superhuman, certified, reliable access to the truth. For example, the abolition of slavery was an objective moral improvement. It is not just cultural. It is certainly not genetic. It is not

a matter of preference. It would still be true that slavery was wrong even if nobody knew that.

### What is the connection between aesthetic beauty and scientific argument?

Beauty in science is called elegance. Physicists will, as a matter of practice, take elegance as a guide. There is the phrase: many a beautiful theory was slain by an ugly fact. This is very true. But when it happens, we inevitably find an underlying theory that is even more beautiful than the theory that was slain. So beauty cannot be used as a criterion of what is true; but it is at the very least useful as a guide to what to try next.

### What factors do you believe govern human sexual attraction?

I speculate that human beauty started out just like any other animal beauty — completely biological, and not objective at all. But as humans became intelligent and started making aesthetic judgements, they increasingly tried to improve the aesthetic and other standards by which they chose their mates. And that increasingly led to true standards. So we should find that the common features that have changed in all human populations since our ape ancestors are aspects in which humans have become objectively more beautiful.

### Are you saying that humans have steadily made the world more beautiful in the same way that we have achieved scientific progress?

Yes. Objective beauty, like objective truth, is subject to open-ended improvement. For example, our knowledge of physics can contain more and more truth, even though no one theory is ever perfectly true. Newton's theory contained more truth than what was there before. But it was superseded by Einstein's theory. And science continues its progress by finding new aspects of reality forever. By contrast, something that is subjective reaches a maximum and then stops.

We discover aesthetic truths in the same way as we discover scientific truths, even if the methods look different. It is conjecture and improvement according to some standard; then improvement of the very standards; then criticism of existing ideas according to these standards; and so on.

Aesthetic progress has been a lot slower than scientific progress because people can only express in words a tiny proportion of what they know about beauty. But humans have achieved an enormous amount. Mozart and Beethoven improved artistic standards in music. And films have become more beautiful in the past century.

Only humans can improve on beauty. When nature achieves beauty it is an accidental by-product of something else. Nature can only get so beautiful, but humans can paint something that is more beautiful than any scene. ■

INTERVIEW BY KRISTIN LYNN SAINANI

This interview has been edited for length and clarity.