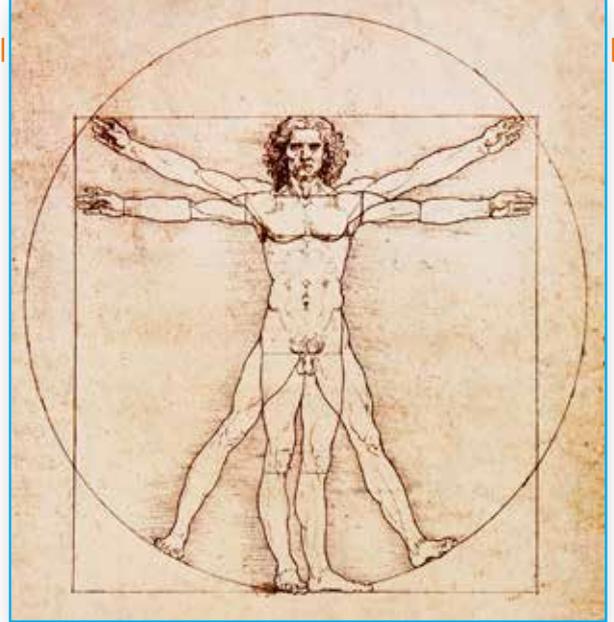
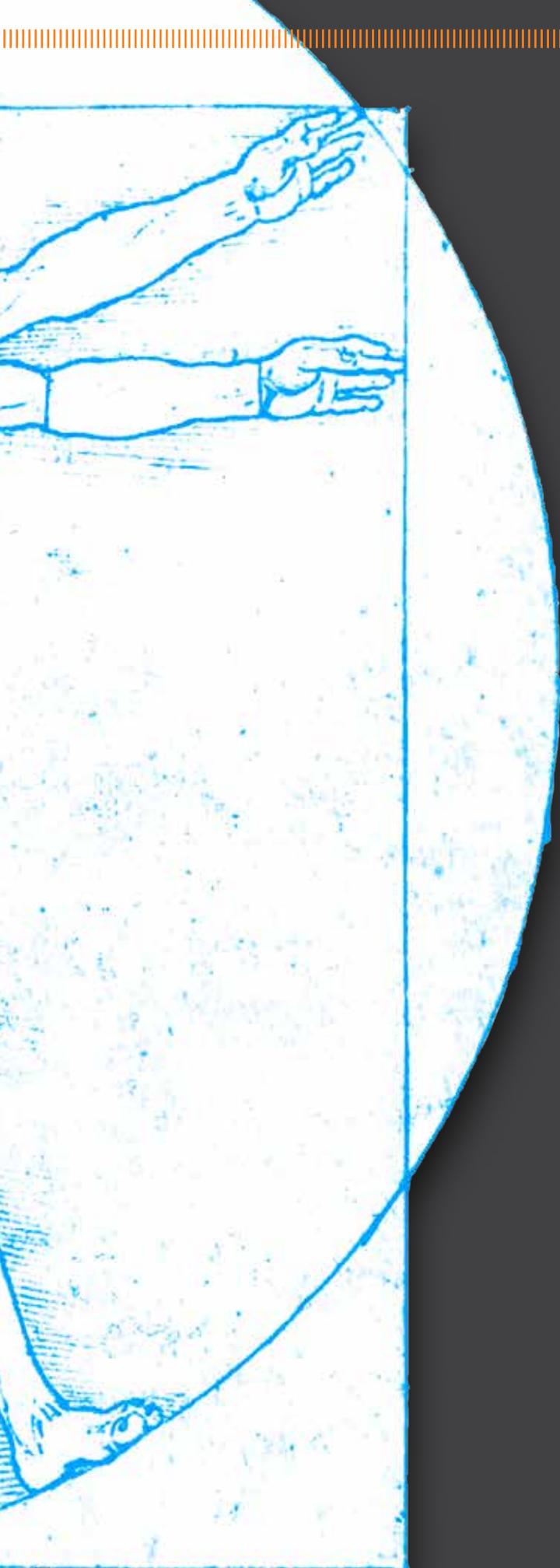


Even Steven

FROM YOUR NOSE TO YOUR TOES, THERE ARE PERKS TO BEING SYMMETRICAL.

More than 500 years ago, the artist and scientist Leonardo da Vinci made a sketch of what was considered at the time to be the ideal human body. His famous drawing of “The Vitruvian Man” shows a handsome man of perfect proportions, each outstretched arm and leg exactly the same length as its mate. >>



The illustration offers an example of bilateral symmetry—where the left and right side of a body are more or less a mirror image of one other. But it turns out that symmetry is more than just a Renaissance ideal of beauty. Modern scientists have found that symmetry offers many advantages. Even when the differences are tiny, the most symmetrical people tend to be faster and healthier than their more irregular counterparts. They're also considered more attractive—and they even smell better!

➤ **Nice Genes**

But building a truly symmetrical body (where the mirror images are a perfect match) is harder than it looks. To get symmetry right, your body needs to be good at a wide variety of tasks, like absorbing nutrients, distributing energy evenly, and forming proteins. In that sense, symmetry can act as a kind of “health certificate,” showing that your internal systems are working well, and you had a normal, healthy development, says evolutionary biologist John Manning of Northumbria University, Newcastle upon Tyne, in the United Kingdom.

Instead of looking at just one body part, researchers measure the symmetry of 10 or 12 different points in the body—such as the length of the index fingers, the widths of the wrists, ankles and knees, the size of the feet, and more. They add up all the measurements to check how symmetrical a person is as a whole.

“None of us actually achieve perfect symmetry on all our traits,” Manning says. But some people get very close, with only tiny differences between the left and right sides of their body. These very symmetrical people are less likely to have health problems, are less prone to depression, and even tend to have a higher IQ. A recent study that measured the handgrip strength of 69 men found that the more symmetrical men were also stronger.

Many of these benefits aren’t caused by the symmetry itself. Instead, overall symmetry is probably a sign that someone is healthy and has good genes. But in some cases, being particularly symmetrical can help a body perform better.

That seems to be the case with runners. Evolutionary biologist Robert Trivers of Rutgers University in New Jersey studied competitive sprinters in Jamaica, and compared their measurements to average Jamaican bodies. Trivers used calipers to measure the width of each knee at its widest point. He looked for runners whose left knee was almost exactly the same width as the right. “The elite sprinters had more symmetrical knees and ankles than normal people, but their feet were the same,” he says. Among the athletes, the men and women with the most perfectly symmetrical knees were the best of the best.

In an earlier study, Trivers even found that symmetry could be used to predict future running ability. He measured the knees of 288 Jamaican children in 1996, and again in 2006. When he returned in 2010, he also measured their sprinting speed. “If you had more symmetrical knees when you were 8 years old, then 14 years later, when you were 22, you ran the 100-meter dash more quickly than less symmetrical individuals,” he says.



Top sprinters have very symmetrical knees, according to one study.

➤ **Attractive Proportions**

While scientists might use sensitive instruments to measure whether a person is symmetrical, most of us can tell with a quick glance. That doesn’t mean we’re on the lookout for symmetry, just that we register the other person’s face as attractive or unattractive, says Randy Thornhill, an evolutionary biologist at the University of New Mexico.

Early studies had people look at photos of members of the opposite sex and rate their attractiveness. Researchers found that people with more symmetrical faces were rated as being more attractive. Later, researchers used computers to alter the photographs, making the same face appear more or less symmetrical. They found that

THE SCENT OF SYMMETRY?

Mmmm. Nothing’s more appealing than an aroma of musk, sandalwood, and . . . symmetry?

“In several species, including people, more symmetric individuals smell better to the opposite sex,” says evolutionary biologist Randy Thornhill of the University of New Mexico.

Thornhill gave a group of men clean T-shirts and had them sleep in the shirts for two nights. They measured the men for 10 traits of body symmetry, including fingers, wrists, elbows, ankles, and feet. Then they had a group of women sniff the shirts and rate each one for how attractive it smelled.

The result? Women who were in the fertile period of their menstrual cycles often preferred the scent of more symmetrical men. Does that mean the next fancy cologne will be called Eau de Symmetry?





increasing the symmetry of the face made it even more attractive to the opposite sex.

It's not surprising that people tend to reach the peak of their symmetry at around 19 or 20, Manning says. That's an age at which people tend to be dating and looking for a romantic partner. Why do we find symmetry so attractive? Part of the reason is because we're probably interested in finding someone who's healthy and has good genes.

But symmetry isn't just a sign of good health; it can also be an indicator of another important quality in a mate: fertility.

Humans aren't the only creatures who find symmetry a desirable quality. Much of Thornhill's early symmetry research was on scorpion flies. He found that male scorpion flies that had more symmetrical wings and other body parts were not only more successful in winning fights for food and resources, but female flies also preferred them as mates.

What's next for symmetry research? Trivers' Jamaican study is one of the most important projects now underway, Manning says, because it's followed the same group of people for almost 20 years, giving scientists a rare look at how human symmetry relates to health and fitness over time.

Until now, most research has looked at the benefits of being born especially symmetrical. But Trivers says he next wants to study whether physical exercise and training can actually help people become more symmetrical. He plans to study the same group of Jamaican athletes as they work at becoming faster, measuring their knees at regular intervals. "We're planning to do more work to find out if knees get more symmetrical during this period of intense training," he says.

FPO

Ilima Loomis is a science writer in Maui, Hawaii. She's not sure if her knees are symmetrical, but she has a lopsided grin.