TedEd-35

The Science of Attraction

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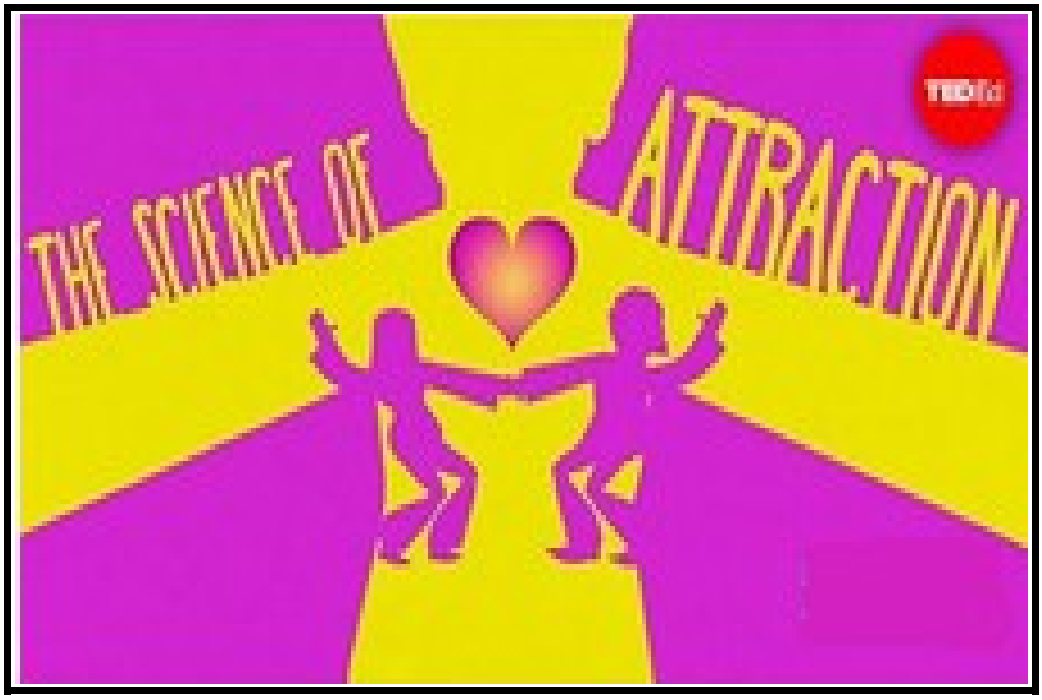

We like to think of romantic feelings as spontaneous and indescribable things that come from the heart. But it's actually your brain running a complex series of calculations within a matter of seconds that's responsible for determining attraction. Doesn't sound quite as poetic, does it? But just because the calculations are happening in your brain doesn't mean those warm, fuzzy feelings are all in your head. In fact, all five of your senses play a role, each able to vote for, or veto, a budding attraction. The eyes are the first components in attraction. Many visual beauty standards vary between cultures and eras, and signs of youth, fertility and good health, such as long lustrous hair, or smooth, scar-free skin, are almost always in demand because they're associated with reproductive fitness. And when the eyes spot something they like, our instinct is to move closer so the other senses can investigate. The nose's contribution to romance is more than noticing perfume

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or cologne. It's able to pick up on natural chemical signals known as pheromones. These not only convey important physical or genetic information about their source but are able to activate a physiological or behavioral response in the recipient.

In one study, a group of women at different points in their ovulation cycles wore the same T-shirts for three nights. After male volunteers were randomly assigned to smell either one of the worn shirts, or a new unworn one, saliva samples showed an increase in testosterone in those who had smelled a shirt worn by an ovulating woman. Such a testosterone boost may give a man the nudge to pursue a woman he might not have otherwise noticed. A woman's nose is particularly attuned to MHC molecules, which are used to fight disease. In this case, opposites attract. When a study asked women to smell T-shirts that had been worn by different men, they preferred the odors of those whose MHC molecules differed from theirs. This makes sense. Genes that result in a greater variety of immunities may give offspring a major survival advantage.

Our ears also determine attraction. Men prefer females with high-pitched, breathy voices, and wide formant spacing, correlated with smaller body size. While women prefer low-pitched voices with a narrow formant spacing that suggest a larger body size. And not surprisingly, touch turns out to be crucial for romance. In this experiment, not realizing the study had begun, participants were asked to briefly hold the coffee, either hot or iced. Later, the participants read a story about a hypothetical person, and were asked to rate their personality. Those who had held the hot cup of coffee perceived the person in the story as happier, more social, more generous and better-natured than those who had held the cup of iced coffee, who rated the person as cold, stoic, and unaffectionate.

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If a potential mate has managed to pass all these tests, there's still one more: the infamous first kiss, a rich and complex exchange of tactile and chemical cues, such as the smell of one's breath, and the taste of their mouth. This magical moment is so critical that a majority of men and women have reported losing their attraction to someone after a bad first kiss. Once attraction is confirmed, your bloodstream is flooded with norepinephrine, activating your fight or flight system. Your heart beats faster, your pupils dilate, and your body releases glucose for additional energy, not because you're in danger but because your body is telling you that something important is happening. To help you focus, norepinephrine creates a sort of tunnel vision, blocking out surrounding distractions, possibly even warping your sense of time, and enhancing your memory. This might explain why people never forget their first kiss. The idea of so much of our attraction being influenced by chemicals and evolutionary biology may seem cold and scientific rather than romantic, but the next time you see someone you like, try to appreciate how your entire body is playing matchmaker to decide if that beautiful stranger is right for you.