

The Science of Love

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Humanity has long been confounded as to the perplexing aspects of that indescribable phenomenon we know as love. For centuries, painters and poets, the romantic *métiers* of society have made valiant attempts to describe love in its most raw state. Yet science, a less than affectionate field of study, is sweeping the rug out from beneath us by revealing that love is merely a chemical concoction of dopamine, oxytocin, and similarly related neurotransmitters.

In her 2006 TEDTalk on love, neuroscientist and biological anthropologist Dr. Helen Fisher said that “Millions of years ago, we evolved three basic drives: the sex drive, romantic love and attachment to a long-term partner.”

With a sentence, fueled by years of research and a multitude of fMRI brain scans, Dr. Fisher was able to break down love into three distinct processes - lust, attraction, and attachment.

A few blunt words and love is deconstructed, laid bare to be poked and prodded by those with scrutinizing eyes and sterile gloves.

Kickstarting

Love is first initiated with the sex drive – androgens and estrogens begin their surge upwards and demand that you seek out a significant other. According to a 1997 paper of Dr. Fisher’s, these are both hormones that fuel the sex drive. They each “evolved to get you out there, looking for a whole range of partners.”

In comparison, the attraction stage is what causes love struck people to become fixated on a certain person. Surging levels of adrenaline result in a stress response, which explains the reason you freeze up or suddenly forget what to say around your crush. Spikes of dopamine cause a euphoric attitude and a figurative “high” within the brain. The region affected by the explosion of dopamine is also the area that shows activity when experiencing the rush of cocaine, reports Dr. Fisher.

The obsessive, intrusive thoughts about the

person you love are due to the lowering of serotonin. Nearly 65 percent of a love-struck person’s day is spent thinking about the object of their infatuation, according to a 2012 study conducted by Sandra J. E. Langeslag, an Assistant Professor in the Department of Psychological Sciences at the University of Missouri-St. Louis.

Snuggle Up

Succeeding the passionate, dopamine-drenched attraction period is the blissful chapter of attachment. Oxytocin, also known as the “cuddle hormone,” and vasopressin are the final two ingredients in this biological love potion. An incredibly powerful bond, as well as the ability to read each other’s eyes and body language, is all thanks to oxytocin. The chemical is created in abundance during physical contact with a partner, one example being hand-holding.

Long-term couples often experience this change in their relationships. My father, for instance, says that he’s had an “obsession” with my mom since day one, but recently he has “noticed more of a comfortable, ‘cuddly’ sort of love” between them.

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It would be a mistake to consider transitioning from the dopamine stage to the oxytocin stage reaching the peak of your romantic life and then tipping off. The change is merely a different type of love - not a weaker brand.

These stages are merely outlines for the processes of love, and it’s important to know that



“Bubbles” painting by Danielle Doorn

not everyone will experience love in the same way.

“It is, of course, possible to have one [stage] and not the other two, or some combination, or all three . . . It’s just more common to experience lust, then attraction, then attachment,” says Assistant Professor of Psychology at Idaho State University Dr. Mona Xu.

What’s Your Type?

Science has so far been able to determine the components of love, but the question of why we fall in love with specific persons remains unanswered. However, Dr. Fisher’s new project is endeavoring to answer this question.

Dr. Fisher is not only a revolutionary anthropologist but also the Chief Scientific Adviser for Match.com – the most popular online dating service as of 2017. Her research birthed a sister site, known as Chemistry.com. By answering a series of questions, people are able to determine whether they are a Negotiator, Director, Explorer, or Builder. Each type is decided by the dominant amount of estrogen, testosterone, dopamine, or serotonin an individual displays.

From a biological standpoint, people subconsciously choose others with physical characteristics that suggest fertility and health. On the other hand, speculation from psychologists suggest that we prefer people of the same socioeconomic background and shared values – essentially those who share qualities we possess and an upbringing similar to the one we experienced.

Older psychologists, such as Sigmund Freud, proposed that it was infantile memories that

affected the selection of whom we would later love.

“[Sigmund] Freud thought that . . . a person we fall in love with is a reflection of what we learned in the beginning years of life – whether we are conscious of their impact or not,” says English Teacher Cadet Linh Tran, who has a B.S. in English/Psychology from Winthrop University.

Modern postulation focuses on psychologist John Money’s theory of lovemaps – the idea that we each have unconscious blueprints for what love should “look like” based on past experiences with love – whether that be firsthand or through exposure to our parents’ relationship.

Mixed Reactions

Not all those who have been exposed to the scientific account of love have understood the findings or have simply refused to accept the data.

“[The reactions] have been mixed,” said Dr. Xu. “There’s a lot of excitement about the scientific study of love, but there are also skeptics.”

Dr. Xu credits the increase in positive responses to research to decades of pioneering

work, brain imaging, and physiological responses.

Scientific analyzations and poetic interpretations provide humankind with the tools to decipher love. In truth, love is what we make it.

“I think love is a combination of all these things: confusing chemicals, something beyond definition, products of life lessons, and hopes for the future,” Miss Tran said. “Understanding the various reasons for love is useful. Science gives us the tools to be mindful of why we do things so that we may avoid circumstances where love is false or hurtful or so that we may learn to appreciate love that is worthy and rewarding.”

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“Red Coat” photo filtered with Prisma by Lily Asaad

Little Red Coat

Lily Asaad

Little girl. Little dreams. Little red coat. Little does she know that the world around her is so big. She only sees beauty, only knows what she’s told. She’s taught the world is a beautiful place full of wonder and serendipity and that her dreams can be as big as the sea. She has only known happiness in her life and has no understanding of evil. Innocent little girl, she pours herself into everything she does; she is a work of art. Little girl, 7-years-old, only looks forward growing up.

Little girl. Little dreams. Little red coat. Little does she know she’s unique. She doesn’t have to pretend to be someone she’s not. Little girl, 14, plays outside in clear skies, green grass, and beautiful friends. She longs to be like them, wants to fit in. So she straightens her hair, shops at the mall, puts on lipstick. But her skin isn’t white, her body isn’t fit, and her hair

isn’t straight. Little girl, with her tan skin, curvy body, and curly hair doesn’t see that she’s special.

Little girl. Little dreams. Little red coat. Little does she know of the friends who talk about her when she turns away. Little girl with a graciousness in her heart, doesn’t see others mock her. Little girl, 17, chooses to ignore the degrading words meant to shatter her sparkle. Instead, she picks up a guitar and a microphone, and everything else fades away. Every tear shed turns into a masterpiece. She chooses to wear a smile and to dream big even when she’s awake. Little girl understands it’s okay to be different because, like the Apple commercial says, “the people who are crazy enough to think they can change the world are the ones who actually do.”

Little girls. Little dreams. Little red coat. Little does she know she’s going to change the world.