The Brain in Love

Using neurochemistry to try to unravel the experience of romantic passion

By Barbara Smuts

REVIEWS

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Why We Love: The Nature and Chemistry of Romantic Love
by Helen Fisher
Henry Holt, New York, 2004

A male baboon named Sherlock sat on a cliff, unable to take his eyes off his favorite female, Cybelle, as she foraged far below. Each time Cybelle approached another adult male, Sherlock froze with tension, only to relax again when she ignored a potential rival. Finally, Cybelle glanced up and met his gaze. Instantly Sherlock flattened his ears and narrowed his eyes in what baboon researchers call the come-hither face. It worked; seconds later Cybelle sat by her guy, grooming him with gusto.

After observing many similar scenarios, I realized that baboons, like humans, develop intense attractions to particular members of the opposite sex. Baboon heterosexual partnerships bear an intriguing resemblance to ours, but they also differ in important ways. For instance, baboons can simultaneously be "in love" with more than one individual, a capacity that, according to anthropologist Helen Fisher, most humans lack.

Fisher is well known for her three previous books (*The Sex Contract* ,*Anatomy of Love* and *The First Sex*), which bring an evolutionary perspective to myriad aspects of sex, love, and sex differences. This book is the best, in my view, because it goes beyond observable behaviors to consider their underlying brain mechanisms. Most people think of romantic love as a feeling. Fisher, however, views it as a drive so powerful that it can override other drives, such as hunger and thirst, render the most dignified person a fool, or bring rapture to an unassuming wallflower.

This original hypothesis is consistent with the neurochemistry of love. While emphasizing the complex and subtle interplay among multiple brain chemicals, Fisher argues convincingly that dopamine deserves center stage. This neurotransmitter drives animals to seek rewards, such as food and sex, and is also essential to the pleasure experienced when such drives are satisfied. Fisher thinks that dopamine's action can explain both the highs of romantic passion (dopamine rising) and the lows of rejection (dopamine falling). Citing evidence from studies of humans and other animals, she also demonstrates marked parallels between the behaviors, feelings and chemicals that underlie romantic love and those associated with substance addiction. Like the alcoholic who feels compelled to drink, the impassioned lover cries that he will die without his beloved.

Dying of a broken heart is, of course, not adaptive, and neither is forsaking family and fortune to pursue a sweetheart to the ends of the earth. Why then, Fisher asks, has evolution burdened humans with such seemingly irrational passions? Drawing

on evidence from living primates, paleontology and diverse cultures, she argues that the evolution of large-brained, helpless hominid infants created a new imperative for mother and father to cooperate in child-rearing. Romantic love, she contests, drove ancestral women and men to come together long enough to conceive, whereas attachment, another complex of feelings with a different chemical basis, kept them together long enough to support a child until weaning (about four years). Evidence indicates that as attachment grows, passion recedes. Thus, the same feelings that bring parents together often force them apart, as one or both fall in love with someone new. In this scenario, broken hearts and self-defeating crimes of passion become the unfortunate by-products of a biological system that usually facilitates reproduction.

OLIVE BABOONS, an adult female (*left*) and male, snuggle during an afternoon rest period in Kenya. Among baboons, only pairs who have formed long-term friendships have been observed in such intimate contact.

Fisher's theory of how human pair-bonding evolved is just one of several hypotheses under debate today, and she does not discuss these alternatives. Similarly, some of her ideas about love's chemistry are quite speculative (which she fully acknowledges). No one familiar with the evidence, however, can disagree that romantic love is a human universal that requires an evolutionary explanation, and Fisher, more than any other scientist, has brought this important point to public awareness.

Like the words of a talented lover, Fisher's prose is charming and engaging. Love poems, both modern and classic, enliven her narrative, along with poignant examples of romantic passion from other times and cultures. One chapter is a litany to passion in other animals, a vivid reminder that we are not the only species that feels deeply. Another provides new insight into the obsessive attempts of abandoned lovers to rekindle romance. Toward the end of the book, Fisher helps to redeem the self-help genre, rooting her advice in hard science. She shows how you might "trick the brain" to maintain enduring passion or recover more quickly from the pain of rejection: "Someone is camping in your brain," she reminds us, and "you must throw the scoundrel out." Engaging in activities known to increase dopamine might help; after all, love is not our only source of intense pleasure.

n hands as skilled and sensitive as Fisher's, scientific analysis of love only adds to its magic. If you forgot to give your beloved a gift on Valentine's Day, it's not too late to woo him or her anew with this book, which is likely to fascinate and delight anyone who has ever been in love.

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