Romance Is An Illusion

By Carl Zimmer

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There's nothing like being in love. Minutes seem to creep and fly at the same time. We get lost on the way home, thinking of the next date. Music cries out to us alone, and the full moon winks our way. Long after other memories fade, the recollection of love lingers. It's pure magic. Or at least that's what we like to tell ourselves.

For all the advances scientists are making deciphering the biology of love--for all the circuitry appearing in brain scans and the chemistry emerging in blood and scent studies--we still want to believe that science will never tame romance. We're sure that it will always remain utterly separate from the cells and organs and reflexes that biologists study. And indeed, how could anything that so moves us to poetry and song be so reducible to behavior and chemicals?

Charles Darwin started wrestling with questions like this when he published his 1871 book The Descent of Man. Darwin granted that his readers might doubt that humans evolved from an ancestral ape. "Man differs so greatly in his mental power from all other animals, there must be some error in this conclusion," he wrote. But he argued that the difference between us and other animals was of degree, not of kind. That applied not just to our teeth and toes but also to our morals and minds. And even, he declared, to love.

Over the past 137 years, scientists have learned again and again the value of Darwin's perspective. One of the best ways to appreciate what it means to be human is to learn about how human abilities came to be. No other species uses full-blown language, for example. But animal communication is surprisingly complex. Primates in particular are able to do a lot of the mental tasks that are essential to grasping language. Regions of the brain once considered language centers have been discovered in monkeys; instead of handling language, they control mouth movements. Geneticists in recent years have found human genes essential to language; it turns out that similar versions of the same genes make communication possible in other animals, from squeaking mice to shrieking bats.

This doesn't mean that baboons or bats can write like James Joyce. But scientists have identified a lot of common raw material that we all started out with. What makes us different is the peculiar evolutionary history our ancestors experienced as they adapted to life as savanna-wandering hunter-gatherers.

Man is a rational animal, Aristotle declared, but experiments have demonstrated that reason is not a gift of our species alone. Last December, researchers reported that monkeys were almost as good as college students at arithmetic (at least when the arithmetic involved adding dots on a screen). And our rationality is not a smooth machinelike intelligence but a complicated landscape of strengths and weaknesses. We're good at solving reasoning problems if they're presented as social puzzles. We don't do as well if the same problems are expressed in the abstract language of logic. A number of researchers

argue that the results emerge from our evolution as social creatures, not logicians.

Humans were once thought the only toolmaking animals--until scientists noticed that chimpanzees and other apes could fashion sticks and rocks into tools too. A type of crow can make probes from sticks and use them in clever ways as well, even pushing one stick with another or inserting twigs into holes to collect bugs.

Another species of bird, the scrub jay, has challenged our supposedly unique gift of foresight. Scrub jays like to store food, and they remember thousands of different hiding places. Studies have shown that they make a special point of tucking food away when they expect they'll need it the next day. What makes the time-traveling and toolmaking of birds all the more impressive is that, unlike apes and monkeys, they don't share a close evolutionary history with us. They evolved these supposedly human features on a line parallel to the one we traveled--essentially developing the skills a second time over.

There are reasons to conclude that romance as well was shaped by the unsentimental hand of evolution. We humans don't have a monopoly on oxytocin and other molecules linked to feeling in love. Love may switch on reward pathways in our brains, but other animals have similar--if simpler--reward pathways too.

Martie Haselton, a psychologist at UCLA, is exploring the forces that may have shaped those more primal attributes into modern love. She believes it all comes down to the long-term health of children. Haselton calls romantic love a "commitment device," a mechanism that encourages two humans to form a lasting bond. Those bonds help ensure that children survive to reproductive age, getting fed and cared for by two parents rather than one. "Natural selection has built love to make us feel romantic," she says.

In her experiments, Haselton finds evidence for love as an adaptation. She and her colleagues have people think about how much they love someone and then try to suppress thoughts of other attractive people. They then have the same people think about how much they sexually desire those same partners and then try again to suppress thoughts about others. It turns out that love does a much better job of pushing out those rivals than sex does. Haselton argues that this effect is exactly what you'd expect if sex was a drive to reproduce and love was a drive to form a long-term commitment.

This sort of research does not degrade love any more than understanding optics degrades a sunset. Just because romance has an evolutionary history doesn't mean it's identical to what other animals experience. Our ancestors branched off from the other apes several million years ago and have taken their own evolutionary journey since. Falling in love may be natural, but that doesn't mean it's not exceptional.

Zimmer is the author of Evolution: The Triumph of an Idea, among other books