

Romantic Reverie

By BRUCE BOWER

As the pilot gunned the engines of the 737 on the airport runway, I leaned back in my seat and closed my eyes. The American Psychological Association's annual meeting receded with the Toronto skyline. Three days of cramped note-taking in pitch-black rooms as psychologists tried to explain the meaning of scribbles and numbers projected onto large screens had taken their toll. Sleep engulfed me, and with it came a dream that provided a bizarre replay of what I had managed to glean from the sessions, as well as a few related tidbits.

The dream took place in an Italian restaurant, where I sat at a small table across from Cher, Oscar-winning star of artificial-sweetener commercials and husky-voiced crooner of "Bang, Bang, I Shot My Baby Down." The service in my dream-time diner stank: Surly waiters brushed by our table as I attempted to wave them down with my press pass. Cher and I nursed a bottle of chianti and picked at some bread. We had plenty of time to chat.

Cher: Men. The old ones lose their pep, the young ones lose your credit cards. I'm starting to think "A Few Good Men" is just a movie title.

Me: Don't look at me — I'm over the hill. But I did just attend a psychology conference where there was an awful lot of talk about love — from the podium.

Cher: What, no sex?

Me: Yes, there was plenty of that, too. Talk about sex, I mean. But let's take the old-fashioned route and start with love.

After several decades of assuming that love gets gussied up in a wide variety of cultural costumes and may not even exist in some non-Western societies, many psychologists now argue that romantic love blooms in all corners of the world. Richard Rapson and Elaine Hatfield of the University of Hawaii in Honolulu find that the ease with which people fall in love and the depth of their passion varies from one place to another, but heart-pounding, sweaty-palmed love happens everywhere. To bolster their assertion, the

psychologists note that people in at least 147 of 166 hunting and foraging societies studied by ethnographers show the scars of Cupid's arrows. Members of these far-flung groups talk about the anguish and longing of infatuation, sing love songs and tell tales of great romances, elope when mutual affection clashes with the wishes of parents or elders, and acknowledge the existence of passionate love.

Cher: That reminds me of my Academy Award-winning role in the movie "Moonstruck," where I can't help but fall in love with that hunky Nicholas Cage after I get engaged to Danny Aiello. That's amore. That's acting.

Me: That's a Hollywood love story. But love stories pop up everywhere. Based on his investigations of attitudes about love, Robert J. Sternberg of Yale University argues that each of us writes an internal love story as we grow up that directs our amorous energies. We choose a partner who fits as well as possible into our love story, even if that person is not Mr. or Ms. Right.

Our opinion of ourself may help determine the love story we fancy. For instance, William B. Swann Jr. of the University of Texas at Austin asserts that people choose partners who see them as they see themselves, even if they consider themselves deadbeats or dimwits. Among 95 married couples, Swann's group found that partners with positive self-concepts reported more commitment to spouses who viewed them favorably, while those with low self-concepts held tighter to spouses who gave them critical reviews. These findings appeared in the March 1992 *PSYCHOLOGICAL SCIENCE*.

Important early relationships, such as those with parents, shape our self-concept, according to Swann. And one's self-concept greatly narrows the field of prospective partners, including those inhabiting internal love stories.

Cher: No kidding? I'd hate to hear Joey Buttafuoco's internal love story. Or Heidi Fleiss'. Or...

Me: I catch your drift. Yale's Sternberg makes this proposal: People hold ideals

**Mild-mannered
reporter**

dreams up tale

of love, sex,

and celebrity worship



about intimate relationships that inspire their internal love stories and influence their real-life love connections. Satisfied couples reach a compromise over the love story each partner wants and the tale each can live with.

The story that emerges then shapes their ongoing experience of love, which consists of different combinations of intimacy, passion, and commitment, in Sternberg's opinion. For instance, "romantic love" thrives on intimacy and passion, "fatuous love" features only passion and commitment, and "consummate love" encompasses all three prongs of affection, if you'll pardon the expression.

Cher: Consummate love? Gimme a break. Most of the time, you get two out of three prongs, you lucked out. What happened to the good old days, when Romeo exercised regularly, looked good in tights, and killed himself for Juliet's love? Why can't I meet a guy like that — preferably in his early 20s?

Me: I think you're implying that love and sex have taken on different meanings at different points in history.

Cher: Uh, yeah. Sure. Hey, where the heck is my linguine?

Me: Well, Hawaii's Rapson and Hatfield agree with you. Until quite recently, they argue, political and religious authorities tried to stamp out passionate love and sexual desire. Where these fevered personal emotions flourish, official attempts to control people's lives founder. In the good old days, people generally expected love to crash and burn. Many cultures



Illus: Randy Fletcher

contributed tragic love stories in the Romeo-and-Juliet vein.

Beginning around 500 years ago, Western attitudes toward love and sex began to infiltrate many other cultures, the Hawaiian psychologists argue. Western influence has sparked a worldwide increase in marriages for love, a drop in arranged matrimony, more power-sharing arrangements between marriage partners, and greater certainty that passionate lovers can look forward to good times, they hold.

Cher: That's real nice. But where I come from, divorces are a dime a dozen and keeping track of your affairs has nothing to do with business.

Me: Good point. But to understand it better, maybe we should move from the history of love and sex to their prehistoric roots.

Cher: What do you say we leave Fred and Wilma Flintstone's private lives out of this?

Me: Okay. I don't trust a cartoon in which

Stone Age folks and dinosaurs live side by side, anyway. But see if this theory, advanced by David M. Buss of the University of Michigan in Ann Arbor, animates you: Over the past several million years, men and women have evolved different strategies for attracting and dealing with sexual partners. The harsh necessity of propagating the human species within small groups of foragers, scavengers, and hunters helped shape these sexual strategies and their associated features, such as love.

Buss traces many current conflicts between the sexes to a clash of evolved strategies for short-term mating, otherwise known as casual sex, and long-term mating, exemplified by marriage. Extensive cross-cultural data, described by Buss and Michigan colleague David P. Schmitt in the April *PSYCHOLOGICAL REVIEW*, indicate that men approve of casual sex much more than women. Reproductive success for men has long depended on sexual access to more than one woman, Buss says. A big reason for this may be that only women know for sure a child is theirs. Because human females show no obvious signs of ovulation, paternity is uncertain, providing an incentive for male wanderlust. Men who produce

the most offspring usually achieve this distinction by having sex with numerous women. In fact, men take multiple wives or mistresses in most societies, Buss notes, and extraordinarily powerful and wealthy guys often show a penchant for keeping harems.

Women, on the other hand, generally look for reliable signs of long-term commitment from a man, often accompanied by at least a minimal ability to provide economic support to a family, before consenting to sex.

Cher: Let's cut to the chase: Men are pond scum.

Me: Buss essentially agrees. If his theory proves correct, men's evolved sexual strategies foster several unsavory features of most large civilizations: Men tend to control wealth and power at the expense of women; men exert many controls over sexuality and reproduction; and men think of sexual partners — especially wives — as property.

What's more, female adulterers get treated far more harshly, legally and otherwise, than male adulterers in all societies for which evidence exists. And male jealousy over real or imagined liaisons accounts for the lion's share of

spousal homicides recorded in North America and elsewhere.

Cher: All right, guys have sex on the brain. But I haven't exactly been a wallflower, either.

Me: At least according to the tabloids. But you know, Helen E. Fisher, an anthropologist at the American Museum of Natural History in New York City, thinks evolutionary theorists have often underestimated the amount of sexual variety sought by women. She theorizes that as humans evolved, men pursued numerous sex partners to spread their genes, whereas women evolved two possible strategies: Stay relatively faithful to one man to gain the economic and protective benefits he offers, or engage in clandestine affairs with many men to acquire aid from each of them.

Moreover, after examining United Nations data on divorce in 62 cultures and ethnographic descriptions of adultery in a variety of societies, Fisher concludes that human mating follows some general rules: People everywhere marry; many of these matches break up, often around the fourth year after wedding; many people who divorce have a single child; and a large number end up remarrying.

Divorce often occurs at the height of reproductive capacity, when partners are still young, Fisher notes.

Cher: Four years, huh? Makes me wonder why I stuck with Sonny for so long.

Me: That's an average length of time to divorce. Lots of variation exists, and some people choose to stay married, remain celibate, you name it. But in her book *Anatomy of Love* (1993, WW. Norton), Fisher argues that humans have evolved psychological and physiological mechanisms that shepherd us through infatuation and "pair-bonds" that last long enough for a couple to raise a single child through his or her first four years, unless a second child is conceived during that time, in which case divorce becomes more problematic.

Cher: So for all we know, Wilma Flintstone ended up raising Pebbles on her own and Fred ran off with one of the Bedrock Rockettes.

Me: I wouldn't put it past him. But even if they're still together, one aspect of sexuality may still divide them — masturbation.

Cher: You're quite the conversationalist.

Me: I'll keep my voice down. A review of 177 studies of male and female sexual attitudes and behaviors finds one glaring gender difference — many more men than

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Geert J. De Vries of the University of Massachusetts at Amherst. Furthermore, incest appears to be rare among prairie vole families, Getz notes. In general, male and female young do not enter puberty as long as they remain at home.

De Vries knew that female voles, like human females, experience dramatic hormonal fluctuations during pregnancy. Such changes probably prime the mother-to-be for her parenting duties. In fact, oxytocin is known as the "hormone of mother love" because it stimulates milk secretion in mammals, including humans. Some scientists speculate that oxytocin may also influence social attachments, including a human mother's bonding with her newborn.

A father-to-be never experiences pregnancy firsthand and thus isn't exposed to this hormonal surge. What causes a father prairie vole's interest in his young pups then? De Vries has published and unpublished data suggesting that vasopressin may also be the hormone of father love.

To study the biology of parenting behavior, De Vries and his colleagues decided to compare the prairie vole and the meadow vole. Like the montane vole, the meadow vole leads a polygamous life in which child-rearing duties are left to the female.

In a recently published study, De Vries and his colleagues found evidence suggesting that soon after mating, certain nerve cells that manufacture vasopressin become hyperactive. He suspects the cells dump a load of this hormone into the limbic system, part of the brain responsible for primitive emotions. This may ready the male for his upcoming parenting duties, De Vries adds.

To test this hypothesis, the Massachusetts team first decided to study a single virgin male prairie vole. They injected vasopressin into this rodent's lateral septum, a part of the limbic system. Normally, such virgin animals show little or no parental behavior if placed in a cage with a vole youngster. But this test vole immediately went right up to the pup and started cuddling.

"It was quite amazing," De Vries recalls. "We thought we might be on to something."

They decided to run the same test on a group of male prairie voles, all of whom were sexually naive. Each male in the experimental group received a shot of vasopressin delivered to the lateral septum. A second group of rodents got injections of a chemical that blocks vasopressin's action, and a third group received a shot of saline solution.

Immediately after giving the injections, the team placed each male rodent in a clean, dry cage with a very young vole pup. The male voles that got the vasopressin spent significantly more time in

fatherly pursuits than their peers. Specifically, they groomed or cuddled with the young pups more often than those that had received injections of saline solution or the vasopressin blocker.

In contrast, the voles that received the saline or blocker acted like bachelors: They paid little attention to the pups and in several cases actually attacked them.

The team will detail those findings in an upcoming PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES.

There's a lot of uncertainty about the implications of these findings. De Vries speculates that vasopressin may act as a master switch in the brain. Researchers know that vasopressin released by the pituitary fine-tunes the body's water content and blood pressure. And recent work by Insel, De Vries, and others suggests that prairie voles, and perhaps other mammals, have co-opted this brain hormone to govern a host of complex behaviors.

Take the vole's penchant for protecting its mate. When the male prairie vole spies an intruder, nerve cells may begin to churn out vasopressin, which in a fraction of a second docks with neurons in the limbic system. That chemical message somehow triggers the unusual mate-guarding action.

"And that behavior has some of the properties that some more primitive functions do," Carter points out, noting that the target cells are located in the limbic system, a very old region of the brain involved with instinctual behaviors.

Vasopressin may not work alone to trigger such complex actions. De Vries speculates that it works in concert with other brain hormones to yield vastly

different behaviors.

It's tempting to view vasopressin as a hormone that could transform men into the kind of guys who protect their families fiercely yet are gentle caretakers when it comes to their kids. However, scientists caution that what works for voles may not apply to humans.

"Making the jump from vole to human is dangerous at best," Winslow says, noting that voles are virtually slaves to their brain chemistry. Humans, on the other hand, experience environmental and cultural influences that appear to play a large role in their sexual and parenting behaviors.

Nevertheless, the research may lead to a human payoff. Insel speculates that brain hormones may play a part in certain bonding disorders, such as autism and schizophrenia. In the future, drug designers may develop synthetic hormones to promote bonding in the autistic child, who has extreme difficulty forming social attachments, he adds. And such an approach might also work for schizophrenics, who can be socially isolated, Insel says.

To the layperson, the study of vole society may seem like a frivolous occupation. Such studies undoubtedly reveal the fascinating details of a vole's sex life, but so what?

According to Carter and other neuroscientists in the field, research on voles is uncovering important clues to how brain hormones influence complex social attachments. "By studying animal behavior, we are beginning to see the emergence of patterns of hormone usage," she says. Furthermore, by charting the course of such brain hormones in the rodent world, scientists hope to find additional pieces to the puzzle of what makes humans tick. □

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women report having masturbated at some time in their lives, at least in the United States and Canada. Mary Beth Oliver of Virginia Polytechnic Institute and State University in Blacksburg and Janet Shibley Hyde of the University of Wisconsin-Madison present these findings in the July PSYCHOLOGICAL BULLETIN.

Sociologists proposed 20 years ago that masturbation lies at the root of many gender differences in sexuality. They held that adolescent boys first focus their sexuality on masturbation and thus learn to associate sexuality with individual pleasure; adolescent girls' earliest experiences with sexuality usually involve a male partner, which promotes a focus on the quality of relationships.

Evolutionary theorists do not usually address sex differences in masturbation. However, Robin Baker and Mark Bellis, both biologists at the University of Manchester in England, propose that ejaculation through any means removes old

sperm and allows younger, more active sperm to accumulate. In the absence of sex with a partner, masturbation makes sense after a few days as a way to maintain a potent store of sperm, Baker and Bellis contend. The capacity to masturbate fairly frequently may have evolved in prehistoric males, who faced many uncertainties about whether a female partner had recently mated with someone else, they note.

Cher: I'm losing my appetite.

Me: Seeing as how I've done most of the talking, maybe you could do me a favor. How about singing a chorus of that classic love song "I Got You, Babe"?

Cher: Dream on, buster.

At that point I woke up, my stomach grumbling. I craved a pizza. Love and sex stoke a hunger deep inside. Even if you just dream them up. □