

Love at First Sight

Science is exploring the "mystery" of love at first sight.

*As it turns out, our search for
Mr. or Mrs. Right might simply
be an exercise, albeit a risky one,
in the power of suggestion.*

STEPHEN BERTMAN



The song “Some Enchanted Evening” from Rodgers and Hammerstein’s *South Pacific* warns us that when it comes to explaining love at first sight, “Fools give you reasons. Wise men never try.” Notwithstanding this lyrical warning, more and more psychologists are trying to solve this age-old mystery.

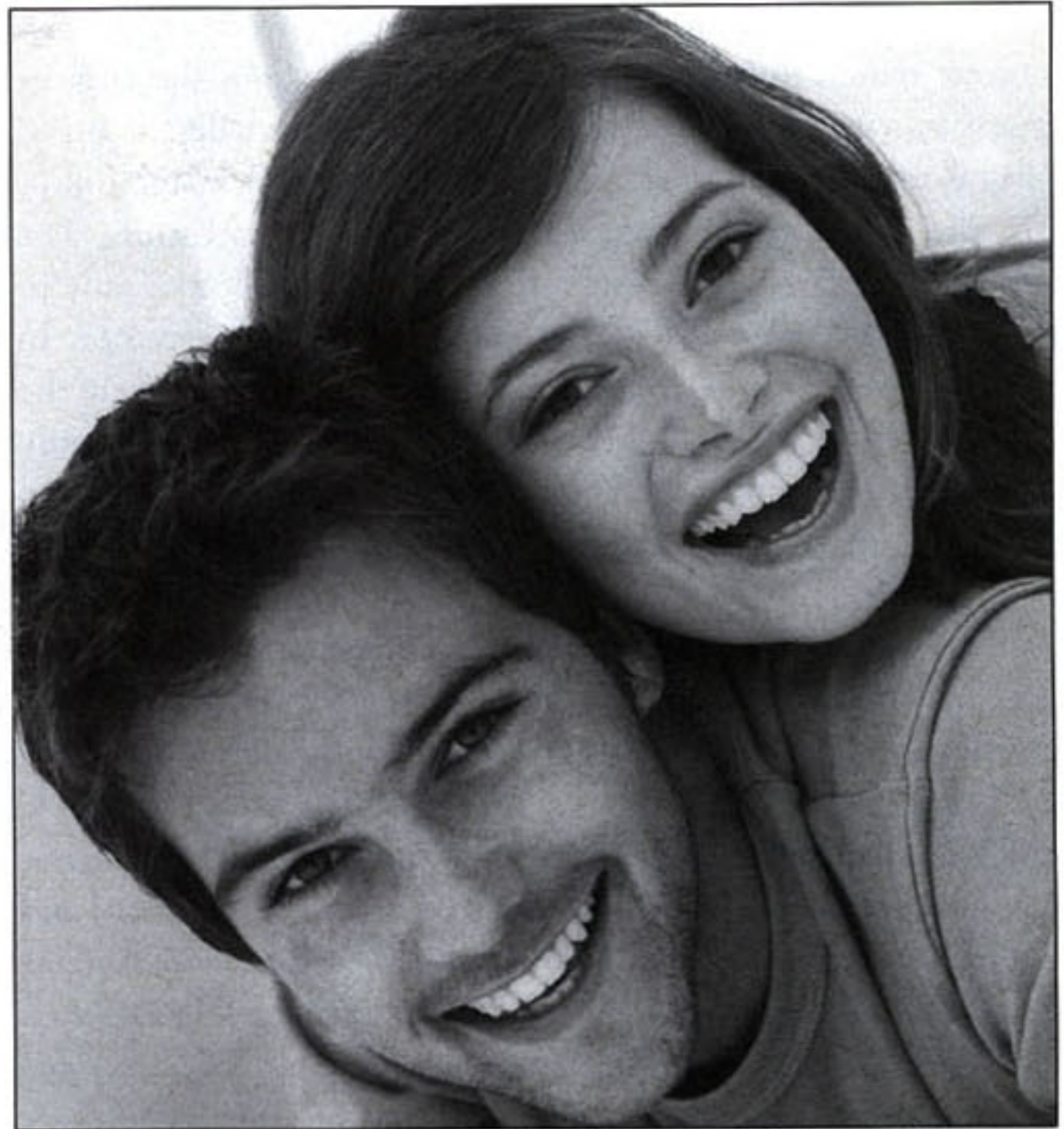
According to a recent survey by marketing expert Earl Naumann (2001), almost two out of three Americans believe in love at first sight. Over half of them claim to have actually experienced it, and over half of those went on to marry the person they had instantly fallen in love with (Naumann 2001). In addition, 75 percent of those couples were still married at the time of Naumann’s study, a figure far higher than the national average.

The theory of love at first sight goes all the way back to the days of the ancient Greeks, who worshiped the love goddess Aphrodite (the Romans would later call her Venus). Aphrodite could overwhelm mere mortals with her immense power and take control of their lives by overriding both common sense and conscience. In one legendary case, a handsome Trojan prince named Paris fell in love with a beautiful Spartan queen named Helen, and she with him, the very first time they saw each other. The only problem was that Helen was already married. When the two lovers sailed away together to Troy, Helen’s husband assembled an armada to bring his wife back home—later leading the Elizabethan poet Christopher Marlowe to remark that Helen’s was “the face that launch’d a thousand ships.” A war ensued that lasted ten years, inspiring Homer’s two epic poems, *The Iliad* and *The Odyssey*, which would endure forever. As Naumann’s scientific survey reveals, “Aphrodite’s” influence is alive and well today, still wielding her power over our lives.

Greek myth aside, how can we explain Helen and Paris’s attraction to each other? According to legend, Paris was a divinely handsome hero, and Helen was the most beautiful woman in all the world, so perhaps it was their extraordinary looks that drew them together. But in saying that, we’d have to admit simultaneously that not every Dick or Jack is as dashing as Paris, nor every Jane or Jill as stunning as Helen. Though beauty may well be in the eye of the beholder, the fact that ordinary Dicks and Janes fall hopelessly in love the moment they see each other suggests that something other than simple aesthetics is at work. If so, what could that mysterious “something” be?

That Fabulous Face

Since Helen had “the face that launch’d a thousand ships,” maybe we should start with the human face in our quest for an answer. After all, when people meet, their faces are usually what they see first. Because of the multiple components that make up the human face, giving it its distinctiveness, our face is the one part of our body that, more than any other, expresses our personal identity. For that reason, the face is the image



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pressed with affection into so many leather wallets and echoed with passion in the lyrics of so many love songs.

But what is there about a face that makes it so hypnotically appealing? One nose, two lips, two eyes—are such physical features sufficient in and of themselves to induce us to surrender our will and cosmically link our life with that of another human being? The answer seems to be yes, according to the findings of investigators.

The first striking fact about the connection between faces and love is that so many people who are in love look alike—more so than chance would allow—a fact documented in recent years by a series of painstaking scientific studies (Griffiths and Kunz 1973; Chambers, Christiansen, and Kunz 1983; and Hinsz 1989). The most recent was conducted by Liliana Alvarez and Klaus Jaffe of Venezuela’s Simon Bolivar University (Alvarez and Jaffe 2004). After photographing thirty-six randomly selected couples, Alvarez and Jaffe divided the photographs into six groups. Then, after cutting the pictures from each group in two, shuffling them, and placing them on a table, they invited a panel of neutral judges to match up the correct sexual partners in each group. The experiment was conducted as a double-blind test with neither the judges nor their supervisors knowing the right answers in advance.

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According to chance, the judges should have averaged one correct match for every set of six pictures—about the same as guessing what double number would come up when a pair of dice is rolled. But instead of averaging one right match out of six, the judges got almost two out of six right each time. The close resemblances between sexual partners applied equally to those who were good-looking and to those who were not. In fact, the judges did well even when they were shown only the noses, eyes, or mouths of the test subjects. In short, the study seemed to demonstrate that facial resemblances between romantic partners are significantly higher than mere chance would suggest.

In a separate study by McMaster University psychologist Lisa M. DeBruine, people trusted strangers more when photographs of the strangers' faces were digitally altered by image manipulation software to more closely resemble their own (DeBruine 2002 and 2005). These results supported the findings of a comparable computer-graphics study (Penton-Voak, Perrett, and Pierce 1999) in which individual subjects had preferred members of the opposite sex with face-shapes similar to their own.

Though research has suggested that the faces of older couples grow to look alike because they tend to mimic each other's expressions (Zajonc et al. 1987), other research (Hinsz 1989) has shown that striking facial resemblances are evident among couples who are young as well as old, including those who are engaged and haven't yet married.

Additional support, albeit unscientific, for the theory of "like attracts like" was provided by British portrait painter Suzi Malin in her popular book, *Love at First Sight* (DK, 2004). Intrigued by the facial likenesses between certain celebrity couples (between, for example, Elvis and Priscilla Presley or Brad Pitt and Jennifer Aniston), Malin created a series of "split-screen" portraits by photographically pairing the right half of one lover's face with the left half of the other's. Malin's erotic

"Rorschach blots" dramatically convey the astonishing visual correspondences between famous lovers based on the notable similarities between their facial proportions or features. However, as the lives of such celebrity couples sadly demonstrate, facial resemblance may be responsible for mutual attraction in the beginning (through a process unromantically called "physiognomic homogamy"), but in the long run it may not be sufficiently strong to hold a relationship together.

Why Fido Looks Like Fred

Next door to Malin's portrait gallery hangs a very different set of photographs collected by California-based sociologist Gini Graham Scott: over fifty photos—not of look-alike celebrity couples—but of look-alike dogs and their owners. Scott's pictures appear in her book, *Do You Look Like Your Dog?* (Broadway, 2004), and can be seen on her amusing Web site, www.doyoulooklikeyourdog.com.

Scott's work was inspired by a visit she made to the Golden Gate Dog Show in San Francisco. As she looked at owners sitting on benches beside their competing pets grouped by canine breed, she noticed how remarkably similar the faces of the dogs and their owners appeared. The eventual publication of these and other such matches, in fact, launched Scott on a new and unexpected career. She has since filed an application to trademark the phrase "Do You Look Like . . ." and is on her way to producing another book in a projected series, this one on people and cats.

Around the same time, MasterFoods, Inc., makers of Cesar Select dog dinners, sponsored a nationwide photography contest for look-alike dogs and their owners. The winning entries were exceptional in the degree to which people's facial features and expressions were mirrored in the faces of their pets.

Of course, one swallow (or, in this case, one St. Bernard) does not a summer make. Far from being persuasive evidence that people regularly buy pets that resemble them, the impressive similarities we see in such pictures perhaps are anomalies that in and of themselves don't prove a thing, however funny or fascinating the correlations might appear.

However, two scientific studies have appeared on two different continents that corroborate Scott's observations. In the first study, Michael M. Roy and Nicholas J. S. Christenfeld, professors of psychology at the University of California San Diego, reported the results of an experiment carried out at local dog parks (Roy and Christenfeld 2004; *contra*, Levine 2005; and, in rebuttal, Roy and Christenfeld 2005).

After getting the permission of forty-five dog owners at three different parks, Christenfeld and Roy photographed them along with their animal companions. Pictures of the owners were taken from the waist up in normal clothes. The dogs were photographed from the front also, but at an angle that showed the rest of their body against a different background so the photographic background wouldn't provide a clue as to the matching owner. The investigators then grouped their photos in threes: one picture showing the owner, one showing the owner's dog, and another showing a randomly selected dog that belonged to someone else. The three photo sets were then pre-



sented to a panel of twenty-eight naïve undergraduate judges who were asked to match each owner with his or her pet.

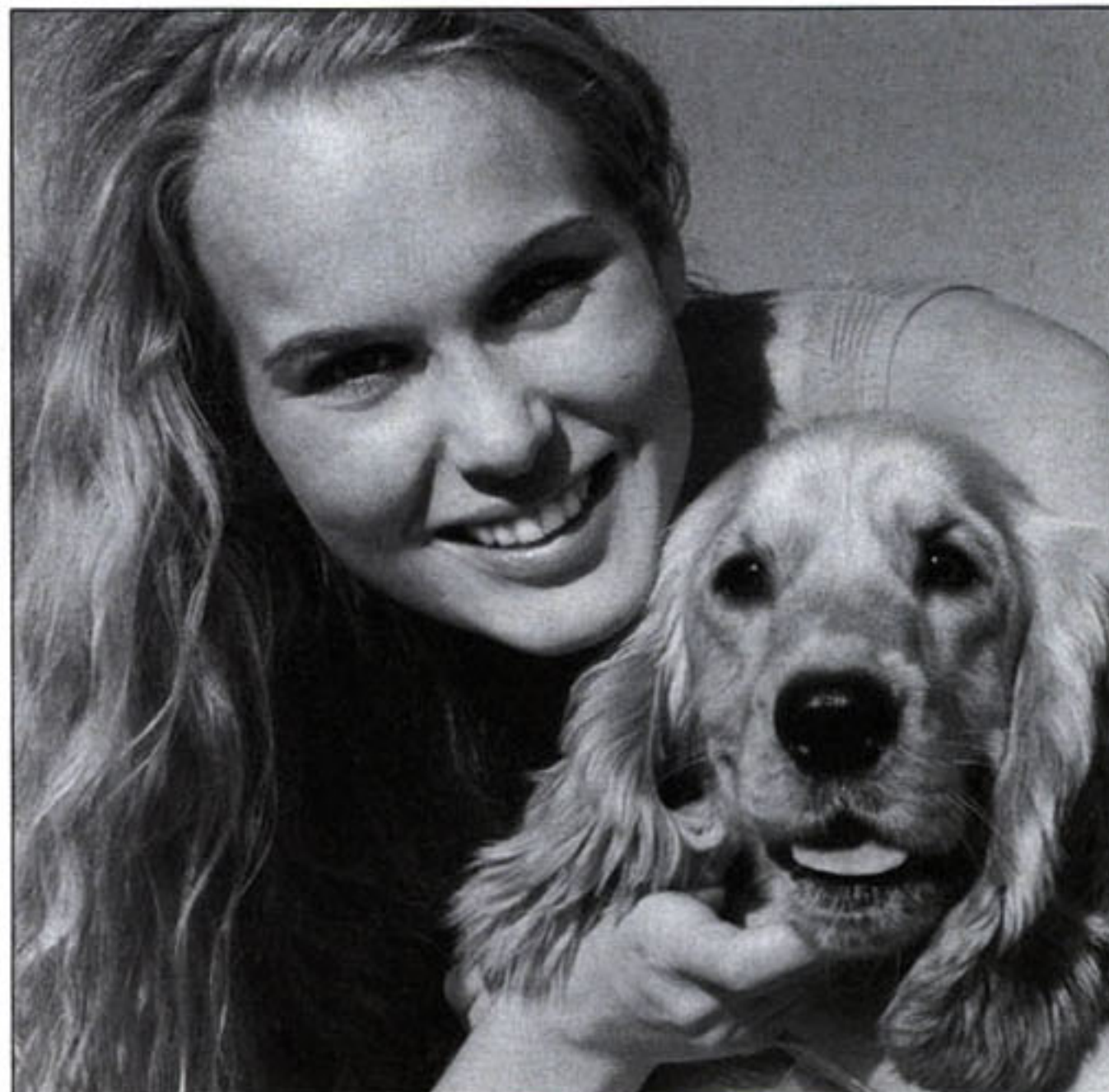
When it came to mixed breed dogs, the student judges were unable to make a statistically significant number of correct matches. But when it came to purebred dogs, the students came up with the right answer 64 percent of the time. As Roy and Christenfeld concluded: "The results suggest that when people pick a pet, they seek one that, at some level, resembles them, and when they get a purebred, they get what they want" because a purebred puppy's final appearance is predictable.

Exactly what led the judges to match so many owners and dogs successfully, however, was difficult to pin down. No one characteristic of people and pets—hairiness, size, sharpness of features, attractiveness, perceived friendliness, or perceived energy level—proved sufficient to explain the correspondences. "It may be," concluded the researchers, "that the judges used some more subtle trait, or based their judgments on a more configural analysis of the animals," i.e., an analysis based on more than one trait in combination.

Roy and Christenfeld's findings were confirmed by a similar research project conducted by Simon Bolivar University researchers Christina Payne and Klaus Jaffe (Payne and Jaffe 2005). While attending the National Canine Exposition in Caracas, Venezuela, Payne and Jaffe took photos of purebred dogs and their owners. To eliminate any potential clues as to which dogs went with which owners, Payne and Jaffe used a special photographic process that retained each face but eliminated any tell-tale background. Additionally, the researchers adjusted the images of pets and owners so all faces would be comparably sized. Having done that, they then picked thirty-six canine faces and thirty-six human faces and arranged the photos into six groups, each group containing six dogs and six owners. Finally, eighty judges were selected (half male, half female, drawn from four different age groups) and were asked to pair up the right dogs with the right owners in each set—a harder task than Roy and Christenfeld's judges faced because of the higher number of possible combinations. As you'll recall, they were simply asked to pick which of two dogs belonged to a single owner, whereas Payne and Jaffe's volunteers were required to choose from six possible candidates. Despite the increased level of difficulty, the judges once again paired up owners and dogs far better than mere chance would allow. As Payne and Jaffe summed it up: "Human pet owners and their dogs resemble each other significantly more than expected from random pair formation and . . . this resemblance can be detected by neutral judges." While mere chance would have resulted in about one right pick out of six, Payne and Jaffe's judges averaged two, three, or even four right picks out of six each time.

A third study by University of British Columbia psychologist Stanley Coren revealed that women with long hair tend to prefer dogs with long, floppy ears, while women with shorter or pulled back hair prefer dogs with smaller upright or "pricked" ears (Coren 1999).

Thanks to these careful experiments with pets, we now know that Scott's perception that dogs and owners tend to look alike is supported by rigorous scientific research. But why



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do people buy dogs that resemble them? And why do human couples tend to resemble each other as well?

In Plato's *Symposium*, the Greek playwright Aristophanes recounted a fascinating legend (Plato). According to the tale, when human beings were first created, they were comical roly-poly creatures with two faces, four arms, and four legs. The gods then split them in two. Therefore, claimed the playwright, we spend our lives desperately searching for the matching half that we need to complete ourselves.

Are we then somehow cosmically programmed to seek our "other half," a half that is our mirror image? Are we somehow, despite the dictum that "opposites attract," subconsciously drawn to people who resemble us?

The Face in the Water

The ancient Greeks, who seem to have anticipated so many contemporary problems and questions, provided an answer of sorts in the myth of Narcissus. According to the myth (Ovid), Narcissus was an extraordinarily handsome but self-centered young man who spurned all his lovers. Finally, one of them cursed him by praying that someday Narcissus would himself feel the pain of unrequited love. One day while walking through the woods, Narcissus came upon a pond and gazed into its waters. As he did so, he saw the face of a handsome young man looking up at him. Desiring to embrace the beautiful youth, Narcissus dipped his hands into the water, but as he did, the image broke up. Each time he drew closer to the surface of the water, the object of his love seemed to draw closer to him, but each time he reached into its waters, the image again disappeared. Frustrated in his self-love, a despondent Narcissus continued to sit by the edge of the pond until he finally withered away and died. Even in death, the Roman poet Ovid tells us, Narcissus continued to gaze at his own image in the waters of the river Styx.

The myth of Narcissus is the origin of the term “narcissism” and teaches us about the mesmerizing power of self-love, a power that can—if we are not vigilant—consume and destroy us. To be mindlessly attracted to a replica of the familiar face in our mirror may, in fact, be a prescription for a broken heart.

Sad to say, the socially ostracized baby swan in Hans Christian Andersen’s “The Ugly Duckling” would in reality have become a sexual deviant as an adult, inevitably seeking to mate with a bird that looked like the misguided mother duck that originally hatched him.

The Birds and the Bees

In fact, it may not be the face we see in our mirror, our *own* face, that guides us in the choice of a mate. The face that functions as our erotic template may in fact be one we saw long before we ever knew what a mirror was.

In 1873, British naturalist D.A. Spalding observed that newly hatched chickens instinctively follow the first moving object they see (Spalding 1873). In 1910, German zoologist Oskar Heinroth observed similar behavior among baby geese. In fact, when goslings were hatched in an incubator (and were thereby prevented from seeing their actual mothers), they instead became attached to the first human beings they saw and responded to them as though the people were their parents. Heinroth concluded that the first image the goslings saw somehow became stamped or “imprinted” on their impressionable young brains (Heinroth 1910).

This theory of “imprinting” was later elaborated by the Austrian zoologist Konrad Lorenz in a paper presented in 1935 and during decades of subsequent research (Lorenz 1937 and 1988; Todd and Miller 1993). As a result of his close observation of ground-nesting birds like ducks and greylag geese, Lorenz concluded that imprinting occurs quickly, taking place only during a critically brief period of time (usually by the first morning after hatching), and is irreversible. Deprived of the sight or sound of its mother, a little duckling or gosling will “adopt” as its parent the first thing it sees and/or hears: a human being (especially if he or she quacks in response to a hatchling’s plaintive peep), or strangely, in the absence of a voice, even a silent, inanimate object like a cardboard box, a red balloon, or a white ball. If young ducks or geese imprint on a human, they will affectionately follow behind in a gaggle wherever their “parent” leads.

Sometimes, imprinting can actually work to a bird’s advantage. The most striking instance of this was in 1993 when Canadian artist and inventor Bill Lishman helped forgetful

geese migrate 400 miles from Ontario to Virginia by training them to follow his ultralight airplane, and again the next year when he led another flock of avian amnesiacs by air all the way to South Carolina (Lishman 1996). Migration is a learned behavior, and the geese, inured for generations to living a soft life amid grassy city parks and ponds, had never been taught the hard ancestral migration route by their parents. By using imprinting to induce the geese to follow his airplane, Lishman became “Father Goose.” His aerial exploits are described in his autobiography and were imaginatively and poignantly reenacted in the 1996 family film *Fly Away Home*, starring Jeff Daniels.

Along with Oskar Heinroth, naturalist Konrad Lorenz became the co-founder of the science of ethology—a new science that studied animal behavior—and went on to receive a Nobel Prize for his work. Though Lorenz’s findings have been qualified by the findings of later research, his basic theory of “filial imprinting” (imprinting by offspring) is now well documented and accepted by the scientific community. Investigators have even identified the part of a bird’s brain that enables a “parent” to be imprinted on a chick (Horn 1998; McCabe and Nicol 1999). When that part (the intermediate and medial portion of the hyperstriatum ventrale, or IMHV) is surgically removed from both sides of a bird’s brain, it can no longer recognize or respond to the stimuli that would normally produce a parental imprint. Moreover, not only does imprinting apply to birds but to mammals as well (including mice, guinea pigs, cows, sheep, horses, zebras, and possibly dogs and monkeys).

In addition to advancing the theory of filial imprinting, Lorenz also proposed a theory of *sexual* imprinting. According to this theory, the image imprinted on the brain of the young animal (originally designed by nature to make it easier for an offspring to identify and find its nurturing parent) also has the effect of defining and determining its mating preferences in the future. Thus, upon becoming sexually mature, the young animal seeks out a mate that closely resembles the parental imprint implanted in its brain.

Under normal circumstances that image would be the image of its natural parent, but under abnormal circumstances (when an alien template exists) the poor creature will search for an inappropriate mate (such as another species of animal, a human being, a wading boot, a balloon, or even a ping-pong ball) to copulate with.

Unfortunately, scientific experiments of imprinting like those of Konrad Lorenz have real-life consequences for the creatures that are experimented upon. Sad to say, the socially ostracized baby swan in Hans Christian Andersen’s “The Ugly Duckling” would in reality have become a sexual deviant as an adult, inevitably seeking to mate with a bird that looked like the misguided mother duck that originally hatched him. Today’s “assembly-line” egg-hatcheries are turning out parentless and potentially pathological chicks, since the only loving hen they ever see is a warm light-bulb.

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superior to one based on religious dogma (he notes, for example, that although secular Americans are significantly less likely to give to the poor than their religious counterparts, the second most generous nation, Denmark, also claims one of the lowest rates of church attendance and, not so incidentally, the highest rate of self-reported life fulfillment).

People do change at both the individual and species levels, if ever so method-

ically. A new Pew Forum survey of the American religious landscape reveals that 28 percent of adults have fled their childhood faith to another religion or to no religion whatsoever, that Protestants now comprise only 51 percent of the population compared to two-thirds in 1980, and that 16.1 percent of Americans are not religiously affiliated—twice the rate as when they were children. One can only hope, of course, that these apostates

have managed to supplant religion with something much better.

Regardless, perhaps Dacey's secularism can reclaim its common democratic sense and, thus, its soul. And given ample time, or alternatively an emergent mass rebellion against humanity's selfish genes and memes, maybe secularists can achieve their ultimate goal of cultivating among all persons a truly thoughtful, empathetic, and responsive secular conscience. □

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A Lasting Impression

What, you may justifiably ask, does all this have to do with my love life? If I fall in love at first sight, will I be acting like a "bird-brain"? Well, perhaps. Both birds and human beings are, after all, links in evolution's chain, though there is a huge biological gap between them.

Recent research, however, suggests that imprinting does indeed influence our choice of mates. People choose partners whose faces have been shown to resemble not only their own faces but also the faces of their parents of the opposite sex, especially when it comes to hair color and eye color (Berezkei, et al. 2002; Little, et al. 2003). The age of our parents also seems to influence our choice of mate, with females born to older parents being attracted to the faces of older men and males born to older parents being drawn to the faces of older women (Perrett, et al. 2002). Furthermore, daughters who were adopted between two and eight years old or who rated their childhood relationships with their fathers highly chose husbands whose faces looked like those of the fathers who raised them (Berezkei, et al. 2004; and Wiszewska, et al. 2007).

Thus, it's entirely possible that the person who made the most lasting visual impression on you when you were a young child or infant—a parent, a sibling, or even a nanny—unknowingly drew the mental roadmap to your romantic future. Your search for Mr. or Mrs. Right might simply be an exercise, albeit a risky one, in suggestion.

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Recommended Readings

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