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Digitizing the Humanities

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Mysteries of Mate Choice

How do we choose romantic partners? The question has long interested sociologists, who traditionally looked to marriage records for answers. These widely available records generally offer useful demographic information on those who tie the knot, including their racial background and education level.

But in an era of rising divorce rates and increased cohabitation, when people typically wait longer to marry and same-sex couples can't marry in most states, marriage records don't give a complete picture. After all, marriage is only one possible outcome in the complicated process of choosing a mate, and marriage data can't capture the forces that draw people together in the first place, such as shared passions for the Red Sox and *Downton Abbey.*

Fortunately for researchers, the increasingly popular world of online dating offers a largely untapped gold mine of information on how people pair up, says Kevin Lewis, a doctoral candidate in sociology who reviewed data from the 1.8 million people actively using a popular Internet dating site, OKCupid, during the fall of 2010. The site provides not only basic demographics like race and religion,

"but also body type and height and whether or not you have or like pets or children," Lewis says. "These things are obviously very important for mate choice, but we don't usually have data about them." The database includes details of which users contacted others to express interest, and who responded to those messages.

Online dating is worthy of study, Lewis says, because it provides sociologists with new ways to observe "the extent to which individuals of different backgrounds accept each other as equals." These data offer one of the first opportunities to analyze the earliest stages of mate selection, when users decide which groups they will and won't consider in the vast pool of potential partners, revealing much about current social boundaries. The data also allowed Lewis to test two long-standing theories about mate selection. One body of research suggests that we prefer similarity in a partner—someone who mirrors our racial background, education, or religion. Other researchers contend that we usually seek partners with higher status, including those with more education or income.

Lewis focused on a baseline population of 165,000 U.S. residents who were single, heterosexual, seeking to date, and using the site for the first time,

VALERIA PETRONE

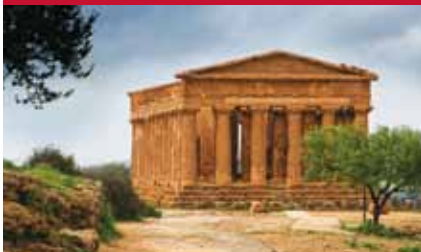and then zeroed in on the subset of 7,671 individuals with New York City zip codes. Using multivariate modeling techniques, he found that both similarity and status play a role, but "differentially so, depending on whether you're male or female." Most users in his sample did prefer partners from a similar social background, but Lewis also observed some "highly gendered status hierarchies": for example, women tend to seek men with more education and more income, while men prefer women with a college education, "no more and no less." White men, he adds, maintain a privileged position, receiving the most initial messages, while black women receive the fewest.

The model revealed that people with traits that are uncommon on OKCupid—those who have several children, for example, or admit to being overweight—are especially likely to flock together. One of Lewis's favorite examples: people who describe their body type as "jacked" or muscular. "We don't know if this is just because people prefer similarity in body type," he says, "or if this is a proxy for people who clearly spend a lot of time in the gym and want a partner who shares that passion. But this is another group that self-segregates."

His most surprising finding involved differences in the way people initiate contact with potential partners and respond to interest from others. In initial contacts, similarity rules, he says. "I'm very, very statistically unlikely to contact someone of a different racial background," he explains. "But in the unlikely event that someone from a different racial background contacts me first, I'm actually significantly more likely to reply than I would to someone from the same background." Lewis believes that when someone steps over social boundaries to connect with us, we're particularly interested—and that can cause even sturdy boundaries to "totally disappear."

The currently unattached scholar says his own experiences on dating sites have aided his research. For example, some critics have said it's wrong to assume that people like each other based on the mere fact that they've traded messages. Lewis disagrees. "Anyone who's been on a site for more than a day or two knows that polite rejections don't really happen," he says. "If you're not interested, you just don't reply." But useful as his own online foray has been, he admits that initially it wasn't "motivated by research concerns. It was motivated by a distaste for being single."

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An Ancient Herbal Remedy

THE blue evergreen hydrangea's history as a natural treatment for fever and malaria dates back in Chinese lore at least two thousand years, to the Han dynasty (206 B.C.–A.D. 220). During this era, information about the plant's root (and about hundreds of other Chinese herbal remedies) first appeared as part of a written collection of oral traditions said to have originated with the mythological emperor-god Shen Nong in 2800 B.C. Western medicine first noted the healing potential of the plant's root extract, *chang shan*, in the late 1940s, when the active ingredient was identified in medical journals and put to use suppressing parasitic growth in animal feed.

But despite millennia of use, exactly how *Dichroa febrifuga* heals remained a mystery.

Malcolm Whitman, a professor of developmental biology at the Harvard School of Dental Medicine, and Tracy Keller, an instructor and researcher in Whitman's lab, began studying the root extract's chemi-