Mahzarin Banaji can show how we connect "good" and "bad" with biased attitudes we hold, even if we say we don't. Especially when we say we don't By SALLY LEHRMAN

Mahzarin Banaji wrestled with a slide projector while senior executives filed grumpily into the screening room at New Line Cinema studios in Los Angeles. They anticipated a pointless November afternoon in which they would be lectured on diversity, including their shortcomings in portraying characters on-screen. "My expectations were of total boredom," admitted Camela Galano, president of New Line International.

By the break, though, executives for New Line and its fellow Time Warner subsidiary HBO were crowding around Banaji, eager for more. The 50-year-old



MAHZARIN BANAJI: TESTING BIAS

- As a young Zoroastrian in southern India, Banaji says she had "greater latitude than other Indian girls in seeking the life of the mind." The religion's central notion now resonates in the "good-bad" distinctions she asks study participants to make.
- Battles her own implicit bias with screensaver images, such as of black intellectuals and women athletes, that counter social stereotypes.

experimental social psychologist from Harvard University had started with a series of images that showed the tricks our minds play. In one video clip, a team passed around a basketball. Of the 45 executives watching, just one noticed the woman who walked slowly right through the game, carrying an open white umbrella. After a few more examples, Banaji had convinced the audience that these kinds of mistakes in perception, or "mind bugs," operate all the time, especially in our unconscious responses to other people.

"It's reasonable and rational," Banaji told them. "And it's an error." We may intend to be fair, she explained, but underneath our awareness, our minds automatically make connections and ignore contradictory information. Sure enough, in a paper quiz, the executives readily associated positive words with their parent firm, Time Warner, but they found it harder to link them to their top competitor, the Walt Disney Company. To their chagrin, they discovered the same tendency to pair positive terms with faces that have European features and negative ones with faces that have African features.

Banaji has been studying these implicit attitudes and their unintended social consequences since the late 1980s, when she first teamed up with Anthony Greenwald of the University of Washington. Greenwald created the very first implicit association test (IAT). He measured how quickly people tapped keys on a computer keyboard in response to prompts on the screen. Would they more easily associate positive words such as "happy" or "peace" with pictures of flowers and negative words such as "rotten" or "ugly" with insects? Predictably, they did. Then he began testing responses to words and images associated with ethnicity and race. Participants' automatic reactions did not match the attitudes they said they held. Among social psychologists seeking investigative instruments, "the IAT just took off in a flash," Greenwald recalls.

In the decades since, Banaji, Greenwald and a third

collaborator, Brian Nosek of the University of Virginia, have continued to find fresh ways to use the IAT and other tools to probe bias: its nature, where it comes from and how it works. With neuroscientists, for instance, Banaji combined classical fear conditioning, implicit attitude measures and people's own descriptions of interracial dating to study how social groups come to fear one another. Banaji hopes next to work with primatologists to learn about our predisposition as a species to build bias into our perceptions.

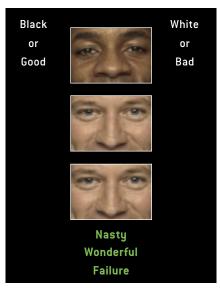
Even in people with genuinely egalitarian views, Banaji and her colleagues find that bias is ordinary and ingrained and remains active outside our awareness. When the team realized the power of unconscious attitudes in everyday decision making, she says, "we knew the

right thing was to take this to the public." On an IAT Web site (implicit.harvard.edu/implicit/), users can try 14 measures—to find out whether they automatically favor young over old, for instance, or prefer thin to overweight. Ten new sections include country-specific IATs, such as Muslim-Hindu and Pakistan-India associations.

At least two million people have tried the tests online so far, and many have offered suggestions. "Once you put it out there, you have to listen to what people are saying—and their ideas are brilliant," Banaji finds. She has begun venturing from the lab to teach people about prejudice, employing humor, intellect and kindness as she alerts investment bankers, media executives and lawyers to the buried biases that lead to mistakes.

As a research tool, the IAT has fed close to 300 papers in fields ranging from neuroscience to marketing. It has also fueled academic challenge and debate, with a few social psychologists accusing the team of liberal bias and overinterpretation of the results. Some critics insist that the test does not really measure unconscious prejudice, only harmless cultural knowledge that differs from true racism. Psychologists argue over the underlying cognitive mechanism. One project found that some people will show bias just because they fear they will.

After finishing a meta-analysis across 61 studies, however, Greenwald and Banaji decided that the validity of the IAT holds. The test predicted judgments, behavior, and physiological reactions linked to stereotyping and prejudice better than expressed attitudes could. "In my own field, subtle prejudice, the IAT has helped crystallize ideas that we've been talking about for years," observes Jack Dovidio of the University of Connecticut. And it is an excellent teaching tool, he adds. When users experience their own discomfort and slowness in making associations, it



IMPLICIT ATTITUDE TEST means rapidly putting images (here, of black and white faces) and words in green in the correct columns.

is hard to ignore the message, agrees Princeton University social psychologist Susan Fiske. "Part of Mahzarin's genius was to see the IAT's potential impact on real-world issues," she points out.

Most recently, Banaji has been trying to discern when race attitudes first form and when conscious beliefs begin to diverge from those below the surface. In child-friendly tests, Banaji discovered that Japanese and white New England children as young as six both openly and implicitly preferred people like themselves. By age 10, their unconscious and conscious attitudes started to split. Despite expressing more egalitarian views as they grew older, people in the two societies continued to show automatic bias against black faces. For Japanese participants, both implicit and explicit at-

titudes toward European faces became more positive.

Banaji now suspects that if she could test for prejudice in babies, she would find it. But that does not mean that we are born with bias. Certainly we have the mental machinery to generalize and rank across social categories, she says, but culture fills in the necessary information. And humans absorb ideas about racial status early. In a study of 234 Hispanic-Americans, for instance, children compared themselves favorably with African-Americans. But when they used the IAT to compare themselves with white children, the natural preference for their own group fell away. "This work suggests that what we value, what we think is good, is in the air," Banaji remarks. It might develop through things like the warnings that a parent conveys to a child, in a tightening grip on a little hand. As adults, we continue to observe our environment and unintentionally adapt the stereotypes we hold to match.

Fortunately, our brains do not seem permanently stuck on bias. Powerful cultural signals push in one direction, but awareness, close relationships and experience can push back. Banaji, Greenwald and Nosek are starting a nonprofit to help people apply their research. They envision seminars and lectures, followed by "booster shots" of online exercises.

By weaving awareness into our day, Banaji states, we can help our conscious attitudes take charge. It is like exercising regularly and eating healthfully, she explained to the filmmakers. And she suggested that they could build protective measures into their lives and work, much like fluoride in drinking water. "In every movie where you can do things counter to stereotype," she told them, "you are likely to produce change."

Sally Lehrman writes from the San Francisco Bay Area.