



Darren Schreiber Political Science

Back in the early 1990s, while Darren Schreiber was in law school at UC Davis and should have been reading case law, he devoted a lot of hours to *Scientific American*.

One article he read then was about the first use of PET scanning to correlate cognition with differences in blood flow inside the brain. Years later, when he was a UCLA graduate student talking to Professor John Zaller about differences between political novices and political sophisticates, the article came to mind. Together, the two ideas provided the building blocks for his dissertation research, the first to use functional brain imaging to study political cognition.

As political scientists define them, novices are distinguished from sophisticates by their knowledge of American government. In surveys about political issues, people identified as novices give inconsistent answers, both to the same question and to questions related to ideology. "This created a mystery for political scientists," Darren explains. One widely accepted solution was that novices were "just flipping coins" when they answered.

Darren found data measuring response times that contradicted that theory: Sophisticates answered more quickly, while novices took longer. "If novices are just guessing, they should respond really quickly," Darren says. "Instead they were really struggling with the questions." Darren put all of this in a paper for Professor Zaller, proposing the use of fMRI brain mapping to pursue the question. Then he e-mailed a copy to John Mazzotta, director of UCLA's Brain Mapping Institute.

"He actually read my paper, which is pretty amazing," Darren says. Professor Mazzotta also returned a message with six questions. "I told him I'd get back to him as soon as I could," Darren says. "That was a year and a half later." Nevertheless, Darren's findings were persuasive. He was invited to speak at the Center, and he began talking to Marco Jacoboni about possible ways to pursue his theory. "Darren was extremely bright," Professor Jacoboni says. "He very quickly learned the tools he needed to do this very exciting project that brings together two disciplines that are so far apart." Professors Zaller and Jacoboni, with Darren, received a Chancellor's Academic Border Crossing Grant for \$20,000.

Darren's fMRI findings are consistent

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with his theory. When asked political questions, political novices show higher activation in the prefrontal lobes, where deliberative thinking takes place. Political sophisticates show higher levels of temporal lobe activity, which suggests they "have more meaning attached to these questions," he says. Professor Jacoboni believes Darren's work "will change both political science and neuroscience in terms of helping people realize they can do a lot more than we thought."

Darren has no plans to rest on whatever lauds this research finds. Instead he hopes to use the findings on individual political decision making to develop more sensitive models of political processes at the individual level of the level. The models now widely in use predict behavior based on equations. Computer models using his fMRI findings "could simulate individuals, giving each a different set of preferences, and then letting them interact in an unstructured way," Darren says.

Today, political scientists offer two possible models of political party formation. While some hold that information passes from the top down—from the parties to the people—with individuals having little impact—others say politicians have to position themselves where the most voters are to win office. "The causal arrows are going in opposite directions," Darren says. He wants to investigate what he calls the fashion industry model, in which garment makers go to the streets to identify trends, then conduct marketing campaigns to sell the ideas to a wider market. If this applies to political parties, "our opinions are forming their opinions and vice versa—there's a cyclical dynamic," Darren says.

Now a man with a mission and at least three major research paths in progress, Darren didn't know what he wanted to do ten years ago when he graduated from Claremont McKenna College. An advisor suggested law school, and Darren enjoyed his years at UC Davis. Although he "hady" gone to law school intending to practice, "an extraordinary opportunity changed his mind. One summer, he was working at a civil rights clinic on prison litigation when the attorney who was supposed to try a case became indisposed. Like the understudy waiting in the wings, Darren found himself—at 23—arguing his first jury trial in federal court. He lost—but the opposing counsel offered him a job.

Darren turned that job down but accepted another with an old law firm in Stockton, California, with a varied practice that exposed him to bankruptcy and personal injury cases as well as business litigation. He figured the practice of law "doesn't get any better than this." Nevertheless, he found "living life in six minute increments"—the standard unit of billing—"is not the best way to go about it."

Then one day he found himself in a line of academics in full regalia, representing his undergraduate college at the inauguration of a new president at the University of the Pacific. "It happened to be standing between two guys who had PhDs in political science," Darren says. "We spent the whole day talking about ideas and about academia. It was one of the best days I'd had in a long time." His decision to return to graduate school was soon implemented, "I had matured out of an adversarial role," he says. "I wanted to build instead of tearing apart."