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Hey Baby, What's On Your Mind?

In Denison's new Infant and Child Cognition lab, Rebecca Rosenberg is studying infants' brain power to better understand the adult mind.

BY NATALIE OLIVO '13

BABIES ARE CUTE. THEY HAVE ALWAYS BEEN OBJECTS OF our attention. But infants don't just merit observation for their overall adorability. As it turns out, their minds are pretty interesting too.

In Denison's new Infant and Child Cognition Lab, Rebecca Rosenberg, assistant professor of psychology, and a group of student assistants are studying the ways in which infants perceive the world. The lab, which just opened eight months ago, is younger than most of the babies who pass through its bright yellow halls, but it's already

shaping up to be a promising addition to the research community.

Scientists and philosophers have been interested in babies' minds for centuries, but it's only in the last few decades that scientists have developed new tools and techniques to better understand their subjects' cognitive capabilities. Even so, there are plenty of questions still unanswered. The age-old battle over nature vs. nurture, for example.

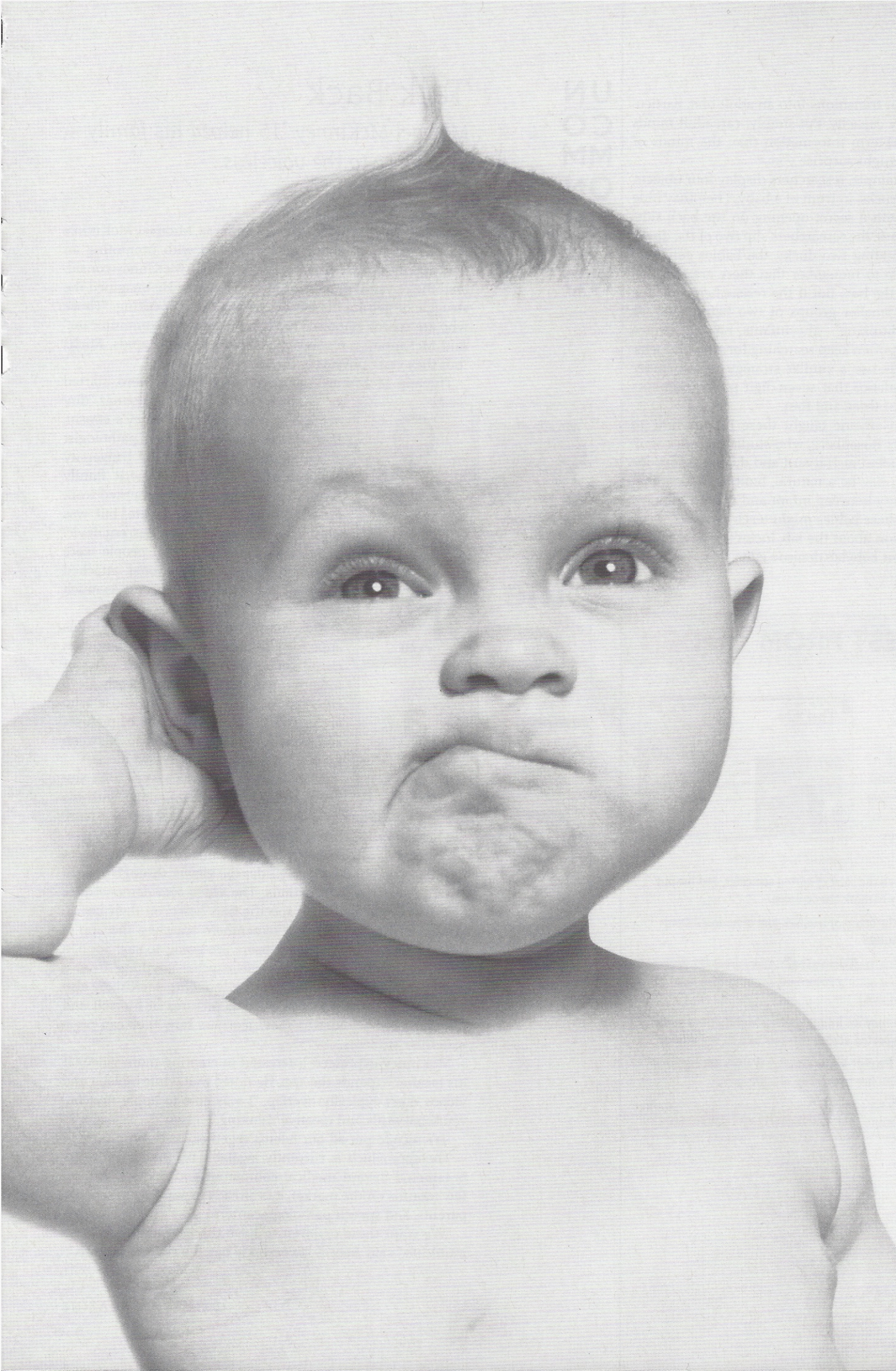
But these subjects present a tough problem: you can't exactly ask a baby complex questions or have him complete a survey. So scientists have developed clever, yet relatively simple ways to attempt to infer what's going on in the brains of babies, and Rosenberg is using those techniques to further the research.

Denison's lab joins the ranks of other infant cognition labs in colleges and major research universities across the country, including Yale, Stanford, Ohio State, Wesleyan, and Barnard. Most of these labs can trace their research back to Jean Piaget, a pioneering developmental psychologist, who developed observation techniques and inferences about child cognition. Since then, researchers like Rosenberg have learned even more through their own research and techniques, and they're finding that infants know more than we originally thought.

Right now, for example, Rosenberg and her students are working with babies ranging in age from seven to 20 months, to study the ways in

It may look like fun and games, but Rosenberg is hard at work in Denison's new Infant and Child Cognition Lab.





FROM LEFT: ZACH GRAY; GETTY IMAGES / ARCHIVE PHOTOS

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which the infant brain transitions into an adult one, particularly through memory capacity. Put simply: can adult minds remember more short-term information than the minds of infants? The answer might surprise you.

In one study, for example, researchers display four objects, such as toy ducks or trucks, in front of a baby. Then they hide the ducks in a box with a secret opening on the back side. While the baby searches, the researchers slip two of the ducks out the back. After finding two ducks, the babies generally stop searching, unable to remember that there are still two ducks somewhere in the box. But if the researchers split the four ducks into two smaller groups of two beforehand—a process known as “chunking”—the infants, ranging in age from 13 to 20 months, often keep searching for all four ducks. As it turns out, adults use a similar strategy to remember objects. It’s no coincidence that seven-digit phone numbers are divided into sets of three and four.

“It’s not likely that anyone taught these infants how to group quantities,” says Rosenberg, who studied infant cognition as a graduate student at Harvard and during a post-doc at Johns Hopkins. “It may be a natural, built-in process that speaks to the continuity between infant and adult minds.”

Who knows what these babies might teach us next?

For more information about the lab, including how to participate in studies, visit babylab.denison.edu.

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