STUNNING IMAGE SHOWS THE SCIENCE BEHIND THE MOTHER-CHILD BOND

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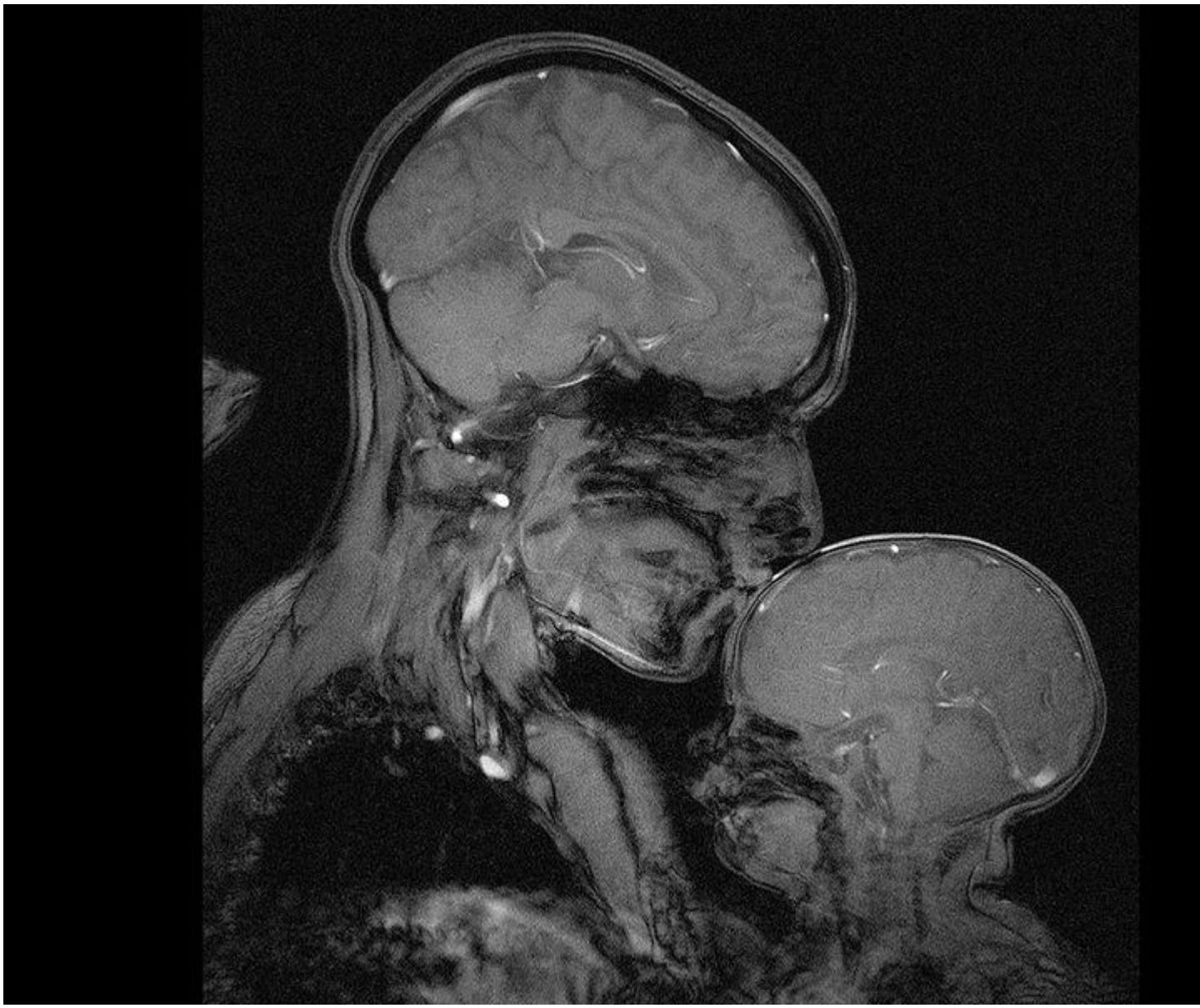

Image Source: Rebecca Saxe/Smithsonian Magazine

Everyone knows that the bond between a mother and her child is a powerful one.

Not only does motherhood change a woman forever physically, mentally, and emotionally, but your baby literally changes your body, too. As in, pieces of your baby actually change your cells and live on in your body for years. It's kind of crazy when you think about it.

There's been a lot of work done on the mother-child bond, from poems to books to artwork, but that powerful unit has never been captured quite like this before.

You're looking at the world's first ever magnetic resonance image (MRI) of the mother-child bond, captured by neuroscientist Rebecca Saxe. The image is actually of Saxe and her own 2-month-old son, Percy.

"THE WAY WE SPEAK, SING, HOLD, AND PLAY WITH OUR BABIES SHAPES THE VERY FOUNDATIONS OF THE BRAIN AS OUR CHILD GROWS."

Saxe is a neuroscientist with the Department of Brain and Cognitive Sciences at MIT and a Professor of Cognitive Neuroscience. She studies, interestingly enough, the Theory of Mind, or in other words, "the way that people think about other people's thoughts."

Basically guys, she spends her days thinking about how other people think about thinking and if that's not enough to give you a muddled mind, I don't know what is. But either way, it's awesome, just like the image she captured when she and her co-workers decided to take a mother-baby MRI just 'cuz they were curious.

"This particular MR image, though, was not made for diagnostic purposes, nor even really for science," Saxe wrote in her article for *Smithsonian.* "No one, to my knowledge, had ever made an MR image of a mother and child. We made this one because we wanted to see it."

Because you know, when you're a mom and neuroscientist, your definition of "fun" might be a little different, and that's perfectly understandable.

Perhaps the most striking part about the MRI is how it marks the differences in the baby's and mother's brain. The baby's, as you can see, is smoother and darker because it has significantly less white matter. White matter is made up of myelin, which is the insulation on the wires that communicate messages inside your brain, Saxe told Today.com. To me, that missing myelin almost seems a very real and visual example of how mothers quite literally shape and mold their children from birth. The way we speak, sing, hold, and play with our babies shapes the very foundations of the brain as our

child grows, in a way that is both awe-inspiring and frankly, a little scary because, talk about pressure.

It's the journey from baby to adult that Saxe hopes to watch unfold, how a mother's touch and presence impacts the way a brain develops.

"How easily that can go wrong through injury or environment," wrote one captivated commenter on Saxe's piece. "That journey — to knowledge — remains so much a mystery. This photo (if you will permit me to call it such), captures that journey. The mother's brain with its folded and white areas showing the knowledge gained on the journey, contrasts with the infant's darker, less folded brain. Mother knows the perils of the journey awaiting her child — the love, hopes, dreams, fears, and disappointments — all captured in an image that is truly universal, transcending all but the most basic elements that make us human."

Like many mothers, Saxe has spent a disproportionate amount of time just watching her baby (how many hours of my life have been spent in total just watching my kids sleep?). But because she's a cognitive neuroscientist, watching her baby looks just a tad different for her. Specifically, she has spent a lot of time watching her baby's brain develop through an MRI machine. She detailed how mesmerizing it is to watch how children's brains respond to interaction with adults, how the blood vessels in the brain expand and flow in response to songs in their mother's voice and favorite stories read aloud.

"The Mother and Child is a powerful symbol of love and innocence, beauty and fertility," Saxe wrote. "Although these maternal values, and the women who embody them, may be venerated, they are usually viewed in opposition to other values: inquiry and intellect, progress and power. But I am a neuroscientist, and I worked to create this image; and I am also the mother in it, curled up inside the tube with my infant son."

The image is fascinating and a wonderful visualization of how what remains unseen in our lives — is sometimes the most powerful force of all.

http://www.babble.com/parenting/mother-child-mri-image-rebecca-saxe/