

## The Mirror Neuron System

The Mirror Neuron System (MNS) was discovered pretty recently, and they don't completely understand it yet, but it's important. Basically, when most people see things, mirror neurons fire adjacent to the neurons for experiencing the same thing. So seeing someone grab a glass and drink from it is almost like grabbing the glass ones self and drinking from it.

A simple test is saying to someone "Ow. I got a paper cut. On my eyeball". Of course you didn't feel anything reading the words "paper cut to the eyeball". But try it out on people. Johnnie winces and jerks his hand when he hears 'paper cut', and at 'on your eyeball', he paws at the air in front of his eye and says 'ewww'. NTs will usually feel a response, even if they don't show it. It has to do with mirror neurons. In general, women have a lot more mirror neurons than men, which explains why they have better empathy.

Aspies and Auties have different mirror neuron systems. A lot of people say we don't have mirror neurons, or that our MNS is reduced. But some studies show that we have more mirror neurons in some areas. Johnnie says that I have intuition for animals, machines, and nature that he can't even imagine, but I don't have much intuition for people. Also, I've noticed that I have really strong affective (automatic) empathic responses to some people on the autistic spectrum, but not for NT's.

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I went with an Aspie friend to the Exploratorium. There's a whole section that didn't work on us, because it depended on mirror neurons.

There was a video of people sucking on a big sour-ball candy, and they were puckering up their faces and making faces and we thought, yeah, I get it, it's sour, so what. The next day I realized NTs FEEL the sourness and they pucker up just looking at it.

And they had a phantom hand illusion with a brass hand and one person put their hand in a slot and the other person stroked a finger on the brass hand and real hand at the same time and then pinches the brass hand, and the other person is supposed to feel the pinch and jerk away. It's a brass hand, how stupid is that. But I guess it works on NTs.

They also had an emotion tester, like a lie detector, and had cards where you were supposed to think about different things. The trace was dead flat for both of us, except when Josh thought about the guy he had a mad crush on in high school and college. Then the trace (and I'm sure other things ) went up.

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Mind Reading is what NTs experience, where they feel like they know what other people are thinking. It's a mirror neuron response, and is often delusional (incorrect), but they are convinced that they are right. It seems to be very helpful in bonding.

Everybody also does simulation (cognitive) empathy in addition to affective (automatic) empathy, but for us it's almost all cognitive. That means it has to be learned slowly, over a long time, by analyzing lots of actual experience. So we develop it more slowly, but it can be very reliable and accurate.

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They did research on couples where one partner was Aspie and the other was NT, measuring their brain activity. First they stuck each person with a pin and saw what part of their brain was active. It was the same for everybody.

Next they wired up the NT's and stuck the Aspies with pins. The exact same part of the NT brains lit up, as if they had been stuck themselves. They were literally feeling the pain of their partners.

Then the wired up the Aspies, and stuck the NT's. The pain area showed no activity at all, but huge cognitive areas lit up. The Aspies were recognizing that there partners were in pain, were bothered by it, and were trying to figure out

how to help. But not feeling it.

I have to stop myself when I describe injuries because NT's actually imagine the pain of it, even when it didn't bother me that much when it happened.