

Here's some background info on Asperger's, or at least my take on it and how it affects my friends and I. The facts I present are scientifically validated, but the narrative synthesis is my own.

Asperger's Syndrome (AS) is a fundamental pervasive variation in brain development, starting early in fetal development. The physiological effects are definite but subtle, and, although it is extremely heritable, no specific genes have been identified. This indicates that most people have the genetic code to either have a neurotypical (NT) brain or an Aspie brain, and there is a switch that is activated very early. Perhaps 5%-10% of the population has the AS brain pattern, though only 2% present impairments that allow classification as AS under current criteria. There are two new biometric tests, but they have not been put into practice yet. One measures the speed and extent of pupil response to light, and can actually be done with equipment that is already in more ophthalmologists' offices. The other is a very computer-intensive brain scan, which is not practical for general use.

The key to understanding AS neurology and behavior is reviewing some features of NT neurology that most people aren't aware of. Basically, NT's have limbic system structures that function as a Social/Sensory Processing Unit (SSPU). All sensory input and output runs through the SSPU, where it is matched to templates - pre-established patterns (archetypes or stereotypes) - and then a version of the template is used for higher brain processing and memory. This process is automatic and subconscious, and is strengthened through practice, like a muscle, without examination or critical thinking. This explains why NT's automatically have opinions, regardless of their level of ignorance about the issue. NT brains don't have a native "I don't know" state. Input has to be matched to some sort of a template in order to have meaning.

Another NT feature is that everything has a social dimension, and that natural human socialization is about hierarchy and "us" vs "them". Conversations are less about the overt content than about social communication, done through eye expressions, tone of voice, and double meanings. The process of socializing, with small-talk and meeting new people, tends to energize NT's. It helps fill their 'emotional tank'. Because conversation is about social positioning, the actual facts and correctness of what is said are not important. Truth is 'liquid', and people constantly re-write their personal history to enhance their status. Ambiguity is beneficial, as it allows wider re-interpretation later, in a delusional construct of the Self.

This use of templates gives NT's the sense that they can "Mind-Read", and in many cases they make correct matches, but it is useful even when it is delusional. Feeling like they can read minds gives people a strong sense of confidence, and the accuracy is rarely tested. When errors are evident they can often be dismissed using the liquid truth and history revising adjustments.

In the middle of the forehead, behind the third eye, is the ventro-medial prefrontal cortex. It's main function is to apply bias to moral judgement. It's why people judge people closer to them less harshly than people who are alien. It provides a mechanism for opening minds when people find out a family member is gay, and also is the mechanism of bigotry. It's why Dan White was got a minor manslaughter conviction using the Twinkie defense. "Natural morality" is highly biased toward those people consider closer to them.

The prefrontal cortex is also responsible for Executive Function, the ability to make appropriate choices based on uncertain information, including generalizing and transference of meaning from one context to another. NT's natural make generalizations, abstractions, and approach things from a "forest first" perspective, instead of a detail oriented "tree first" one.

Also, NT's have a "mirror neuron" structure that strongly effects learning and social interaction. I have another little write-up on that, with a description of a section of the Exploratorium that doesn't work on Aspies.

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Aspies experience the world as a swarm of details. Filtering and generalizing the information isn't automatic. This makes it easy for us to have sensory overload, and to focus on things that aren't the ones that are important. It also makes it easier for us to see things that don't match established patterns. Socially, it is hard to separate out different conversations, and to filter out background noise. Also, the processing of social information is done algorithmically in a cortex area that is typically used for something else, which creates bandwidth issues and time lags, making the timing of social prattle difficult.

I learn by cataloging large numbers of specific instances and producing statistical models, instead of abstractions. There is no "Platonic Chair", just a database of all the chairs I've ever seen. To learn, I need a statistically significant experiential database of instances, either from reality or from simulations.

Sensory sensitivity is a related feature. I'm very light sensitive. I can see quite well by starlight, but daylight, or switching on a light, is painful. I'm also very sensitive to sounds. Some types are sounds are quite painful or disturbing to me, and I'm bothered by outside sounds, but I have a keen ear for music production.

Recognizing faces and nonverbal communication can be difficult for Aspies. If someone gets a haircut, for example, I may not recognize them. Even if we can recognize static facial emotions and signals, the fleeting and rapid changes in expressions in social situations can be like a carnival sideshow, or even a 3-ring circus to us. Eye contact is often distracting, sometimes confusing and disturbing, and occasionally actual painful. When someone has eyes that tell the same story as

their mouth, and communicates sincerely and without guile, they are usually "safe" to look at, and are actually trustworthy.

We have fewer connections between the prefrontal cortex and the limbic system, and a limited ventro-medial prefrontal cortex. This tends to make us very good at objective observation, and "rational morality", and makes us oblivious to social distinctions NT's consider useful. On the other hand, we tend to be rule-based, so if we get a social rule fixed in our heads, we may have difficulty applying exceptions, and may not adjust the rule based on subtle information as we mature.

One AS model that is particularly useful is that the AS traits are optimized for a sparsely distributed, family clan-based society with relatively fixed location, that depends on gathering plants and trapping animals. This would have been true of the neolithic societies in the cold Northern regions, and is colorfully referred to as the Neanderthal Theory. They were largely nocturnal (sensitive to light and sound), detail oriented, and rarely encountered strangers, so had little use for fast social skills.

Mainstream humans, in contrast, were nomadic herd hunters, using rapid distance scanning from ridges to spot and follow game, and intense teamwork to isolate and kill animals from the herds. Contact with other groups was frequent, and turf wars common. Assessing "friend or foe" was an important survival skill.

Aspie brains are often optimized for the objective rationality and "out of the box" thinking of science and engineering, or the repetitive tasks of traditional accounting and fabrication. Aspies also usually have an uncommonly strong bond with animals and nature, making us natural farmers and explaining the huge concentration of Aspies in the Furry community.

Growing up Aspie is complicated, because so much of what we are told doesn't apply to us. NT kids develop by laying down layers of experience. Each year presents a set of new challenges, which are addressed by testing limits, using age-appropriate evil. The next year, the specific lessons of that layer are forgotten as they are overlain by the new layer. This presents 3 problems for Aspies. First, Aspies are often the victims of NT developmental stages, being bullied without participating in the same process. Second, the grown-ups (parents and teachers) are usually completely clueless about what is going on developmentally with the Aspies, and give almost entirely bad advice. And third, Aspies develop in vertical strips instead of horizontal layers. We will develop to an adult level in narrow areas, so we will have a very spiky developmental profile, until it evens out around age 30.