



Adaptive Autism: An autistic perspective on autism's origin

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Dear Student of Autism,

I was a doctoral student in brain science at MIT before my autism caught up with me. This is my view of autism's origin.

As I write it is common to hear autism referred to as a mystery, and one surrounded by other mysteries. Why, for example, does autism exist in the first place? Why does it affect more males than females? Why does it occur in so many varieties? Why does it have a spectrum of intensities? Why does it depend on so many different genes? Why are there autistic savants? Why is autism becoming more prominent?

A simple idea lessens all of these mysteries in a stroke: **It is likely that the primary cause of most autism is adaptation to population sparseness.**

The further one brain is from other brains the less it can depend on the other brains to survive and the more it must depend on its own abilities among objects. In sparse regions brains need little social ability and great ability with objects. Given that over time organisms adapt to their circumstances, brains spending much time in sparse areas gradually shift from having social ability toward having ability with objects. Natural, adaptive autism is the result. Something like this happened when land mammals returned to the sea and their legs changed into the flippers seen on whales and dolphins – only in the case of autism it is brain resources that shift from one ability to another.

People exist in many places but not everywhere and so there are always people in relatively sparse outlying areas. For this reason the drive to produce autism has long been unrelenting and so is almost certainly the dominant cause of autism. Even pronounced autism can arise through adaptation coupled with some inbreeding – as occurs in sickle cell anemia, where mild forms of the trait protect against malaria but inbred forms can be deadly. Autism so pronounced that it causes survival difficulty is naturally the first to be noticed, but this can blind people to the adaptive value of common autistic traits.

I don't know how much autism is explained by sparseness adaptation, but it strikes me that the idea should be a larger part of the discussion than it is now. In the light of this one strongly predictive hypothesis none of the major phenomena of autism – including its origin, gender asymmetry, phenotypic and genetic variety, spectrum of intensity, savant abilities, and increasing prominence – remain fully mysteries. (Basic details follow below.)

It is of course reasonable to search for and eliminate causes of brain damage and severely crippling disability but it is also time to stop viewing all autism as disease and instead to see it for what the vast bulk of it probably is – the result of a natural process that brings variety to humanity.

That then is one autistic person's perspective on autism's origins. Please forward this letter to anyone you think might find it interesting or helpful. If confirmed by further evidence the hypothesis promises to guide both scientific research and compassionate, cost-effective social policy. I am available to discuss the idea publicly.

See <http://autismtheory.org> for an emailable copy of this letter, further details, predictions, and discussion of common objections.

Thank you,



Gregory B. Yates

Co-founder of AASCEND (.net), one of the oldest adult-autism-support nonprofits in America
This is not official AASCEND business: I offer the link as autism bona fides.

BASIC DETAILS

ORIGIN: as detailed above.

GENDER: Adaptive autism accounts for the greater prevalence of autism in males because males are not encumbered by the physical constraints of pregnancy and nursing and so have historically spent much more time in sparse areas. Other factors beyond the present scope magnify this gender difference. Non-sex-linked traits, a conjectured relative autism of small frontier groups, and the statistical nature of adaptive autism leave plenty of room for autism in females, but the hypothesis nevertheless anticipates more autism in males.

MALADAPTATION: Inbreeding can maladaptively concentrate traits that are otherwise adaptive, and frontier traits can appear maladaptive in crowds.

SPECTRUM: Because populations exist in a spectrum of densities autism arises in a spectrum of intensities.

VARIETY: Because sparseness prescribes *only the ends* and not the exact means of adaptation to it autism arises in many forms dependent on many genes.

SAVANTS: Adaptive development of non-social brain capacities fosters unusually-developed non-social (“savant”) abilities.

PROMINENCE: As Earth's population and technology continue to explode, traits adaptive at sparse frontiers are increasingly odd-looking and out-of-place. Selective mating may also be concentrating autistic traits.

PREDICTIONS (a partial list): Autism will have no clear diagnosis and no simple “cure”. To broadly target autism genes will be to attack the human genome as a whole because autism genes will be found to be many and also beneficial. Complex gene *combinations* will be paramount in autism – not just alleles at a few loci. **Autism will correlate with sparseness of ancestral habitat and with frontier-adaptive traits generally**, including risk-adaptation and the mobility (e.g. restlessness) that sends brains into sparseness. Near-frontier bands, present and historical, will combine strong autistic traits with intense local bonding, softening the effect of a possible autism-violence link. Some form of “return to nature” is likely to help in autism, including less crowding with less sensory overload, and cultivation of frontier abilities.