# Autism Redescribed

## Introduction

Very few concepts have been as misunderstood as the phenomenon known as autism. Not recognized until the mid-twentieth century—despite almost certainly having been around for many millennia—autism was immediately labeled as a medical condition, one in need of both aggressive treatment and ideally a cure (Cook & Willmerdinger, 2015). The condition was initially calculated to be extremely rare and was assumed to be inevitably dire, and no one even thought to ask if it might have a useful purpose.

Those early beliefs still very much linger within the autism research community today, even though autism has now been established as not being extremely rare and not being inevitably dire (Chahboun et al., 2022). The majority of that community's time and effort is still being directed towards ascertaining an underlying medical explanation for autism, be it genetic, neurological, environmental, or some combination of all of the above (Hodges et al., 2020), and a large amount of money is currently being spent on delivering a variety of treatments and "cures," everything from applied behavioral analysis (ABA) to symptom-suppressing drugs to such experimental remedies as stem cell therapy (Kaye et al., 2024). Ask almost any autism professional and you will still get the distinct impression that autism is something that would be better off eradicated, and certainly not something to be celebrated.

Nonetheless, since autism's discovery, and despite all the time, effort and money invested, the autism research community has made virtually no progress at all towards arriving at any useful understanding of the condition. To date, there are no genetic explanations of autism, there are no neurological mappings of autism, and there are no environmental accounts of autism, meaning there are also no productive combinations of all of the above (Klin, 2018; Myers et al., 2020; Parellada et al., 2023). And as for the so-called treatments and cures, they bear a remarkable similarity to errant darts being thrown at a board, with nothing in the way of objective evidence to indicate they have improved the lives of autistic individuals beyond receiving no treatment at all (Lyra et al., 2017). Ask almost any autism parent or autistic individual and you will get from them the distinct impression that the autism research community is still wandering in the weeds, forever long on promise and hope, but conspicuously short on actual knowledge and actionable results.

Therefore, I claim it is long past time to take a fresh look at autism, and especially at the now dubious assumption that autism must be a medical condition. A new description is needed—the old one is proving to be wrong.

Of the hundreds if not thousands of autism research teams now comprising the field, only one has embraced this notion of taking a novel approach to describing autism. Laurent Mottron's research laboratory, based out of Montreal, Canada (hereafter referred to as the Mottron team), has over the past two decades offered several innovative models and unique perspectives that depict autism in a less stereotyped way, primarily through jettisoning the insistence on autism being a disorder and substituting instead a representation of the condition as a minority yet viable form of human possibility. The Mottron team's most recent efforts along these lines have incorporated a dual approach, first with a detailed and cogent description of what the team labels as *prototypical autism*, a highly homogenous set of observable characteristics that clearly distinguish autistic children from their non-autistic counterparts, as well as from those who might be receiving a diagnosis under the now extremely loose official diagnostic guidelines but who for various reasons do not fit the usual autistic profile (Mottron, 2021). The second part of the Mottron team's recent approach is to categorize autism as an *asymmetric*

*developmental bifurcation (ADB)*, similar to other identifiable bifurcations such as left-handedness, twin pregnancy and breech presentation, conditions that defy overt medical explanation and yet emerge as persistent biological alternatives (Mottron & Gagnon, 2023).

I have written previously about prototypical autism, highlighting both the successes of this description as well as its shortcomings (Griswold, 2024), and here I propose to do something similar for the Mottron team's depiction of its asymmetric developmental bifurcation model, especially as presented in the team's recent paper *Asymmetric developmental bifurcations in polarized environments: a new class of human variants, which may include autism* (Mottron et al., 2025), a depiction which certainly casts new and meaningful light on autism as a viable human alternative, but a depiction which can also be improved.

There are two pressing reasons for developing a more thorough and accurate description of autism. The first is that the medical approach is actually doing some harm. Of the more valuable achievements that arise from the Mottron team's detailed outlining of prototypical autism and the ADB model is that the team provides abundant evidence that there is a natural and predictable course of autistic development, a course which is certainly different from typical development but which can be effective nonetheless, leading to improved outcomes and more productive and fulfilling autistic lives (Jacques et al., 2018). Unfortunately, nearly all the interventions that result from the medical model of autism serve only to thwart this natural course of autistic development, funneling autistic children into routines and circumstances that do exactly the opposite of what they need. Thus, we have been mistreating entire generations of autistic individuals due solely to professional ignorance, and this mistreatment is overdue to come to an end.

The second reason for developing a more thorough and accurate description of autism is that the phenomenon, when properly understood, becomes a surprisingly key component in the deciphering of recent human history, accounting for the underlying mechanisms of human behavioral change, and providing a logical explanation for the sudden atypicality of the human species. A strength of the Mottron team's approach is that it sets the stage for this understanding by highlighting the autistic perceptual and behavioral biases towards the physical, structural and raw informational aspects of the surrounding world, and contrasting these biases to the conspecific preferences evinced by the non-autistic members of the population. A weakness of the Mottron team's approach is that the team then fails to recognize and/or to acknowledge that these perceptual and behavioral differences mirror exactly the distinction between the modern form of *Homo sapiens* individuals and their purely animal ancestors. This essay will examine how recent human history has been marked by a continuous transition from a purely non-autistic form of perception and behavior to a form much more in line with what is experienced naturally by autistic individuals. That is to say, the species overall has been becoming more autistic-like in its perceptual and behavioral characteristics as time progresses. This is not a coincidence, and therefore, it is not hyperbole to say that an accurate description of autism is the key to understanding the transformative course of modern humanity.

**Conspecifics**

Perhaps the most promising feature of the Mottron team's recent ADB paper is its more liberal employment of the word *conspecifics*. By my count, there are at least seven uses of the term and its variants to be found within the paper, quite possibly a new record for autism research. I myself have been making the argument over the past twenty years (Griswold, 2007, 2017) that perceptual attention towards and interaction with the other members of the species, or the

significant lack thereof, determines the fundamental distinction between non-autistic and autistic individuals, and it would appear the Mottron team now in essence agrees.

In the team's own words, the defining distinction between non-autistic and autistic individuals is that the former evince a *social bias* in their information processing, whereas the latter do not, but the team then goes on to explain, at considerable length, what exactly is meant by the phrase *social bias*, with almost the entirety of that explanation revolving around the word *conspecifics*. When non-autistic children engage with their environment they demonstrate a marked and natural preference for those features associated with other human beings. This can be as straightforward as increased attention given to human faces, human voices, human touch, etc., and includes an obvious desire for joint and shared participation in various human activities. Furthermore, as the Mottron team rightly points out, this conspecific influence extends beyond just direct human interaction, such as when dolls and other objects are treated as human agents, and when the non-human structural world is explored primarily at the urging, prompting and approval of caregivers and peers. These behaviors might seem to be so typical as to make their significance easily overlooked, but any sober reflection on the natural proclivities of non-autistic children reveals that a strong conspecific influence lies at the very center of these children's entire worldview.

In contrast, the Mottron team describes the autistic child as engaging his or her environment without reliance upon this social bias, that is, without strong attention towards or influence from human conspecifics. There are two ways to then characterize this style of autistic engagement, one via the absence and one via the presence of distinguishing traits, including traits outlined in the official autism diagnostic manual (American Psychiatric Association, 2013). The absent traits would include such things as social reciprocity, joint attentive activities, relationship development, communicative language, etc., all evidence of a significant detachment from conspecifics compared to that of non-autistic peers. The present traits would include various heightened interests towards and interactions with the physical and structural aspects of the environment, for instance a prolonged gaze upon rotating and geometrical objects, persistence in repetitive movements, insistence on the same routine, scrutiny of the formal aspects of language (the shapes and sequences of numbers and letters, for example), and so on. The Mottron team notes that even when autistic children do happen to engage with conspecifics they often do so in an unusual manner, for instance by regarding human faces not for their expressive content but instead for their symmetrical and other physical features (Pavlova et al., 2017). The clear lesson to be derived from any impartial observation of autistic individuals, especially during the critical age range of around two to five years, is that they do not organize their perceptual and behavioral world primarily around human conspecifics, as non-autistic children almost invariably do.

This conspecifically themed manner of categorizing non-autistic and autistic differences has several merits over the medical model. For one, it provides an affirmative and detailed description of the observable characteristics of non-autistic individuals, which is much more informative than blandly presenting these individuals as the nondescript norm. Also, this conspecifically themed manner of categorization remains nonjudgmental towards autistic characteristics, treating them as an alternative and consistent set of observable traits and not a presumed list of disorders that need to be cured, a far more scientific approach to studying the condition. Finally, given the fifty plus years of null results in the many attempts to uncover genetic, neurological and environmental explanations of autism, it is both refreshing and encouraging to see a research team take a step back from this apparently fruitless obsession with underlying causes, and refocus efforts and attention towards describing what non-autistic and autistic individuals actually do. *All* individuals absorb and react to their environment in a meaningful, productive and watchable fashion, it just happens that non-autistic and autistic individuals do so in an entirely different way, and any careful observation would reveal that the

primary distinction between these two cohorts arises almost entirely from the relative influence, or non-influence, of human conspecifics.

Although the Mottron team is certainly to be congratulated for taking this less prejudiced and more scientific approach to describing autism, and for being perhaps the first autism research team to fully recognize and to appreciate the importance of conspecific themes within its depictions of prototypical autism and the ADB model, I do have some suggestions for improvement. In the first place, I would drop the use of the phrase *social bias* altogether. If the team feels the need to take entire paragraphs to explain exactly what is meant by these words, then perhaps they are not an ideal choice. I myself in recent years have leaned towards use of the phrase *conspecific perception* to label the characteristic lying at the heart of the distinction between autistic and non-autistic individuals, but to be honest, a label such as *conspecific bias* would work just as well. The trouble with the Mottron team's phrase lies solely in the word *social*, which has much too broad a connotation for the purpose at hand, making it sound as though what distinguishes autistic individuals from their non-autistic peers is something like a lack of desire to shake hands properly or to wave hello at the correct moment, when of course the distinction runs considerably deeper than that. The word *conspecific* is more targeted, more concise, has a richer implication, and makes it clear that autistic characteristics are derived not from social apathy or dysfunction, but instead from an entirely different worldview.

Also, I believe the Mottron team should acknowledge that the conspecific bias evinced by the non-autistic members of the population is not just typical for the human species, it is also typical across the entire animal kingdom. The organisms of almost every animal species give clear evidence of a strong conspecific influence in their approach to their surrounding world, displaying increased attention towards and interaction with the other members of their own species (Lickliter, 1991; Nunes et al., 2020). Lions perceive and engage primarily with other lions, honeybees perceive and engage mostly with other honeybees, etc. The reason of course for this universal presence of conspecific bias is that the characteristic is a key component in survival and procreation. How would potential mates be discovered, how could offspring be tracked and cared for, how could pack hunting or group defense be expected to work if organisms did not have preferential awareness and attention for the other members of their own species? In general, biological perceptions and behaviors are organized in large measure around conspecifics, and thus, there is no mystery behind the source of the conspecific bias displayed so prominently by non-autistic humans—it is a characteristic forged originally and robustly in the long-burning furnace of evolutionary time.

And this is what makes autistic individuals so particularly remarkable, because they are not just atypical within the species, they are atypical across the entire biological world. To experience a diminished influence from conspecifics in the processing of one's environment and in the development of one's worldview is so outside the norm as to essentially defy the very dictates of biology and evolution. And as if that were not noteworthy enough, all this is taking place within a species that has itself transitioned into an existence utterly unlike that of any other species, transforming from being a pure animal focused entirely on the survival-and-procreative aspects of its natural environment to being an unquestioned master of the physical, structural, informational and artificial world (Christian, 2018). Would it be that farfetched to think that this newfound atypicality of the human species might have something to do with the significant presence of individuals within the population who appear to be naturally inclined to develop an alternative form of information processing, one not organized primarily around conspecifics, but instead organized mostly through the physical and structural features of the environment? I will have more to say about this atypicality of both autism and the human species later on, but for now I will simply encourage the Mottron team to consider that its lucid and conspecifically themed descriptions of autistic characteristics have implications that go beyond just developmental psychology.

**Bifurcation**

The type of developmental bifurcation outlined in the Mottron team's ADB model has the following characteristics:

- The bifurcation results in two primary outcomes, one for the vast majority of the population, and the other for a small but significant minority of the population.
- The realized outcome is influenced to a significant degree by hereditary factors, but is not the result of any simple, or even ascertainable, genetic cause.
- The realized outcome also appears to be influenced by environmental factors, but again is not the result of any simple, or even ascertainable, material cause.
- With respect to the bifurcation, each outcome group is both highly homogenous within itself and also unambiguously distinct from the other.

A potential limitation of this model is that it appears to have modest scope, at least with respect to humans, since there seem to be very few conditions known to fit well to the above characteristics. Besides autism, the Mottron team offers only three other examples—left-handedness, twin pregnancy and breech presentation—and this sparse applicability means the model ends up sounding somewhat esoteric. That does not, however, disqualify it from consideration, and the Mottron team's recognition of the model's aptness to the known facts regarding autism is to be commended. But the real brilliance within this model is that it provides a logical framework for describing the genesis of autistic characteristics, and for demonstrating that these characteristics are the natural, indeed the only, plausible consequence for an organism experiencing a diminished influence from conspecifics.

Here is what I am driving at. In each provided instance of the ADB model, there are two different ways to characterize the bifurcation with respect to the minority outcome. One way is by *negating the majority characteristic*, and the other is by *overtly describing the minority characteristic*. For instance, with handedness, the minority outcome can be negatedly labeled as not being right-handed, or overtly described as being left-handed. For pregnancy, the minority characteristic can be negatedly labeled as not a single fetus, or overtly described as twin (or multiple) fetuses. For birthing, the minority characteristic is *not* the cephalic position, or alternatively *is* breech presentation. And finally for autism, the minority characteristic can be negatedly described as not experiencing a conspecific bias (or social bias, as the Mottron team would say) in the individual's information processing, or alternatively, the characteristic can be overtly described as an unusually strong orientation towards the physical, structural, formal and informational aspects of the surrounding world.

In the first three cases, it is obvious that the two different ways of characterization are equivalent, so obvious and so equivalent that the minority outcome emerges as the sole and natural alternative to the majority outcome. For instance, if a human is going to have a dominant hand, and the contextual circumstances—be they hereditary, environmental, random, or otherwise—do not allow for right-handedness, then left-handedness emerges as the sole and natural alternative. If a human conceives, and the contextual circumstances do not create a single fetus, then multiple fetuses must result. If a human baby is soon to be delivered, and the contextual circumstances have not ordained the cephalic position, then breech presentation becomes inescapable. No special mechanism is needed to establish or to explain any of these minority outcomes, because in each instance that outcome emerges naturally as the inevitable alternative.

But can this same logic be applied to autism? At the very least, it must be admitted that the equivalency between the two different ways of characterizing autism is not so immediately obvious. Does the significant diminishment of conspecific influence during a child's developmental years *necessitate* a strong orientation towards the physical, structural and formal aspects of the environment? I will argue that the answer to this question is actually yes, and along the way, I am afraid I must also insist that the Mottron team has gotten this part of its description wrong.

As a human child develops and matures, it must begin to productively process its physical environment and to organize its sensory experience (Lewkowicz, 2014; Monesson & Scott, 2010). To not do so would leave the child in a state of perceptual and behavioral chaos, with every feature from the surrounding world having a haphazard impact, meaning no feature could have an overriding and effective influence. Every sight, every sound, every tactile impression, all of it would form into nothing but a confused jumble, making developmental progress essentially impossible. As it happens, biological need brings some order to this potentially tumultuous state of affairs—hunger, thirst, fear, temperature regulation, sexual drive, all these bring a degree of focus and organization to an individual's experienced circumstances. And as non-autistic children demonstrate on an almost continuous basis, conspecific humans also play a pronounced role in the regulation and arrangement of a typical child's sensory, perceptual and behavioral world. From the manifold of sensory impressions, what emerges prominently and naturally for a non-autistic child are human faces, human voices, human smells, human touch, etc., and from the desire to act comes an instinctive proclivity to do so in concert with other humans, and from the will to explore comes the deeply felt and accompanying urge to heed the promptings and approvals of caregivers and peers. In the filtering, processing and organization of a non-autistic child's environmental experience what emerges naturally and predominantly are those features associated both directly and indirectly with other human beings, and therefore, for the non-autistic child, its world becomes first and foremost a human-centered world, a human-grounded world, and *not* a chaotic world.

So what must be the corresponding consequence for the autistic child, who will not experience a significant conspecific influence as it develops and matures? Biological need does provide some degree of organization for the autistic child, but it is clear from the developmental challenges faced by nearly all autistic children that biological need by itself is not nearly enough. Without the organizational assistance that conspecific influence provides, autistic children are in constant danger of becoming stuck within a state of sensory, perceptual and behavioral chaos, and thus, there is no mystery behind the reason that autistic children remain at developmental risk—they are missing a key driver of experience coalescence, a driver not just for the human species, but indeed for nearly the entire animal kingdom. Without conspecific bias, autistic individuals find themselves swimming against the biological and evolutionary tide.

But the fact that most autistic children do not remain stuck within a state of sensory, perceptual and behavioral chaos is the strong evidence that there is an alternative organizing principle at work within these children. And as has been suggested already, that alternative organizing principle is being provided by the unusually strong orientation these children take towards the physical, structural and formal aspects of the environment (spinning objects, symmetrical shapes, repetitive movements and routines, rhythmic sounds, etc.). Instead of coalescing their experience primarily around conspecifics, autistic children tend to focus and to arrange their world upon those structural and formal features that can be found somewhere near at hand, and therefore, for an autistic child, its world becomes first and foremost a structure-centered world, a structure-grounded world, and thereby *not* a chaotic world.

But why these particular features, you might ask? Why the physical, structural and formal aspects of the environment? Why do autistic children orient their sensory, perceptual and behavioral proclivities in this particular way? It is here, in the answering of this question, that the Mottron team and I part ways.

It is not always easy to tell for sure, but based upon various papers that have appeared over the years, it would seem the Mottron team subscribes to the notion that autistic characteristics are fundamentally the product of a special neural mechanism. That is to say, the team *begins* with the idea that autistic brains are somehow constructed differently than non-autistic brains (see for instance (Bernhardt et al., 2025), (Hyde et al., 2010), (Samson et al., 2012), etc.), and as a direct result of these differently constructed brains, autistic individuals thereby process their environmental information in a neurally unique fashion (see such concepts as enhanced perceptual functioning, veridical mapping, global and local processing, top-down and bottom-up hierarchies, and so forth (Bouvet et al., 2014; Mottron et al., 2006, 2013)). For me, there are several problems with this approach, one of which is that it is antithetical to the ADB model. Recall that in the three other examples the Mottron team provides for this model, the minority outcome emerges as the natural and sole alternative to the majority outcome, with no special mechanism required. The trouble with assuming a special neural mechanism for autism is that this mechanism could have theoretically produced just about any outcome, for instance a processing bias centered around orangutans, or around cloud formations, or around just about anything at all—it did not *have* to produce the characteristics associated with autism. And in the case of autism, such a special neural mechanism would need to be *doubly* special, since it would have to account both for the overriding (or suppressing) of the default tendency towards conspecific bias, and also for the producing of the alternative tendency towards a bias for the physical, structural and informational aspects of the surrounding world, and in fact, there would be no compelling *neural* reason that both these types of biases could not have existed within the same individual at once. All this would be the equivalent of saying that to account for left-handedness, one would need a special neural mechanism capable of both overcoming the default tendency towards right-handedness, as well as overtly producing the alternative tendency towards left-handedness, with again there being no compelling *neural* reason that both these tendencies could not have existed within the same individual at once. Left-handedness is more concisely explained by simply noting it is the natural and only alternative to right-handedness, with any neural differences not being the *cause* of left-handedness, but merely its result. Ideally, similar logic should be applied to autism. If the ADB model is going to be meaningful and effective, it should produce only *pure* bifurcations, ones in which the minority outcome follows naturally and inevitably from the absence of the majority outcome. A special mechanism ruins this purity.

One more thing. The Mottron team's approach provides no applicable explanation for sensory issues. It is well known (indeed, it is now a major criterion within the official diagnostic guidelines) that autistic individuals frequently experience a wide assortment of sensory issues —hypersensitivity, hyposensitivity, synesthesia (Hazen et al., 2014; Kern et al., 2006). Over the years, the Mottron team has remained relatively silent about these sensory issues, and this reticence remains on full display within the ADB paper, where the mention of sensory matters is reduced to one scare-quoted phrase within a parenthetical remark. I suspect the reason for this silence is that a special neural mechanism on its face has nothing to say about sensory matters, unless of course one wishes to render this neural mechanism now *triply* special and have it also be the direct and active cause of an autistic individual's sensory idiosyncrasies. But otherwise, under the Mottron team's approach, there is no compelling reason to expect any sensory differences between non-autistic and autistic individuals. Non-autistic individuals would possess a type of neural mechanism that favors conspecifics, and with this mechanism would process their environment primarily around other humans, and assuming the mechanism works as advertised, no sensory troubles should arise. Autistic individuals would possess a

type of neural mechanism that favors the structural and informational aspects of the environment, and with this mechanism would process their environment primarily around objects and other formal features, and again assuming the mechanism works as advertised, no sensory troubles should arise. The mechanisms would of course be different, but as long as each was working as expected, there would be no reason for sensory difficulties in either case. This inability to account for sensory issues—which are really quite common in autism, especially at the younger ages—is to me a glaring weakness in the Mottron team's approach.

I believe what is called for here is a prudent use of Occam's razor, lopping off any mention of special neural mechanisms altogether. These mechanisms are entirely unnecessary. Following the prescription of the ADB model and eyeing the examples of left-handedness, twin pregnancy and breech presentation, the place to *begin* with autism is not somewhere inside the human skull but instead with autism's one fundamental negation: autistic individuals do *not* experience conspecific bias in the engagement and processing of their contextual world. From this one negation alone, and without adding anything extraneous, it is straightforward to demonstrate that the observable characteristics of autism inevitably follow.

If an autistic child is going to develop and mature, then that child, just as non-autistic children do, must organize and integrate his or her sensory, perceptual and behavioral experience. And of course an autistic child finds itself at an immediate disadvantage in this critical task, because it does not possess a primary organizing principle that exists within non-autistic children, namely the built-in ability to filter, process and organize the environment around other human beings. Without this ability, the autistic child finds itself on the verge of a sensory, perceptual and behavioral chaos, and herein lies the direct explanation of the sensory issues experienced in autism. Of all the developmental tasks a young child faces, obtaining a sensory grounding is perhaps the most basic. The sensory field is broad and multivariate, and without some means of filtering and foregrounding the overwhelming multitude of impressions that arises from this field, the child is going to have very little success in organizing and integrating its experience. Non-autistic children bring order to the sensory field in large part by focusing on conspecifics and filtering out much of the rest, naturally honing in on human faces, human touch, human activities, etc., and in this manner non-autistic children achieve their sensory grounding. Autistic children, lacking conspecific bias and unfestooned with special neural mechanisms, initially struggle to achieve their sensory grounding, sometimes overcome by impressions that are not really important (hypersensitivity), sometimes oblivious to impressions that actually are important (hyposensitivity), and sometimes confused in the task of separating and integrating sensory modalities (synesthesia). This motley range of sensory issues is the strong evidence that autistic children are not experiencing something like a neurally induced sensory dysfunction, but instead are experiencing a more generalized difficulty with achieving sensory grounding, dealing with the very real effects of a looming sensory chaos.

So what is an autistic child to do? If there were no alternative to conspecific bias for achieving sensory organization, then developmental progress would be nearly impossible. But as it happens, there is an alternative to conspecific bias, one that most autistic children do take to at least some degree. This alternative is, fitting quite nicely into the ADB model, the sole and natural alternative.

The environment, including the sensory field, is indeed broad and multivariate, but it is not random, it is not entirely chaotic. Within the natural world there is a good deal of inherent structure that exists within the surroundings, for instance the geometrical shapes and symmetries induced by gravity, the repetitions of the meteorological seasons, the regularities of celestial motion, and so on. And in the modern human world, where artificial construction abounds, there is an enormous amount of form and structure to be found at almost every turn. These structure-rich environmental features can be categorized under a wide variety of

concepts—symmetry, repetition, pattern, number, logic, etc.—but what these concepts all have in common is that they are antithetical to chaos, they provide intrinsic signal against the background noise. Autistic children, facing a looming sensory chaos, and unable to break this chaos via the foregrounding of conspecifics, resort to the only alternative available, latching onto those environmental features that inherently contain chaos-breaking structure, that inherently provide some signal against the relentless noise. Ceiling fans are cherished not for their ability to cool mom and dad, but for their embodiment of symmetry and repetition. Toys are lined up not with the intent to entertain the grandparents, but from the urgent need to create geometrical form. Movements and sounds are repeated ad infinitum not with the purpose of annoyance, but with the desire to introduce regularity into an otherwise unregulated world. Young autistic individuals, struggling to make developmental progress and to obtain their sensory grounding, obsess over the many different types of structure that their environment inherently contains, because for them, there really is no other choice.

And that is autism in a nutshell. No special mechanism required. No need to go searching for genetic, neurological and/or environmental dysfunction. Fundamentally, autistic children do not experience a conspecific bias in their engagement with their surrounding world, and the natural consequence of this negation is that autistic individuals must take the only other pathway available, seeking out those chaos-breaking structural features that can be found within the environment, and ultimately developing a worldview informed primarily by these structural features. This outcome certainly will engender some neural differences in autistic individuals, but these neural differences are not the *cause* of autism, they are merely its *effect*. Instead, the observable characteristics of autism all follow solely and inevitably from the significant diminishment of conspecific bias in the processing of the contextual world—autism is a pure bifurcation.

**Atypicality**

If I were to ask you which group of animals organizes its experience primarily around the inanimate, physical, structural and informational aspects of its lived environment, how would you reply? If you were to say autistic individuals, you would be correct. But if you were to say modern human beings, you would also be correct. Is this a coincidence?

*Homo sapiens* has transformed, in a remarkably brief period of time, from being a perfectly typical species to being by far the most atypical collection of creatures this planet has ever seen. Approximately two hundred thousand years ago, humans were simply animals, living in an entirely natural setting and scratching out the same kind of existence as was every other beast—eating and drinking, fighting and fleeing, mating and rearing—day after day after day (Klein, 2009). It had been that way for millions of years, and across the entire animal kingdom, it had been that way for *hundreds* of millions of years. But today, most humans live in settings that are more artificial than natural, and engage in a multitude of behaviors that extend far beyond what is needed for survival and procreation alone—writing, hammering, driving, dancing the Merengue—the list goes on and on. And undergirding this unprecedented alteration of behavior is a layer of artifacts now blanketing almost every corner of the Earth's surface—roads, buildings, books, phones—again, the list goes on and on. There have been many suggestions offered in recent years aimed at explaining these disruptive and transitional events—language genes (DeSalle et al., 2026), neural alterations (Klein, 2002), collective learning (Baker, 2014), shared myths (Harari, 2015), etc.—but none of these proposals have been anything close to compelling. It remains one of the great unanswered questions of science: how did *Homo sapiens* transform from being pure animal not that long ago to being

the clothes-wearing, fast-talking, sports car-driving version we can observe today? How and why did the human species become so utterly atypical?

What is both fascinating and unusual about the fact that autistic individuals have a natural proclivity towards an intense engagement with the inherently structural features to be found within the environment is that, despite these features having been around from the beginning of time, they have gone almost entirely unnoticed by the rest of the animal kingdom. Symmetry, repetition, pattern, number, logic, etc.—these concepts do exist within the natural world, they can theoretically be taken advantage of (as humans have now abundantly demonstrated), and yet organisms in general have never seemed to take even the slightest bit of notice. Animal creatures do not widely construct, they do not abundantly count, they do not experiment with pattern, repetition and form. What animal creatures do is they survive and procreate, and they appear to do so with such perceptual and behavioral intensity that they remain nearly oblivious to everything else. The primary drivers of this perceptual and behavioral intensity are biological need and conspecific bias, the two main influences that determine a typical organism's entire worldview. These two influences are critically important for survival and procreation, but they also have such an intense impact that they lock each organism into an existence consisting of nothing *but* survival and procreation, effectively blinding the organism to every other possibility. This is why animal behavior has remained so remarkably consistent, both across species and across time. Following the pathway laid out by biological need and conspecific bias, animal creatures engage their environment in the most predictable and unerring of ways—eating and drinking, fighting and fleeing, mating and rearing—day after day after day.

And of course what can be said about animal creatures in general could also have been said about the genus *Homo* for literally millions of years, right up until around two hundred thousand years ago, right up until everything began to change (Sterelny, 2011). Something altered the predictable pathway for human beings, altered it in the most dramatic fashion, igniting and fostering the remarkable transformation that can still be observed taking place all around us today. What changed, you might ask? Well, what changed is that humans began to notice the inherent structure contained within the environment and began to take increasing advantage of it. Humans began to turn their perceptual and behavioral attention towards symmetry, repetition, pattern, number, logic, etc.

Conventional wisdom would have us believe that humans at some point must have undergone a type of genetic and/or neural mutation, and as a result of this mutation, the human brain became suddenly "smarter," now able to recognize and to process the structural and informational aspects of the environment in a manner no other species, including humans themselves, had ever managed to do before (Gabora & Steel, 2020). But how likely is this scenario? In the first place, the supposed mutation remains entirely unspecified—there have been no legitimate genetic or neurological findings that have come anywhere near pinpointing the source of this unprecedented and significant alteration, and given that the cerebral structures implicated in intelligence are known to be numerous and extremely far-flung throughout the human brain (Haier et al., 2004), and given that the genetic underpinnings for intelligence are known to be massively multivariate and spread all along the human genome (Toga & Thompson, 2005), it would seem any notion of a targeted mutation must be nothing more than an ill-considered pipe dream. And whatever mutations were supposedly involved in triggering the human turn, they would have had to have been spread population wide in a very short period of time, because these supposed mutations cannot be present in just *some* human beings, they have to be present in nearly *all* human beings, since the entire population now processes its structural and informational environment as a matter of daily course. To me, the conventional wisdom sounds too biologically and evolutionarily fantastic, to the point of being downright implausible.

There is a more sober alternative.

What would have been the foreseeable consequence if a significant presence of autistic individuals had gained an ongoing purchase within the human population, beginning sometime around two hundred thousand years ago? As has already been discussed, these autistic individuals would have been naturally inclined to develop a worldview informed primarily by the structural and informational aspects of their environment, a worldview informed primarily by symmetry, repetition, pattern, number, logic, etc. The initial source of these aspects would have been nature itself—the effects of gravity, celestial motion, etc.—because of course no artificial constructs had yet to come into existence. But these early autistic individuals, just as we can witness with autistic children today, would have been prone to repurposing the elements of their environment, would have been prone to fabricating artifacts that could satisfy their sensory craving for structure and form. These would have been the very first instances of artificial construction, that same artificial construction that now blankets the entire human world and serves as the foundation for a multitude of novel and modern human behaviors. Furthermore, these anomalous autistic activities, unprecedented within the animal kingdom, they would not have gone unnoticed. The non-autistic members of the population, not naturally inclined to perceive inherent structure but acutely inclined to pay attention to what other humans do, would have found themselves curious about these strange new features being introduced into their surroundings by a portion of their human brethren, and would have been prone to mimicking such behaviors and constructions, because non-autistic individuals are prone to mimicking *all* human activities. Thus would have begun a productive and accumulating symbiotic relationship between the autistic and non-autistic members of the population, with the autistic members forging a pathway into a strange new world of pattern, repetition, number, and so on, and with the non-autistic members conspecifically following their lead. The result has been a human species moving further and further away from the perceptions and behaviors of its purely animal past, and moving inexorably towards those perceptions and behaviors that are forged primarily out of artificial construction—perceptions and behaviors strikingly autistic-like in nature. In a sense, the human species has become increasingly infected with the overt characteristics of autism.

These ideas will no doubt sound strange to most ears, and especially to those who subscribe to the medical model of autism, and who therefore cannot fathom how autism might be serving a useful purpose. But consider what an enormous coincidence the alternative entails. Assume that the conventional wisdom is correct, and that the human transformation is indeed the result of something like a biological mutation, and has nothing to do with autism. The consequence of this assumption is the following three assertions:

1. Autistic individuals are distinguished in large measure by their strong perceptual and behavioral orientation towards the structural, formal, informational and artificial aspects of their environment.
2. Modern humans are distinguished in large measure by their strong perceptual and behavioral engagement with the structural, formal, informational and artificial aspects of their surrounding world.
3. The two previous assertions have nothing to do with each other.

That would be one heck of a coincidence, and I for one refuse to accept it. But apparently I am going to stand alone in this refusal for a rather long time. This is why I sometimes get so frustrated with the Mottron team. That team has itself been leading the way in highlighting how autistic individuals have a distinct and observable form of development and behavior, determined primarily by an intense engagement with the physical, structural and other formal features of the surrounding world. And that team also surely recognizes, being a *scientific* team, that modern humanity is being built on a foundation of increasingly accurate interaction

with and understanding of the physical, structural and other formal features of the contextual world. And yet that team shows no willingness at all to consider a connection between these two nearly identical concepts. The shortsightedness of current scientific practice—even the *best* of current scientific practice—never ceases to amaze me.

**Natural Autistic Development**

Where the Mottron team's efforts do shine more clearly are in the team's lucid and detailed description of autistic development, especially during the critical age range of around two to five years. This is accomplished mostly via the team's outlining of the characteristics of prototypical autism, and is supplemented nicely by the team's reference to the ADB model, which provides the framework, as described above, for demonstrating how autistic development is the natural, progressive and predictable consequence of a diminished reliance upon conspecific bias, and is not just some stunted form of typical development, as the medical model of autism would have one believe. Autistic individuals can and do go forward, but via a different pathway than do non-autistic individuals, and the Mottron team has been the only autism research team both courageous and perspicacious enough to insist that this distinctive form of autistic development is an observable and unalterable fact.

Regrettably, the remainder of the autism research community goes in exactly the opposite direction, focusing on autism as a broken form of non-autism, as a biological disorder—an *unspecified* biological disorder, mind you—that needs to be fixed. The most damaging consequence of this unproven approach is that natural autistic development is almost never supported, and in many cases is actively hindered. ABA programs universally are designed to reward behaviors that align with the characteristics of typicality, and to punish behaviors that align with the characteristics of autism (Leaf et al., 2022). Drugs are routinely administered to suppress autistic-like "symptoms," even at the unconscionable cost of effectively stupefying the patient (Hellings, 2023). And stem cell and other experimental remedies are judged to be promising only to the degree they can transform autistic children into near replicas of their non-autistic peers (Nabetani et al., 2023). To an autistic child attempting to gain his or her sensory, perceptual and behavioral grounding, these so-called interventions must be frustrating at best and debilitating at worst, since they deliberately thwart the only means this child has available to it to effectively engage and assimilate its surrounding world, imposing instead an alternative type of engagement that this autistic child, by definition, has no ability to accommodate.

Imagine if the circumstances were turned around. What could be expected to happen if autistic characteristics were taken to be the ideal target, and non-autistic characteristics were presumed to be the disorders needing to be cured? Picture non-autistic children being routinely deprived of human touch, human smiles, human voices, being frequently punished for attempting to participate in conversations and other joint attentive activities, being constantly drugged for insisting too forcefully that their geometric toys could be treated as conspecific agents? Does anyone think this approach would be productive, or that such a regimen could successfully transform non-autistic children into near replicas of their autistic peers? Not only would these non-autistic children be deprived of their natural course of development, they would also be deprived of the secondary effects. Once a typical child has gained his or her sensory grounding and has started its developmental journey via conspecific influences, that child can then leverage these foundations into encounters with a broader perceptual and behavioral world, including a modern world filled ubiquitously with countless instances of non-human structure and form. When a non-autistic child is allowed and encouraged to develop naturally, it gains access to everything, both conspecific influences early on and non-

conspecific influences eventually. But thwart a non-autistic child's natural course of development, and that child will gain access to nothing.

It is essentially no different for autistic children, other than to note that the natural developmental pathway runs in the opposite direction. Ideally, autistic children would be allowed and encouraged to engage their environment in accordance with their own internal preferences, focusing in the early years on inherent structure and form, with limited expectation of any conspecifically themed encounters. Admittedly, this pathway will take longer than it does for non-autistic peers, and will require more patience and support—after all, this type of development runs counter to millions of years of biology and evolution, and also does not fit easily into the population's norms. But in most instances there will be rewarding secondary effects. Autistic children, once they have obtained their sensory grounding, will—just as non-autistic children do—leverage this foundation into a broader engagement with the perceptual and behavioral world, including a belated connection to the expectations and activities of the human species. Most autistic children can be observed following this course today, exhibiting developmental changes after the age of five that include improved communication skills, increased involvement in joint attentive activities, greater awareness of expectations and roles within a broader human society, etc., and it can be anticipated that such outcomes would be more common if natural autistic development were more widely fostered instead of hindered. Some autistic children take this secondary developmental leap to such a large degree that they are then mistakenly reclassified as having "lost" their autism (Fein et al., 2013), proving once again that within the medical model of autism, everything associated with the condition, even its successes, must somehow be "fixed." The reality, however, is that autistic individuals, whatever their ultimate outcome may be, are always going to be autistic individuals, their worldview having been shaped very early on and in a fundamentally different way. Therefore, the goal of an autistic upbringing should not be to turn the individual into a non-autistic replacement—a goal with essentially zero chance of success. The goal should be to allow and to encourage the child to follow its natural course of development and to become the best *autistic* individual he or she can be.

**Conclusion**

If the first rule of medicine is to do no harm, then the autism research community has a great deal to answer for. The medical model of autism has been in existence for nearly a century now, and not only has it failed to deliver even the most basic understanding of the condition, it has also produced a troubling legacy of unwarranted trauma for one of the most important segments of the human population. To focus solely and aggressively on only the difficulties that come with autism, to mindlessly overlook the condition's unique characteristics and unusual benefits, to confidently label autism as a disorder without being able to *specify* the disorder, and to subject entire generations of children to unproven and disruptive treatments and cures, this has been an ongoing travesty of the highest order, a shameful and lasting blight upon science itself. What will it take to wake up this community, to get it to rethink its pernicious ways? Apparently not endless decades of null results trying to concoct medical explanations for autism, and apparently not the existence of more thoughtful alternatives, such as those of the Mottron team. No, I suspect this community will remain cloaked within its reckless negligence for quite some time, blissfully unaware of all the damage it wreaks, an odious example of the detrimental impact of willful professional ignorance.

It is long past time to recognize that autistic individuals are humanity's misunderstood treasure. They are the original source of lateral thinking within this species, of constructive innovation, of the types of perceptions and behaviors that have advanced *Homo sapiens* beyond just survival

and procreation alone. No one is suggesting that autism does not produce a variety of challenges—having a significant lack of conspecific bias does place autistic individuals on a precarious developmental path, one that runs counter to the normal dictates of biology and evolution, and one that chafes against population norms. But the glorious irony here is that these anomalous and contrarian characteristics of autism are the very reason humanity has been able to alter its once extremely predictable course, transforming from pure animal into the atypical and structure-aware creatures we observe today. Humans are no longer bound by the chains of biological need and conspecific bias, they are no longer slaves to the dictates of evolution. And for the gift of this unprecedented freedom, humans have mostly autism to thank.

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