THE CEDAR INSTITUTE

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The Misidentified Variable

Neurodivergence as Evolutionary Feature, Not Developmental Deficiency

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About the Author

This paper was written by the founder of The Cedar Institute, a father of four children diagnosed with Autism Spectrum Disorder. It was not written from the outside. The argument presented here is not theoretical. It is the product of navigating, daily, a system that requires his children to be classified as broken before they can receive support — and the conviction that a better system is possible.

Executive Summary

An estimated 15–30% of the global population exhibits neurological variation significant enough to fall outside the conventional baseline of cognitive processing (Doyle, 2020). For the better part of two centuries, this variation was classified — implicitly or explicitly — as deficiency. The industrial model demanded uniformity: standardized education, standardized labor, standardized medicine. Deviation from the mean was pathologized, medicated, or marginalized.

This paper argues that the classification was wrong. Not because the neurological variation was incorrectly observed, but because the environment against which it was measured was artificially narrow. What the industrial economy treated as a liability, the technological economy now reveals as an asset. Pattern recognition, hyperfocus, systems thinking, non-linear problem solving — the cognitive signatures most associated with neurodivergence — are precisely the capabilities most demanded by an economy shaped by artificial intelligence, data architecture, and complex systems design (Austin & Pisano, 2017; White & Shah, 2011).

The Cedar Institute's position is direct: neurodivergence is not a disorder being destigmatized. It is a feature that was misidentified as a defect because the prevailing

environment was not built to recognize its value. The environment has changed. Our frameworks must change with it. **#NotABug.**

The current system requires a human being to be classified as disordered before that human being can access support. That is not a system worth defending. It is a system worth replacing. This paper proposes the framework for what comes next.

I. The Biological Baseline: Variation Is the Rule, Not the Exception

Every human being carries a unique genome. DNA does not produce uniformity — it produces variation. This is not a flaw in the system; it is the system. Evolutionary biology operates on the principle that species survive through diversity of capability, not homogeneity of function. A population in which every member processes information identically is a population optimized for a single environment and catastrophically vulnerable to environmental change.

The human brain, the most complex organ in any known biological system, reflects this principle at scale. Neurological variation is not an aberration — it is the expected output of 300,000 years of Homo sapiens evolution. The range of cognitive processing styles we observe today — from the highly linear and procedural to the intensely pattern-driven and associative — represents the full spectrum of neurological architecture that has persisted across populations and millennia.

The persistence of these cognitive profiles is consistent with models of polygenic balancing selection, in which individual alleles contributing to conditions such as ASD and ADHD confer subtle cognitive advantages at subclinical thresholds — enhanced pattern recognition, heightened perceptual functioning, increased divergent thinking — even when their accumulation beyond certain thresholds produces clinical presentations that may include functional challenges (Polimanti & Gelernter, 2017; Crespi, 2016; Power et al., 2015). In other words: evolution did not preserve autism. Evolution preserved the alleles that contribute to autistic cognition, because those alleles, individually, enhance the cognitive toolkit of the species.

Current research estimates that 15–30% of the population meets criteria for what is clinically termed neurodivergence — a category encompassing autism spectrum conditions, ADHD, dyslexia, dyspraxia, Tourette syndrome, and related presentations (Doyle, 2020). The Cedar Institute contends that this figure likely underestimates the true prevalence of meaningful cognitive variation, in part because diagnostic criteria were

developed within, and calibrated to, the very industrial-normative framework this paper challenges.

II. The Historical Error: When the Theory Was Sound but the Application Was Catastrophic

The observation that human beings vary biologically is not new. Early geneticists and anthropologists correctly identified that cognitive and physiological variation was heritable, measurable, and distributed across populations in observable patterns. The theory was logically sound.

The application was not.

What should have been a framework for understanding human diversity became, in the late 19th and early 20th centuries, a weapon for dominance. Eugenics movements in the United States, Europe, and elsewhere weaponized biological variation to construct racial hierarchies, forcibly sterilize populations deemed "unfit," and provide intellectual cover for genocide (Kevles, 1985). The scientists who advanced these programs were not wrong that variation existed. They were catastrophically wrong in assigning value to it — and in believing that variation could be engineered out of the species.

The Cedar Institute is unequivocal: the repudiation of eugenics was morally necessary and historically correct. The error was not in rejecting eugenics. The error was in what replaced it.

The moral horror of this era produced a necessary social correction. But the conceptual vacuum that remained was filled not by a more sophisticated understanding of human cognitive diversity, but by the deficit model — a framework with its own deep roots in Kraepelinian psychiatry, the rise of IQ testing (Gould, 1996), and the broader medicalization of deviance that had been developing in parallel. The deficit model became the default: if your brain works differently, something is wrong with you. And the prescribed response was to normalize you — through medication, through behavioral conditioning, through educational frameworks designed to make you function as closely as possible to the cognitive mean.

The result was a century in which biological variation in cognitive processing was either ignored, euphemized, or framed exclusively through a lens of pathology — a lens that required every neurodivergent individual to be diagnosed as broken before they could receive help.

III. The Industrial Mismatch: One Size Fits None

The Industrial Revolution, beginning in the late 18th century and extending through the mid-20th century, reshaped every human institution around a single organizing principle: standardization. Factories required interchangeable labor. Armies required uniform soldiers. Schools were redesigned — explicitly, as documented in the writings of early public education advocates — to produce workers who could follow instructions, tolerate repetition, arrive on time, and subordinate individual cognitive style to institutional process (Tyack, 1974).

This model was not designed with neurodivergent individuals in mind. It was designed, in many ways, to eliminate the expression of neurodivergent traits. The student who could not sit still was disciplined. The worker who could not tolerate monotony was fired. The thinker who saw patterns instead of procedures was labeled a problem.

The same industrial logic extended to psychiatry and behavioral medicine. Psychopharmacological protocols were calibrated to the population mean, aimed at producing compliance with standardized institutional expectations. For many individuals, these interventions provided genuine relief from suffering — and The Cedar Institute does not dismiss their value where they serve the patient. But the institutional default — medicate the deviation, normalize the individual — embedded a structural assumption that continues to cause harm: that the appropriate response to human cognitive variation is to suppress it in service of institutional convenience.

Education followed the same trajectory. Standardized curricula, standardized testing, standardized age-grade progressions — all optimized for the neurotypical cognitive profile. For the 70–80% of the population whose brains happened to align with this

model, the system worked reasonably well. For the remaining 20–30%, the system was, and remains, a daily exercise in being told that the way your brain works is wrong.

IV. The Technological Inflection: The Environment Has Changed

The global economy is undergoing a structural transformation as significant as the Industrial Revolution itself. Artificial intelligence, machine learning, quantum computing, blockchain architecture, and complex systems design are not incremental improvements to the industrial model — they represent a fundamentally different operating environment that rewards fundamentally different cognitive capabilities.

Consider the cognitive demands of the new economy:

Capability	Industrial Value	Technological Value
Pattern recognition	Low — machines set the pattern	Critical — identifying signal in noise
Hyperfocus	Disruptive — breaks shift rhythm	Essential — deep work on complex problems
Non-linear thinking	Inefficient — assembly lines are sequential	Innovative — novel solutions to novel problems
Systems thinking	Unnecessary — managers think; workers execute	Foundational — architecture demands holistic vision
Tolerance for ambiguity	Undesirable — procedures must be exact	Required — frontier work has no playbook
Sensory intensity	Liability — factory floors are overwhelming	Asset — granular environmental awareness

The traits most commonly associated with neurodivergent profiles — particularly autism, ADHD, and dyslexia — map directly onto the capabilities most valued in the technological economy (Austin & Pisano, 2017; White & Shah, 2011; Mottron et al., 2006). This is not coincidence. It is the predictable result of an environmental shift that has altered which cognitive configurations confer advantage.

The neurodivergent individual who struggled in a standardized classroom may be the same individual who can hold an entire software architecture in working memory. The

child who could not follow a linear lesson plan may be the adult who sees the structural flaw in a dataset that a hundred neurotypical analysts missed. The employee who was fired for "not fitting in" may be the founder who builds a company around an insight that no one else could see.

What the Data Also Shows

The Cedar Institute does not claim that neurodivergent individuals currently thrive in the economy. They do not. Autistic adults face an unemployment rate estimated at 50–85%, among the highest of any group (Roux et al., 2017). ADHD is associated with lower lifetime earnings, higher job turnover, and reduced workplace stability (Barkley, 2015). Corporate neurodiversity hiring programs at companies like Microsoft, SAP, and JPMorgan are real but small — proof of concept, not systemic change.

This is not a counterargument to the thesis of this paper. It is the thesis of this paper. The gap between neurodivergent capability and neurodivergent outcome is itself the strongest evidence that our systems, not our people, are broken. An economy that demonstrably needs what neurodivergent minds offer, yet systematically fails to employ them, is an economy with an institutional design failure — not a population with a cognitive one.

V. The Reclassification: From Disorder to Operating System

The Cedar Institute proposes a fundamental reclassification of how society understands, categorizes, and responds to neurodivergence. The core proposition:

Neurodivergence is not a disorder being destigmatized. It is an evolutionary feature that was misidentified as a defect because the prevailing environment was not built to recognize its value.

This is not a semantic distinction. It has immediate and material implications for policy, education, medicine, employment, and research.

The Bottleneck: Why the Current System Cannot Get Us There

Today, a neurodivergent individual in the United States cannot access educational optimization without an IEP — which requires a diagnosis of disability. Cannot access workplace accommodation without invoking the ADA — which requires demonstrating impairment. Cannot access insurance-funded therapy without a billing code that certifies something is wrong. Cannot receive support of any kind without first submitting to a system that labels them as broken.

This is the bottleneck.

The entire access infrastructure — IDEA, Section 504, the ADA, DSM-based insurance billing — requires pathology as a precondition for support. The individual must be classified as disordered before the institution will respond. This framework was not designed to serve neurodivergent individuals. It was designed to manage them. And the cost is borne every day by families who must pathologize their children in order to help them.

The Cedar Institute recognizes that millions of neurodivergent individuals currently depend on these mechanisms to access services, insurance, and legal protections. We do not advocate for dismantling them without building their replacements. But we are unequivocal: a system that requires a human being to be classified as disordered before that human being can access support is a system built on the wrong premise. The long-term objective is not to defend the deficit-based infrastructure — it is to design and advocate for asset-based alternatives that provide support without requiring pathology as a precondition.

What the Reclassification Demands

- **Education must move from accommodation to optimization** — not asking how to make neurodivergent students survive a neurotypical system, but asking how to build systems that leverage the cognitive strengths that neurodivergent students bring. This shift must be implemented equitably, with specific attention to under-resourced schools and districts where neurodivergent

students currently lack even basic support. Optimization without equity is privilege.

- **Medicine must move from suppression to support** — not defaulting to pharmaceutical intervention aimed at making neurodivergent individuals behave more neurotypically, but developing protocols that support neurodivergent individuals in environments that allow their cognition to function at its highest level. The Cedar Institute recognizes that neurodivergent individuals present across a wide spectrum of support needs. For individuals with co-occurring seizure disorders, severe self-injurious behavior, profound communication deficits, or significant medical comorbidities (Tuchman & Rapin, 2002; Lord et al., 2022), the reclassification proposed here applies to the underlying cognitive architecture — not to the medical emergencies that may accompany it. Those conditions require treatment. Full stop.
- **Employment must move from tolerance to recruitment** — not treating neurodivergent employees as diversity hires who need special accommodation, but recognizing that neurodivergent cognitive profiles may be precisely what the most demanding technical roles require.
- **Research must move from deficit-based to asset-based inquiry** — not asking what is broken in neurodivergent brains, but asking what neurodivergent brains can do that neurotypical brains cannot, and under what conditions those capabilities are maximized (Pellicano & den Houting, 2022).
- **Access must move from pathology-gated to profile-based** — not requiring a diagnosis of disorder to unlock support, but building systems in which individuals receive resources based on their cognitive profile and functional needs, without being required to accept a label of deficiency as the price of admission. This is the structural reform that no existing framework provides. This is what The Cedar Institute exists to build.

VI. The Moral Imperative: Who Decides What ‘Normal’ Means?

Throughout human history, the definition of "normal" has been set by those with the power to enforce it. Deviation from the norm has been variously labeled as sin, madness, deficiency, or disorder — and the prescribed response has ranged from exorcism to institutionalization to medication. In every era, the label was presented as objective. In every era, subsequent generations recognized it as a product of the prevailing power structure (Rose, 2007).

The Cedar Institute does not argue that mental illness does not exist, or that all neurological variation is benign. We argue that the line between "disorder" and "difference" has been drawn in the wrong place, by the wrong people, using the wrong criteria — and that the consequences of this misclassification have been borne disproportionately by those least equipped to challenge it: children, families navigating systems designed around someone else's definition of normal, and communities who lack the resources to opt out of one-size-fits-all models.

The question is not whether neurodivergent individuals can adapt to the world as it is. Many can, at significant personal cost. The question is not whether the existing support infrastructure should be preserved. It should be — until something better exists. The question is whether we have the courage to build something better: a system that supports human beings without first requiring them to be classified as damaged.

VII. The Cedar Institute's Position

The Cedar Institute affirms the following positions:

1. Human neurological variation is a biological reality, not a cultural construct. It is the expected output of evolutionary processes and is distributed across every population, culture, and socioeconomic stratum.
2. The classification of neurodivergence as inherently disordered is a product of industrial-era frameworks that privileged cognitive uniformity. This classification is increasingly inconsistent with the demands of the technological economy and the findings of contemporary neuroscience.

3. The application of standardized medical, educational, and social interventions across a population with 15–30% meaningful cognitive variation is structurally inadequate and produces predictable harm.
4. The traits most associated with neurodivergent cognitive profiles — pattern recognition, hyperfocus, systems thinking, non-linear problem solving — are among the most valuable capabilities in the AI-driven economy.
5. The current access infrastructure, which requires pathology classification as a precondition for support, is a structural artifact of the deficit model and must be redesigned around cognitive profiling and functional need rather than diagnostic labeling.
6. Research, policy, and institutional design must shift from deficit-based to asset-based frameworks that recognize neurodivergent individuals not as patients to be treated but as minds to be deployed.
7. The moral obligation of this generation is to ensure that the reclassification of neurodivergence is not merely rhetorical but institutional — reflected in how we educate children, train professionals, design workplaces, fund research, allocate resources, and structure the very systems through which human beings access help.

VIII. A Call to Action

The Cedar Institute invites researchers, policymakers, educators, employers, families, and neurodivergent individuals themselves to join a conversation that is long overdue.

The question is no longer whether neurodivergent minds are valuable. The evidence — from neuroscience, from evolutionary biology, from labor economics, and from the lived experience of millions — is increasingly overwhelming that they are. The question is whether our institutions will evolve fast enough to recognize it, or whether we will continue to lose another generation to a framework that measures human capability against an artificial and increasingly obsolete standard.

The industrial age asked: how do we make everyone the same? The technological age asks: how do we make everyone effective? These are fundamentally different questions. They demand fundamentally different answers.

And the answer to the most urgent question — how do we support neurodivergent individuals without requiring them to be classified as broken first — does not exist yet. No framework provides it. No institution has built it.

The Cedar Institute exists to build it.

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