

Being Neurodivergent 101: What it is, What It's Like and How to Help

Probably not what your thinking



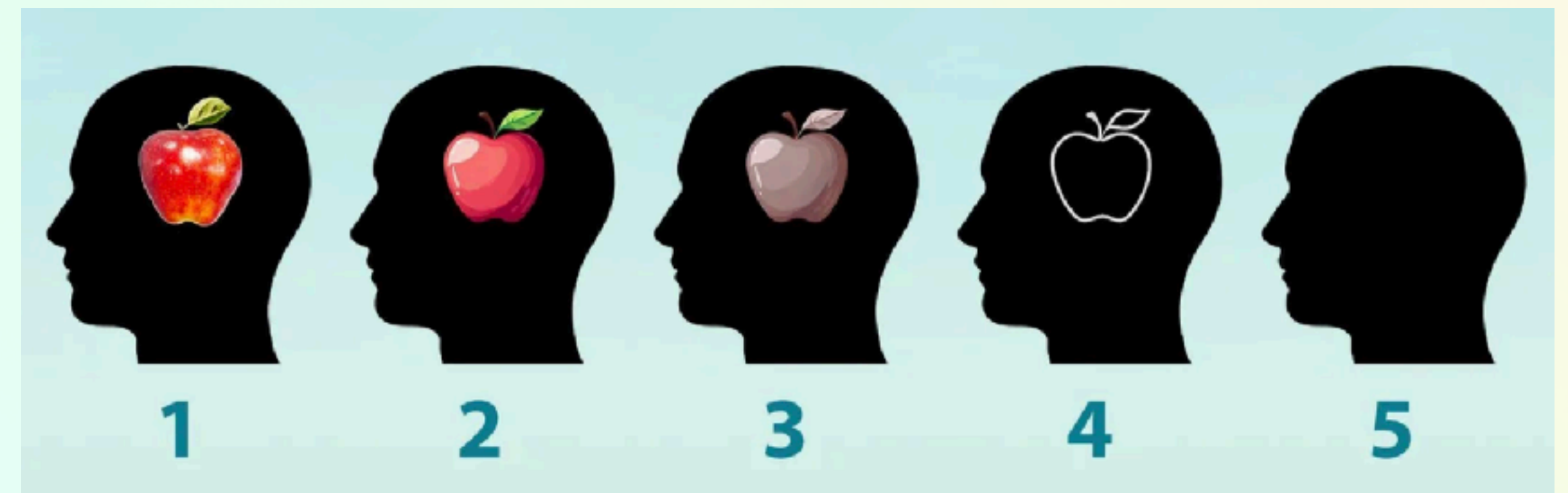
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A Quick Vision Test

*Close your eyes.
Picture an apple on a table.*

- What colour is the apple?
- What is the table made from?
- What colour is the table?

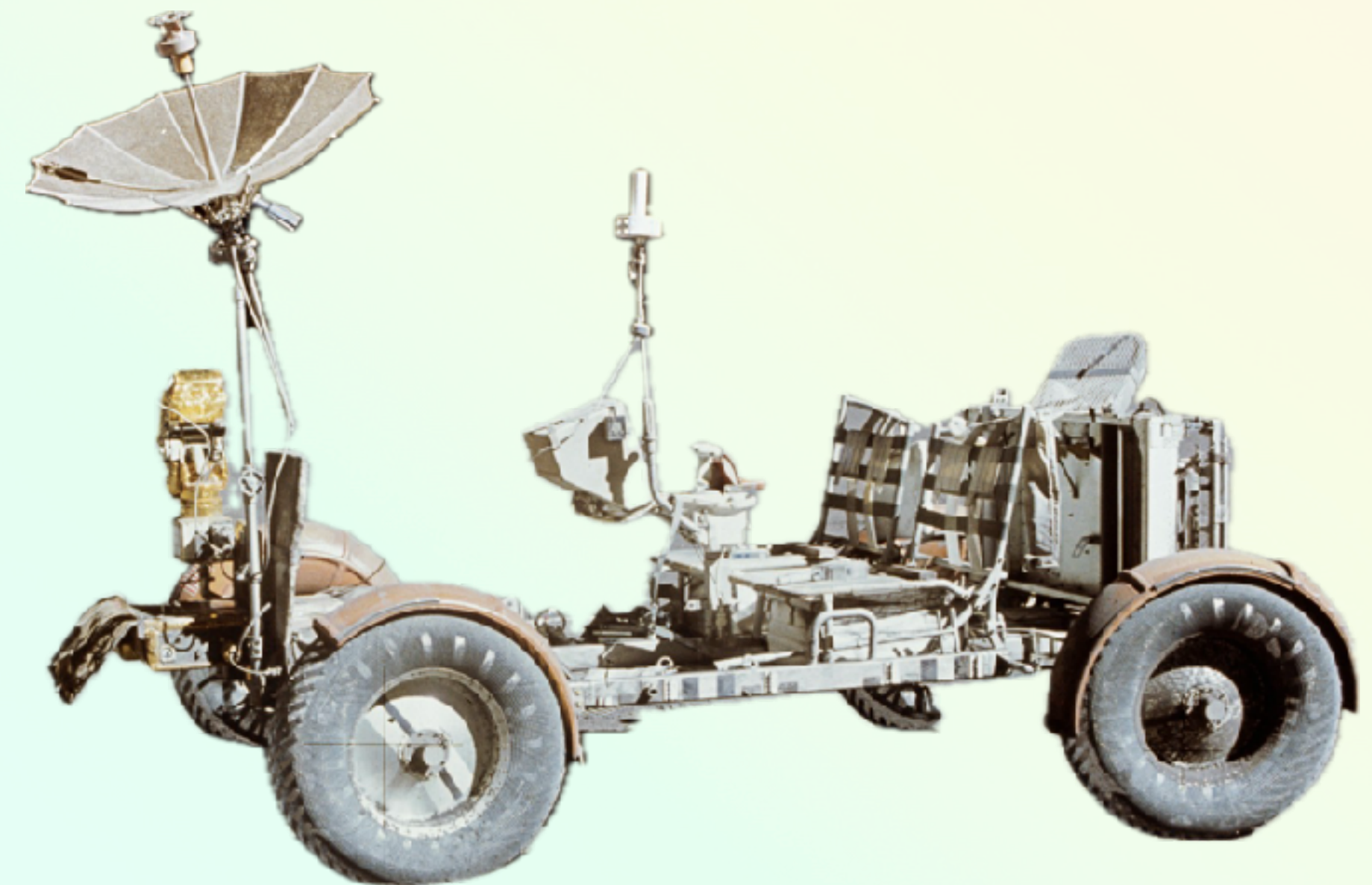


WTF Score: _____

What is Neurodivergence?

Both cars: very different rides

- Neurodivergence describes brains that are wired differently
- Neurotypical describes brains that follow the statistically 'typical' cognitive patterns society has been designed around
- It's not a choice



Some Common Neurodivergent Conditions

These happen to be the neurodivergent conditions that I have and many are common ones.

ADHD

~5–11% (children)
~2.5–4% (adults)

Autism

1 to 2.8%

AuDHD

0.5 to 1%

Dyslexia

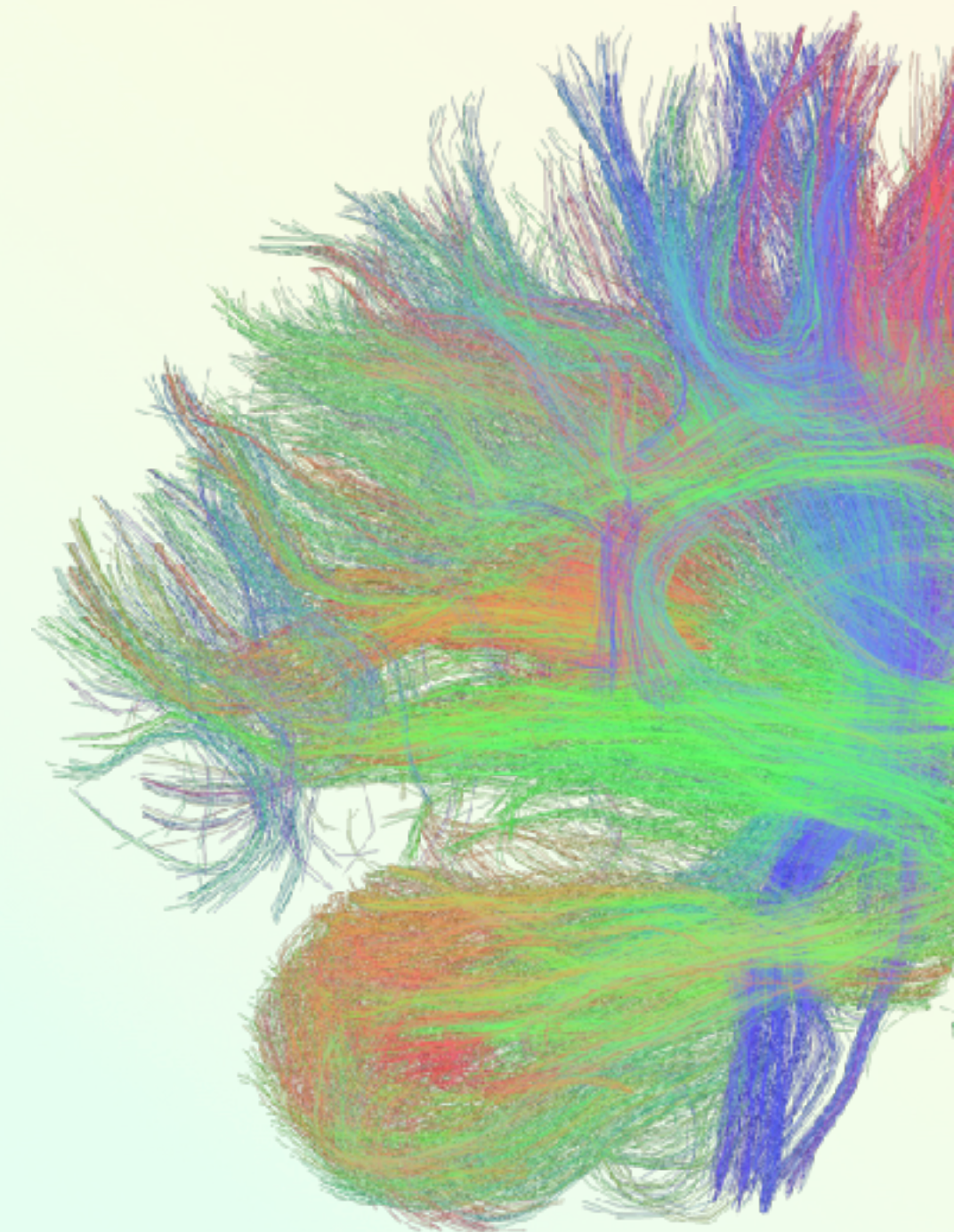
7 to 20%

APD

~2 to 7%

Aphantasia

~4%
~0.7% all senses



Scale is Everything

Neurodivergence is not a minority experience in the truest sense

1 in 5

people globally are neurodivergent

~60

people in this room of ~300



Rising with new NZ ADHD diagnosis

ND People in NZ

800,000 – 1,050,000

ND Unemployment

35–50%

Workplace Masking

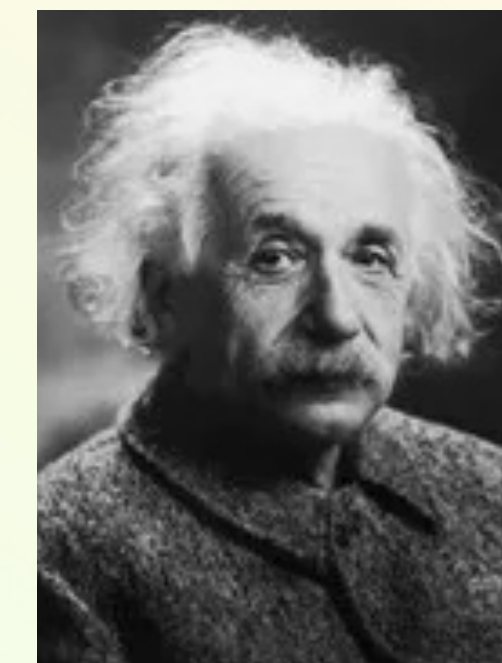
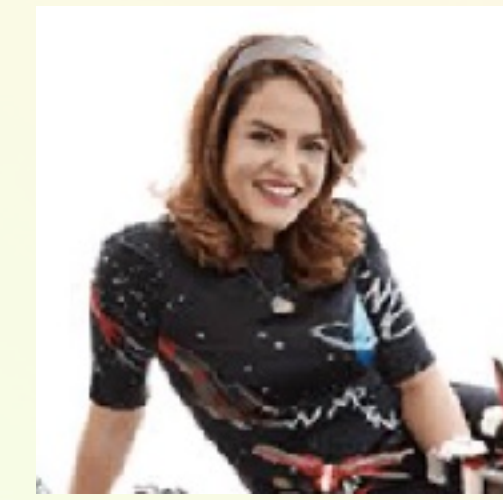
~63%



Engineering: Neurodivergence Magnet

Neurodivergence in Engineering — It's Not a Coincidence

- Engineering workforce: estimated 30–40% neurodivergent
- Dyslexia alone: 3× more common in engineers than the general population (IET)
- Engineers are the profession most likely to show autism-related traits



Engineering attracts ND minds because it rewards pattern recognition, systems thinking, and deep focus. Exactly where ND strengths shine.

Some ADHD Characteristics

Attention Inconsistency

Attention can be very intense yet easily lost. Crave novelty.

Executive Function Struggles

Difficulty planning, organizing, initiating tasks.

Hyperactivity

Sitting still is just wrong, I need to move.

Inconsistency

Productivity can be frustratingly variable.

Task Initiation

I know how, I want to do it, I love it, but my brain won't let me.

Impulsivity

Beatle brakes on a Ferrari.



ADHD Strengths

Strengths my ADHD gives me

Creativity

Non-linear thinking generates ideas others don't see.

Perseverance

Unstoppable once committed to something meaningful.

Drive & Hyperfocus

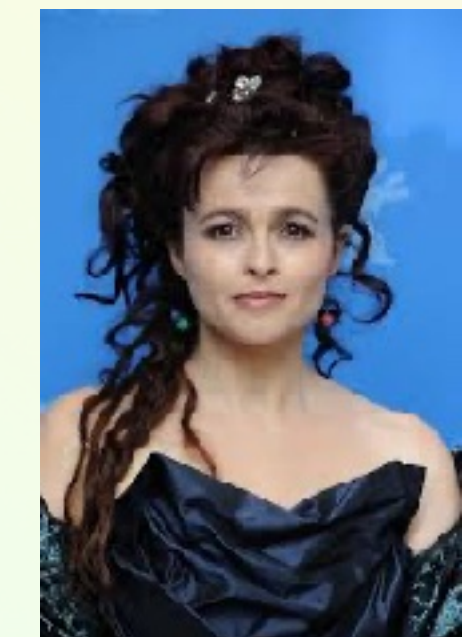
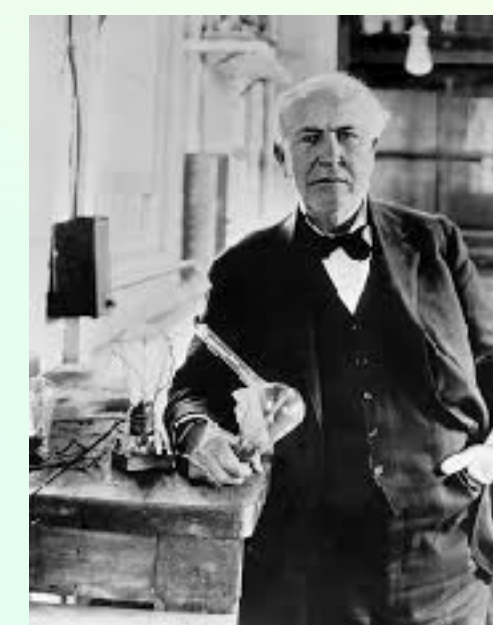
ADHD brains enter flow states of extraordinary intensity and output.

Seeing Differently

Pattern recognition and lateral thinking make ADHD minds exceptional at solving complex, novel problems.

Fun

ADHD brains often have a fun side



Some Autism Characteristics

Sensory Sensitivity

Sensory input can be overwhelming and disabling.

Literal Thinking

Language is taken at face value. Sarcasm, idioms and social subtext don't compute automatically.

Social Communication

Reading unwritten social rules is effortful, not because of indifference, but different wiring.

Routine & Predictability

Unexpected changes create genuine distress. Routine is important.

Transitions

Transitioning from one thing to another can be very difficult. Uncertainty is my enemy.



Autism Strengths

Detail & Accuracy

Autistic attention to detail catches errors others miss. Precision is a default setting.

Systems Thinking

Seeing how all the parts connect and where the weak points are, all comes naturally.

Hyper-focus/Special Interests

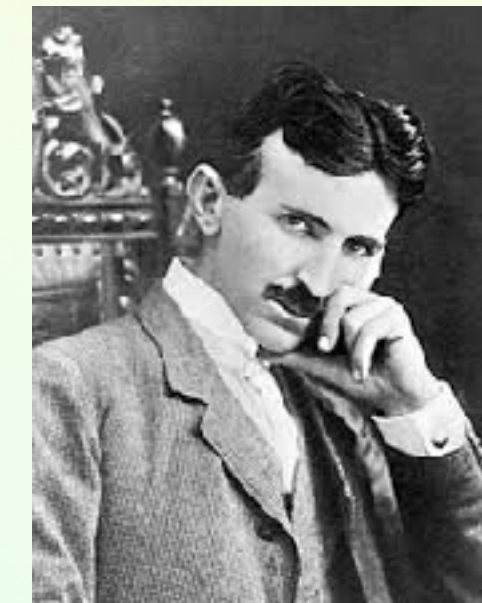
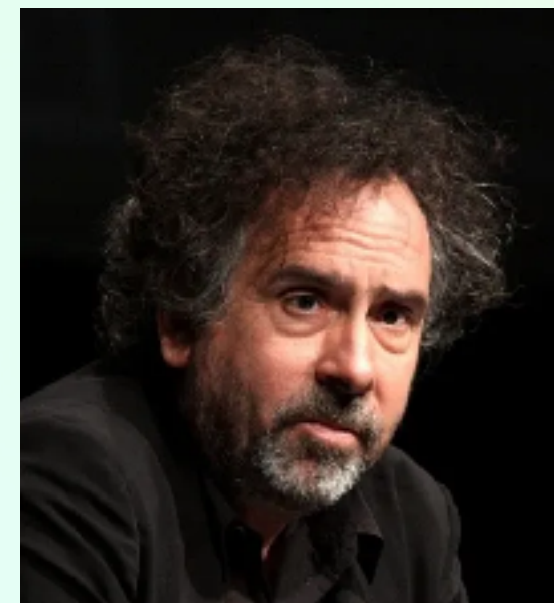
Deep immersion in a problem delivers extraordinary thoroughness and expertise.

Honesty & Integrity

Candid, direct communication. You always know where you stand. No hidden agendas.

Loyalty

We don't do casual commitment: if you've earned our trust, you've earned it for life.



Being Both (AuDHD)

ADHD

Craves Novelty

Loves Spontaneity

Always Late (Time Blind)

Needs & Hates Routine

Likes to Socialise

Cooperation and Support

Autism

Craves Predictability

Needs Structure

Hates Being Late

Loves Routine

Doesn't Like to Socialise



Just some of the operators, engineers and postal staff that made it all possible

Why This Matters in Engineering

Error Detection

ND attention to detail and pattern recognition catches faults before they become failures.

Deep Expertise

Hyper-focus creates world-class specialists who go further into a problem than most.

Novel Problem Solving

Excellent at seeing and thinking differently and a genuine joy in problem solving and development.

System Thinking

Systems thinking, pattern recognition, spatial reasoning, hyperfocus, attention to detail

Direct Communication

Autistic people are generally very direct and provide honest and precise information and opinions.

- **The water/wastewater industry depends on exactly these traits. Diagnosing complex systems, managing processes, spotting anomalies**
- **The very traits that make this industry work are neurodivergent traits**

What Can We Do to Help

Detection

Help is blind without vision?

Accommodations

Lift everyone higher

Journey

Shared journeys last

- In NZ 71% of organisations do not collect demographic data on the neurodiversity of their workforce
- In NZ 1 in 3 autistic people are unemployed
- 35 to 50% of neurodivergent people in NZ are unemployed

Detection is Important

Create the Environment

Establish an open and accepting environment.

Education

Educating people about ND opens understanding, minds and eyes.

Consistency

Meaningful detection requires consistency. Explicit job descriptions.

Human Health

Higher rates of anxiety, depression, burnout, and self-medication when ND goes unrecognised.

Economic Cost

Economic cost of ADHD alone in Australia in 2019 was estimated at A\$20.42 billion.

Squandered Resources

Businesses are missing out on an incredible resource.

Detection Means Asking and Listening

🧠 Notice Struggle

Encourage people to open up and provide more than the usual “I’m OK”.

🌸 ND Can be Messy

Human problems can be messy, ND more so at times. Accept the mess.

😊 ND Isn’t Attention Seeking

Human beings problems can be messy, ND more so at times. That’s OK.

🎭 Masking Issues

ND people can be expert at masking their struggles, especially if they don’t feel safe or accepted.

Signal to them you're genuinely interested in the full answer.

Better to ask the question and be wrong, than not ask it and be right.



Helpful ADHD Accommodations

Executive Function

- Clear written instructions (not just verbal)
- Defined priorities (“do this first”)
- Chunk tasks
- Regular short check-ins (e.g. 5–10 mins)

Movement is Regulation

- Flexible desks/floor desk
- Room to move
- Fidget toys
- Movement breaks

Supportive Boss

- Free to seek clarification
- Clear decisions with rationale
- Consistent ND staff support
- Tailored training/mentoring

Time Management

- Remote/Hybrid options
- Flexible Hours
- Consistent schedules
- Visible timelines / countdowns

Environment

- Quiet/low distraction work area
- Low interruption periods
- ANC headphones/music
- Sensory lighting

Helpful Autism Accommodations

Executive Function

- Written Instructions & Visual Supports
- Regular, Structured Check-Ins
- Flexible Scheduling & Remote Work
- Clear job definitions & priorities

Routine/Certainty

- Predictable Routines
- Advance Notice of Changes
- Minimise uncertainty
- Task transition support

Supportive

- Free to seek clarification
- Clear decisions with rationale
- Neurodiversity Training for Teams & Managers

Sensory

- Controllable lighting (color/brightness)
- Sound control (ANC headphones)
- Lower sensory load
- Fidget toys/stimming

Communication

- Clear, direct instructions and feedback
- Extra Processing Time in Meetings
- Written agendas early on
- Electronic & Text-Based Options



When You Get it Right

NASA & GCHQ

Intelligence and space agencies actively recruit autistic analysts for pattern recognition tasks others find impossibly tedious.

JPMorgan Chase

- Work pilot in 2015, employees on the spectrum were 48% more productive than colleagues who had been doing the same job for three to ten years.
- The programme now boasts a 99% retention rate

auticon

- 96% of clients said consultants made valuable contributions to their projects: citing greater accuracy, alternative perspectives, innovative approaches, and increased efficiency.
- 73% reported a positive cultural impact on their wider team, including clearer communication, better teamwork, increased empathy, and a greater sense of purpose.

"If we all think the same way, you are not going to get that innovation."
IBM's global neurodiversity leader

It's a Journey Not a Destination

Understand

Learn what ND actually looks like in your team. Read. Ask questions and listen.

Accommodate

Make adjustments. Start small. Ask the person what helps, not what you assume.

Sustain

Continuous learning. Act on feedback and experiences of ND staff and co-workers.

Grow

Engage with schools/colleges. Show young ND people they a welcoming future awaits them.

**The world needs to let us be who we are.
Not who it thinks we should be.
Only then can we truly change it together.**

Resources

Autism autismnz.org.nz

ADHD www.adhd.org.nz

Dyslexia dfnz.org.nz

Auditory Processing Disorder (APD) audiology.org.nz

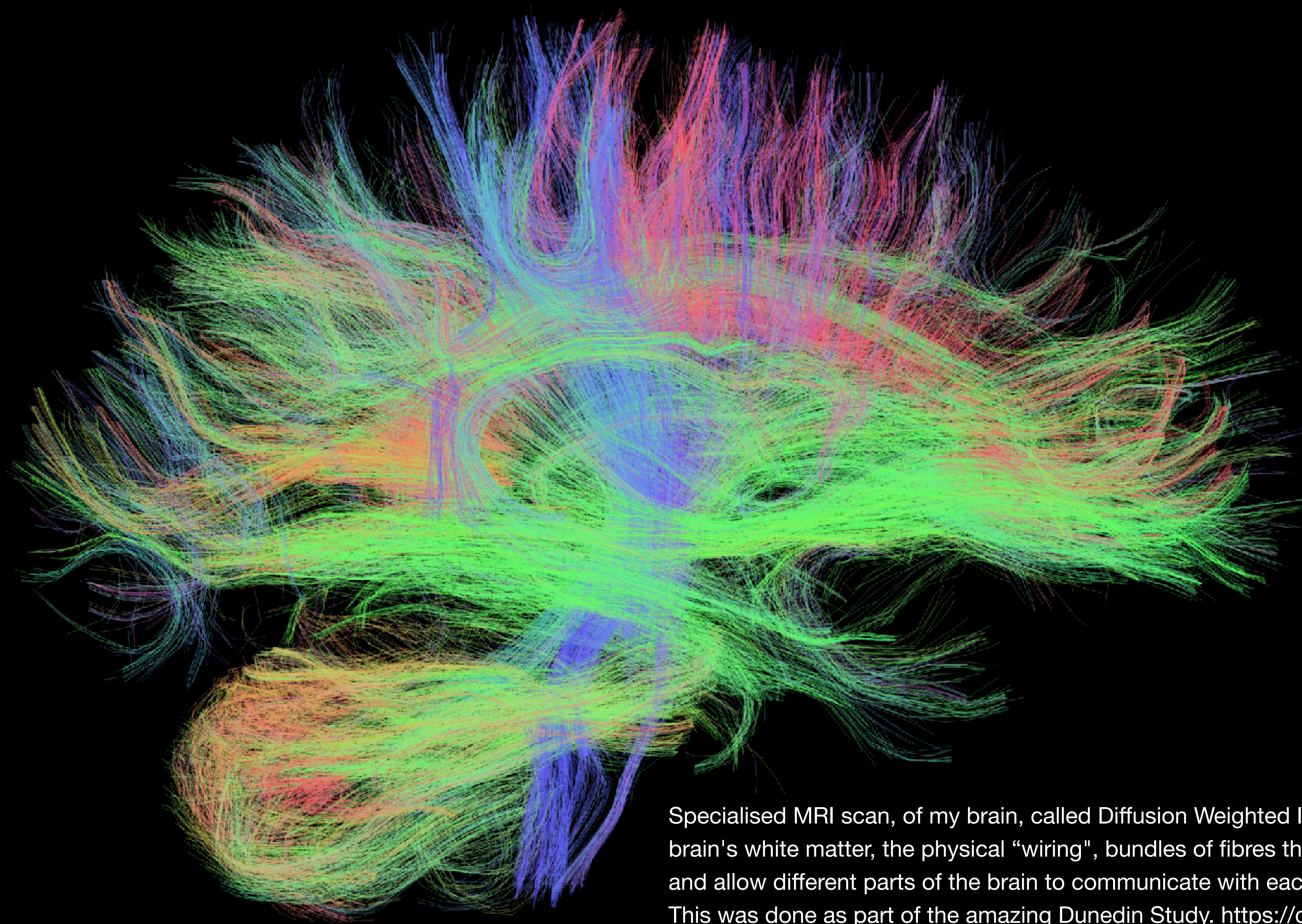
Neurodiversity in Education (NIE) neurodiversity.org.nz

The NZ Disability Employers' Network nzden.org.nz

Diversity Works NZ diversityworks.nz

Jack Penman jackpenman.org

More at: jackpenman.org



Specialised MRI scan, of my brain, called Diffusion Weighted Imaging (DWI). It shows my brain's white matter, the physical "wiring", bundles of fibres that extend from the grey matter and allow different parts of the brain to communicate with each other.

This was done as part of the amazing Dunedin Study. <https://dunedinstudy.otago.ac.nz/>