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Gifted child Tristan Pang's remarkable rise to university graduate at 16

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accused of showing no sympathy for constituents in the Auckland Central electorate where she was once based as a list MP, and criticised for incorrectly saying it is an issue for the NZ Transport Agency.

Business groups also want to know what help the Government has in mind for hundreds of businesses affected by Ardern's electio... the central bui...

the Prime Minister tell Mike Hosking on Newstalk ZB this week the issue of compensation is a matter for the NZ Transport Agency.

"She has no idea what she is talking about," said Kaushal, who said the project is being jointly funded by the Government and Auckland Council. ...mpany.

City Rail Link Ltd, to b...

Phil Twyford and Auckland Mayor Phil Goff to show some "human decency" and urgently set up a hardship fund to help struggling businesses on Albert St.

Goff reiterated he is talking with Twyford about "how best to assist those adversely affected by construction" but said governments have ruled out a ...mpensation fund.

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On Tuesday, TVNZ airs the first of a two-part documentary looking at the lives of gifted children. Greg Bruce meets one of its stars, Tristan Pang.

When Tristan Pang was 2 years old, his writing was not very good but it was good enough for his mother to understand he was already better at sudoku than she was. Around the same time, he began doing basic algebra.

That year, she bought herself the best-selling logic puzzle Rush Hour, a sliding block game marketed at ages "8 to adult". The game has 40 different configurations that get progressively more difficult and the many reviews on Amazon testify to the fact that adults find the higher levels extremely difficult. He took it, she says, and did all 40 challenges in one go.

By the time Pang started talking, he was able to read. his parents realised when he began telling them about the contents of books they would leave in his cot.

It was obvious, even when he was a baby, he was different. On a car trip with his mother, he started screaming and pointing and she realised he was telling her she'd missed a turn. He was just 1and had been to their destination only once before. This was not about memory, he says now, but about his visual-spatial skills.

"Even now, when we are driving to a new place, my parents seldom use a GPS," he said once in an interview with Mensa's magazine. "I am their GPS."

At 9, he scored 97 per cent in the Cambridge international exam system's IGCSE mathematics exam, which is for year 11 students (15- or 16-year-olds). He was the country's youngest ever candidate.

In his last few years at primary school, his teachers left him to teach himself, as his capabilities already far exceeded their own. By then, so much of his spare time was spent working on maths at home that class work was hardly relevant anyway. His parents had to force him to go to bed at night so he wouldn't stay up for hours working on problems.

"We were actually doing the opposite things from other parents," his mother, Elaine Pang, says. "We were always asking him to go and play and watch TV."

Peter Crompton, principal at Ficino School where Pang was head boy in 2014, has taught at many educational institutions, including Oxford University, but when asked if he's ever had a student like Pang, he says: "No. I've never come across anybody like that before."

Crompton says giftedness often manifests in one area and looks like failure in another, but with Pang, that was never the case. "He was different in the sense that he was functioning across all areas, even socially.

"He was content, I would say. That was a mark of him all through school - his contentment and openness. That often is a frustration with giftedness and he didn't seem to have that. That was quite remarkable."

After his final year at Ficino, aged 12, Tristan skipped high school entirely and enrolled at the University of Auckland where, because he was still a child, his mother had to be with him on campus at all times. At 14, he became a tutor at the university, teaching students years older than him. Last year, aged 16, he finished his Bachelor of Science degree with no grade worse than an A and a score of 100 per cent in one of his final exams.

Tristan, at his graduation earlier this year, aged 17. Photo / Supplied

Genius is a difficult thing to explain because its manifestations are so far beyond our comprehension but sometimes you can get glimpses. For instance, in the office/studio at his home, where he works and records interviews for his Planet FM radio show and accompanying podcast, Youth Voices with Tristan Pang, he has completely filled the two large, wall-mounted whiteboards with terrifyingly long and impenetrable mathematical proofs.

On the day I visited, I noticed at the bottom of the board, separate from the rest, a smaller equation, that went like this:

"B3 - X3 - Y2 + X[indecipherable]
1+1 = 2
1+2 = 3
1+3 = 5
Hence 1=0 and BOOM!!"

I asked him what the equation meant. He looked embarrassed and said it was just a joke. He started rubbing it out. It was embarrassing for me also, because nobody likes to miss a punchline and I could conceive of no world in which I would have intellectual access to that joke.

He says he likes looking at patterns and seeing how things fit together. When he starts on a challenging problem, he says, he has no idea what he's doing or why he's doing it. "But once I keep working on it, I suddenly realise there's actually a reason behind this problem - or the result is actually quite beautiful - and it's at that moment I understand why we're doing maths. We're doing maths because it's useful, it's fun, it's beautiful."

In an article he wrote for the publication Tall Poppies, he talked more about that:

"I believe that maths is an art and we should let our imagination flow to ensure we can create beautiful pieces of art. I have never really needed to memorise anything for maths. Once I see the full picture and understand the concept, I can just work problems out and apply them.

"I don't find maths difficult because I didn't learn it at school. I explored maths myself out of curiosity. I could see 'maths' everywhere from a very young age."

Pang is officially classified as "profoundly gifted" - a label given to the top 2 per cent of the population, which is a ludicrous underestimate because that would make him one in 50, when the reality is, New Zealand has never seen anything like him before - even Ernest Rutherford went to high school. This is not to say there has never been anyone like him in this country, because our attitude to and approach to dealing with giftedness has improved since the days when Rutherford had to rote-learn his times tables.

Giftedness, though, is a broad concept and Pang's particular gift is only one small part of it - the stereotypical view: genius beyond comprehension, typically in mathematics.

More broadly defined, giftedness is the potential or ability to perform beyond your peers, seen as the top 10 per cent in any given domain. In this country, we're good at recognising that level of giftedness in sports but not so much in other fields, says

Brooke Trenwith, head of the New Zealand Association for Gifted Children. "Unless you're standing out in the way Tristan is," she says, "we don't want to know about it."

It's hard to know how many gifted children have been crushed under the one-size-fits-all jackboot of "traditional" educational methods but if 10 per cent of people are gifted, it has been a lot. Trenwith, now 40, was one of them. She says she was in her late-20s and researching how to identify giftedness before she realised she was gifted. One day she said to her tutor, "Isn't everyone like this?"

Trenwith's father was also gifted and also never knew, she says. He left school at 15, having not spent a full day there for two years, then spent years working in a factory. Aged 40, he picked up an interesting-looking rock, became interested in rocks in general, and went back to university to study geology. He is now a world expert in mineralogy.

Times have changed and educational methods have improved but giftedness is still not something we talk about, Trenwith says: "It almost feels like saying you're an alcoholic. You don't quite know how to tell people."

She says giftedness is multifaceted, appearing in areas as diverse as organisation, empathy, aviation, leadership. Jacinda Ardern is a prime example of giftedness, she says, but so are many prisoners, gang members and other assorted people we don't necessarily look up to.

When talking with teachers about giftedness, Trenwith says she often starts the conversation by asking, "Was Adolf Hitler gifted?"

"It's a very provocative way but he would be one of the most gifted leaders that the world has ever seen and it helps break that belief that gifted is good. They're not synonyms."

Tristan, aged 12, on his first day at university. Photo / Supplied

Also not synonyms: giftedness and talent. Giftedness can become talent but only with the right development and Trenwith says all sorts of environmental factors affect its likelihood: "To get Tristan and to get that profound giftedness happening," she says, "we need to have the right environment."

The only real way to discover whether your child is gifted is through a psychological assessment, which involves a full day of testing costing around $800. That's a big financial risk given the result might not be what you hoped for. Pang's parents, Elaine and Thomas, had it done before he started school and that was presumably the easiest money any psychologist has ever made.

Tristan Pang was born in the UK but Elaine and Thomas realised the system there wasn't working for him, so moved to New Zealand when he was 4.

They did their research on what school would work best for him and invested in Ficino ($4000 a term at current prices). They joined the Association for Gifted Children. They did everything they could to make sure he had every opportunity. Once he started university, his mother gave up her days to be with him every time he was on campus. They helped him create a semi-professional studio at home to record his radio interviews and podcasts.

"Elaine and Thomas are amazing," Trenwith says. "They are doing the absolute best job that they can. The biggest question I get from gifted parents is, 'How do I make my

child normal? Because I'm so worried about them.' They want their child to be happy and I think that's one of those myths that's out there, that the pushiness is coming from the parents, when in fact the pushiness is coming from inside the child.

"I think with Tristan, Elaine and Thomas would have been quite happy for him to have a very normal life. In fact, their life probably would have been fantastic. They wouldn't be so tired."

As a prospective new parent, you have certain expectations about what your child is going to be like. When the child turns out to be gifted, Trenwith says it's "the equivalent of hopping on a plane and thinking you're going to France and then getting off the plane in Argentina".

Tristan, aged 16, in a University of Auckland lecture hall. Photo / Supplied

What Trenwith hopes is that we as a country start doing better at identifying and developing gifted kids, because we're losing them and their potential. This is

especially true, she says, of girls. The producers of Brain Boxes had to work particularly hard to find girls willing to appear on the show.
She says: "I often think if Tristan was a girl he wouldn't be doing what he's doing. Why? Because our girls want to fit in."

Pang was doing calculus at age 5, way ahead of his peers, but Trenwith says very advanced girls won't do that sort of thing. They'll throttle back. "They'll look at everyone else - these girls will be reading Harry Potter at home and then they'll go in [to school] and it'll say, "See Jack run" and they'll go, 'Oh, I'm wrong.' So they'll stop reading."

It's the old impulse to be humble and to fit in and it doesn't just occur in children. Trenwith knows parents who won't share on Facebook about how their child topped Australasia in exams, because they're afraid of being judged by their friends for suggesting their child is gifted.

She says: "For me, that's the first step, how do we normalise that word? How do we make people feel safe?"

"I saw a word the other day, it was the te reo word for 'autism' and it means 'in their own time and place'. And that's a beautiful word both for autistic kids and for gifted kids. But we can't go and change the word, unfortunately."

When Pang was 12, the co-founder of TEDx Auckland asked him to appear as a speaker, making him the youngest ever to do so. The following year, the UAE Government flew him business class, all expenses paid, to Sharjah, where he was put up in a luxury hotel and paid to deliver a presentation a few minutes long. The next year, he spoke at The World Science Festival in Brisbane. In his final year at Ficino, he was the first primary school student to speak at the Auckland Primary Principals' Association Christmas luncheon.
Trenwith first saw him speak in 2013 at a conference about what needs to change in the education system and "absolutely loved it". When she became president of the New Zealand Association for Gifted Children, she asked him to be the first child to sit on the association's committee. He agreed.

In March this year, he was by far the youngest of the 14 students awarded the University of Auckland's first ever Kupe Leadership scholarships. The $22,000 scholarships, sponsored by rich benefactors from here and overseas, involve a year-long programme of mentoring, meetings and presentations intended to "develop a cohort of future leaders who are committed to Aotearoa New Zealand and who will help envision and create a dynamic, creative and successful future for this country".

His LinkedIn profile reads: "I'm a University Student as well as an Undergrad Researcher, University Club President, Teaching Assistant, Founder, Producer, Broadcaster, Speaker and Webmaster. I aspire to make a difference in the world … I share and inspire young people to follow their dreams … Discovering, contributing and sharing are my lifelong goals. I am on the way to becoming a mathematician and scientist with global ambitions."

On a sheet of well-loved A3 paper, he keeps at home, he has drawn a mind map with a picture of him at the centre and his achievements, plans and goals spreading expansively outwards. There is no room left on that page. It's an astonishingly detailed document covering academia, leadership, social responsibilities, sports, and "other life experiences". At the bottom is "Long-term goals", which breaks out into two sub-sections: "BREAK GLOBAL POVERTY CYCLE" and "TO HELP BUILD A BETTER WORLD".

Trenwith says, "It's interesting because in Māori concepts of giftedness, it's believed by many iwi that giftedness is owned by the iwi, it's not owned by the individual, and it's the responsibility of the individual to use that gift to better that community."

"That's something that Tristan really has, is that desire to change the world."

That desire is probably not as rare as the ability to read and do advanced sudoku aged 2, and it would be wrong to say that one is more important than the other, but if there's a better way to foster and encourage more people with gifts like the former to do the latter, we should work as hard as possible to find it.