

Being uncomfortable and PKMzeta with André Fenton

The director of the Center for Neural Science shares a ghost story and talks about his collaboration with Todd Sacktor.

1 February 2024 | by BRADY HUGGETT

This transcript has been lightly edited for clarity; it may contain errors due to the transcription process.

(This podcast was updated on February 26 2024 to clarify past work related to PKMzeta.)

Brady Huggett

Hi, before we start this episode of “Synaptic,” I would like to add in a clarification about what you are about to hear.

In this episode, André Fenton discusses work done in the labs of [Richard Huganir](#) and [Robert Messing](#). Fenton points out that by grinding up whole brains, as is standard to measure protein expression, one would miss seeing the increased presence of PKC-iota/lambda if it is selectively expressed in memory-related brain regions. PKC-iota/lambda is a molecule that in PKMzeta-knockout mice increases to compensate for the absence of PKMzeta, which is necessary for long-term potentiation and long-term memory in wildtype mice but not in the knockout mice that use a PKC-iota/lambda-dependent mechanism.

But in the Huganir Lab’s paper, “PKMzeta is not required for hippocampal synaptic plasticity, learning and memory,” the group did indeed look for long-term potentiation-related changes in the CA1 region of the hippocampus, as shown in supplementary figure 5 of their paper.

Please keep that in mind when the conversation touches on this topic later in the interview. OK, on with “Synaptic.”

[opening theme music]

Brady Huggett

Welcome again to “[Synaptic](#),” a podcast that explores the people, the research and the challenges of the neuroscience field. This is Episode 10 of “Synaptic.” We’ve reached double digits now. I’m very proud. My name is Brady Huggett, and I’m the host of this show.

[transition music]

Brady Huggett

All right. Let’s go back to 1981, and let’s go to Toronto, Canada. Let’s go specifically to De La Salle College “Oaklands” as it’s called. Don’t be fooled by the name, however. De La Salle is actually a Catholic school for grades 5 through 12. Anyway, it was founded in 1851, and it operated as an all-boys Catholic school until 1994 when it made the decision to move to co-ed. Now, in 1967, a man named John Hunt began teaching English at De La Salle. Mr. Hunt, as the students called him, eventually came up with a routine for the first day of school.

He organized the classroom desks into long rows, and as the students filed in to start his class, he’d watch them fill the seats. When they were full, he would begin to speak. He would tell the boys to look around. He would tell them they were in an institution of learning, sitting in rows one after another. They were, he said, ordinary people. Extraordinary people, he said, were not doing things like this. Extraordinary people were out engaging in the world. “We are going to read about some extraordinary people in this class,” he said, “but you are not extraordinary people. If you want to be an extraordinary person, then you will need to get out of these rows and go out into the world and engage with it.”

Now, John Hunt is still associated with De La Salle, actually. When Mr. Hunt gave this performance in 1981, André Fenton was one of the boys sitting in those rows. The speech had quite an effect on André, there on his first day of ninth grade. That’s today’s guest, by the way. André Fenton. Mr. Hunt’s speech sank into André’s heart, because André did not want to be sitting in rows, shoulder to shoulder with everyone else. He indeed wanted to be out in the world, and he wanted to learn about it. He wanted to master it, as he told me.

We talked about that on this podcast. We talked about what André did and where he went after high school to try and master the world. To try and understand it. We talked about his upbringing, both in Guyana and Toronto. Of course, we talked about PKMzeta and memory. All of that coming up in the next hour and a quarter. I interviewed André on December 19th, 2023. It was a clear day, but chilly and windy. I met him at his office in the New York University Center for Neuroscience, and I set up mics across his desk. His office has a whiteboard and some full bookshelves, and it also has a window. Even though we were several floors above the streets, you can still hear some sounds of traffic as we talked.

I found this conversation to be stimulating, to say the least. I felt like I could have kept firing questions at André for another couple of hours, but I didn't do that. I shut the mics off and let him go back to running his lab, as a good guest should. I know when it's time to go. Anyway, let's start here, where André and I are talking about the way NYU functions as a college inside a very busy city. Here's your "Synaptic" episode with André Fenton, starting right now.

[transition music]

André Fenton

It doesn't feel like there's a campus. It's, I think, if not by design, by commitment, we understand that there is no campus. The campus is New York City, and we're embedded in New York City. Literally, I say it quite often, when you leave this building, you are in New York City. Whatever is happening on the sidewalk, when you leave the building, that's New York City. It's not NYU anymore. I actually really like the idea that when you leave the door you're in New York City. You're in the community of people who are not engaged, and they actually don't care about what you do. It's your job to engage them.

Brady Huggett

We were just talking about this the other day. How in a lot of towns or cities, I think the college campus kids are a kind of a focus. I mean, sometimes right around this block, you go, "Oh, those are NYU kids." They'll have a sweatshirt on or something. They step out the door and they just blend into the city. They disappear almost.

André Fenton

Yes. I like it because it forces you to think about the city. The city is defined by other people. You leave the building, and there's a homeless man in camp right out front. You can't wish for that person to go away and have it happen. That person belongs there as much as you do. You're forced to accept or be angry, but you must engage with that whether you like it or not. You can't just say, "I'm disconnected from it all."

Brady Huggett

OK. Let's go way back. Actually, I know where you were born. You were born in Guyana.

André Fenton

Yes.

Brady Huggett

I don't know what part of the country.

André Fenton

I was born in Guyana in Georgetown, which is the capital.

Brady Huggett

I wondered, yes.

André Fenton

My mother's side of the family grew up in an area called the Pomeroun, which is a place I've never been. Fairly simple place. They were farmers. I believe my grandfather grew coffee or something like that. It was very interesting. He became friends with the local tax collector. The local tax collector, his name was Reggie Moore, came from the big city and engaged with my grandfather and grandmother and said, "You have these nice daughters." They had a family of five. "They should really go to school somewhere. They should go to the city to go to school."

That wasn't a real possibility in the Pomeroun because how would you move them to Georgetown and afford that and so on? It ended up being the case, because they became friends and so on, that Reggie said, "Why don't you send your daughters and they can live with my family? I have a bunch of daughters too." I think two daughters. One is my godmother. My mother and her sister did that, and that moved them to Georgetown. My grandmother then followed, and that's how our family ended up in Georgetown and being interested in education and things which have led to my career.

Brady Huggett

Right. There were five daughters, you said?

André Fenton

There were five children.

Brady Huggett

Five children?

André Fenton

Two daughters. Yes.

Brady Huggett

Two daughters?

André Fenton

Yes. Two daughters, three sons.

Brady Huggett

Were they the two youngest?

André Fenton

They were the second and third of the five children.

Brady Huggett

The focus on the daughters was — It's like the boys are going to stay here and work and the daughters need something to do, so they should go to school?

André Fenton

I don't even know how it was framed, but it was easy for the daughters. Daughters are easy to move around. One, you tell them what to do, and two, the way the story is told, they were nice-looking daughters, so why would you leave them here?

Brady Huggett

Out here on the farm?

André Fenton

Yes.

Brady Huggett

All right. OK. The two daughters go in to stay with — I mean, they know the man, but a stranger, kind of, and his family, and start school.

André Fenton

Yes. They become part of that family in many ways. They act as sisters. They grew up together. Their adolescent high school years were spent together.

Brady Huggett

What age are we talking when they first moved to the city?

André Fenton

I would imagine when you're about 13 or 14-

Brady Huggett

Oh, OK.

André Fenton

-something like that. Like when you go to high school and-

Brady Huggett

I see. OK.

André Fenton

-that kind of thing.

Brady Huggett

There weren't great schools out by the coffee farm.

André Fenton

No.

Brady Huggett

In fact, their education might have just ended right around then.

André Fenton

Very likely.

Brady Huggett

OK. They go in and start this educated life beyond high school, or just a different--

André Fenton

No. Just a high school.

Brady Huggett

Your grandmother follows them in.

André Fenton

My grandmother follows them in.

Brady Huggett

Your grandfather stays on the farm.

André Fenton

He eventually joins my grandmother-

Brady Huggett

Aha.

André Fenton

-because she decided things. He went. He's a very interesting man. I didn't speak to him. He wasn't a vocal person, but he had a fair amount of gravity. He ended up being a staff sergeant in the army in Guyana. Guyana is not known for its military might, as you can imagine.

Brady Huggett

It's a small country, right.

André Fenton

He basically ran their military personnel and the military farm kind of thing and so on. He had a lot of discipline about him and a certain large, but quietude about him. I remember that.

Brady Huggett

Like a big presence-

André Fenton

Yes.

Brady Huggett

-but a quiet presence.

André Fenton

But a quiet presence.

Brady Huggett

Yes. When that happens--

André Fenton

I grew up with him and my grandmother. They raise their children in Georgetown. My mother gets married. Probably the first of her siblings to be married, to my father. Their marriage doesn't last very long, and my mother decides to move to Toronto. Because that's what you do if you are in Guyana. It's not a great place to — Not a lot of opportunities there.

Brady Huggett

Two things. Your parents get married, don't last very long, but somewhere in there they have you, obviously. They're your parents.

André Fenton

[chuckles] Yes.

Brady Huggett

How old was your mother, do you know, when you were born?

André Fenton

She must have been '44, so 23.

Brady Huggett

Not all that young, actually, right? Not like a teenager or anything like that.

André Fenton

Yes, 23.

Brady Huggett

Do you know your father?

André Fenton

Yes. I didn't grow up with him. I know him more as a friend than as a parent. Now we talk more than ever before. As I was growing up, we did not talk very often. They had a very, I think, interesting arrangement upon divorcing. That arrangement actually is very meaningful and helpful to me. That arrangement was my mother would take care of me and not ask for or need anything or expect anything from my father. Not in a sort of bitter way, but in a transactional way.

I grew up never hearing anything bad about my father, never being disappointed by him. It wasn't like I expected him to show up and he didn't, which is the case quite often, and with some of his other kids. I didn't grow up with any resentment or particular expectations of him. He's just this adult friend.

Brady Huggett

Did he stay in Georgetown?

André Fenton

He stayed in Georgetown for a time. Then he moved to London and then eventually Jamaica.

Brady Huggett

All right. Then you really didn't see him? Because you guys went to Toronto. At what age were you when your mother went to Toronto? I should say too, you're the only [child].

André Fenton

Yes, I'm the only child. I must have been around 4 or 5, something like that. From 4 or 5-ish I was living with my grandparents in Georgetown, and I joined my mother when I was 7.

Brady Huggett

Then as you said — you mentioned your grandfather — you really got a lot of parenting from your grandparents.

André Fenton

Yes. They were very disciplined people. [chuckles] In Guyana it's ordinary to hit children, for example. In school, you learn your times tables with your hands out, and the teacher has a cane that they would tap.

Brady Huggett

I have to think, looking back, is that the right way to teach the times tables?

André Fenton

No.

Brady Huggett

I don't think so. [laughs]

André Fenton

No. Absolutely not. It does teach you presence of mind. I absolutely remember in grade 1, learning to write cursive and having to do these exercises of writing M's, like series of M's, in cursive, and the teacher standing next to me tapping the cane, and me realizing I need to focus on counting the bumps of M. [crosstalk] one, two, one, two, and not be distracted by the tapping. She said, "You're going to get licks." It did teach me to focus on counting the bumps in the M.

Brady Huggett

All right. Your mom leaves. I guess the question is, why Toronto?

André Fenton

If you're from Guyana, you basically — At the time, and I think currently, if you can you would go somewhere else because there are more opportunities. You would go to Toronto, to New York or to London. Those are the three places that people end up going. With most immigrant stories, you go to somewhere where you know somebody who you can land and be with when you leave the airport. There was someone in Toronto. My mother went to stay with them for a short period of time, and then you figure out your way.

Brady Huggett

In this three-year period, she figured out her way, got some sort of job, got a place to live, and then called for you?

André Fenton

Yes. In fact, the funny story is when I was 6 she managed and sent for me, and I went with my grandfather. It was the first time I'd seen winter. I didn't know this, but at the time I was told, "We're going to just see this place." I wasn't told I was being taken there to be returned to my mother.

Brady Huggett

Did you know your mother was there?

André Fenton

I knew my mother was there, yes.

Brady Huggett

OK. “We’re going to go visit your mom and see this place.”

André Fenton

“We’re going to go visit your mom.” I’m 6, so you don’t ask too many questions and so on. I am told that I decided that her apartment was too small. One, there are no apartments in Guyana. Everyone has a house. Even if it’s a crappy house, it’s a house. It has outdoors and so on. I apparently was not impressed by the living situation. Weirdly enough — and it tells you something about the character of my mother — she sent me back and worked harder [chuckles] so that we could have a better apartment in the next year when my uncle brought me.

Brady Huggett

The idea was — you were told you were going to go check this place out. They actually were planning on you rejoining her, but because you were so vocal about the things you didn’t like, she’s like, “I got to do better”?

André Fenton

That’s the story I’m told.

Brady Huggett

That’s a good story. Yes.

André Fenton

Yes, yes. I don’t remember that, but I definitely remember — there were a number of really interesting things that happened in that visit that I can remember. For example, I remember my first snowfall. There’s snow, and my mom had one of these — they were these one-piece snowsuits, right? Yes?

Brady Huggett

I know, yes.

André Fenton

With a hood and so on. I feel incarcerated in this thing, but that’s how you survive the winter, right? We go out and I don’t know what to do with snow. She and my grandfather are standing around, and he’s wearing three layers of pants or something like that. We’re all just standing around, kind of cold. I’m in this thing, probably a little big for me, so I can’t look around, and they say like, “Do something with it.” [laughs] I don’t know what to do. My mother says, “Oh, you can make,” I guess, “a snow angel.”

I remember lying down in the snow thinking “This is so dumb. Why would I want to lie here on the ground and flap? I hope nobody sees me. This is so embarrassing.” I’m doing it because that’s what you do in this country with the snow. Absolutely remember the snowflakes falling on my face, me flapping, and just thinking “This is the most ridiculous thing I have to do. I have to do this to fit in.” This seems —

Brady Huggett

You had to do this every day?

André Fenton

Yes.

Brady Huggett

How long?

André Fenton

This just doesn’t make sense, but I guess that’s what one does here, right? That was the attitude I took. When I came back a year later, I really tried to figure out how to fit in, even if it seemed dumb.

Brady Huggett

A couple things. When you came back a year later, there was a bigger apartment and you said this is fine, or you don't remember, probably?

André Fenton

I really don't remember. There was a different apartment. I'm confident about that. At that point, I came with my uncle, my mother's youngest brother.

Brady Huggett

He also stayed in Toronto?

André Fenton

Yes. He came —

Brady Huggett

OK.

André Fenton

He immigrated with me. He brought me and stayed with us, and lived with us for a number of years until he started his own life.

Brady Huggett

All right. You're like 7 at this point, and you have a lot to adjust to. Not only the weather obviously, and the snow. Did you find yourself doing Canadian things? Did you skate, for instance? Did you play hockey? All these things that are stereotypical.

André Fenton

Oh, absolutely. To survive socially, you have to — Again, these are things I realized much later in my life, but at the time I learned to do all the things the other kids did. They skated. They played baseball. For example, baseball, what do you know to do? In Guyana, you know how to play cricket. Very different sport, even though it seems similar to baseball. I would play in the schoolyard. Eventually, I needed a baseball mitt. I remember going with my mother and stepfather to the store to buy a baseball —

Brady Huggett

Glove.

André Fenton

— glove. I was trying to explain to them that I always used a glove on my left hand, and they just — That didn't make any sense to them. I remember going through the exercise where my stepfather said, "Well, which is your dominant hand? Which hand are you write with? Which hand is stronger?" The answers are all right. That's the hand that you get the glove for. I didn't know how to explain, like, "You have to throw." [laughs] I ended up getting a right-handed glove, which was obviously useless. We weren't all that wealthy, so it basically meant I wasn't going to get another glove once I figured out how to articulate this. I didn't use the glove. We continued to borrow the glove and so on.

Brady Huggett

We should say Guyana's English-speaking, right? You spoke English.

André Fenton

It is English-speaking.

Brady Huggett

You had an accent, I'm sure.

André Fenton

It's a sort of Creole English, which is not considered charming when you get to Toronto in those days, but that's how I spoke. It wasn't difficult to understand other people, but I definitely — My job was not to be an outsider. I wanted to fit in. I played

hockey. I learned to skate. I pretty much learned to do everything. I also got the sense — Baseball's a good example. When you play baseball in the schoolyard, there are two captains, and they pick people for their team, right? It definitely does not feel good to be the last person chosen. You become not the last person chosen when you get good.

I learned that I did not want to be the last person chosen, so I got really good at many things. I would focus on how to get good at these things, including skating and playing hockey.

Brady Huggett

Canada's a pretty white country, but Toronto's an international city. Did you feel you fit in racially or not, or was that also an issue?

André Fenton

If I think back, I never worried about it. There were never that many other Black kids in my grade school even, and definitely not in my — I'm trying to think. In grades 7 and 8 when I went to another school, and in high school, very, very few. Like three. I was one of three or something. What's really interesting is I never felt that that mattered. I never felt, "Oh, I'm different" because of how I look or — I felt early on that I was different because I didn't know how to play baseball or play hockey. By the time I got to grade, I would say 4, I was a pretty cool kid.

Brady Huggett

Canadian kid.

André Fenton

I was a Canadian kid who'd get chosen early. Sometimes I'd be the captain to pick on these teams. I played whatever anybody else played, and I was pretty good at it. I was a good student. Yes, I felt I belonged.

Brady Huggett

Right. I guess the question is, did other people feel that you did not belong? I guess that's the question.

André Fenton

I literally was not aware of it.

Brady Huggett

You're saying that you also — Not only did you do these things to fit in, but you got good at them. Did you play sports all the way through high school? Did you —

André Fenton

Yes, through high school. I wrestled very competitively.

Brady Huggett

Competitively.

André Fenton

I played volleyball, and I even played football.

Brady Huggett

Oh, wow. It wasn't just hockey or baseball. That's like five sports. Did you identify yourself as a jock? Like, "I'm an athlete"?

André Fenton

No. It's actually very interesting. I more aspired to be — especially in high school. You can't see me, [chuckles] but I'm not a — I don't look like a jock. I could understand how to develop technique. When I played football, I was not a big guy, but I learned how to tackle, for example. I often played defense, and I played tackle often because I could run and contain somebody and so on. Yes, I thought really hard about the things that I was doing and understood them analytically rather than intuitively, and then I could do them better than my physical being.

Brady Huggett

OK. I know you go to McGill for college.

André Fenton

Yes.

Brady Huggett

Did you have any affinity for science when you were in grade school, or did you think that you were going to go into sciences?

André Fenton

No. This is related to my non-jock character. I was a good student. Not for any deep reasons other than I actually really wanted to understand things. I had an amazing grade 9 teacher when I first went to high school. His name's Mr. Hunt, and he taught English. The way he started my high school career was very significant to me. I remember the first day of high school — this is an all-boys Catholic school. You have to wear a jacket that doesn't fit right and so on. I remember it as my first period in high school ever. I don't know if that's actually true.

He arranged the class in these long rows, I think there were four rows, and he did it as long as possible. He didn't say anything when anyone came in and so on. He made us all sit there, and he wandered up and down the rows, exaggerating that we were there. He said, "Look around you, boys. Look at yourselves. You're in rows. You are in an institution." He went on to say something along the lines of — and this really resonated with me. Something along the lines of, "You're ordinary, and that's why you're here. You're here in these rows in an institution because you're ordinary people.

"If you want to be extraordinary, you shouldn't be here. Extraordinary people aren't here. They're engaging in the world in some way. We're going to actually read about people who didn't go to high school. These people engaged in the world, and you're reading about them because that's what they did. Because you're ordinary, it'd be really in your interest to control the things you can control, and learn what you can learn because you want to get out of these rows. The way out of these rows is to understand the world that you're in." That really resonated with me because I didn't want to be in the rows.

Brady Huggett

What is he teaching?

André Fenton

It's English.

Brady Huggett

Oh, English?

André Fenton

Yes.

Brady Huggett

You're going to read English books, fiction and things about — novels.

André Fenton

Yes. We read novels.

Brady Huggett

About people who've done extraordinary things.

André Fenton

Joseph Conrad resonated with me. We read a lot of Greek plays — you can imagine why — and destiny and things like that. He would make us write essays that were one page. You couldn't write more. Now I understand as an educator he was lazy, but he was also really smart in that — Yes. He would say, "If it's more than one page, you're starting to lose points. It better be extraordinary." [laughs] You learn to craft every sentence because every word mattered. He was an extraordinary teacher, but what he really did for me was inspire me to want to learn about the world that I lived in so that I could master it. That was the way it was framed.

If you want to do more than exist in this world, you need to understand what's going on around it. Not just in your little domain, but everything about it. Nothing is off the table to being interesting.

Brady Huggett

Yes, he does sound like a great teacher. I'm getting inspired right now. That's a great way, especially for young minds like that, to present the world. Right?

André Fenton

Yes.

Brady Huggett

Did you think you wanted to be an English professor or teacher, or no?

André Fenton

No. I wanted to be like Joseph Conrad. [chuckles] I wanted to go out in the world and find out about it and make my way in the world in whatever way I would. In fact, I never imagined I would be an academic. My parents didn't go to college, so they didn't know how to advise me to go to college, and nobody thought to give any advice and so on. In Toronto and Canada, the way it worked at the time was in Ontario, for each province you filled out an application. There were three boxes, and you said one, two and three, and you name the universities. You rank the ones you want to get into, one, two and three.

I was thinking, "What would my major be?" I think not properly understanding the system. I was a very good student. I was the class valedictorian.

Brady Huggett

Oh. OK.

André Fenton

I remember thinking, "OK. I have no idea what I want to do," and nobody told me I have to do any particular thing. I think my parents wanted me to be a doctor because all immigrant kids should be doctors, lawyers or engineers. I put biochemistry. Why? I had no idea what biochemistry was. It looked like biology and chemistry, but it was one of the hardest majors to get into.

Brady Huggett

This one, two, three, you ranked them by what your preferences were. Did you have McGill at the top?

André Fenton

No. McGill was a different province, so that's the unusual thing. One was University — probably of Toronto, Western University and Queen's. Those were the three. For some reason, I also applied to McGill. I can't honestly remember the reason. It's not that I knew McGill was — I knew McGill was a good school, but I wanted to escape the rows. I wanted to go out in the world and find out about it. It just seemed like it was a French place, seemed good, and it was different.

I think, in hindsight, I wanted to — Now I knew how to be in the world, I wanted to go and start over as me in the world. It was easier to do that in this different province. It felt like, "Oh, I'm going, across the Atlantic to the new world." That's how it felt.

Brady Huggett

You were planning on studying biochemistry then at McGill?

André Fenton

What's funny is I actually studied English and philosophy when I got to McGill. I ended up living in a rooming house and not even applying for or trying to live in a dorm. I was very excited to find a place to live. I went and I negotiated a room in a rooming house, [laughs] and I went to McGill with a trunk. I literally had a trunk —

Brady Huggett

Like a steamer trunk?

André Fenton

A steamer trunk that I bought, and so on. That was how I landed in the McGill ghetto, and the people that lived in the rooming house were my friends rather than the regular freshman students.

Brady Huggett

You're living with adults.

André Fenton

I was living with adults. There was one other freshman, Alex Chapple, who's a close friend of mine. Still is. He became a filmmaker. I was living with an Iranian refugee who was not there to go to school. He helped me realize what a privilege I had to be able to go to school. Nick, he was a master's student in English. He would read "Beowulf" in Old English and so on. This was the most exciting thing to me because these people were engaging in ideas. No one was doing anything for a job or a career. It never occurred to me to do something to get paid through university. I was just there to learn about anything deeply.

Brady Huggett

At some point though — because I know a little bit about your path. By the time you finished McGill, you definitely were interested in neuroscience. You had somehow narrowed that down to —

André Fenton

[chuckles] So what happened somewhere, I guess in my sophomore year, I was supposed to go declare a major at some point. I had an appointment with an academic advisor — it was going to be English — and I met someone, I can't remember who, on the way there. My suspicion, it was a girl, and I ended up having coffee with that person and missing my appointment. That didn't seem like a big deal to me. In the interim, before I made the next appointment, in my biology class I learned about neurobiology. I learned about the Jerry Lettvin experiment, "What the frog's eye tells the frog's brain," and that blew my mind.

I'd been interested in philosophy and English, frankly, because I wanted to understand how I understood the world, and why my understanding was subjective. I deeply, from my immigrant experience, knew that the way I understand the world is not the way everybody else understands the world. That's why it was so important for me to figure out how things worked, so that I could manage that.

Brady Huggett

I do know this experiment. This is where a frog would not see dead flies. It would only see living flies. It was somehow —

André Fenton

Moving flies.

Brady Huggett

— triggering on moving flies, right? The flies are there, of course, but in its reality, it doesn't know that they're there. I get this now. You're thinking, "My own perception of reality is different from other people's. In fact, there's probably things that I don't know that other people do know," because everyone has a different perception.

André Fenton

Yes. I understood it as, how do you even know? How do you know how to be a good person? Should you try and be rich or should you try and be a pauper and be enlightened? How do you know? How do you know what is the right way? All of these things are attractive. Yes. How does one know? I was always interested in that.

Brady Huggett

In that question?

André Fenton

In that question. Always.

Brady Huggett

This one is specific to the neurobiology, for instance.

André Fenton

What I learned is that you couldn't answer those questions in the philosophy classes. I learned that very quickly. With an electrode, you could actually figure out, OK, that the frogs only know about moving flies. [laughs] That's how you could do it.

Brady Huggett

Right. There's no answer in philosophy. We could talk for end in circles, but with biology, we can start to find some answers.

André Fenton

You could measure something. You could measure it because I understood that the reason for that wasn't somebody's opinion. It was because the frog was designed that way. That was the design of the frog, and I have a different design. Another thing that always fascinated me — I went to an all-boys Catholic school, so there's a substantial spiritual context. I was never religious. I was thought to be religious and thought to be spiritual, but I wasn't really. I was more of a humanitarian, and that was misunderstood as being —

Brady Huggett

Christian.

André Fenton

— Christian. I was fascinated with the idea of spirit, and that there might be ghosts. For example, I had ghost-like experiences as a child and throughout my life, so all of these things were like, "Is that real?" It doesn't make sense that it's real, but it's a real experience. At McGill, in the early days being there, I discovered these sensory deprivation tanks. I would go and float, and I would hallucinate.

Brady Huggett

Right. When your mind is let loose of all sensory, it'll do what it's going to do.

André Fenton

Yes. I think of it today as, "Oh, I got to watch the dynamics of my nervous system." I could experience the dynamics of them when set free from the sensory stimuli. I would have visions and experiences that I knew came from inside me and so on. All of this was very fascinating to me.

Brady Huggett

I've got to ask one thing.

André Fenton

Yes.

Brady Huggett

Can you tell me one credible — not credible, but in your mind, I guess, credible ghost story where something happened to you, you thought, "I can't explain this"?

André Fenton

I can tell you several. This one's sort of boring, but early on, when I was a kid living with my parents — they tell me this and I remember vividly.

Brady Huggett

This is Guyana you're talking about here?

André Fenton

This is Guyana, so I must have been about 3. I would see a man in the wall, sort of in the living room wall. Very large man's head, he had a goatee, and he would laugh. Not in a sinister way, but he would laugh. I would tell my parents, who would get very agitated, and their interpretation was I wanted to go to my grandparents' place. My current interpretation — and I know what the guy looks like. If I was a better artist, I could —

Brady Huggett

Sketch it.

André Fenton

In fact, I tried to sketch this in my early college years and so on. My interpretation of that is that my parents were fighting or whatever, and this was

me feeling anxious about that situation, and they probably interpreted it similarly, like he wants to escape and goes to my grandparents' place. I was prepared, if you will, for seeing things and so on. As a really close friend of mine in high school, Nathan Orlando, he and I were both misunderstood as being religious. Nathan and I became interested in what does spirit mean and so on. As an example, his — The boiler room in his house — very good friends; I would sleep over there every so often — there was an old woman that lived down there, and I remember her coming and standing over me and sleeping in her room. Again, it wasn't frightening. That was what was so interesting.

Brady Huggett

It's scaring me now just hearing that story.

André Fenton

I wasn't frightened, but she would come, I would — And I would be sort of sleeping and know, in my mind, the point was don't panic, because this is really interesting. Imagine if there really were a spirit world. If you knew for sure that there was an afterlife or that there were spirits, I think we would live very differently, so I was never afraid of that. I really wanted to know what is actually meaningful and important. Everything hangs on that.

Brady Huggett

To be clear, there was an old woman in the basement, she was standing over you. You weren't imagining that. You would wake up and she would be down in the boiler room.

André Fenton

Yes. I learned a few things. One is you have to be receptive to have these experiences. You have to, one, not panic. For example, in the sensory deprivation tanks, I went, I don't know, 25 times or so, probably with 20 different people. No one ever went twice because they didn't — They felt very uncomfortable. I was so intrigued by this.

Brady Huggett

How long is one?

André Fenton

You do it for an hour and a half.

Brady Huggett

An hour and a half. OK, wow.

André Fenton

Some people like open it so that it's not dark. You can ask for music to be turned on. It felt the same way. When your mind throws up experiences that are not "real", it can be disturbing, and your instinct is to make it go away. I had learned to be intrigued by this and so learned to sit with it and be mindful of it. Including with the old lady. I must have 20 different stories. Some happen across oceans and two people having the same experience but from different points of view, many of these things, but the key is you have to be willing to have them. Which means willing to just watch what's happening in your mind without stopping it.

Brady Huggett

It also means being willing to be uncomfortable with it, right?

André Fenton

Yes.

Brady Huggett

Some people will be like, “This is terrifying. I don’t know who this old woman is leaning over me in a boiler room,” [laughter] but you’re like, no, I’m going to just sit with this and see what happens. It’s the same thing in a sensory deprivation tank. Whatever’s happening, whatever’s bubbling up, if you don’t like what’s happening, you have to just sit with it.

André Fenton

Yes.

Brady Huggett

Wow.

André Fenton

I have always been that person. I’m really OK being un — In fact, I was trying to explain to my kid recently that when I’m uncomfortable, I do more of that.

Brady Huggett

More-

André Fenton

Of what’s making-

Brady Huggett

-opening.

André Fenton

-me uncomfortable.

Brady Huggett

Oh, I see what you mean. All right.

André Fenton

Many people-

Brady Huggett

You don’t turn away from it.

André Fenton

-the instinct is to run away from what’s uncomfortable. I believe it’s important to go into what’s uncomfortable.

Brady Huggett

This is the hardest question you’re going to get in this interview. Why are you like that? Do you think it has anything to do with, I don’t know, being an immigrant where you’re forced to — You’re in this brand new world, and you’re like, this is all uncomfortable. I have to find a way to survive this.

André Fenton

I am now sure it’s because I’m an immigrant, because the instinct is to stay in your community. Stay in where you’re com- It’s not even comfortable. Stay where you’re valued, rather, right, than go to where you’re not valued. Stay where you are accepted rather than go where you’ll be rejected. Right? It’s very stark, but you end up in a bad place if you don’t do it. I learned that.

Brady Huggett

Also, when you do it and you survive it, and you’ve changed,-

André Fenton

Yes.

Brady Huggett

-that's-

André Fenton

You get benefits from that that you don't if you — The way I really learned this — It took me a long time, but all-boys high school, we had school dances. I helped organize some of them and so on, and so you actually have to ask someone to dance that you may not know. If they're attractive to you, you have to ask. "This isn't the right song." "Oh, they're dancing with somebody else right now." There's always a reason not to be vulnerable, and it's uncomfortable. Who wants to be rejected?

The consequence of that is you never dance with somebody. You get to not be rejected and you get to feel comfortable, if you will, but you also never-

Brady Huggett

Never get the joy.

André Fenton

-get to dance with anyone or meet them. It's the same thing. If you actually want to meet somebody, you actually have to be vulnerable or willing to be rejected.

Brady Huggett

OK, this is super fascinating, honestly, because — We'll come back to this. You finished McGill. You do this really interesting thing, by the way, I thought, is you go to the Czech Republic for, I guess it was the master's? What exactly was that?

André Fenton

No, I went to the Czech Republic because it was interesting. It was 1990 when I graduated, and so in 1990, I had a girlfriend who was — came from New York, and I didn't know how to afford living in New York or moving to New York, wouldn't be able to work there. She couldn't stay in Canada, and we wanted to stay together, just sort of casually, and I wanted to do something interesting.

I looked around the world and what was interesting was Eastern Europe in 1990, and so we agreed we would go to Eastern Europe. We had a skill. We could teach English. I went to the same professor who gave the lecture on the "What the frog's eye tells the frog's brain," Ron Chase. I went to him. Why? Because I was a vegetarian at the time. In fact, a vegan. He worked on snails, and I could only ever imagine it being ethically sound to work on an invertebrate.

He studied snail brains, and I went to him and said, "Do you know of an interesting laboratory?" Not because I wanted to be a scientist. I just wanted a way to go somewhere in an interesting part of the world. He said, "Oh, yes, you might want to think about Prague. There's an interesting guy there, Jan Bures, he wrote those books," and he pointed to a series of books that were Jan's. I thought, oh, one, must be famous, writes books, and two, must be a snail biologist, because why would a snail biologist know about anything else? I assumed Jan was a snail biologist. He was in Prague, super interesting. They just had a revolution, like, communism is falling. This is what you read about. A giant way of living is now in turmoil. That's an interesting part of the world. You want to go see how that works out. That's how I got to Prague.

Brady Huggett

Never bombed in World War II, [chuckling] so it's beautiful. It's beautiful.

André Fenton

It's beautiful. I ended up writing to Jan saying, "I can do anything. I'm super cool. I'm very smart." [laughter] Anything-

André Fenton

He set you up.

Brady Huggett

-I know how to do. I'd be embarrassed to write that today, but-

Brady Huggett

It worked.

André Fenton

-I wasn't at the time. He said, "You should come," and so I went to Prague. He is the person who is responsible for me being a scientist, because I finally understood what a scientist's life could be, and that was very attractive to me.

Brady Huggett

OK, this is it. Now I'm going to be a scientist. Let me go apply for a Ph.D.

André Fenton

What happened was Jan had a political life and was kicked out of the Communist Party. There's a whole story behind that. Basically, he wasn't allowed to leave the country and go to the West. He was committed to building Czechoslovakia. He would not abandon it, although he absolutely had many opportunities. What happened instead was that people came to visit him. Almost every week someone would come, and he had a map of the world and pins in that map.

It's like, you know, eight order hundred-ish pins in different places where people came from. He had it on his wall. What was amazing to me was that someone would come to visit him once a week, once every two weeks, from somewhere, typically the U.S., and because I spoke English natively, he would put me to be their host. I would meet them somewhere, show them around Prague and so on, and I would talk to them. I was fascinated because I couldn't figure out why they were visiting him.

I couldn't figure out how they made money by visiting him, which is what I thought people did professionally. Like, why would you do this if you weren't going to make money, or you were not trying to sell him anything, you're not trying to buy anything. You were just coming to talk to him because he's interesting? That seemed amazing to me, but I couldn't imagine anything could work that way.

The economics of that don't make sense, really, but I understood that that was-- He was a scientist, he was an academic. That's what people did. They came to talk about ideas. I thought, "I want that," [laughs] and so I applied to SUNY Downstate. When I got to SUNY Downstate, I learned to program and build tools, analytical tools, and measuring, electrophysiology tools. I was always looking at how to make tools better and different.

How to do spike sorting, everything, because there was a culture of not rushing out to buy something. In fact, it was almost too much. I learned, eventually, the balance — there is a balance. You go and see what somebody else has to offer, and you modify that rather than do something de novo. It's amazing training to say, I want to do X, and then they say, "Well, from first principles, what do you do?" and you make that thing.

That had been my style, both reinforced at Downstate as well as in Prague. When I went back to Prague in 19- Just before finishing my Ph.D., Jan Boresh became a member of the National Academy. One of his rare trips to the North America, he stopped off in New York, and he said, "You know, I have a deal for you. I would like to try and rejuvenate the science in Prague, in the Czech Republic. If you will come, finish your Ph.D. and come back to Prague, I'll give you the department. I'll make you the head of the department."

He put it to me in a way that, at the moment, resonated with what I learned in high school. He said, "I can't give you money, but if you actually know what you want to do, if you want an opportunity to actually do something, what you need is the opportunity. We have people. I can give you people to do what you want to do. If you are in the American system, you will be able to get money, but here you can actually do what you want to do. You get to decide." The question is, do you know what you want to do?"

Put that way, I was like, "I'm going to go for it. I'm going to go to Prague and just see what there is." It's exciting, I get to decide what would be interesting to do and so on, and there's sort of a cultural element to this, how to rejuvenate the science in Prague. I never worried about not being Czech or fitting in.

Brady Huggett

Yes, you'd done that.

André Fenton

In fact, these were all positives. I could pretend not to understand-

Brady Huggett

The politics.

André Fenton

-the politics and just apologize for our actions and so on, and so that's what I ended up doing.

Brady Huggett

What year are we talking about?

André Fenton

This is 1998 is when I first went there, and by 1999, I'd sort of established myself there. I became reasonably well known as a young person in Europe, and I joined with the Mosers, Richard Morris, Menno Witter, Uva Frey at the time, who became Julie Frey. Our group, we all applied for one of these large European multinational grants and won that grant.

That gave the laboratory an enormous amount of money from Czech standards. So much that the administration didn't know what to do with it. It created all kinds of problems, but very interesting opportunities. The lab flourished, it really did.

Brady Huggett

This was your first lab?

André Fenton

Yes, it's my first.

Brady Huggett

Really? Yes. How did you meet Todd Sacktor? Right. In my understanding, and I think, obviously I did not have this right, but I thought you were at SUNY Downstate. Sacktor was doing- He was looking at molecules in the brain.

André Fenton

Yes, so after Prague-

Brady Huggett

Yes, I guess, how did you- Go ahead.

André Fenton

In about 2000 or so, I got a call one day saying, from Steve Fox, saying, "I've been given permission to try and recruit you back to SUNY Downstate." I met Bob Wong at a meeting, and I remember we were at the pool, and he was wearing glasses, so I couldn't see him. He said, "Why don't you come back to Downstate as an assistant professor?" I said, "But I have all these duties, rejuvenate Czech science, I have all this money," and he's like, "Don't be stupid. Of course you can do that."

I've thought, "How do I have two jobs at once? He said, "Well, as long as you monotonically increase your activities at SUNY Downstate, I don't see a problem." That was the decision in about 2000, and so I slowly and monotonically increased my activities in- at SUNY Downstate and really fully moved there in about 2005, so it took-

Brady Huggett

That's a long time.

André Fenton

-some years, yes. In that time, Todd was discovering PKMzeta and its role in LTP. He would come down and tell me about it, and we would meet every so often. He would say, "Oh, PKMzeta is necessary; we could block it for LTP." Say, "When are you going to publish that?" and he'd say, "I want to publish a paper that says PKMzeta is necessary and sufficient for LTP." Philosophically, the highest evidence you can for something having a role, a causal role.

Brady Huggett

Yes.

André Fenton

One day he did that, and it became pretty exciting. LTP is a model for memory. I start to pay attention to this, and he would come and ask me, he said, "Now it's time to find out if this is important for memory. How do you study memory?" He would come and he would say, "I'm thinking about doing this experiment." I would always say, "This is what's wrong with that experiment. This task has this other interpretation," and so on.

Every couple of months [chuckles] he would come, and eventually, he would always ask these questions, and I would answer the questions. He asked a really important question one day, and the question is, "What would you do?" I said, "Oh, well, I would use the task I developed, this rotating arena task, for these reasons." Then he said, "We should do that experiment." That's how we started our collaboration.

Brady Huggett

The PKMzeta discovery ends up being a pretty big deal. I think *Science* called it like a breakthrough of the year, and it got a lot of press coverage. You can understand why, because the mainstream media be like, "Oh my gosh, this thing is required for memory. What a great find."

André Fenton

It looked like we could erase memories.

Brady Huggett

Can erase it.

André Fenton

That was the story in the press, right, yes.

Brady Huggett

It's like science fiction. Like, we may be able to get rid of painful memories one day, this sort of thing. That exists for a while before, like Richard Huganir and Robert Messing, I think, came out, and they both came out with papers initially that said, "Actually, that molecule is not required for memory." Right? I'm just curious. As a scientist, what do you do then? [laughter] You've got this great paper.

André Fenton

Yes.

Brady Huggett

What do you do? Do you just put your nose back down?

André Fenton

OK, so it's just before Christmas that these two papers come out, but as in all things in science, we knew about them-

Brady Huggett

You heard about this.

André Fenton

-and we knew they were coming. In fact, we had been collaborating with Messing, so we had the Messing mouse, and we knew that the mouse could learn. We had done our own experiments, and we knew it made LTP. We confronted that problem long before the papers came out, and we had a theory for what would happen. If you understand the evolution of these kinases, you know that there was a gene duplication. There's another kinase that's another isoform that's almost the same. In fact, the catalytic subunit is very, very similar, and it has a regulatory domain which the M isoform doesn't have. We knew that you could- it could be compensated. If you deleted it, it could be compensated by this iota/lambda isoform, so that was the presumption. We said to Messing like, "It's compensation, you should check for that."

Brady Huggett

You said this before he published.

André Fenton

Oh sure, yes, because we had the same mouse. [chuckles] He had shared the mouse with us. That was not the goal. It was big news, and so when the Haganir/Messing papers came out, it was kind of devastating. Many people to this day can't publish work on PKMzeta inhibitors, in particular ZIP, because of those papers and such. We knew what the answer was.

If you remember, I was trained by my life circumstances not to be very attached to things. To be dispassionate about things, so we just set out deliberately to do every experiment that was in those papers and then demonstrate how they got it wrong, if you will, because the right answer is that there was this compensatory mechanism. That's really easy for someone like me to think about but hard for a biochemist. Why? Because I'm a systems thinker.

Nothing is non-linear. There's always feedback. There are multiple loops in the hippocampal system that you have to think about. If you do something here, there will be freedom to do something elsewhere. There's always competition and such things, and so it wasn't that hard to imagine that this is also happening biochemically and that we are not dealing with this causes that, but this makes a change in the system, the system adjusts to that change, and so you could find a compensatory change.

Very quickly, we did the experiments to find out that, in fact ι/λ had increased in that mouse you-

Brady Huggett

By what mechanism is it going up?

André Fenton

Oh. I said this is one of the best things about science, and in many ways, in this story, that science act- The process of science prevails. It's super interesting. Why would it go up?

Brady Huggett

How would it know to go up, yes.

André Fenton

How would it know to go up, right? Does it have this intelligence? Well, here's where good intuition- Imagine that there was a binding partner for that kinase. There is. It's called KIBRA. The next chapter of this story is actually right now being reviewed where it's the KIBRA zeta interaction that turns out to be important. KIBRA is a structural protein on the postsynaptic side of things. In ordinary wildtype LTP and learning, you-

The model is you make some pulse translational modification of ι/λ . There's some fat, a fatty acid, or the diacylglycerol or calcium that opens up the regulatory domain so that the kinase domain of the ι/λ is available, and now it can be stabilized at KIBRA and it does its job. Local translation happens there because of those synaptic events, and now PKMzeta gets manufactured, so you have translation with a delay at that site. Zeta has a 10-ish times greater affinity for the KIBRA molecule compared to the ι/λ molecule, so it out-competes it. OK?

Brady Huggett

Got it.

André Fenton

If you don't have the competition, ι/λ can stay there, and so isn't that gorgeous? That is so elegant and smart. Biology is beautiful. Because those two isoforms actually come from a gene duplication, we know- I've been looking at homology structures from the crystal structure, they're just a very small number of amino acids that have changed. It's now really hard to make an inhibitor that targets the catalytic subunit of the two molecules differentially, which is what our initial molecule did.

However, the KIBRA motif to which zeta binds now becomes a peptide that you can make an inhibitor from. That's something we call KIBRA zeta interacting fa- I think we went with a- associated peptide. That becomes a new inhibitor. We

have that and another inhibitor we've called zeta-stat that allosterically binds to a little change in the PKMzeta molecule. We now know that KIBRA and zeta are interacting in a beautiful way.

Brady Huggett

Well first off, you said that this was one of the best things that ever happened to you, the Haganir and Roberts Messing paper coming out. Why? Because it forced you to reexamine-

André Fenton

We knew about KIBRA, we knew about iota/lambda. It told us they were important. It told us the zeta story is not the end of this story. Something else is going on. There are a bunch of things that were curious. Another example is Todd and Yadin Dudai did an experiment that I poo-pooed and said was stupid and didn't want anything to do with and just thought was dumb that they published in *Science*. I was wrong.

It's what a biochemist would think, but a system scientist would never think this. That is, they said, "What if we increase the expression of PKMzeta in a part of the brain that has a weak memory? Should we strengthen that memory, because PKMzeta is important for memory, so if we have more of it, we'll have more memory." This is dumb to a systems scientist. That could never make any sense.

In fact, we had done those kinds of experiments in the hippocampus. They're called saturation experiments. If you potentiate all the synapses or many of the synapses, you don't have more, you have inability to store information. Imagine you had a blackboard or a whiteboard and you wrote-

Brady Huggett

All over it, yes.

André Fenton

-all over it, you couldn't-

Brady Huggett

Write anything else.

André Fenton

-write anything else, right?

Brady Huggett

Yes.

André Fenton

This seemed, like, lunatic. Like, how flimsy, [chuckles] what flimsy thinking, but that's what happened when they did it. It enhanced weak memories. How to think about that? Well, it now makes total sense. If there was something, and we knew that we could- We'd need to explain that one day, but if you imagine that there are a bunch of places that KIBRA is marking, and that's where you want to put the PKMzeta, and it's the only places that it will go, then all you have to do is make more of it persistently, and they will go to the right place and have their action at the right place persistently.

There are experiments like that and observations like that that we are now confronted with having to explain in this journey. There are many, many directions that one can go in. In my opinion, it's how science can triumph. It's not about Rick's a very popular guy, it's true, but the actual science will win the day here. It showed that it did. It forced us to do these experiments.

Very recently, I was interacting with Rick and I said I'm real- I thanked him. It's been painful, and it would've been easy. It was uncomfortable, but I'm OK with being uncomfortable. We got to a better place.

Brady Huggett

I feel like there was never a moment when that pa- When those two papers came out where you thought, "Ah, shit, we're wrong, let's think about something else."

André Fenton

No, because I can explain that by explaining the process of discovery. When we discovered that PKMzeta was crucial for memory, there wasn't a eureka moment. You do the experiment and the first mouse shows that it doesn't remember the thing it's supposed to remember. You're a scientist, so you think, OK, there- That's nice but I can think of 15 ways that-

Brady Huggett

Explain this.

André Fenton

-I could get that result without it meaning what I want it to mean, so you do the next experiment. By the time you're really convinced, you've been through so many checks, if you will, that you've moved on. This was sort of the same thing. We knew of the work was going to come out, we knew of the possibility of the compensation mechanism, we had thought about it and done experiments to confirm this is a likely outcome, and so you're just sort of mad that everybody isn't like, what about-

Rick knew. If you look in Rick's paper, very important, he looks for the iota compensation.

Brady Huggett

Oh, he did.

André Fenton

He did. He missed it. In fact, the way he missed it is a beautiful example, again, of how important it is to cross disciplines. Any biochemist would do that- the experiment the way he did. Which is you knock it out and then you grind up the brain, the whole brain, and you look at the lysate, and you say, let me do a Western blot to see if there's any iota/lambda compared to the wildtype, and there's no difference. You conclude there's no compensation.

This seems crazy to a systems neuroscientist. Why? Because I didn't expect memory to happen everywhere in the brain. It should happen in the hippocampus because this task is hippocampus-sensitive; we spent a decade demonstrating that. Subsequently, we've identified different synaptic compartments within the hippocampus, within a particular subregion of the hippocampus, where the PKMzeta and LTP potentiation occurs. It would be bizarre to just think you would just en masse increase this thing. The right experiment is to take out the hippocampus-

Brady Huggett

Grind that up.

André Fenton

-and look in the hippocampus. Right?

Brady Huggett

Yes.

André Fenton

What we ended up- We did that.

Brady Huggett

The increase there is small enough that it would not show up in the entire brain.

André Fenton

Yes.

Brady Huggett

Yes. OK.

André Fenton

The hippocampus is a small part of an entire brain, so if you actually look, there's something like a 400 percent increase in the hippocampus. The way we did the experiment was, I think, again, we need it to be compelling, so we took, for every mouse

that got trained, we cut its brain in half. In one half, we remove the hippocampus. In the other half, we ground it up. In the same mouse's hemisphere, you don't see an increase. In the other one, a giant increase.

Brady Huggett

Yes. All right, there's one thing I want to ask you. I'm going back. I'm fascinated by this. I don't know if you'd call it seeking out, but whenever you are put in an uncomfortable position, you turn toward it. You don't seek it out. You're not like, "How can I make myself uncomfortable?" but when the moment arises, you decide, "I'm going to turn into that," because that's the only way you get through it, learn from it, grow. Is that accurate?

André Fenton

Yes.

Brady Huggett

As your future, your career moves on, are you looking for ways to do science that makes you-

André Fenton

Yes.

Brady Huggett

-do that? How do you do that?

André Fenton

I do that all the time. I choose what we work on. My main job in my lab — if you ask the people in my lab, they'll all confirm this — my main job is to get them to do experiments that will force us to have to change the way we think about something. Those are the only studies worth doing. Now, that is an outrageous statement to actually make. These people need-

Brady Huggett

Papers, yes.

André Fenton

-projects to train them on and so on, and you can't- Not everything is so easy to overturn or change minds, but that's our aspiration. My job is to pay attention to everything that's going on. I read about everything. To listen for what beliefs people have that seem founded in tradition and founded in other beliefs that there might not be explicit evidence for. I try to look for what are the biggest beliefs that people have that might not be- Might not have been tested properly.

Brady Huggett

You see-

André Fenton

Then we do those experiments.

Brady Huggett

If somebody came up and said, "Hey, this paper came out, and it shows this. I think let's do a paper, see if we confirm that," you're not doing that.

André Fenton

I would never do those experiments.

Brady Huggett

Fascinating.

André Fenton

In fact, that's my job. My students always come and they say like, did that thing, and I would- We almost never want to do the next experiment. I rather say like, what is that experiment, what are the beliefs, literally their beliefs? What are the ideas that it's founded on? If we can find that those ideas are vulnerable or based on things that haven't been demonstrated- LTP is one of those examples, LTP and memory.

It's not obvious to me, although I study it. My career is based on that, it's not obvious to me that LTP is important for memory. I don't think the critical experiments have been done yet. We're trying to do them, and frankly, we've done some modeling, and we've started those experiments, and it's uncomf- The answers are uncomfortable, [chuckles] but that's how we learn.

Brady Huggett

I'm struck by that's also what Richard Huganir was trying to do. He's like, I don't think that's right.

André Fenton

Yes. That's why I said it's like how science should be. Where the game is not to just maintain your employment and keep what you're doing. The game is to push things and push things every day to- so you learn new things. That's the game.

Brady Huggett

That's it. Thank you. Thank you so much.

[transition music]

Good interview, no? I loved it. "Synaptic" at its best is meant to link the people in neuroscience with the work that they do, and I think I've succeeded in an interview if I can get the connection between a researcher and their work to reveal itself, but I'm not sure I've ever seen that connection be articulated as clearly as it was by André in this interview. Just a fascinating man. Thank you, André, for having me into your office and showing me around the lab.

All right, this podcast will be archived at thetransmitter.org. If you liked this episode, feel free to share it. These are, of course, free. We do not put them behind a paywall. You can find "Synaptic" wherever you get podcasts and rate and review it there, if you like. If you'd like to comment on this podcast or anything we do at *The Transmitter*, you can find us on Twitter and also on BlueSky and Mastodon. Search "The Transmitter," and you will find us on those platforms.

Some of the information for the intro was taken from the website for De La Salle College Oaklands. Our theme song was written and performed by Chris Collingwood. That's all for me, and I'll let the music lead us out of here.

[ending theme music]

André Fenton

What are we going to talk about?

Brady Huggett

It's up to you.

André Fenton

I see.

Brady Huggett

I know just enough to be dangerous about your work and your background.

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