



## Tame Malcolm – indigenous pest management

### Recorded webinar transcript

#### Greta Dromgool

Tēnā koutou katoa, nau mai ki te Pōkapu Akoranga Pūtaiao. Hello and welcome to the Science Learning Hub.

My name is Greta Dromgool and I'm pretty excited today because we've got a fantastic speaker to share with us. Some really interesting stories and I'm really looking forward to it. Before we jump into that, I just wanted to make sure that everybody knows about the Science Learning Hub, because I know we've got lots of new people joining us for this webinar today.

The Science Learning Hub is a government funded resource, it is created for New Zealand teachers, and it is, the resources on there are created from scientists working together with New Zealand educators. It's got lots in there and a really great place to explore, and in there you will find New Zealand Science and the stories that go along with it, for you to share, for you to learn from yourself and to share with our students.

Kia ora, without any further ado, Tame, I'd really like to say welcome and thank you so much for coming along today, your time, and I know you have so much going on, so really special to have you here, and I wonder if you're happy to get started with, telling us a little bit about yourself and your background, for those of you that don't know you.

#### Tame Malcolm

Tena tatou, ōtira, nei rā te mihi ki a koe Greta. Thank you for having me and hosting me. Ōtira ki a koutou kua whakaraueka mai nei ngā iwi me te karanga kia wānanga tahi ai tātou, kia kōrero ai tātou. Engāri i tēnei wā tonu, me tuku mihi ki a Korehāhā.

I saw they're online, really keen to connect with them, because they're quite inspirational, along with everyone else, so I don't wanna single out anyone, but, I haven't had a chance to chat to them, but seeing the messages come through, I stalk a lot of the people on here. So all these people that are, if you keep seeing me like your posts on social media and stuff like that, I'm an avid follower of some of the cool kaupapa that's going on around here.

Engāri ko Malcolm Tame tēnei. I grew up in Rotorua, I went to high school in Western Heights High School, fumbled my way through an undergrad and went straight and worked for Te Papa Atawhai or DOC.

Then spent the next couple years basically, doing pest control, killing fuzzy animals, but using approaches that, what I now know is mātauranga, just from my upbringing. Then I moved into operational research, and now I've just started a new journey; I'm doing my PhD in mātauranga for pest management, or what is the Māori approach to pest management?

#### Greta Dromgool

There's lots in there that I'd like to pull out a little bit Tame. You've talked about this journey into pest management and I'd wondered is there a particular something that drew you to that?

#### Tame Malcolm

I was always fascinated by, I consider myself pretty lucky, right from a young age I knew what I wanted to do, I knew I wanted to work in the bush. I remember one of my

earliest memories, we were seven years old and my uncle took us out to the forest, me and my brother, my cousins, all about a similar age, and started naming the plants and their uses. I soaked it up like a sponge.

I was just obsessed with it, and at seven years old I was like, oh, tell me again this one, trying to commit it to memory. Whereas everyone else was keen on going back and playing Sega Master System, listening to a Walkman, back in the nineties, and so I was quite lucky.

Any opportunity or any chance I got to go out bush with my, my uncles, my aunties, my parents, my mum and my dad, I took it and I, I took an opportunity to learn and just soak it all up and then went to school, and did mainstream science and stuff like that, and I think around fifth form or what they call year 11, that's when I thought, yeah, I knew I wanted to do something in forestry, and initially I was going to go do a forest course down in Canterbury. A pine forest course, Bachelor of Forestry, but I went to Waikato and did Bachelor of Science, and that led me into conservation and so glad I did because there's so much more applicable to mātauranga in our native forest than obviously introduced forests.

Right from my first summer holidays, so I grew up hunting, fishing, exposed to all that stuff. First summer holidays, got a job with DOC, and then, yeah, haven't looked back.

### **Greta Dromgool**

A lot of us can probably connect with that idea of being out in the bush or having those, those real-life experiences to connect what we end up doing as adults. So thank you for sharing.

I'm quite interested, I know you're working on your PhD at the moment and hopefully we'll get to that, but in regards to the work that you have been doing in pest management, what did it actually involve?

### **Tame Malcolm**

Well, the first thing I say, what I will say as well is I'm definitely no expert in mātauranga. I know this much mātauranga, and that much was, purely down to the fact that it was saved by some of my kaumātua, my elders, from things like colonisation and impacts of, basically what we see here in New Zealand. So I know this much.

So there's plenty out there who know way more than me, but I remember I was just telling someone not long before this, one of my first jobs, we were doing some goat culling, I shot a goat and we had to take the tails. We still do pack tails to confirm the kill, but I took the heart out of the goat and I put it in the tree, which I'll get into in a sec. Couple days later, someone said, 'Oh my god, I went past the goat and there was a heart in the tree, or there was blood everywhere, it looked like a murder scene, that's so weird', and I was embarrassed and was like, oh, yeah, I don't know who did that? What a weirdo, but it's a mātauranga approach.

Basically, my uncle taught me that when we're in the forest and you've taken from the forest give back. So take the heart, put it in the tree, it feeds the insects, the insects feed the birds, birds help propagate seeds. So, we've come so far as a society that basically my mātauranga approach, I had to hide away from my colleagues because I was ashamed of it.

Whereas I'm doing a, a PhD in a knowledge as far removed from the world of academia as you can imagine, but yeah, that I get to study this stuff now.

Even, some of the approaches I use now in sort of possum trapping or rat trapping, it's foundations are in mātauranga, whether it's, you know, rats and kiore, or traditional Polynesian rats, using similar approaches, or if it's possums, you know, I look at how did our tūpuna catch manu, catch birds? What food sources do they use as lure? And then

can I apply that to trap and possums? Short answer is yes, it's been shown to be effective.

### **Greta Dromgool**

What I find useful Tame, talking to you, you're able to give those really specific examples, but what you're talking about is so much bigger. It is around the changes we're having as a society and, you know, for a lot of us personally, the learning that we are doing. I think, particularly, well from lots of different areas, but in education, we are really interested in this relationship between mātauranga and science, and I was wondering if you could talk a little bit around the work that you do, and maybe share some more examples around mātauranga and science, and the relationship that they have?

### **Tame Malcolm**

In my industry, or in pest management, or even environmental management, ecology, there's a lot of aspects of that that are mātauranga and there's a lot of mātauranga that's ecology that they're very similar. I've previously, and I don't know where I got it from, but compared it to like a double hull canoe: you've got mātauranga, and western science.

But I'll retract that statement and say that, mātauranga and western science are like winds and currents, and we are just an ocean on a, we're just a ship on an ocean trying to find a solution to environmental issue. You use the appropriate wind and appropriate tides and currents, for whatever the situation is.

So sometimes we use mātauranga, sometimes we use western science, sometimes we combine them both. I, for me, I talk about Ngāti Tarāwhai, where I'm from, my tribe was famed for carvers. When Europeans first arrived, my tribe was quick to trade for iron nails, because it allowed them much finer details in their carving. So right from the early start, my tribe, in early days of colonisation, my tribe were quick to merge mātauranga and western science, or western approaches, and I apply that to my mahi as well. Mātauranga and might be western approaches, or western tools that can support that.

### **Greta Dromgool**

Thank you for sharing that analogy. I like how it allows for, for change and fluidness, you know, and yeah.

### **Tame Malcolm**

I probably should say as well that, the size of someone's sail is proportional to their capacity to learn. So the more you can learn and understand the bigger your sail and the more sort of knowledge from mātauranga, western science you can use to sort of propel yourself.

### **Greta Dromgool**

That would be, yeah, love to share that message with my students. I think that's a good one, thank you. Another question I had connected with this is, when I'm reading about you and learning about what you do, there's this phrase, 'indigenous pest management,' and I wondered if you could unpack that a little bit, and also part of that I was curious as to whether there is, kupu Māori that sort of, I don't know, that you might use to describe indigenous pest management?

### **Tame Malcolm**

Oh, I mean, how long have we got, because I could talk all day on this. I think English is a funny language, eh? You could put a comma in that sentence 'indigenous pest

knowledge,' and it would be, it would have different meanings, and I can't think of any good kupu Māori, reason being is, Māori didn't see so much as a pest, they saw impacts. So contemporary pest management is, you know, basically managing an organism, managing impacts of an organism that has those negative impacts. Whereas Māori was very similar, but they didn't necessarily care if the animal was killed or anything, so long as it didn't impact what they cared about. So, oh yeah, I don't know where to even start with this one.

I think there's so many narratives, really cool stories, from our, from mātauranga, that can lend themselves to pest management, and those narratives not only have a lesson for us, but they can also talk to new approaches or innovations.

Let's talk about the story of how kūmara were brought to earth. Whānui or Vega, the star, had the kūmara first, and then his younger brother Māui, stole it from him, and then gave them to his wife and they brought it down to earth.

So when Whānui saw that the kūmara were down on earth, they'd been stolen from him, he sent down the caterpillars to eat the kūmara, as basically, as retribution or revenge to say, 'hey, my kūmara give them back', or here's some pests that are going to kill them.

So Māori didn't necessarily see the caterpillars as pests, they saw it as a lesson against theft, according to Rangī Mātāmua. So when they got set down, the Māori tūpuna would collect these pests and burn them to protect their crop, but burn them so they set their spirits back up to Whānui.

So you've got this pest control practice, but it's also tied in with our narratives, our beliefs, our kawa and our tikanga. Now when I looked at that I was like, not only is a beautiful story and shared with me by a really great man, I also thought were these caterpillars the first instance of a biocontrol, and so when I see people saying, oh, biocontrols they're all things, I'm like well, did they feature in our narratives? I don't know.

### **Greta Dromgool**

It's often a challenge in my brain, but I love the opportunity that, when I hear ideas from mātauranga it allows this other way of seeing things, and that idea of, the whole how you might see something is, whether it's a pest or not, I think is a really useful way of, approaching, if we're looking at pest management, and the stories that you're able to share with us, I think, really help with that journey. So thank you.

I think the other question I had, or I've got lots, we've got lots from our registration, but the next one on here, and feel free to go off on particular tangents, but ask about, again about that relationship with mātauranga and science, but particularly what does mātauranga mean for you? Yeah, I'll put that one to you.

### **Tame Malcolm**

That's such a philosophical question. So, I should know an answer to this because I have had it a few times, but mātauranga, I don't, I try not to say the word traditional. While its origins are in traditions, it's still very much contemporary. The moment you say tradition as well, they sort of put it in old school, and that's how we kill it off. That's how we kill off our culture, and obviously mātauranga is constantly evolving, our tūpuna arrived from Hawaiki, or my tūpuna arrived from Hawaiki, with a set of, or some mātauranga, but they had to quickly adopt and adapt, to this new surrounding, so mātauranga is constantly evolving and changing.

So in its essence, you've got our beliefs, so the story of the gods, creation, then you've got our kawa, so the celestial law set by the gods. Then you've got our tikanga, our actions on the ground that are informed by our kawa. Mātauranga to me is sometimes

that, not always, but sometimes the link between those things. So it's the story of our gods, the creation theory, the celestial law.

It's the knowledge passed down in between those different levels, of how we enact all of that, how we continue it, how we share it, how we learn from it as well.

We can take any story, any narrative, whether it's from, the god, from Ranginui and Papatūānuku, or something around Māui or even our arrival here in Aotearoa, and there's so many lessons in it, and it depends on what lens you look at it.

So for me, my lens of mātauranga is around pest management or environmental protection, because otherwise it's just a big open world and it's too big of an elephant to bite off as well. So, that's what's helped me, I think, having a lens to look at it.

## **Greta Dromgool**

Thank you. I know that a lot of educators in Aotearoa are for themselves trying to sort of make sense of different ways of knowing and including mātauranga, and also, the science that they might have had when going through school, and how those fit together. You talked about, the currents coming together, or currents representing those different ways of knowing. I wondered, if you had another example that you could share of maybe a project that you've been part of where you've seen that happening, with people? Have brought together those different ways of knowing.

## **Tame Malcolm**

There's quite a few, and some that I'm probably not allowed to talk about. I thought I saw Kate from the Bio Heritage National Science Challenge, and there's probably a few others here from the Bio Heritage National Science Challenge.

Ngā Rākau Taketake, which looks at protecting our native trees from diseases, has a lot in this space. So, Oranga, one of the programs there, and I'm saying these names so people can try to find them later.

While they're not necessarily published, you can follow online or there's some

links to some cool webinars given about the Oranga programme. If we look at the, the idea that if you play sounds to trees, the trees grow healthier, couple that with the fact that if you play the sounds, there's some research that found if you play the sounds of healthy coral to dying coral in the ocean, the coral grows up healthier. The idea was what if we played the sounds of a healthy ecosystem to a dying ecosystem? Would it come back healthier? The idea being it'll stimulate the mycelium, microbes, interactions of forest.

Now the mapping of the soundscape of the healthy ecosystem, what we've found, or conjecture shows that it's, quite closely linked or matches the sound waves and frequency of our traditional karakia and waiata. Which makes sense because, they would've been composed in a time when our forests were very much, very healthy, having been in the absence of pests. So now not only do we have a sounds stamp based on, you know, with a computer and a microphone and all that stuff, of what a, a healthy ecosystem sounds like. We also have a sound stamp of what our forest sounded like in, 1300 AD, when Haumaitāwhiti or Tamatekapua was walking around, or something like that, you know?

One of our tūpuna, we can say all right, if this here, when this tūpuna was alive, this is what it would've sound like based on what he used to interpret, and then we've finally got a tool that we could, this is a terrible phrase, I shouldn't say it, but weaponise, or you know, utilise, by basically going to our forest and saying these karakia to try see if this theory of stimulation will work.

So that's, that's called little, not a little bit, that's called programme Underway, Bio Heritage website has links to all of the, the summits and stuff like that where it's discussed.

## Greta Dromgool

Awesome, thank you. We'll hunt those down and share them, on our forum with everybody that's interested. That idea of the soundscape and the changes and the impact of colonisation on that, I think is a fascinating area and, been learning a little bit recently around the ruru, and the changes and where that's heard or how often that's heard, and I can, yeah, I can see that, it's a lot of power in, in understanding how that works in regards to then helping our environment and our people. So thank you for sharing that example.

I'm trying to think how to phrase this, to put everything on the table, I'm Pākehā background, and have come, through a, English medium schooling and, science degree at university and then into teaching in English medium, but something I struggle with is, I guess the connection, as you're talking about before, mātauranga, linking all those different areas together, is the connection to, to I guess the spiritual world that you talked about, with the atua and things like that and how to make sense of that, in my classroom, or how to do that respectfully with my students, and I wondered, yeah, if he had, if there was advice or there was a, a particular something I could hold onto if I'm, you know, exploring this with my students and wanting to do it as you know, respectfully, and, with care and yeah. Is there a particular approach that you would suggest?

## Tame Malcolm

Good question. Very, very hard question, because I mean, it pops up all the time. What role can non-Māori play in revitalising our reo, our mātauranga? And for me, I'm all for it. Obviously there's some aspects that are sacred and tapu, but in the scheme of things, the non-sacred stuff, if you just talk about that, I'm all for anyone and everyone, supporting it because it's bigger than me, it's bigger than individuals.

It's about protection of that knowledge, and growing it, because like I said, it's not traditional, it's not old school, it's constantly evolving. I do think Māori lends itself, te ao Māori lends itself so well to this. I mean, tikanga or kawa for instance, if we look at kawa, it's very much place-based, but I know that me being from Te Arawa, if I go across the Kaimai to the, to Waikato, I follow their kawa. So I do it as appropriately and respectfully and they guide me.

Same thing with, you know, in this space, it's very place-based mātauranga,

so getting guidance from the local mana whenua or kaumātua whenua, is probably the best thing you can do, and allowing for knowing that if you, if you were to change roles and move somewhere else, it's a whole new conversation to be had. And that way it keeps the mātauranga safe, keeps yourself safe, and it's respectful of the iwi, because you know, the mātauranga is very much from that area.

In terms of the beliefs as well, again, in te ao Māori, everyone was happy if I had my beliefs and you had your beliefs, it wasn't a case of they collided, it was all right, this is what I believe, that's what you believe. So when I say go to speak, and if, even if I'm down the road at another iwi, I'll say this is a Te Arawa kōrero, you know, I'm not saying mine's right, yours is wrong, this is what I was taught, you might have something different.

And I think the one example we can all latch onto there is, we all know the story of Ranginui and Papatūānuku, and how, gravity was explained was Papatūānuku trying to call her husband back, trying to pull him back down.



So that's universal, you know, that can be applied everywhere, but that was sort of a general understanding everyone had the same, story of Rangi and Papa being separated. That reaching out to your local iwi, hapū, yeah, I think is, can't be highlighted enough in regards to the importance of doing that.

### **Greta Dromgool**

Absolutely Tame, and with that the recognition of the, the work that they already do. So I think really important that, from with my educators hat on, that when we are creating those relationships, we're looking at how that can be reciprocal as well. Kia ora.

There's somebody in the chat just asking around for another example of mātauranga varying from place to place. I don't know if there's something that you can share on that Tame?

### **Tame Malcolm**

Oh, how it varies from place to place? I mean sometimes it's just, its nuances, sometimes it's big, but let's take for instance the story of Tāne Mahuta, after he separated his parents, was invited, some say invited or some say he was tasked with getting the baskets of knowledge, ngā kete o te wānanga.... Climbing up the twelve heavens to get them.

In Te Arawa, we say it was Tāwhaki who went and got them, not Tāne, so whole different person, whole different journey, whole different understanding, whole different reason. Which, so much stimulates from that, just difference in characters, or beliefs of who went and climbed them and the reasonings why. Basically they brought all knowledge back down to earth, to give to humans.

That's probably one, if you look at, oh, here's, Priscilla Wehi published a paper, I think at the start of this year, and she looked at a plant, was put putaputawētā, someone will correct me if I'm wrong in the chat, but, it's got different names across the country, and those Māori names gave an indication of the, ecological role it played in that habitat. So obviously my role, putaputawētā, where wētā go and hide and then they come out and whatnot.

I just saw something, and whereas somewhere else, it might have a whole different roles, whole different mātauranga, and a whole different name, so there's a good example that's published, if anyone wants to go look up that Priscilla Wehi, and she's got a website.

### **Greta Dromgool**

It's a great one and I have seen it. It's a beautiful, she's created a, like a visual resource to go with some of the, yeah.

### **Tame Malcolm**

There's a few more as well. I mean, even the origins of, the sand flies and mosquitoes, for instance, they, depending on where you go, like in some places, and it's not my stories to tell, but you know the places where they're quite bad, they're said to have been, sent by the god of pest and diseases and death, the god of evil, Whiro.

Whereas if you go to other places they're actually children of Tāne, because they're not, they don't have that much of an issue, not that much of an issue. So depends where you go they have, yeah, different narratives.

### **Greta Dromgool**

I think I've visited those beaches where they have the, Whiro connection. Awesome, thank you, and just if people aren't aware, there are some links being popped in

connecting, to Priscilla Wehi's mahi, which is great, and including one looking at, she's got some work that she did looking at whakataukī, and the knowledge that's held in those, so really good one to have a look at. Tame, I was hoping to bring us back to the role that you find yourself in now, and the things that you're finding out. If there was anything you're able to share with us about what, what you're discovering, rediscovering, perhaps.

## **Tame Malcolm**

Oh, yeah. I mean, like I said, I know this much, and I'm no by no means an expert. There's probably no doubt everyone in this room is more experienced or more qualified than me, at most of this stuff. I just got an appetite for it. An off-chance comment, at a hui I was at, I've forgotten his name, Hoani Langsbury, from Otago or Dunedin. He made a comment, and again, like me being a sponge, I just sucked it up, and I went and it's almost formed a whole chapter in my PhD, which I've still got to write, but basically it looks at the Māori conservation system, or conservation system as you can call it.

Our tūpuna were from the islands where they were on a migratory path, and birds would come year in, year out, and they'd eat them knowing that the next year they'll be back. Then they got here and that was they mātauranga, but then once they realised, oh actually these birds aren't coming back, we're killing them faster than they can reproduce, or actually we've lost them, we started incorporating sustainable and conservative practices, into our whole ethos, our whole beliefs, our whole, our colour and our tikanga, yeah, our law and our protocols, and even our reo.

Like I often tell people that the Māori word for extinction is matemateamoā. Matemate, death, and moā, the bird that we killed to extinction. So when I do get the odd racist person, like, oh, you Māori killed off this, I'm like yep, Māori did do some bad stuff, but our whole ethos changed.

Now if you look at, rāhui, we all know what rāhui is, basically a ban on an area. You can't go into the area, you can't take anything from that area. That came about as well to protect, not only, sometimes it was the waimauri of the place, so also the humans, but also the forest itself, or the ocean about, and also the food source, and what I found in my research is that the environment was number one, not humans, environment is number one. If they put a rāhui on a place, if you broke that rāhui, that'd kill you. That's how important sustainable practices were.

Some of my research, what I've found is that they put a rāhui in place, someone broke it, they'd killed that person. If they couldn't kill that person, they killed whoever was meant to be guarding it. That's how serious, that's how environment was number one. And in one particular case, when they couldn't kill the person guarding it, they just ... it wasn't known... but they killed the priest, the tohunga, who put that rāhui in place. Basically, something happened and blood needed to justify it, so they killed the priest. Imagine, you know, basically back in the day where your priest was your, he was above your mayor and above your chief and above all of that stuff.

So to me I was like, wow, this is fascinating, the environment was number one.

Now taking it to today's thinking, in terms of, you know, I see a lot of environmental issues, let's take pest control, for instance, and people say, you know, let's get rid, don't use 1080, let's just employ the, employ the locals, and that's where I'm like, oh, that's not really a Māori whakaaro, because you're thinking of employment, yourself there, you're not thinking of the environment.

And so I can start seeing some, you know, not saying I personally agree with 1080, but not saying a Māori whakaaro agrees with 1080, a Māori whakaaro is environment number one. We're all down here, like we are low, we're the lowest of the low. It's got,



in terms of the order that Tāne Mahuta created everything, humans we were the last, everything else is senior to us, so we, we owe it to them.

### **Greta Dromgool**

Yeah, I've heard referred the tuakana-teina, and we'll sit firmly in the teina role with that one. So, but that idea of yeah, environment, care for our environment being the utmost importance, I think that story underlines that very clearly.

I wanted to, we've got another question here, but I wanted to, ask one more before I went to the chat, and that was around, we have some amazing rangatahi in our country, and I just wondered if you could share what message either you'd like to give to them, or even if you were thinking of yourself when you were younger, what, what you'd like to share?

### **Tame Malcolm**

Get off the PlayStation young Tame. I, yeah, if I could go back and have my time again, I would, uh yeah, I wouldn't muck around on games, I'd find what, like I said at the start, I was really lucky. I knew what I wanted to do, what I liked and enjoyed. I wish I spent more time doing it, but find yourself a good mentor, and I've, again, I've been really lucky and really fortunate to have some good mentors over the years, right from when I took fifth form biology, we had, Mr. Teed, he was South African, and so I went from total immersion, to basically, someone with a foreign accent. So I was like, you know, only ever spoken to teachers in Māori, but he was awesome. He challenged me, he encouraged me, and so he, along with my mum, helped stimulate some critical thinking, in this mahi that I'm in. Like I said, right from day dot, I had really good mentors. So any young people out there find a mentor, even to this day, I'm still like, if I find people that I like their thinking, I like the way, I'll just approach them and say, Hey, keen to have chats, or keen to have a wānanga, keen to have a zoom, especially nowadays with zooms. One of my current mentors is 19 years old, so, you know, get rid of all of those superstitions that your, your mentor has to be this old wise sage, that's, you know, done all this thing and will just, you know, got all these degrees on the wall.

One of my, another one of my mentors is a TikTok person, like he's famous for TikTok, but anyway, he's got this persona, or it is him on TikTok, but have a serious conversation with him, and he's helped me, he's helped prompt me, a lot of my PhD whakairo. So, you can never have enough mentors as well, is probably another thing.

### **Greta Dromgool**

Awesome. Finding inspiration everywhere. Very cool, and I think, yeah, that, those relationships that, our tamariki and our rangatahi can have, are really important and, as teachers, and I know we have lots of other educators and people in other roles that have joined us today, but, maybe as you say, or the experience that we have here, the connections that we might be able to make with our students, in those areas that they're interested in could be really powerful, and we've got a question on here around, just that how do we support, oh, in terms of teaching, the advice for teachers, and we've talked about connecting with local, hapū and iwi, and I think that's important, but, I don't know if you've got other, might be readings or links or, ideas that you could share.

### **Tame Malcolm**

I do have a possible solution, and teachers are already doing it anyway, you don't need to know everything about a subject to teach it. You're teaching people how to find the solutions themselves, not giving them the solutions. I think, I'm sure most people would agree that's what a good teacher does, is give people the tools, not the, not the outcome, and same with mātauranga, is, you don't necessarily need to give all of the mātauranga, because it's impossible, as I said, it's constantly evolving, it's constantly

changing, and it's, it covers everything. Mātauranga covers astronomy, physics, ecology, anthropology, history, engineering.

So there's no real way to cover all of it, but if you give them enough tools for them to find, the solutions, and some of them is, some of those tools are simple things like an appreciation for different knowledge systems.

I mean, a story I always tell about Kupe, and how New Zealand was founded, or how our tūpuna arrived here. All throughout history, our narratives around how Aotearoa was discovered, kept getting sort of rubbish as narratives and, old school thinking. So I can see a few people on there have heard me tell a story, but for those who haven't, I'll tell it.

Kupe had an argument with his neighbour Ruamuturangi, who I'm descended from, and, Ruamuturangi's wheke or octopus was eating his crayfish, so he said, bro, deal to your octopus, or I will, and so Ruamuturangi was like, no bro, don't touch my octopus.

Anyway, Kupe went out one day, he said, right, I'm going to kill this octopus, and he chased it all the way to Aotearoa, and on his way over it was actually his wife said, 'Kuramarotini Aotearoa, ao land, tea white, rua long, long white cloud. So he gets to Aotearoa and he kills this octopus, then he spends about ten years travelling around Aotearoa, and his, co-captain, co-pilot, Ngarue, grabs some stones, goes back to Hawaiki, and some of those stones we used to make axes, which in turn used to make the waka that my tūpuna came over. So this is the story we were told.

European settlers come to Aotearoa from New Zealand, said, oh, how did your people get here, and they said, oh, Kupe, he followed an octopus and oh yeah, whatever, said oh yeah, about, you know, around about 800 years ago, they put him here, about a thousand AD. They said, oh yeah, sure they did. Anyway, story carries on, is that, firstly, DNA evidence started suggesting that there was early human interactions here, I think about a thousand AD. So we started having some, some western signs support this, but in the islands, they had a statute in the shape of an octopus, and each arm pointed in the compass bearing of an island in Polynesia.

So then an arm pointed to where Aotearoa was, Chatham Islands, and that statue was apparently made up of rocks from around the Pacific, and was put there in about a thousand AD. So we started having more evidence that suggested Kupe was around there. He followed an "octopus" to Aotearoa.

Then lastly, Rereata Mākiha, there's a YouTube [video](#) of him speaking on *Waka Huia*. He tells a story that, there was a poroporoake of Kupe, a farewell of Kupe. The first verse describes the night sky, to farewell Kupe, but he said it didn't describe the night sky that he sees. The stars were at different places and didn't make sense. Anyway, he, went to some Japanese astronomers in 2018, I think it was, and they plugged it in the computer, and they found that that order that karakia could only have been composed, or that night sky would only have been seen in about 1058 AD, in Tahiti.

So again, another bit of evidence that starts supporting this narrative of a wheke leaving, at about a thousand AD, coming over, from Tahiti.

Which, everyone knows we have different names of Hawaiki. So every time our tūpuna got to a new island, the previous island became Hawaiki. So Hawaiki Tawhiti, Hawaiki Tahiti, and so on and so forth, but again, I'm not qualified to talk much about that, I'm just a trapper. There's better nautical people.

## Greta Dromgool

Beautiful kōrero. It really is, and yeah, I think the value of being able to, to listen to you Tame, and hear these stories is, yeah, it really means a lot to me. There's a comment here, I believe in my response to my own, questions before around what to do in that

classroom space, and talking about creating space and opportunities to discover their own understandings with our students, and I think, yeah, I think that's so important, and if we can start with that, that open mind and talk about these stories and share our own stories, I think we can, yeah, some really amazing learning.

### **Tame Malcolm**

A handy hint from me though, what did help me was I had four or five sort of pou or baskets, kete, that I, I had to help guide my, and I'm still learning, I learned some stuff like last week around mātauranga, but, I start with, Rangi and Papa, the stories around Rangi and Papa, the stories when they were separated, the stories in the islands, so Maui, the Ruamuturangi, and stuff like that. Story of our arrival and then sort of modern day stuff. So I used those as well as, yeah, to help guide me. So I'm like, if I'm reading something, I'm like, oh, it belongs in this kete, so I view it with this type of thinking that, oh, this is, this is pre-Aotearoa, so they had, you know, they had different thinking, whereas if it's down this end, I'm like, okay, so they've been here for a couple of generations and it helps guide my thinking as well, so if that helps. It's an easy way to bite off the big elephant that is mātauranga.

### **Greta Dromgool**

And another lovely comment here, that not all of our understandings happen in the classroom, and I think, your beautiful evidence of that in regards to, where you've taken that, that inspiration you get through your childhood, into what you're doing now and what you're able to share with us today, So thank you. We've come to an end of our webinar, I'm aware there are lots of questions, particularly around, pest control.

I don't know, Tame, if you have any particular resources that you would direct people to there, but if you do think of any, please share them with us, with the Science Learning Hub, and we can put them out when we respond to people after our webinar.

### **Tame Malcolm**

Uh, Te Tira Whakamātaki, or [ttw.nz](http://ttw.nz), jump on our newsletter, that's where a lot of our cool stuff gets talked about, and, I mean, I've talked previously about our, the research I'm involved in, so I saw, a questionnaire about rats. In February we did a trapping program using cicadas, so we knew that our tūpuna would chase, the kiore, Polynesian rat would, eat the cicadas as they came out and tried to get out of their skin, as a protein source. So we started trapping modern day rats around that theory. So a traditional approach using modern tools. We talk about it at TTW as well, we publish it there, it's going to be part of my PhD, so follow them, jump on the newsletter and jump online, and any cool little whakaaro, or mātauranga, we try and make a point of, capturing it and sharing if it's appropriate, that way there's a thing, but I see on the Science Learning Hub, they've got some cool stuff as well.

### **Greta Dromgool**

Thank you. We'll curate anything that we've had shared today, and if you are a participant and you have links that you would like to share, please add them to the chat so that we can, share them with everybody as well.

Cool. Hey, Tame, thank you so much. Really, really enjoy listening to you and feel like, I have more questions, but that's usually a really good sign, if I've come away with, with more questions than I started with, hopefully that means my understanding is growing that little bit further.

Please, please, if anybody that's watching, if you, want the recording of this webinar, it will be available. We'll be taking a little bit longer to get it to you, but if you've



registered, there'll be an email come through, if you haven't registered but you still want it, please just, email inquiries, and Vanya's just popped that through.

So tame, thank you so much for your time this afternoon, we really, really appreciate it, and I do hope that we might be able to have you back, that would be amazing. Yeah. Thank you for your time, your, your generosity with your sharing and, just your excellent ability to share with us some, some really amazing stories. So, really, really appreciate it.

### **Tame Malcolm**

No, thank you, and thank you everyone. I mean the reason I love doing this stuff is I don't want mātauranga to sort of sit in a book behind me and not be used and not be appreciated, so happy to, if anyone wants me to talk their ear off, I'm happy to come, but I really do enjoy wānanga, where it's, yeah, discussion. So if anyone's keen hit me up, always keen to have a chat and learn more. Yeah, even if you think you've got this much, I've got this much, you see that there's a good whakataukī, 'He kiko tamure ki tai, he whā tawhana ki uta', The fish of the snapper from the ocean, and the berry from the kiekie from the mountains or from the forest, basically saying you bring your delicacy, I'll bring my delicacy and we'll have a banquet. So, if anyone's keen to discuss more and have a mean kai, yeah, keen as.

### **Greta Dromgool**

Awesome, sounds like a feast. Hey, thank you very much everybody, we're going to sign off now, but please do check out our links, I'll keep the chat running for a little bit longer in case there's any questions, or resources to share.

Tēnā koutou and ka kite, we'll see you next time.