

One of the first historical traumas for Maori could have conceivably been the arrival of Charles Green, a world class astronomer, on Cook's Endeavour. This was Nov 1769. After 450 years of total isolation on these islands, and much longer isolation on other islands.

We have no evidence of this meeting of two "scientific" systems, but I would nevertheless like to take a moment to lay out how it could have unfolded.

It requires a suitable Tohunga, the wisest man in the region, the local astronomer and herbalist, the scientist if you will, to be present in Mercury Bay in Nov 1769, and for this Rangatira/Tohunga to make the effort to meet Green, and enquire what he was up to on that beach. And that the Tahitian translator be available, to be distracted by this somewhat academic conversation, not as urgent as negotiating the purchase of ship's provisions with non-Tohunga.

Firstly, immediately the local wise man learned, not only that a planet was going to cross the face of the sun "the day after tomorrow", but that Green had known it was going to happen years before, and also that it wouldn't happen again at Cook's Beach till 2052, this would seem like magic.

This is because the local man was not aware of the Copernican heliocentric planetary model, of course. His reality had the Earth as a flat disc, with stars and planets moving incomprehensibly and unpredictably. So "stick-in-the-sand" drawings would begin, arguing over planetary movements. Green then would try to explain what parallax was, well above the mathematical knowledge of his Tahitian translator, so not a simple task. That the goal was to calculate the Earth-Sun distance with greater accuracy.

Did our tohunga know that a year was 365.25 days? Not likely. Did the number 365 perhaps need a sand diagram? What was the pre-European numeracy system here?

The concept of 150 million kms is our next major intellectual trauma to be faced. Maori did not have Arab algebra, with place-holding zeroes, and never needed large number systems for their Neo-lithic lifestyle. We know this, because using these large numbers require written records, both literacy and numeracy. Oral history, by definition, has imprecise records.

Even the weights of annual kumara harvests, the most basic book-keeping, were not recorded anywhere, so were consigned to oblivion every year. Another intellectual trauma to overcome. Literacy and numeracy is a thing.

Green's other task was to calculate the longitude of the Coromandel peninsula, relative to Greenwich in London, giving a precise location on the globe. Latitude was calculated with the sextant. Green would have needed a few days of clear sky to get accurate dawn/dusk times on his pocket watch, and adjusting it to give a precise "sun at zenith at noon".

This meant that the transit of Mercury would happen at different local times on the planet, and the local times gave us longitude. With great accuracy as it turns out, but Green couldn't know that till he returned to London and conferred with his Royal Society colleagues. The transit time in other places in the British Empire was known with sufficient accuracy for Green to make an amazing educated guess as to NZ's longitude. Meanwhile, our wise Tohunga is left with his head spinning, struggling with the reality of being catapulted years into the future in one swoop.

We haven't even mentioned all the other mini-trauma faced by our Maori scientist, the 1000 objects on Cook's ship, each more mysterious than the last. Just the ship Endeavour, with its sawn timber and canvas sails, would have appeared miraculous. A sand drawn map of where it had come from, would have left our Maori with a subtle feeling of humiliation, given that till that day he regarded his people as "great navigators".

That's without delving into pocket watches, telescopes with ground glass lenses, the list is endless. Seeing a pulley would have been the first time the idea of the wheel occurred to any Maori.

Probably. There's no evidence to the contrary.

Imagine that Green took the trouble to show our tohunga his personal hygiene kit, with steel curved nail scissors. The barefoot tohunga would have felt discomfort at his brutally mutilated nails, hacked with mussel shells or pieces of obsidian, however he managed this task.

We could write a whole book on this imaginary meeting, involving NZ's first astronomer. Because, let's be honest, Maori astronomy died that day, and was absorbed into the huge pantheon of the fruits of Western Civilisation.

I support the teaching of Maori knowledge systems, but can we at least offer them the dignity of our honesty, and not infantilise people with Disney-like fairy stories.? We need to acknowledge the 5000year catapulting into the modern era which Maori faced.

Regards

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Tour guide for European tourists

The science of water distribution and purification, the engineering really, overlaps with the Treaty 3 Waters debate (60/67 councils not very keen).

We ought to allow Maori science, concerning access to fresh clean drinking water, be guaranteed by the Treaty. Let's be specific.

This means that people ought to be able to go to any body of flowing water, anywhere in NZ, stand in it (remembering that Maori were almost always barefoot pre-Treaty), and use the latest Maori Science/tech from pre-European times to drink. This means an empty mussel shell as a scoop probably.

We are a long way from keeping intact this "traditional hunting/fishing rights" aspect of the Treaty. Water is too polluted now, everywhere. We should remedy this.

But to say that Maori have a say in all the infrastructure of galvanised pipes, from mountain to town, with fluoridation and chlorination, all the chemistry, all the engineering of electric pumps, the reticulation to each dwelling....? What has this to do with Maori? These are the fruits of Western Civilisation, freely enjoyed by Maori, but definitely not designed, built and installed by them. Letting Maori Science have ANY control over this would be a disaster, it's way above their level of competence.

Let's be honest about Maori "Science" in the context of water please?

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Ngai Tahu