Double voyage of discovery for Māori scholar

When Melanie Cheung won a PhD Māori Scholarship from the Health Research Council of New Zealand (HRC), she was ready to embark on a voyage of discovery in science.

But little did she realize just how strongly it would also be a journey through her own culture.

Her project – the molecular studies of human neurodegenerative disease – required her to isolate and grow cells from the brains of cadavers. But in Māori custom, the head and brain are extremely tapu – a sacred body part that must not be tampered with.

Melanie (Ngati Rangitihi) said: "From the very beginning, I told my supervisor 'you do realize if my whānau says no, I am not going to be able to do it'. He had a complete understanding of that."

"I wanted to find out if there was some ethical and cultural line that I would be crossing in terms of doing the work."

Melanie visited her Kaumatua - Uncle Tame - who offered his support but said she needed to talk to her iwi – to let them decide. About 60 people attended a hui with a team of about a dozen from the university.

"A lot hinged on that day. I wanted to give them the dignity of saying no and also the opportunity to know more about what we planned to do," she said. "We explained the work was about caring and helping whānau with Huntington's disease and that it might eventually lead to development of a therapy," she said.

"Not everyone was supportive to begin with and a couple of people questioned if Huntington's was just a white man's disease," she said.

Melanie had taken along a Māori woman whose ex-husband had died from Huntington's. She explained to the group what it was like living with the disease and that their daughter was at risk – there is a 50 per cent chance it can be passed to offspring.

"It was then that they understood it was not just about science but about whānau – and for Māori, whānau is at the centre of our universe," she said.

Melanie needed to use Tikanga Māori to undertake her research and she has been supported by her iwi in the approach that she has developed.

Now before culturing brain-derived cells, she performs karakia and waiata for the deceased and their families. "I acknowledge that person and their family and the grief they are going through because when I get the tissue, it is only six to 18 hours after that person has died," she said.

"I farewell that person and then have a mihi for the new function of their tissue – then I say a creation karakia."

Her ritual is based on tikanga from Tangi and Pōwhiri. When the tissue has been used, it is cremated and returned to Papatūānuku.

"That was a big element for me," said Melanie. "I would not have been happy with it going into bio waste – this way is respectful. You have to remember this is someone's loved one."

She has also embraced an idea from her Catholic whānau and washes her hands in holy water after her work. "I feel it has strengthened my own identity as a Māori and as a scientist," she said.

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Melanie Cheung

Key words:
- Māori, culture, neurodegenerative disease, tapu, whānau, Tikanga Māori

Aims of this research:
- To study human neurodegenerative diseases by developing primary cultures of glial cells and fibroblasts from human brain tissue and to use these cell cultures as models focusing on mitochondrial function and biochemical pathways of cell death

What this research has shown:
Science is a positive tool to strengthen Whānau, Hāpū and Iwi. Cultural practices can be incorporated to allow work to be carried out

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