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***Em i tisa blong mi—* On the value of community engagement in research**

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Introduction

The need for community engagement and consultation is a topic that is receiving increasing attention in scientific research (Adams et al. 2014; Stilgoe et al. 2014; Tindana et al. 2017; Acabado 2020). In New Zealand, for example, major research funding agencies require discussion of consultation and community engagement in grant applications and are increasingly including scores for this in their assessments. Indigenous communities around the globe are calling for more and better consultation and engagement in research (Claw et al. 2018; Handsley-Davis et al. 2021). Archaeologists have perhaps been more aware of the need for such activities than other scientific researchers, due to the nature of fieldwork. Undertaking a field survey to even identify an archaeological site or environment generally requires discussions with the landowners and likely with the wider community who are traditionally linked to the region. The amount of time that an excavation requires also allows for engagement, and opportunities for discussion, as well as education for both the researchers and the communities. Other researchers who are interested in understanding and reconstructing human history can learn a lot from archaeologists when it comes to community engagement. I was lucky enough to learn about, and see the value of, community engagement firsthand from Glenn Summerhayes. What follows is a personal account of my fieldwork experiences which ultimately led to my working with Glenn in Papua New Guinea (PNG) for more than 10 years. I hope this story inspires others who have not had the opportunity to work with Glenn and see the impact he has had on the people of PNG and, as a result, on the field of Pacific archaeology.

I believe I first met Glenn in 1996 at the 3rd Lapita Conference held in Port Vila, Vanuatu, where I first presented my PhD research on mitochondrial DNA variation in Pacific rats (*Rattus exulans*). Our next meeting was four years later at the Easter Island Foundation's Pacific 2000 conference in Kamuela, on the Big Island of Hawai'i. The conference was held on the campus of a boarding school, which was fairly isolated and, much to the concern of many of the archaeologists in attendance, did not allow consumption of alcohol. Whether it was by design or just chance, a large contingent of archaeologists from The Australian National University (ANU) had been accommodated in a house off campus. What became known as ANU House, therefore, became the focus of post-session meals, drinks and discussions. Glenn was one of the archaeologists staying at ANU House and I remember that one night, for some reason probably related to the quality of food that was served on campus,

we decided that we would cook dinner at the house for the crowd of archaeologists who had gathered there. Glenn and I ended up making a big pot of Japanese curry rice and we quickly became friends, sharing a love of food, wine and, of course, ‘talking story’. Anyone who knows Glenn knows that he likes to talk and he certainly can tell a good story. It turns out that this is one of the things that makes him so successful in outreach and engagement.

Establishing a new model for tracking human mobility in the Pacific

My dissertation research involved the development and application of what is now generally referred to as the commensal approach for tracking prehistoric human migration. When I began my research, the field of molecular anthropology, while still in its infancy, was in crisis. It was in 1987 that Rebecca Cann, Mark Stoneking and Allan Wilson published their seminal article on human mitochondrial DNA (mtDNA) variation and how we could track human populations to a common maternal ancestor who lived in Africa some 200,000 years ago (Cann et al. 1987). Quickly researchers realised that mtDNA and other molecular markers could be valuable tools for reconstructing human migrations around the globe. While DNA proved to be a valuable scientific tool, indigenous communities were hesitant to engage with geneticists and other human biologists because of very legitimate concerns over unethical and unengaged research in the past (Lone Dog 1999). The Human Genome Diversity Project was generating significant debate and resistance (Cunningham 1998) and this was particularly strong in Australia and New Zealand. It became clear to me very quickly when I started my postgraduate research at the University of Auckland that it was highly unlikely that I would be able to use the new molecular tools to study human variation in the Pacific directly. But I was lucky enough to meet a colleague who helped me to identify another source of data and alternative approach to reconstructing population origins in Polynesia.

My PhD dissertation focused on studying mtDNA variation in Pacific rats (*Rattus exulans*) from throughout Polynesia in order to identify the origin of rats that were found in Aotearoa New Zealand. The commensal model for tracking human migration was based on the idea that if we could determine the origins and genetic relationships of the various plant and animal species that Polynesian and other Pacific peoples transported in their colonising canoes, we could use that information to reconstruct the population origins and identify interaction networks. For my dissertation research, I obtained fresh tissue samples from rats throughout Polynesia. Many of my samples were provided by biologists living or working in the islands who were able to trap rats for me and send me tissues. In the case of French Polynesia, however, I did my own fieldwork, travelling and trapping with my friend and colleague Dr Mere Roberts.

First fieldwork experiences in Polynesia — Informed but not engaged communities

Through colleagues in Papeete, I obtained contact details of local mayors or agricultural officers in many of the Society and Marquesas islands who allowed me access to gardens or other locations where I could set my traps. We generally stayed in small hotels or guest houses, and occasionally camped on site in the agricultural stations. We ventured out each evening to set traps in locations for which we had permission, and then cleared our traps first thing in the morning and undertook dissections in the field. This was a reasonably successful process that allowed me to collect enough

samples to do my research, write my dissertation and to show that the commensal model did work (Matisoo-Smith et al. 1998). While I was fulfilling all of my official and legal obligations of having the correct research permits, working through national and local agencies in my fieldwork, I was relatively removed from, and not engaged with, the communities in which I was working. There certainly was gossip about these strange ‘rat ladies’ travelling around the islands of French Polynesia, and we found that people were expecting us but were rather sceptical about what we were really doing. As a result, we often had visitors to the field sites where we were working and sleeping so that people could try to see what we were up to in those pineapple fields. There seemed to be a bit of disappointment when they saw us working and doing exactly what we said we were: catching rats and collecting tissues from them. Other than these visits, and the wonderful Pacific hospitality we received from so many people we met, there was no real engagement in the research. As per my research permit agreements, I sent reports and publications back to the appropriate government agencies in Papeete, but this was the extent of communication of the results.

Given this success in applying the commensal model in Polynesia, the obvious next step was to extend the research on *R. exulans* further to the west to investigate the deeper origins of these Polynesian samples. This next phase of research involved samples provided mostly by the American Museum of Natural History, extending my sampling through Island Southeast Asia, New Guinea, the Solomon Islands and out into Remote Oceania. The results of this work indicated that there were three main haplogroups, or lineage clusters, of *R. exulans*. The rats from Remote Oceania belonged to what was labelled Group 3, and were quite distant from the rats from New Guinea and the Solomon Islands (Group 2) and from the *R. exulans* populations in the Philippines, Borneo and Sulawesi (Group 1). The Group 3 rats were linked to populations in Halmahera (Matisoo-Smith and Robins 2004). This result, or more specifically, the lack of Group 3 rats in New Guinea, was at odds with what we had expected to find based on the assumption that the rats were brought into the Pacific with Lapita colonists. Upon closer consideration, I realised that our result wasn’t really testing the Lapita connection because all of the samples that I had from Near Oceania were from locations that had little or no evidence of Lapita occupation. This prompted another grant application to specifically target sampling of *R. exulans* from islands in the Bismarck Archipelago and determine if they might be ancestral to the rats found in Remote Oceania.

Lapita connections and an introduction to Papua New Guinea

There are few Pacific archaeologists who are more closely associated with the Bismarck Archipelago than Glenn Summerhayes, so I approached him to be a collaborator on a Marsden Fund application, which we submitted in early 2005. Later that year, I took my first trip to PNG and met Glenn in the field on Koil Island. I must admit that I was rather nervous about working in New Guinea, but Glenn arranged for me to meet his collaborators, Geoff Hope and Andy Fairbairn, at the airport in Brisbane so that we could all travel together from there. We immediately flew to Port Moresby and from there to Wewak, where we met with the local administrators and boarded the small boat for the two-hour trip to Koil.

As the boat approached the island, I heard the sound of drumming, which Geoff told me was letting the team know that we had arrived. Soon a small crowd appeared on the shore and there was Glenn and Herman Mandui, the archaeologist from the National Museum and Art Gallery and Glenn’s close colleague and friend, waiting to meet us. Our gear was transported to Wanap village and I was introduced to the family with whom I would be living. I was sharing a room with Patricia,

a young archaeology student from the University of Papua New Guinea (UPNG) who Glenn was co-supervising. I then started discussing with Glenn about how and where I might be able to set my rat traps. He quickly explained to me that my having free rein to set traps in the gardens was not possible as there were many locations where women were not allowed. He suggested that I explain my research to the community and give them my traps, asking for them to bring any rats that they trapped to me the next morning. I was a bit unsure about this approach, but trusted Glenn's advice.

That day I began showing people how to set the traps and explaining which rats I was interested in and that I expected that they would be found in houses and in gardens. With all of my traps handed out, I waited. Things started slowly. In the first few days, a few of the older children began bringing me dead rats, which I would take to the edge of the village, to record measurements and then dissect for the tissues I needed for DNA. Usually, the children would follow me, so I took the opportunity to show them how and why I measured the rats to make a tentative species identification. We would then have a short anatomy lesson as I measured and dissected each rat. There was much hilarity as I explained that we needed to count the nipples on each rat, because *R. exulans* only had eight nipples, while the other possible resident rat species had 10 or 12. After a few days, some of the women started bringing me dead rats, and they also began to observe the dissections and then take part in the data collection. Soon, rat trapping appeared to become a competition and everyone was bringing me rats. The community was engaged in the research and not only did they provide me with the samples I needed, we had numerous opportunities to talk about anatomy, taxonomy and, of course, anthropology. In addition to these informal educational opportunities, we also went around the island talking to schoolchildren about Lapita, archaeology, and, of course, my rat trapping. Interestingly, all 21 rats collected on Koil Island were identified as *Rattus tanezumi* (Matisoo-Smith et al. 2009). It appears that *exulans* were not introduced to Koil. While this result was initially disappointing, the lesson on the value of community engagement was priceless. As it turns out, however, finding which islands did not have *exulans* has been an important piece of information in trying to understand and interpret the results of this application of the commensal model.

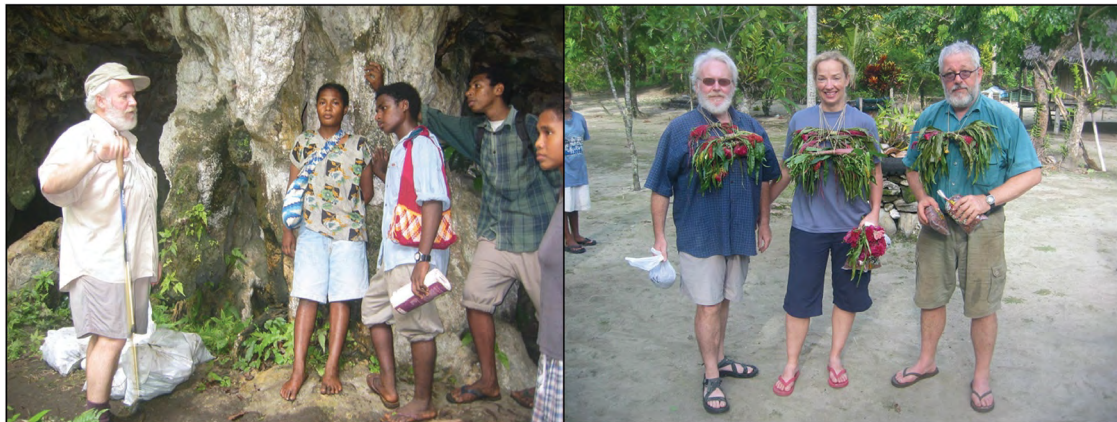


Figure 4.1: (Left) Glenn talking to schoolchildren at Gomogom Cave. (Right) Glenn, Geoff and Lisa on day of departure from Koil.

Source: Elizabeth Matisoo-Smith.

Rat catching in the Bismarck Archipelago

In 2006, we were granted funding from the Royal Society of New Zealand Marsden Fund to extend the commensal model in Near Oceania to address the Lapita connection, so Glenn and I planned a trip to the Bismarck Archipelago. Based on my experience in Koil, I came prepared with bags full of rat traps and the plan to engage in a similar approach for obtaining samples. After spending a few days in Port Moresby, where we organised permits, and met with officials at the National Research Institute and colleagues at UPNG and the National Museum and Art Gallery, we were ready to start our sampling trip. Again, we were accompanied by Herman Mandui, but we were also joined by two young Swedish students who were interested in Pacific archaeology and anthropology. Their supervisor had asked Glenn if they could travel to PNG with us. Of course Glenn said yes, as he is always willing to support the next generation of archaeologists. So, with rat traps packed and permits in hand, we flew from Port Moresby to Kavieng, New Ireland.

Within hours of our arrival in Kavieng, it was clear that Glenn was home. The number of people who called out from a passing vehicle or stopped us to chat was amazing. One of the first things Glenn had planned for Kavieng was a trip to the local radio station to set up an interview where we could talk about our research on air. Glenn talked about Lapita and I talked about mtDNA, rats and commensal models. With that done, we began arranging for visits to Lihir and Tabar. Again, Glenn and Herman had connections with people at the gold mine on Lihir, so we first flew from Kavieng to Lihir and were put up in accommodation at the mine. Over the next few days, we spoke to the local primary schoolchildren on Lihir, and one of the staff from Lihir Gold, Jimmy Peter, trapped rats for me around the compound.

We then arranged for a boat to take us to the nearby Tabar group, where we stayed for a few days. After giving a few community talks, I handed out traps and began collecting rats from the islands of Simberi and Tatau. Glenn and I gave several school talks on Tatau and Glenn put in a small test pit at a site where a local had found a waisted axe and shell adze. After five days in Tabar, with 27 rat samples in hand, we returned to Kavieng. From there we travelled by boat to nearby New Hanover, where, again, we gave talks about our research and the community became quite involved and excited about catching rats for my study.



Figure 4.2: (Left) Jimmy Peter from Lihir Gold and the team. (Right) Glenn with Edward Salle (centre), Tatau, Tabar.

Source: Elizabeth Matisoo-Smith.

By the time we had returned to Kavieng again, the radio interview that we had recorded had aired. It turned out that a couple of school teachers from a small island called Emirau, in the St Matthias Group, were in Kavieng and heard the interview. Glenn, of course, had been explaining and describing Lapita pottery in his talk. The two teachers tracked us down via Jim Ridges, an English expat who lived in Kavieng, and explained that they had seen this pottery being dug up in their gardens on the island. We thanked them for the information and promised to keep in touch.

Manus, Minol and Mohe—Old friends and new obsidian sources

From Kavieng we flew to Manus Island, where we met up with Manus local and English professor at UPNG, Bernard Minol. We also met up with an old friend of Glenn's from his time in Anir, Father Paul Mohe, who was the Catholic Priest in Lorengau, the capital of Manus Province. It was decided that we would stay with Father Paul and that Glenn would speak to the congregation on Sunday and would explain our research. I will never forget the sight of Glenn in the pulpit giving a Lapita sermon! But several people met us afterwards and offered to collect rats, so traps and collection tubes of ethanol were handed out. We explained that just taking a bit of a tail snip would suffice since people would not be able to travel daily to drop off their rats and we did not expect for people to undertake a full dissection. The next day, Bernard travelled with us by boat up the north coast of the island, where we stopped off and met with communities and gave talks and left traps and tubes with friends and relatives of Bernard.

Earlier, Father Paul had told us about a possible new obsidian source that he had heard about, one that might turn out to be the mysterious Source-X that produced several obsidian flakes or the 'pitchstone' discoids, both of which had been recovered at the Pleistocene site of Pamwak (Fredericksen 1994, 1997). Again, Glenn's long-term engagement of communities in his research had hooked Father Paul. He became an archaeology enthusiast who spread the word and was always on the lookout for a Lapita site or a source of obsidian. He was also fascinated by biology, so I provided him with my first-year lecture slides and notes. We discussed human variation and how understanding population mobility and interaction in the past was essential for explaining human variation today. Father Paul was fascinated with the idea of Micronesian connections with Manus, particularly via the Western Islands. Those conversations led ultimately to ideas for a field project targeted at the Western Islands. While to date we have not been able to successfully fund such a trip, despite more than one grant application, it remains on my list of places I would love to visit and undertake research.

After meeting with communities and talking rats with Bernard's friends and family along the north coast of Manus, we decided that there might be enough time left in the day to travel further up the coast to see if we could find the new obsidian source. Father Paul had told us that it was discovered during forest clearance, as the logging company was cutting an access road. We arrived at the forestry base in the late afternoon, and after speaking with the manager, we jumped into the back of the truck to check out the location of interest. After approximately 10 kilometres we stopped at what appeared to be a large outcrop of exposed and weathered obsidian boulders, extending for almost 500 metres. We were told by the landowner that the name of the site was Lepong.



Figure 4.3: (Left) Herman, Minol and Glenn on Manus. (Right) Glenn, Herman and Lisa at Lepong.

Source: Elizabeth Matisoo-Smith.

Samples were collected from several of the boulders. These were subsequently analysed, with results indicating that the Lepong obsidian was the likely source of at least one of the ‘pitchstone’ flakes and one discoid from Pamwak, but that there was likely still another unidentified obsidian source providing raw material for the Late Pleistocene/Early Holocene sites on Manus (Summerhayes et al. 2014). Once again, Glenn’s ability to educate and excite locals about archaeology, science and prehistory, and to maintain relationships that he established in the field, resulted in a valuable scientific discovery.

An invitation to Emirau

Manus was our last stop on the 2006 fieldwork tour of the Bismarck and Admiralty Archipelagos. We returned home and started making plans for the next year’s work. After receiving photos of the pot sherds found by the teachers from Emirau Island, we decided to plan a visit to Emirau in 2007.



Figure 4.4: (Left) Our arrival at Emirau in 2007. (Right) Glenn undertaking community consultation.

Source: Elizabeth Matisoo-Smith.

The pottery that we saw in the photos was clearly Lapita pottery, and Emirau being so close to Mussau, the location of the early Lapita site of Talepakemalai, excavated by Pat Kirch and colleagues (Kirch 2001), meant that there were very possibly early Lapita sites on the island. So, in September 2007 we flew to Kavieng and started gathering our supplies for the six- to nine-hour, 140-kilometre boat trip to Emirau. We were joined on this trip, as always, by Herman Mandui, but also by Jim Specht from the Australian Museum, who had a long history of archaeological research in the Bismarcks, and Jim Ridges, the Kavieng resident who put us into contact with the teachers from Emirau, Kelly Amanga and Kenneth Vito Thomas.

After a relatively quick trip out to Emirau, we were met on the beach in Hamburg Bay by Kelly and Kenneth and we were taken for a walk through the bush towards the main village. About five minutes into the walk, a bunch of young men wielding spears jumped out and challenged us. Watching Kelly, I quickly realised that this was nothing to be concerned about and this was part of a ceremonial welcome, very much like a haka or challenge that I was used to seeing on marae in Aotearoa New Zealand. We were escorted into the village by this group of young warriors where we were officially welcomed by a very large gathering of the Emirau community. We were shown to our beautiful house and brought food and drink to recover from our trip. In the following days, we gave talks at the main school on the island and rode in the back of the big old truck, the only vehicle on the island, to speak to each of the villages, describing why we were there and talking about Lapita, commensal rats and DNA. Eventually, we were taken out to the gardens where Kelly had found the Lapita pottery and where we were told that he and Kenneth had undertaken an archaeological excavation with the schoolchildren.

It seems that the school and community had been preparing the site for our arrival. I will never forget the look on Glenn's face when we arrived—they had made a lovely gateway and decorated the walkway into the site.

I have since always teased Glenn about how easy it was to find a Lapita site! Kelly identified the various pits that they excavated and described the stratigraphy. The pottery recovered was kept back at the school, with all information about the location and depth of the finds. The next day, Herman and Soso, one of the local men, started excavating the first of two 1 × 1 m test pits next to the location identified by Kelly as having the most dense cultural material. Over the next few days we had most of the schoolchildren and a large number of adults out at the site, watching the 'experts' methodically excavate, sieve and map the two test pits and determine the extent of the site. In the meantime, several of the schoolchildren started trapping rats for me. They would deliver these to our house in the morning and we would then dissect them together and have our anatomy lessons and discussions about recording morphological data and species identifications. Once we were finished, we would head over to the excavations. Several traps were also given to one of the fishermen who was planning to head over to the small island of Tench, about five hours away by boat. Tench was, I was told, a small atoll where the women still used back-strapped looms for weaving and the men still undertook kite fishing—both evidence of cultural links with Micronesia. I was thrilled when the man returned with eight rat tails from Tench, as these might help us track Micronesian contacts.



Figure 4.5: (Left) Glenn arriving at Tamuarawai with Kelly and Lyn Amanga. (Right) School visit to the site.

Source: Elizabeth Matisoo-Smith.

After a week or so of excavating, Glenn advised the community that we had found exactly what they had described. This was indeed an Early Lapita site and they had done a surprisingly good job at excavating. They told us that the name of the location was Tamuarawai, which is now the recorded name of the site (EQS in the National Museum and Art Gallery site recording scheme) (Summerhayes et al. 2010). We took charcoal samples for dating along with several of the artefacts recovered, which included pottery, obsidian, shell hooks and remains of shell armbands. Sadly, we found no faunal remains other than fishbone. We decided that the site was clearly an important one and we promised that we would return the following year to undertake a further excavation and an archaeological survey of the rest of the island.

Return to Emirau (ours and Nevermann's) and the value of gifts

We did return to Emirau in 2008, along with several students of both Glenn and me. We were also joined that year by Jim and Jill Allen. Jim was one of the organisers of the Lapita Homeland Project in the early 1980s, but had never actually excavated a Lapita site, so was keen to be involved. Jill joined the team as our cook, working with the wonderful women in Kelly's family to provide us with beautiful curries and cakes. One of the students who joined us was Melanie Hingston. Melli was a PhD student from Germany who was taking over the rat mtDNA research as part of her PhD with me at the University of Auckland. In addition to trapping rats, she also found that she had a new job on the island. One of the things that Glenn has been committed to in his work in PNG is producing resources for local communities. He brought with him to Emirau on this trip several ethnographies, including a copy of Hans Nevermann's report on the St Matthias Group, which was written in the original German (Nevermann 1933). Nevermann was part of the German South Sea Expedition of 1908–1910 that visited Emirau. When Kelly and others realised that Melli was German, it became the nightly routine that she would sit down and read from Nevermann, providing the English translation of what he recorded.

There was much interest in Nevermann, and many very interesting discussions about the ‘taim bifo’ resulted from these public readings. One of the oldest men in the community, a lovely man named Naphtali Kapiti, who spoke perfect English, was particularly interested—he remembered some of the people whose photographs were in the book, and spoke of them and his memories of the various cultural activities described with tears in his eyes. Many of the younger men were interested in the photographs and drawings of the designs and carvings of the spears, which they started reproducing, and the women were interested in the weaving. They found an older woman from Tench who remembered how to weave using the back-strapped loom and she started teaching other women. This lovely gift that Glenn brought to the island seemed to bring about a sort of cultural renaissance. Glenn later arranged for Nevermann, and several other ethnographies written by the Germans, to be formally translated into English by one of our colleagues, John Dennison (Nevermann et al. 2010), and copies have since been sent to UPNG, the New Ireland provincial archives and the descendant communities, in addition to being made available for purchase online.

Return of results

The archaeological fieldwork undertaken in 2007 and 2008 provided data and artefacts indicating that Tamuarawai was indeed an early Lapita site, with dates as early, if not earlier than Talepakemalai (Summerhayes et al. 2010).



Figure 4.6: (Left) Glenn admiring a Lapita pot fragment. (Right) Fishhook recovered from Tamuarawai (2008).

Source: Elizabeth Matisoo-Smith.

We obtained mtDNA data from the Emirau and Tench rats, which were very interesting. The Emirau rats, like those from Lihir, Tabar and New Ireland, all belonged to the Group 2 haplogroup. But the *R. exulans* from Tench and Manus all belonged to the Group 3 lineages—like those we found in Remote Oceania (Matisoo-Smith et al. 2009). I was able to provide these results to the community during our field season in 2008, and I produced posters for the school and talked to them about what these results meant. As we were waiting on the beach, getting ready to board our boat back to Kavieng, I was approached by some of the women who had a question for me. They understood that I was using the DNA of the rats to track the movement of the people who settled the island. Why, they asked, didn't I just look at their mtDNA? I must admit that I was a bit taken aback. In the 15 years since I had started my research using mtDNA of commensals as a proxy for tracking human settlement, I never thought that the time would be right for undertaking human DNA sampling in the Pacific. The timing of the women's question was uncanny. I had recently been approached by National Geographic to see if I might be willing to join their Genographic project as the Principal Investigator responsible for collecting samples for mtDNA and Y-chromosome sequencing from Pacific Island communities. So, I told the women on Emirau that if that was something that they would be interested in, I might be able to do such a study.

The Genographic Project in PNG — From rat DNA to human DNA

When I returned to Aotearoa New Zealand, I began negotiations with National Geographic to investigate the possibility of working with Pacific communities and, if the communities were willing, to collect samples that could be part of the Genographic project. I returned to Emirau in 2009, with Glenn, Herman and several more archaeology students from the University of Otago. My 18-year-old daughter, Tessa, also joined us as my field assistant. While the archaeologists did some more surveying and excavation on the island, Tessa and I travelled around to the various villages on the island, talking about the Genographic project and collecting cheek swab samples from volunteers.



Figure 4.7: (Left) Dissecting rats 2007. (Right) Collecting genealogy and DNA in 2009, Emirau.

Source: Elizabeth Matisoo-Smith.

People already knew about mtDNA from the rat study that they had contributed to. They knew that mtDNA was maternally inherited and I explained that my sampling strategy was to try to sample the full mtDNA and Y-chromosome diversity on the island. In each village I visited, they pulled out a full genealogy that they had constructed over the last few years as part of a church program. They then identified the people that I should sample from each village to account for both mtDNA and Y-chromosome diversity. They also explained to me that their oral traditions were that the island was settled by four sisters and their descendants were represented by the four clans on the island. They asked me that in addition to the standard genealogical information that I collected from each participant that I also record which clan they belonged to. They wanted to know if the mtDNA results would be correlated to these clans. This was my first experience with community engaged and designed research—and approach that has proven to be invaluable.

Sadly, in December of 2008 there had been a king tide in PNG. It affected many coastal locations but it had totally swamped the low-lying atoll of Tench, ruining gardens and flooding the village. All 118 inhabitants of Tench were relocated to an emergency tent village on Emirau, and they were still there when we arrived. I approached the elders and explained the Genographic project to them and they agreed to take part in the study. When some of Kelly's family, who were travelling around the island with us, asked the people from Tench if they had their genealogies written down, they said no. In fact, they realised there was only one elderly gentleman who had any reliable knowledge of the genealogical history of the community. So they immediately sat down with him to start recording what he knew of the family relationships on Tench. We were thankful that this interaction meant that such valuable social information was not lost to the future generations from Tench.

A final return to Emirau and the value of engagement for interpretation of results

During the 2009 field season we collected over 150 DNA samples representing the 500 inhabitants of Emirau and Tench. Glenn, Herman and I returned to Emirau in 2010 to return the DNA results. Each participant got their individual results and we gave a public presentation about what we found generally. Posters were presented to the schools as well as a written report. We then explained that I would be staying at Kelly's place for the next few weeks and would be available to talk with people should they want further information or further explanation about their DNA results. Slowly, people began wandering over to Kelly's to hang out and talk.



Figure 4.8: (Left) 2010 Lunch on Emirau. (Right) Return of results, Emirau.

Source: Elizabeth Matisoo-Smith.

They didn't always come forward immediately with a question, but in conversation they wanted to hear the explanation again, or they asked for clarification about what their results meant or, often more importantly, what they didn't mean. There was a small cohort of younger people, including Kelly's daughter, Jilda, who were really interested in DNA and human migrations and links to Pacific settlement. They became particularly good at explaining or clarifying results for people and we had several discussions about evolution, ethics and how local knowledge might improve interpretations of DNA results. These people became a valuable resource to me, as a researcher, and to the community as they could answer people's questions once we left.

We found that there were a handful of people who had an unusual mtDNA haplotype compared to the rest of the island and through conversations, we were able to determine that they all shared a distant common female ancestor who was from another island. This was information that was not registered in the genealogical data we collected because it was more than two generations in the past. This information is extremely valuable for interpreting genetic variation in the region, and it is information that we would never have had if we had not returned results in person and stayed around to discuss those results.

Epilogue

My last visit to PNG was in 2013, when Herman, Glenn and I visited Kavieng to consult over the development of a new project focusing on genome evolution and metabolic disease in the Pacific, a project now underway with colleagues from UPNG. Sadly, Herman passed away not long after that visit. In 2014, Glenn's dedication to the people and past of PNG was formally recognised when he was designated an Officer of the Order of the Logohu by the Governor General of Papua New Guinea. In addition to his research Glenn has left a legacy, having trained and mentored so many of the next generation of archaeologists from Australia, New Zealand, Japan, Taiwan and, of course, New Guinea. Through his research he has taught us all. The lessons that I have learned from Glenn about working with communities, establishing and maintaining long-term relationships in the field, and being inclusive of students and colleagues, have shaped the way I undertake research today. I thank him for this and am grateful that he is my friend, my colleague and *em i tisa blong mi*.

Acknowledgements

I thank the editors for inviting me to contribute to this volume. I dedicate this paper to four of our friends and colleagues who all contributed so much to our research in PNG, but are no longer with us—Father Paul Mohe, Mr Herman Mandui, Mr John Dennison and Prof Bernard Minol. We are privileged to have known and worked with you.

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