

The Polynesian – Mapuche Connection: Soft and Hard Evidence and New Ideas

José-Miguel Ramírez-Aliaga

Instituto de Historia y Ciencias Sociales, Universidad de Valparaíso, Valparaíso, Chile

IT WAS TWENTY YEARS AGO WHEN RNJ PUBLISHED my first paper (Ramírez 1990-91) on the elusive matter of a Polynesian contact in southern Chile (Figure 1.). It not only concerned a possible drift voyage far beyond the “limits” of the Polynesian triangle but a contact with a pre-Hispanic people, a donor-receptor relationship whose cultural evidence we now recognize in the receiver society.

Trying to prove contact required not only time but a good deal of serendipity. My first research project was dedicated to analyzing the Polynesian-like materials amongst our pre-Hispanic Mapuche peoples in central-south Chile; this ever growing list of cultural items was described for a century. Some of the cultural parallels were clearly independent inventions, but some remain as possible borrowings (mainly the linguistic cognates, like the word *toki*), while some were discarded (such as little stone sculptures and *mata'a*). The analysis was not conclusive at that time; hard evidence to prove either parallel evolution or independent invention for most of the items was lacking (Ramírez 1992).

THE MAPUCHE SOFT EVIDENCE

Among the most-mentioned Polynesian-like Mapuche artifacts is the so-called *Clava mere okewa*, a polished stone hand-club with a long flat body, wide and asymmetrical at the extreme end and with a rounded short handle, a shape that strongly resembles the Maori wooden *Wahaika*, but Mapuche clubs lack the elaborate ornamentation on the edges, probably because of the raw material: instead of wood, they were made from local slate. After a visit to the Te Papa Tongarewa Museum in Wellington (December 2006), I found that the stone clubs from Chatham Island look very similar to another Mapuche type, those of a half-moon shaped body. They all resemble very stylized birds, but only some Mapuche samples include eyes

and beaks (Figure 2). There is no ethnographic information for any Mapuche *clavas* at all, but Chatham Island traditions say they represent birds, probably parrots.

Another intriguing item is the Mapuche polished stone axe, called *toki*, a Polynesian word for the same kind of tool;

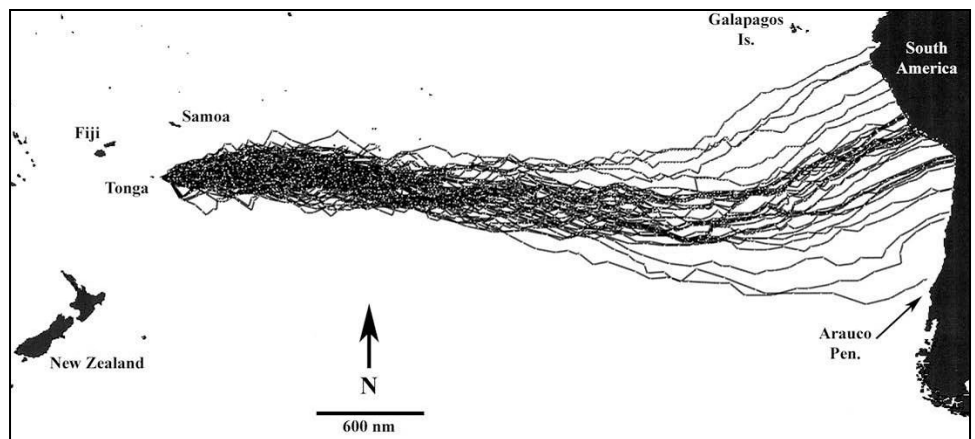


Figure 1. Possible voyage paths from Tonga to South America (from Fitzpatrick and Callaghan 2008).

these are mainly adzes in Polynesia. The Mapuche “*maichive kura*” was a *toki* hafted in the same way as in Polynesia. *Toki-kura* was an adze-like stone pendant used by Mapuche chiefs, similar to the Maori ornament, and with a very Polynesian name.

More than a dozen Mapuche - Rapa Nui cognates have been described, such as Mapuche *piti* and Rapanui *iti* (little);



Figure 2. Mapuche bird-like clubs from Temuco, Osorno, Panguipulli and Concepción museum collections that are similar in form to those from the Chatham Islands in the collection of the Te Papa Tongarewa Museum, Wellington, New Zealand.

Mapuche *kuri* and Rapanui *uri* (black). Unfortunately, no thorough linguistic analysis has been done since the discovery of those linguistic parallels by Father Sebastián Englert (1934).

Some cultural parallels are clearly independent inventions since they are found much earlier in southern Chile: fishing techniques such as stone fish weirs, and the underground cooking oven—the well known *umu* and *hangi* spread all over Polynesia—were in use 6,000 years ago in Chiloe Island (Rivas and Ocampo 2005).

Interestingly, the local experts on Chiloe culture declare without hesitation that there is a clear Polynesian influence there (Cardenas et al. 1993), based on both material and non-material cultural traits. Among the later we can mention the cooperative work *minga* and *umanga*; the moon calendar; celebrating the New Year with the rising of the Pleiades right after the winter solstice; a tradition concerning the cutting of

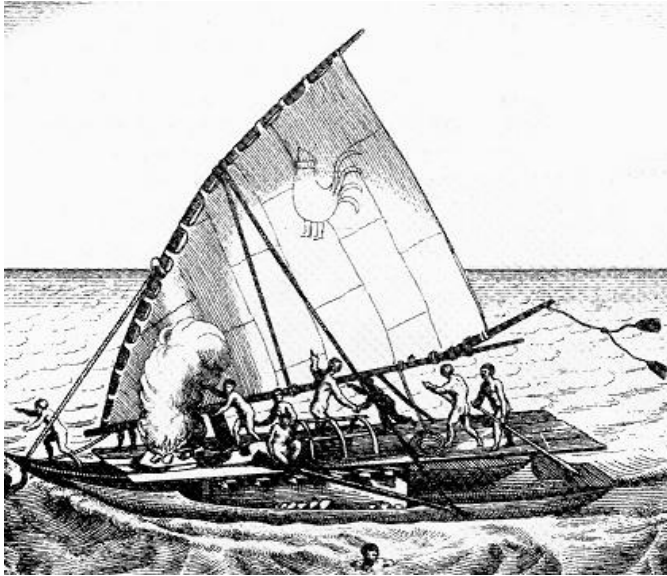


Figure 3. Tongan canoe (Jacob Le Maire 1906).

trees with a magic *toki*; a game similar to hockey (called *pai pai* in the Austral Islands and *palin* in Mapuche), but these are very difficult items to test, as is the Mangarevan legend of Anua Matua, whose trip to the southeast would have brought him as far as the cold waters of the extreme south of South America.

A very interesting item from Chiloe Island (41°50' – 43° 30' South) is the sewn-plank canoe, a widely distributed technique for canoes in Polynesia (Figure 3). The pre-Spanish Chono and Kaweshkar people used this kind of canoe to travel along the interior seas of the Chiloe archipelago and channels south of Golfo de Penas until the early 20th century. It is known with the name *dalca*, but there is no reference to its origin. Archaeological references are scant: just some little plank fragments without reliable dates. At present, there are only two complete *dalcas* in the world, one at the Etnografiska Museet, Stockholm, and the other at the

Varldskulturmuseet, Goteborg. They were collected by Carl Skottsberg from a group of Kaweshkar he met at Canal Sarmiento (50°41' – 51°15' South, in between Hanover and Chatham Islands) on his 1907–1909 expedition to Patagonia (Skottsberg 1911:99). There are no other sewn plank canoes found along the South, Central and North American coasts but it appears next in California, where they are found among the Chumash people where it was called *tomol*. Jones and Klar (2005) claim it was a cultural borrowing from Hawai'i for there was a Hawaiian word (*tomolo*) connected to the construction technique among the Chumash. They also mention a Polynesian type of fishhook as another possible borrowing.

Human biological evidence has also been suggested. As



Figure 4. A comparison of skulls, Mocha/Polynesian on the left and Mapuche, right. Ramirez and Matisoo-Smith 2008.

early as 1903, Polynesian-like features were noted for some skulls from Mocha Island, in Mapuche territory (Vergara 1903). In 1990, at the Mapuche Museum of Cañete, I viewed a Polynesian “rocker jaw” brought to the mainland from a prehistoric shell midden on Mocha Island, but it lacked archaeological context (Ramírez 1992: 63-65).

THE MAPUCHE HARD EVIDENCE: POLYNESIAN DNA FROM PRE-SPANISH CHICKENS

The presence of chickens among some native groups in South America shocked the Spaniard conquerors. A Chilean expert saw similar traits between Rapa Nui and Mapuche chickens (Wilhelm 1957). Going further, Carter (1971) claimed it was an Asian transfer across the Pacific, but no one believed him. A new opportunity came in 2004, at the Conference on Easter Island and the Pacific that I organized

in Viña del Mar. A poster exhibit (Ramírez n.d.) with a summary, including a proposal for a specific item stated:

“At the end, the only possible hard evidence to prove the Mapuche connection is DNA on chicken bones. If the Mapuche pre-Hispanic hens with blue eggs had relatives in Polynesia, it was definitively brought to southern Chile by Polynesian sailors, and there was a relationship between completely different people in a Pacific context, so to speak.”

Destiny brought Lisa Matisoo-Smith to the Rapa Nui Conference and to the chicken connection. Just by “chance”, after her pioneering and successful work on rat DNA to follow human colonization of the Pacific (Matisoo-Smith et al. 1988; Matisoo-Smith and Robins 2004), her Ph.D. student, Alice Storey, had begun to work with chicken bones. It was the right time for chickens! My application to the Universidad de Valparaíso Fund was to look for unidentified pre-Spanish chicken bones from well-controlled excavations in the Mapuche region. The model for the colonization of Eastern Polynesia reduced the time span to 500 years before the Spanish contact (around AD1000 - 1500). It refers to the end of the Early Ceramic Period in central-south Chile (AD400 – 1000), also called “Pitren”, and the next “El Vergel” period (AD1000 – 1500).

It was a real shock to find that chicken bones were recently found — another fortuity — in El Arenal, a site from El Vergel period in Arauco (Contreras et al. 2005). There they found over fifty bones representing a minimum of five individuals in a 7 cubic meter excavation. These were the very first chicken bones ever found in a well-controlled archaeological context in Chile. The thermoluminescence dating for El Vergel pottery (from the same chicken-bone layer) was AD1350. The next step was easy: Daniel Quiroz, leader of the El Vergel project and animal bone specialist, had the bones at his home. It took a phone call and a trip to his place outside Santiago to get some samples, and then another “just in time” trip by Lisa Matisoo-Smith to Santiago to take them back to her lab in Auckland and into Alice Storey’s hands, in January 2006. Eight months later there was great news: Polynesian DNA, and an AMS date on the bone itself confirmed the pre-Hispanic “El Vergel” Period association: AD1300 – 1450. The official announcement was made in June 2007 (Storey et al. 2007).

DNA from the El Arenal bones proved to be identical to those obtained from archaeological samples from Tonga, and American Samoa, so perhaps the Polynesians who brought chickens to Southern Chile were not Rapanui but other Polynesians from further west. The chicken case was considered one of the top ten discoveries of the year in *Archaeology Magazine*, but some people were unhappy and declared we were wrong (Gongora et al. 2008). Our response (Storey et al. 2008) presented further arguments including sequences and dates from two additional bones to confirm our case.

POLYNESIAN VOYAGERS MEET MAPUCHE PEOPLE AT MOCHA ISLAND: SOME BONE EVIDENCE

Initial surveys with Atholl Anderson in March 2007 and with Lisa Matisoo-Smith in December 2007 of faunal material held in various Chilean museums between Concepción and Chiloe failed to locate additional chicken or Pacific rat (*Rattus exulans*) bones from archaeological sites on the Chilean coast, but on the second trip we were able to see the human bone collection from Mocha island at the Museo de Concepción. It was amazing to see some Polynesian traits: pentagonal shape skulls, compared to the gracile round Mapuche skulls, some rocker jaws and a new Polynesian trait: an oval shaped *fovea capitis* in the head of the femur. We came back to take systematic measurements and photos in October 2008. The results were recently published (Matisoo-Smith and Ramírez 2010).

The bone collection was produced between 1992 – 2003 after a systematic survey and excavations by a team whose leader was again – Daniel Quiroz (Quiroz and Sánchez 1993, 1997). The published information about the human skeletons (Constantinescu 1997) indicates the Mocha Island population had a very hard and short life, with indications of rowing and using the neck to pull heavy loads. The island is located 30 km from the mainland, and historical references mention the use of log rafts to transport products from one side to the other.

The Concepción Museum collection includes six complete adult crania; some of these were associated with post-cranial material, most of which was fragmentary. Besides the Polynesian traits described before, another extremely robust crania had a unique trait: large tuberosities on the occipital and parietal bones. This intriguing feature seems to be restricted to Oceania, particularly to the Marianas Islands (Heathcote et al. 1996).

A total of 29 standard craniometric measurements were taken on the six complete adult crania. Those measurements were fed into a special program (CRANID) designed to evaluate morphological similarity of an unknown skull to a database of 3,163 crania from 74 sample populations from around the world. As expected for a Mapuche population, some crania fit with the Patagonian sample, but depending on a combination of features, some of them were closer to samples from Southeast Asia or Santa Cruz Island, California. When the six crania were plotted in a scattergram showing the estimated canonical variate scores, they fell into two clusters: three of them with American samples and the other three with Pacific and East Asian populations (Figure 4).

Interestingly, the most Polynesian of the skulls was found in a clear El Vergel archaeological context (AD1290), but the other two came from the Early Ceramic Period, probably around AD1000. It is logical to think that the early period of eastward Polynesian exploration and colonization was the time for such a contact with the edge of their oceanic world.

Craniometric analysis, as well as some discrete traits and post-cranial characteristics, suggest a Pacific connection, but there is also a combination of features that allows us to suggest an admixture between indigenous Mapuche populations and Polynesian voyagers. One of the CRANID analyses shows the Mocha sample is very similar to that of the Chumash people of Santa Cruz Island, one of the Channel Islands off the California coast, suggesting that the same kind of relationship might happen there, too.

SOME QUESTIONS LOOKING FOR ANSWERS

New evidence gives us some support to suggest that those Polynesian male-explorers stayed and had descendants with local Mapuche women and maintained a relatively long relationship, deep enough to explain the many cultural borrowings we have seen and probably more to be analyzed in the future. So, what now? Besides the logical research for more and better samples, including possible dog bones, there is something else to say concerning a basic question: did they return back to their homeland? This question has some support on another intriguing matter: the possible presence of sweet potato in southern Chile.

All sources consider this South American crop – along with gourds – was dispersed across the Pacific from Ecuador, mainly because its native name: *kumal* (a word related to the Cañari people from the Gulf of Ecuador). Its early presence (AD 1000) in the Cook Islands (Hather and Kirch 1991) has not been disputed so far, but its arrival to Rapa Nui seems to have happened much later (AD 1200?). We proposed that, since there is no hard evidence for any Polynesian contact in Peru or Ecuador so far, if some Polynesian explorers ever tried to return back to their homeland from Arauco, they could have brought the sweet potato and gourd to Polynesia from northern Chile (Ramírez and Matisoo-Smith 2008).

Beside the presence of some Polynesian sailors in the south, there are two facts to support this hypothesis: the navigational model which involves the strong current going north along the Chilean coast that begins to start turning west at the latitude of Rapa Nui, and the presence of both crops in northern Chile since early prehistoric times.

In fact, the chickens from El Arenal motivated new computer simulations of seafaring from the six Polynesian islands involved in the DNA analysis (Fitzpatrick and Callaghan 2009), but also from Arauco and Ecuador to the west. All trips from Polynesia would eventually reach South America, directly to Chile or farther to the north, according to seasonal changes. Heading southwest from Arauco would take a canoe up to northern Chile and then to Central Polynesia. If starting from the Gulf of Ecuador, they consistently got a westward direction to reach Tonga–Samoa.

At this point, the only possible advice is to remain open-minded. But there is another intriguing piece of information to consider: there was a type of potato called *cumanca* in Arauco (Cañas-Pinochet 1901) and Chiloe (Cárdenas 1994), among the hundreds of native potatoes found in the area. The

word *cumanca* is a clear cognate of our well-known *kumal* - *kumala* - *kumara* - *kumá* - *kumaka*, and was probably introduced by the Inca conquerors, whose indirect influence disseminated down to southern Chile, far beyond their physical “limits” in central Chile. But, if this *cumanca* was not a potato (*Solanum tuberosum*) but a real sweet potato (*Ipomoea batatas*), maybe it was re-introduced into South America by those Polynesian explorers we found in Mocha Island.

It is clear that new windows are open for future research, even for some discarded items like the “late period” *mata’a* from Rapa Nui found in Chile: the same artifact with the same name occurs in Chatham Island, as observed by Skinner (1923, Plate XXVI), and a “cleaving implement” from Pitcairn was described by Emory (1928: 132, Figure 12) which “calls to mind the hafted knives of Easter Island and Chatham Islands”. The piece he shows is a broken polished adze, but in November 2008 I was able to view two real basalt *mata’a* from Pitcairn at the Auckland Museum. A “late period” connection all along the Pacific? Very unlikely.

In brief, the only preconception to discard for good is to consider the Ocean as a barrier, instead of a wide road to go farther and faster, leaving no trace behind, with much less energy than walking through the forest, crossing deserts, mountains and rivers.

Author contact information: mataveriotai@yahoo.com

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