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Their Body is Different, Our Body is Different: European and Tahitian Navigators in the 18th Century.

This paper examines exchanges of navigational knowledge between Tahitian navigators and European explorers in the mid-18th century. Although Tahitian and European sailors accomplished way-finding at sea in ways based on very divergent assumptions about the ocean, the cosmos and persons, Tahitian navigators were able to board European ships, and pilot them safely through the islands. At first each side drew upon their own familiar practices to make sense of the other; using ostension or pointing, linguistic exchange and experience of each other's vessels as bridgeheads to produce a kind of rough intelligibility. Much was lost, however, in these partial and approximate exchanges. Here, exchanges between European and Tahitian sailors and their very different knowledge systems are used to explore the intricacies of cross-cultural encounters.

Keywords: Navigation; Tahiti; Voyaging; Cross-Cultural Encounter

In this paper, I will discuss exchanges of navigational knowledge between Tahitian navigators and European explorers in the mid-18th century. Way-finding at sea is a complex art, and Polynesian and European voyagers accomplished this in very different ways, based upon divergent assumptions about the ocean, the cosmos and persons. In Polynesia, various kinds of ancestors were called upon in navigational practice, whereas in European way-finding, instruments had a similar kind of agency. Yet during the early encounters between Tahitians and Europeans, island navigators were able to board European ships, and pilot them safely through the islands. In these collaborations, the survival of the ship was at stake; passages through coral reefs had to be negotiated, coral outcrops avoided and "the stern test of landfall" had to be met (Lewis, [30]) – either an island did or did not appear over the horizon when and where it was expected. On most occasions, this was successfully transacted. Here, I will investigate these collaborations between different knowledge systems, and how they were accomplished.

In the mid-18th century, Tahiti and the surrounding islands were unknown to Europe. On contemporary charts of the world, the South Sea appeared as a vast expanse of ocean stretching between south-east Asia and the Americas, dotted with a few scattered islands, a partial coastline of Australia and a squiggle indicating the west coast of New Zealand. To the south of the ocean, it was thought that a large imaginary continent, Terra Australis Incognita, must exist in order to counterbalance the northern landmasses. From the 1760s, competing European monarchs sent a series of expeditions to the South Sea, hoping to set up strategic bases and claim Terra Australis for their own dominions.

In 1767, when Captain Wallis on the *Dolphin* arrived at the island, Tahiti was "discovered" and Wallis claimed it for the British monarch. Once news of the island was reported in Europe, it became an imperial crossroads. Over the next decade, the *Dolphin* was followed in quick succession by two French ships commanded by Louis Bougainville; three British expeditions led by Captain Cook; and three Spanish expeditions from Lima, sent by an anxious Viceroy of Peru who had been warned that the British intended to settle the island. As each of these expeditions landed, they raised their flags, ritually took possession of the island for their monarch and gave it a name – Wallis named it King George's Island; Bougainville called it New Cythera, after the island of Aphrodite, the goddess of love; Cook called it Otaheite, its local name; and the Spaniards called it Amat's Island, after the Viceroy – an illuminating choice in each instance.

In this flurry of voyages, each expedition was the end-point of a system of long-range control, described by John Law ([25]) for an earlier period in Europe. Here, artifacts, people, texts and technologies were brought together in a single system, as European nations vied to protect or expand their imperium. The ships were robust and durable, capable of carrying 100 or more men, and trade goods, armaments and supplies for a voyage of months, even years. These craft were owned and run by agencies of the Crown, which recruited, trained and paid the sailors; ran the dockyards in which ships were built and repaired; equipped them with gear, sails and supplies; and established a global network of bases.

The backbone of this system was a chain of command which ran from the monarch; to the department of government which drafted the instructions which guided the voyage, selected the ship and appointed its crews; to the captain, who had supreme command of the ship, within his orders and a strict set of naval conventions; to the officers and the petty officers; and down to the ordinary sailors. This chain of command in turn was upheld by a system of punishments and rewards in which court-martials, floggings and other penalties, or promotions, were meted out; by the lay-out of the ship, which placed the ship's commander in a Great Cabin, the officers in smaller cabins, and the men jammed together in their hammocks in a lower deck; and by constant drilling. The disciplined daily routine was ruled by the hourglass and the ship's bell; the sequence of meals and watches (which determined who was on deck); the casting of the log and other instrumental observations which helped to determine the location and course of the vessel.

The power of these ships came to a point in their weapons: cannons and muskets for fighting at a distance, pistols, pikes, swords and cutlasses for hand-to-hand combat. These weapons were used only against enemies, never in support of internal authority. If countries were at war, their ships were bound to attack and seek to destroy each other. If the islanders dared to attack a ship or its people, they became enemies by definition, and these weapons could be used against them. And as they sailed through the Society Islands, the sailors exercised another kind of power, charting the islands and surrounding ocean, transmuting them into space gridded by lines of latitude and longitude, stripped of substance and emptied of people. This alchemy was effective, because as successive European crews visited the archipelago, raising flags, conducting ceremonies of possession and giving new names to the islands and settlements, they often seemed unaware that they were in seas traversed for centuries by others, "discovering" and claiming places that had long been inhabited.

For the Tahitians were also voyagers and explorers, whose ancestors had crossed the Pacific. According to current scholarly accounts, they came in a great migration which began in Island Southeast Asia perhaps 5,000 years ago, rapidly moving eastward across the Pacific from island to island, and preceding the Viking oceanic explorations by about 2,000 years. This system of long-range exploration and settlement was made possible by fast, durable outrigger or double canoes, carrying perhaps 50 people or more and supplies for some weeks, a portable biota and a viral kinship system. Rather than a system of long-distance control, this was a system of exploration and settlement by kin-based replication.

A Tahitian voyaging canoe might be 60 feet long or more, with a double hull, and a covered shelter on its platform. Such vessels were built and crewed by groups of kinsfolk, and carried supplies for a voyage of weeks, rather than months or years at sea, as was the case of European ships during this period. As they sailed, the navigator or fa'atere guided the canoe by means of chants to the ancestral gods, and navigational knowledge taught in the kin-based schools of learning. Voyages of exploration were often sailed upwind, allowing a safe and rapid downwind journey home. In unfamiliar waters a skilled navigator could identify and name new swells by studying the sea hour after hour, and the sequence of stars, the wind and current patterns and numerous other items of navigational information were memorised for the return voyage. During such expeditions the navigator slept as little as possible, ceaselessly scanning the sea and the night sky and keeping watch for land clouds and homing birds. It was said that you could always recognize a star navigator by his blood-shot eyes.[1]

Although Tahitian navigators crossed the ocean with confidence, the seas they traversed were quite different from those sailed by 18th-century Europeans. According to early Tahitian accounts, their ancestors saw the Pacific Ocean as a flat plane, joined around the edges of the horizon by the great arching bowl of the sky, and crossed by sea-paths between clusters of the known islands. It was also a marae, a sacred place where people went to cleanse themselves in times of spiritual trouble. The islands in this sea were fixed on a rock, Te Tumu or the "rock of foundation", and below this rock and beyond the layered arches of the sky, there was Te Po, a cosmic darkness inhabited by the gods and ancestors.

An old Tahitian narrative explains that at the beginning of the world, a generative source produced space and then shooting stars, the moon, the sun and comets. As the stars emerged one by one, they sailed in canoes across the sky, and on their voyages, new stars were created. A star god eventually created "the kings of the chiefs of the earth ... and the chiefs in the skies", each with their own star, whose boundaries were marked by a marae, a great stone temple. The sky stood on star-pillars between the sky and the islands, and some of the carved boards on marae represented the stars which stood above them. When Tahitian navigators sailed off from a marae at the edge of the land, therefore, they were re-tracing the sky voyages of their star ancestors (Henry,[18]).

It is thus not surprising that Polynesian voyaging was closely linked with the ancestor gods, and that priests and navigators were often the same people. According to Tahitian accounts, in the mid-18th century, a marae at Opoa on the ancient island of Ra'iatea – Taputapuatea – was dedicated to the war-god, 'Oro. The island of Ra'iatea (also called Hawai'i) was described as the first land created by the ancestor Ta'arua, and the homeland from which all other islands had been settled. The district around Taputapuatea was known as Te Po, the realm of darkness and ancestral power. When 'Oro's image was consecrated at this great marae, it became the centre of a far-flung voyaging network (Oliver,[33]). Feathered images of the ancestor, together with stones from Taputapuatea, were carried across the archipelago, south to the Cook and Austral Islands, north to the Marquesas and east to the Tuamotu islands, where new marae with the same name were established.

The cult of 'Oro was led by the arioi, a society of orators, priests, navigators, travelling performers, warriors and famed lovers, distinguished by their tattoos and red barkcloth garments.[2] Large houses were built to accommodate them on their travels, and feasts staged for their entertainment. On their expeditions, a fleet of canoes assembled and travelled under 'Oro's protection. The missionary Ellis gave a vivid description of the arrival of an arioi flotilla:

[They] advanced towards the land, with their streamers floating in the wind, their drums and flutes sounding, and the Areois, attended by their chief, who acted as their prompter, appeared on a stage erected for the purpose, with their wild distortions of person, antic gestures, painted bodies, and vociferated songs, mingling with the sound of the drum and the flute, the dashing of the sea, and the rolling and breaking of the surf ... the whole ... presented a ludicrous imposing spectacle. (Ellis,[10]: 237)

On this occasion, the fleet had arrived to entertain the locals. When arioi travelled en masse to the great ceremonies at Taputapuatea, however, it is said that their fleets of canoes carried images of the gods, and pairs of dead men and fish (including sharks and turtles) on their prows as offerings for 'Oro. As they beached by the marae, drums and conch trumpets sounded, and some of these bodies were strung up in trees, while others were used as canoe rollers.

According to early Tahitian accounts, in the mid-18th century 'Oro's cult was in a state of rapid expansion. Ra'iatea had been established, and their representatives met periodically at Opoa. At the heart of this expansionary history was Tupaia, an arioi priest who featured largely in the first European visits to the islands. Tupaia was a priest at Taputapuatea, and in about 1760 he carried an image of 'Oro from Ra'iatea to Tahiti. Warriors from Borabora had attacked his home island, and during these raids Tupaia was wounded and his lands were taken. When the high chief of the island was killed, a red feathered girdle for his son and an image of 'Oro were made and consecrated at Taputapuatea. Tupaia was put in charge of the sacred treasures, and embarked with the young chief, the feathered god and the girdle on 'Oro's sacred canoe, and sailed to exile in Papara in Tahiti. Tupaia joined the local arioi, and soon became the lover of Purea, wife of the high chief of the district. Tupaia acted as high priest, counsellor and strategist for Purea and her family, and when they decided to install Purea's son as the paramount chief of Tahiti, he initiated the construction of a great marae at Papara. In 1767, when the Dolphin brought the first Europeans to the island, they described Tupaia as Purea's "right-hand man"; and Purea as the "queen" of Tahiti.[3]

When the Dolphin arrived at Tahiti, the island was "discovered" and the islanders entered European history. Equally, however, the Europeans entered Tahitian history, tangling these histories together. Wallis was searching for Terra Australis Incognita, hoping to inscribe its coastlines on the maps of the world, while the Tahitians thought that the Dolphin was a floating island, or perhaps a craft from Te Po, the realm of ancestors, the past and the future. At first, they were not certain whether the Europeans were people like themselves, ancestors or some new kind of being, although they had had prior warning of their arrival. In about 1750, when the Boraborans attacked Ra'iatea, the warriors chopped down a great tree which sheltered the marae of Taputapuatea. Distraught at this desecration, a priest named Vaita entered a trance, and announced that a new kind of people were coming to the islands:

The glorious offspring of Te Tumu

will come and see this forest at Taputapuatea.

Their body is different, our body is different

We are one species only from Te Tumu.

And this land will be taken by them

The old rules will be destroyed

And sacred birds of the land and the sea

Will also arrive here, will come and lament

Over that which this lopped tree has to teach

They are coming up on a canoe without an outrigger. (Driessen,[7]: 8–9; see also Driessen,[8])

According to this prophecy, while the bodies of "the glorious offspring of Te Tumu" and the islanders would be different, they sprang from a single cosmic source. While they might differ in material appearance, the strangers were linked to the islanders by shared descent from Te Tumu. In Polynesia, the fundamental orders of the world were recounted in cosmological chants that derived all kinds of beings from a single generative origin. From this source, different entities were created which then came together to generate new forms of life, which were subsequently set apart in the world by acts of division. Within this shared network of kinship, all beings had form and spirit, but these were different for different kinds of being. This was quite unlike Western cosmological assumptions, which generally proposed a shared material substrate but distinct types of consciousness for different forms of life. One might expect such divergent ways of being to generate distinctive strategies in the first encounters between islanders and Europeans.

As it happened, when the Dolphin – a "canoe without an outrigger" – appeared off the coast of Tahiti, the islanders sought to engage with the strangers by means of ancestral power. Hundreds of canoes crowded around the ship, their crews "hallowing and hooting" and holding up plantain branches (ritual representations of their own bodies). As they gazed at this strange vessel, Vaita's prophecy was vindicated.[4] A tahua (priest) made a long speech, heralding the new arrivals, and threw his branch into the ocean. After this more canoes came out, and more speeches were made. The Dolphin's crew, on the other hand, took it for

granted that they could manage the meeting through material exchange, backed by the power of their weapons. They did not understand a word that was said, but stood with their guns at the ready and offered objects in return, holding up cloth, knives, beads and ribbons, and grunting like pigs and crowing like cocks to indicate what they wanted.[5]

The encounters which followed were tentative and violent. When islanders boarded the Dolphin and began to seize at the ironwork, Wallis took this as theft, and ordered a nine-pounder to be fired. The Tahitians leaped overboard and retreated in their canoes. This display of power was ominous, because according to Vaita's prophecy, when the "canoe without an outrigger" arrived, its crew would destroy the old rules and seize the islands. When a flotilla of canoes attacked the Dolphin in reprisal, cannons were fired into the canoes, causing havoc and killing many people.

It seems likely that the Tahitians associated the strangers with the war god 'Oro. Red or 'ura was a sign of his presence; thunder and lightening were signs of his power, and human sacrifices his tribute. When they attacked this great vessel, with its red-painted gunports and upper sides, there were claps of thunder and flashes of light, and many people were torn to pieces. Two days later, when Wallis sent an armed party of marines ashore in their scarlet jackets to "take possession" of the island, a red pennant was hoisted on the beach. When they returned to the ship, islanders crowded around the pole, trembling when the pennant snapped in the breeze, and placing offerings beneath it. The next morning a huge crowd paraded with the red banner flying on a high pole, and surrounded the ship's boats at the watering-place. Wallis, fearing that his men were about to be attacked, fired the ship's guns again, killing many more people. George Robertson, the ship's sailing master, wrote in his journal:

How terrible must they be shocked, to see their nearest and dearest of friends Dead, and torn to pieces in such a matter as I am certain they never beheld before. To Attempt to say what these poor Ignorant creatures thought of us, would be taking more upon me than I am able to perform. (Robertson,[37]: 43)

From this time on, the power of Wallis and his men was no longer seriously challenged. The local people came out to make peace with the Europeans, and offered their women to the sailors. Arioi warriors were sexually voracious, and the sailors were probably being treated in this fashion. Porea, the "queen" of Tahiti and a leading arioi, appeared with her "right-hand man" Tupaia, intent on forging a close relationship with the Europeans.

Porea spent a good deal of time with Wallis's men, particularly the red-coated sergeant of marines, showering them with gifts and attention. She went on board the Dolphin on a number of occasions, and invited Captain Wallis to her home. In a ceremony at the great arioi house, she presented him with a plaited coil of her own hair, put a bunch of red feathers on his hat, and gave him a pregnant sow. The hair of a chief was sacred, a conduit to the ancestors, and the taumau or plaited rope of hair bound Wallis into Porea's lineage, while the other gifts evoked the actions of the god 'Oro at his marriage, when he changed his two attendants into a sow in litter and a red feather bunch as gifts for his wife's family, welcoming Wallis to the arioi society (Handy, 1971; Oliver,[33]). This ritual established a taio or ceremonial friendship between the English captain and Porea which in Tahiti amounted to a partial exchange of identities. When Wallis and his men left the island, the red pennant from the Dolphin was joined to the maro 'ura or red feathered girdle brought by Tupaia from Ra'iatea. This girdle, worn only by high chiefs, was made of feathered squares each embodying the power of a great leader, stitched on a barkcloth sash. With this girdle, now incorporating the power of the British, Porea intended to install her son as paramount chief of the island.

When Wallis sailed from Tahiti shortly after this ceremony, Porea was devastated. Nevertheless over the following months her people, led by Tupaia, continued to work on the great marae. In April 1768, their labours were interrupted by a brief flurry of excitement when a French expedition commanded by Louis Bougainville, a French officer, diplomat and mathematician, arrived at Hitia'a on the opposite side of the island. A young man named Ahutoru, a kinsman of the local chief, soon boarded Bougainville's ship, and forged a taio relationship with the French commander, exchanging names with him. Bougainville stayed in Tahiti for only for three weeks, and he and his men learned little about island politics.

Nevertheless, through the friendship with Ahutoru, Bougainville's men became the first Europeans to realize that the islanders were capable of long sea voyages. As Fesche, one of the officers, remarked: "I am quite sure that they sometimes sail over long distances, for otherwise of what use would be the immense 60-foot canoes, carefully sheltered under especially made hangars?" (Dunmore,[9]: 264). The French gave detailed descriptions of these canoes, which were made of two narrow hulls, joined by cross-pieces on which the mast was set, with a fixed sail. Each hull was crafted of two shaped logs lashed together, the first of which formed the prow and most of the hull, the second of which curved up to form the stern, five or six feet above the water. At the prow, a long flat plank twelve feet long was set, half of which covered the canoe from incoming seas, and half of which hung out over the water. At the stern, some of these canoes had portable shelters held up by carved columns. Sketches of these craft were published in Bougainville's account of the voyage.

When Bougainville's expedition left the island, Ahutoru went with them, intent on visiting the King of France. During this part of the voyage, the first significant exchanges of navigational knowledge occurred between islanders and Europeans. Four days out from the island, Ahutoru gazed up at the stars and named them, pointing out the stars which indicated the bearing of Tahiti,

and told his companions that by sailing NNW for two days, following "the bright star in Orion's shoulder" they would reach an island where he had some family. When they ignored these directions, Ahutoru grabbed the wheel, and tried to steer the ship in that direction. According to the journals, as linguistic communications improved between him and the French, Ahutoru was able to name the stars in the night sky, describing the phases of the moon and predicting the weather with great accuracy. As Bougainville noted:

[T]he better instructed people of this nation have a name for every remarkable constellation; they know their diurnal motion, and direct their course at sea by them, from isle to isle. In these navigations, which sometimes extend three hundred leagues, they lose all sight of land. Their compass is the sun's course in day-time, and the position of the stars during the nights. (Dunmore,[9]: 268)

The most distant island with which Ahutoru was familiar was 15 nights' sail from Tahiti. During their westward Pacific crossing, Bougainville's expedition visited Samoa, which at first Ahutoru mistook for France. Although Ahutoru warned him against the Samoans, Bougainville was impressed by the large outrigger canoes which zipped across the wake of the French ships at twice their speed, calling these the Navigator Islands. Ahutoru was the first Tahitian to voyage on a European vessel and survived the journey to France, where he became the focus of much popular curiosity and scientific interest.

Back in Tahiti, Purae and her people were completing the great marae at Papara. Emboldened by her alliance with Captain Wallis and his promises to return, Purae sent a messenger to invite the leaders of the island to witness her son's installation as paramount chief. Enraged by her presumption, and lest their own lineages be subordinated, the chiefs from the south allied with the chiefs from the north. Before the investiture could take place, their warriors descended upon Papara, where they threw down the stones of the great marae and seized its sacred relics, including the red feather girdle into which the red pennant from the Dolphin had been woven. At the final battle at Papara in December 1768, so many people were killed that the beach was covered with their bones, and Purae, her husband Amo and their high priest Tupaia were forced to flee to the mountains.[6]

Four months later when another European vessel, the Endeavour, commanded by Captain James Cook and carrying a party of scientists and artists led by Joseph Banks, arrived at Matavai Bay, the local people were deeply anxious.[7] They had joined the attacks against Purae's people, and were acutely aware of her friendship with Captain Wallis. If these new arrivals belonged to his group, they would surely try to avenge her. When Cook and his officers landed, therefore, hundreds of the local inhabitants prostrated themselves, holding up plantain branches in rituals of propitiation. Tutaha, the leader of the warriors who had defeated Purae's people, hastened to establish his own relationship with the British. Some days later, however, a fleet of canoes arrived at Matavai Bay, bringing Purae, Amo and Tupaia, seeking to re-establish their alliance with the British (Beaglehole,[2], [4]). The "queen" went out to the Endeavour, where Cook invited her into the Great Cabin and presented her with a doll, whimsically saying that this was an image of his wife. Purae was delighted, and held it up as she returned ashore. Thinking this was a particular sign of favour, Tutaha was affronted until he was also presented with a doll, which no doubt seemed like an ancestral image.[8] He must have been terrified that as soon as the British met Purae and heard her story, they would attack his people.

Cook tried to stay neutral in these struggles for power, but Joseph Banks was young and much less discreet; and over the following days, he began a passionate affair with one of Purae's women. Relationships were increasingly intimate, but still volatile. When the astronomical quadrant, which was kept under close guard in the fort, was stolen, Tutaha, who had tried to flee the bay in his canoe, was captured and roughly handled. When Cook and Banks returned with the quadrant, he was released, seething with rage about the way he had been treated.

From this time on, Tupaia spent much of his time with the British, especially Banks and his party. He must have been gratified with the way that his enemy had been humiliated, and fascinated by Banks's retinue, with their scientific and artistic equipment. Banks was wealthy and well born, with elegant clothes and an amorous disposition – just like an arioi; while Tupaia was said to be one of the most intelligent and knowledgeable men in the archipelago, just like a natural historian. Nevertheless, without the ceremonial friendship forged between Purae and Wallis, it is unlikely that Tupaia would have shared his knowledge with Banks's party. As their mutual command of each other's languages improved, he tried to teach Banks and his companions about Tahitian navigation, the location of islands in the surrounding seas, and Tahitian beliefs and customs – sacred knowledge, taught in the schools of learning. In their increasing intimacy, a new depth of communicative exchange became possible, and not only through the medium of language.

In particular, Tupaia was enthralled with Solander and Parkinson's sketches and drawings, and he soon learned to sketch, drawing many of the same subjects as these artists. Given the spiritual kinship forged between him and the Europeans, such exchanges were possible, and he quickly adopted a style which was indistinguishable from "naïve" European sketching. A series of watercolours survive from the voyage which used to be attributed to Joseph Banks (see Joppien & Smith,[24]), but recently a letter from Banks came to light which made it plain that one of these images (and by implication the whole series) had been drawn by Tupaia. It is suggestive that these sketches feature arioi themes, including marae, arioi musicians and dancers, canoes

and a chief mourner's costume, and that they employ red, brown and black, the predominant colours of bark-cloth painting. Some male arioi (no doubt including Tupaia) were skilled in painting and dying barkcloth, while it is said that their tattoos featured naturalistic images of plants and people (Henry,[19]).[9] In return, Tupaia taught Parkinson about Tahitian dyes, and Parkinson and Banks both acquired arioi tattoos, as part of these artistic exchanges.[10]

After learning to sketch in the European style, Tupaia also worked with Banks and Cook on sketch charts of Tahiti and Ra'iatea, dictating placenames to be written along the coastlines. When the Endeavour sailed from Matavai Bay, after three months in Tahiti, Tupaia sailed with them, acting as the ship's pilot through the Society Islands. It is interesting that Cook was prepared to hand over the navigation of his ship to Tupaia, but these were uncharted waters, with unpredictable coral outcrops and atolls, and he had become convinced of the priest's navigational knowledge. In the event, despite their rudimentary grasp of each other's languages, Tupaia and Cook managed to communicate sufficiently well to avoid these dangers.

This accomplishment was far from trivial, given the differences between Tahitian and European ways of voyaging. During his training, a navigator like Tupaia mastered chants to call upon ancestral power, including the sea gods who controlled the ocean; star gods, who guided the canoe in the darkness; and the ancestors who controlled the winds, some benevolent, others malevolent in their intentions. During the day, he oriented himself by reference to a "wind compass" with the cardinal points fixed by the rising and setting of the sun and the shadow of the canoe's mast at noon, and the other points named after the winds, all controlled by ancestors. As the sea bounced off the hull, particular swells, and their deflection patterns off islands, were identified. At night, familiar seas were marked out by "star-paths" between known islands, defined by a succession of named stars which rose or set in succession at a point on the bearing of a destination island. As the navigator followed the starpath, he estimated his stage in the journey by dead-reckoning, counting elapsed time in nights or po. As a destination island approached, he noted birds flying out at dawn or returning to land at dusk; swells bouncing off the land; and clouds piling up over the land-mass.

A Tahitian navigator and his canoe thus formed a single navigational device. In discussing South American shamanism, Vivieres de Castro has suggested that when a shaman dons an animal mask and clothing, he activates the power of a different body (Viveiros de Castro,[49]; see also Pedersen, 2005). In a similar fashion, in Polynesia, the navigator brought ancestral knowledge taught in the navigational schools together with the prow, masts and the rigging of the canoe to follow the stars and find north and south, and used the hull as a swell-gauging instrument. Over long years of voyaging which began with an apprenticeship to an older kinsman, the navigator learned to read the sea, stars and winds, until this knowledge became reflexive and embodied. His canoe was also often named after an ancestor, and the power of various ancestors was built into it, enhancing the navigator's capabilities. When Tupaia chanted to the ancestors, he became a channel for their power, guiding the voyage to a successful conclusion.

On board the Endeavour, on the other hand, the crew were not kinsfolk but wage labourers, paid according to seniority and status, and largely trained at sea. The sailors and marines were organized into ranks and messes, and their "wooden world" was ruled by naval custom and routine, and informed by its own store of seafaring memories and knowledge. Although experienced sailors (and especially the ship's master) also acquired an embodied knowledge of the sea, stars and winds, the officers largely guided the ship by the instrumental observation embedded in its daily routines, and by reference to a language of mapping, measurement and calculation.

As Charles Frake ([15]) and Edwin Hutchins (1996) have argued, navigational instruments were computational devices in which generations of voyaging experience were embedded, and which required delicate calibration to local conditions. It took long practice and precise co-ordination to use them effectively. Ship's time was measured by an hour glass, and corrected at noon when the sun was at its zenith. Ship time thus ran from noon to noon, and the hours were recorded in the first column in the ship's log, the official record of the voyage. The speed of the ship was measured by the chip log, a device with a triangular piece of wood (the "chip") on the end of a rope knotted at regular intervals, which was thrown overboard until it floated beyond the wake, when a half-minute glass was upturned and the rope was let to run freely from the reel, so that the number of tagged knots unreel when the glass ran out could be counted. These measurements were taken every hour, and the "knots" and fathoms per hour at which the ship was traveling were recorded in the next two columns in the log. Course or direction were determined by reference to the compass, which was oriented to magnetic north (although magnetic variation caused major problems), and recorded in a fourth column, while the direction of the wind was recorded in a fifth column.

Each noon, the captain and officers estimated the ship's latitude by measuring the altitude of the sun above the horizon with a sextant. During the Endeavour voyage, the officers estimated the ship's longitude by measuring the angle between the moon and some other heavenly body at night, at an exact time recorded by the ship's watch. The rate of the going of the watch was then estimated, and the time corrected. An officer then looked up the time at Greenwich when these bodies were the same distance apart in the Nautical Almanac, published just before the voyage, with its tables of the lunar distances from certain bright stars, calculated for every three hours during the year, and these two times were correlated. These calculations enabled the track of the ship to be plotted on a chart, gridded for longitude and latitude and depicted from a vantage-point high above the vessel,

although during this voyage, before the Harrison chronometer became available, estimates of longitude were still quite approximate.[11]

On the Endeavour's voyage of discovery, new coastlines were charted using surveying techniques and their locations fixed by astronomical observation, while the depth of the coastal seabed was measured with the lead, especially near the approaches to harbours or lagoons. Coastal profiles were also sketched, showing views of the island from the deck of the ship on particular bearings. Accuracy was paramount, so that subsequent expeditions could use these graphic records as way-finding devices. The charts were at once computational devices in which the knowledge of generations of voyagers was embedded; and objects of power, kept secret from imperial competitors or published to enunciate territorial claims.[12] The instruments, the ship and the crew, and the charts and profiles thus came together in a single navigational system, extending the navigators' senses, capabilities, memories and networks of communication.

Given these very different voyaging systems, it is not obvious how Cook and Tupaia, and other European captains and island navigators, were able to communicate sufficiently to guide the ships safely. Perhaps the only way to investigate this issue is to examine surviving information from the voyages. In the case of the Endeavour, when the ship sailed from Tahiti, according to Pickersgill, "Tobia describes nine Islands lying between WNW and NW the most distant not more than two days sail and one very large one lying about four day sail." (PRO Adm 51/4547) Unfortunately he did not describe how these directions were transmitted – perhaps by pointing, or instructions in a mixture of Tahitian and English. The next morning, when the wind died, Tupaia chanted to the god Tane, asking him for a good breeze. On this occasion Joseph Banks, the young naturalist from the Royal Society, mocked Tupaia's efforts, saying: "I plainly saw he never began till he saw a breeze so near the ship that it reachd her before his prayer was finishd." (Beaglehole,[4]: 314) Nevertheless, a pleasant wind sprang up that evening which carried them directly to Huahine.

Upon their arrival at Huahine, Tupaia sent an islander to dive down to check the depth of the ship's rudder, so he could guide the Endeavour safely through a passage in the reef. When they anchored in the lagoon, Tupaia led Cook and his party ashore. On the beach, he chanted for some time and then presented the local high chief with gifts including a black silk handkerchief and two bunches of red feathers. After receiving ritual gifts in return, Tupaia went immediately to the local marae to thank Tane for their safe passage.

After several days at Huahine, Tupaia guided the ship to Ra'iatea. When they arrived, he led his companions through the reef to Taputapuatea, the headquarters of the arioi society. On the beach, he conducted the rituals of arrival, and then Cook ordered the Union Jack to be hoisted and took possession of the island. After this, Tupaia took his companions to the great marae. As they approached one of the fare atua or god-houses, Joseph Banks put his hand inside and tried to prise apart the bindings on one of the ancestral figures. According to Parkinson, "[the local priests] behaved so coolly that the captain did not know what to make of them. Toobaiah, who was with him, seemed to be quite displeas'd. We did not know the occasion of their reservedness" (Parkinson,[34]: 69). This was obtuse, because the god-houses were intensely tapu imbued with ancestral power. The to'o or images were the ancestors themselves, bound with sinnet cord to intensify their sacred power, and to try to tear apart the binding was a terrible desecration.

As they walked along the coastline, where there were large double canoes or pahi in boathouses, Tupaia told Banks and Cook that his people voyaged in these craft for 20 days or more. Again Banks was sceptical, but Cook took him seriously, arriving at a view of Polynesian origins which accords closely with contemporary scholarship:

In these Pahee's [pahi] ... these people sail in those seas from Island to Island for several hundred Leagues, the Sun serving them for a compass by day and the Moon and stars by night. When this comes to be prov'd we Shall be no longer at a loss to know how the Islands lying in those Seas came to be people'd, for if the inhabitants of Uleitea have been at Islands laying 2 or 300 Leagues to the westward of them it cannot be doubted but that the inhabitants of those western Islands may have been at others as far to westward of them and so we may trace them from Island to Island quite to the East Indies. (Beaglehole,[2]: 154)

Upon leaving Taputapuatea, Tupaia guided the ship through a maze of reefs; and as they approached Borabora, the home of his enemies, he urged Cook not to land there, because in his grandfather's time, a European ship had been wrecked and all the crew killed by the Boraborans. By now, communications were evidently quite sophisticated, because one of the sailors was able to record Tupaia's account of the Boraboran conquest of Ra'iatea, a narrative that is almost indistinguishable from oral histories recorded by the first missionaries to the island. After several days of cruising, Tupaia guided the Endeavour to Hamanino, his home harbour on the west side of Ra'iatea, now controlled by a chief from Borabora. There they were entertained by the arioi, with skits, dancing and music. When they set sail again several days later, Banks commented sardonically, "We again Launched out into the Ocean in search of what chance & Tupia might direct us to" (Beaglehole,[2]: 151).

In fact, however, Tupaia and Cook and Banks were on diverging trajectories. During this journey, Tupaia must have spoken with 'Oro in his dreams, and watched the night voyages of his star ancestors. Perhaps he hoped to take the cult of 'Oro to new islands.

As he piloted the Endeavour through the Society archipelago, he was taking the Endeavour on an arioi voyage. At each island they visited, Tupaia conducted the proper rituals upon landing, and visited the local marae. When he took his European companions to Taputapuatea, the marae where he himself had been trained, this was an act of power. At this same marae, the most powerful in the islands, Vaita had prophesied that a canoe without an outrigger was coming, bringing a new kind of people. In the company of these powerful strangers, and in defiance of the Borabora conquerors, Tupaia had accomplished this prediction.

At the same time, it suited Cook's purposes for Tupaia to pilot the ship through this dangerous passage. As they sailed round the archipelago, Cook and his officers were able to draft a detailed chart of the islands, Banks collected new plants and artifacts, and the sailors recovered from the venereal infections they had caught in Tahiti. Although Cook and his men recognized and respected Tupaia's technical ability as a navigator, however, it seems that they never accepted his role as a high priest of 'Oro. His navigational advice came with the guidance of the gods, and the authority of their power. It's not surprising that Cook found this difficult to grasp, and eventually impossible to follow.

As soon as the Endeavour left the Society Islands, Tupaia lost control of the voyage. He urged Cook to sail to the west, where he said there were plenty of islands, which he had previously visited in a voyage that "took 10 to 12 days going thither, and 30 or more coming back." When Cook asked him how this was possible, given the easterly prevailing winds, he told him about westerly wind shifts in the summer, common between November and January, which enabled Tahitian navigators to return home again. Despite Tupaia's entreaties, however, Cook turned south, following his orders to search for Terra Australis Incognita.

Now that Tupaia had reached the limits of his personal voyaging experience, he began to tell Cook about islands visited by other navigators. He sketched a chart of the islands around Tahiti, and he and Cook worked together on a final draft. This remarkable document shows many identifiable Polynesian islands, but also some effects of miscommunication. Cook misunderstood the Tahitian words for north and south, which identified south as the direction towards which the north wind blows and vice versa, thus reversing the positions of a number of islands. Cook also translated the distances traveled between islands, described in "nights" by Tupaia, into cartographic distance, resulting in further inaccuracies. In addition to this chart, Tupaia dictated a list of 130 islands with which he was familiar, including islands in the Tuamotus, the Marquesas, the Southern Cooks and the Samoan archipelago, and Pounamu and Teatea, almost certainly the North and South Islands of New Zealand, although he said he had visited only 12 of these, including eight in the Society Islands, two in the Australs and two in the Tongan Archipelago.[13]

When they reached New Zealand, Tupaia's presence on the Endeavour made a great impression on local Maori. He was a high priest from Ra'iatea, a fabled homeland of their ancestors, who could understand their language. During their six-month circumnavigation, he negotiated the initial encounters in each place they visited, and often spoke with the local priests. These must have been marvelous conversations. When Cook returned to New Zealand on a second voyage, and the canoes came out to the ship, their crews cried out for Tupaia, and wept bitterly when they heard he had died in Batavia. It seems that Maori thought the Endeavour was Tupaia's ship, and they mourned him and remembered him for generations.

When the ship arrived on the east coast of Australia, however, and Tupaia could no longer communicate with the local people, his value to the voyage was over. Although he impressed the sailors by always being able to point accurately towards Tahiti, this sort of information was no longer useful (Beaglehole,[2]). When he died in Batavia, Cook remarked that "He was a Shrewd Sensible, Ingenious Man, but proud and obstinate which often made his situation on board both Disagreeable to himself and those about him" (Beaglehole,[2]: 442). During the voyage, Cook and his men had often chafed at their dependency upon the high priest; and in successive histories of the voyage, too, Tupaia and his contributions to the voyage are rarely mentioned in any detail.

Although Cook often visited Tahiti during his second and third voyages, he never worked again with an island navigator. Once accurate charts of the surrounding islands had been drafted, he no longer needed local assistance. By contrast, the Spanish expeditions dispatched from Lima after news of Wallis's and Cook's voyages reached the Spanish court had no reliable charts to guide them through the islands. Cook and Bougainville had kept their charts and sailing directions a secret, but nevertheless the Spaniards heard about Tupaia's navigational feats, and were eager to seek similar assistance.

In this way, the Spanish commanders gained extensive experience with island navigators. When Boenechea was first dispatched to Tahiti in 1772, he picked up a man at Mehetia, who pointed to the west, and exclaimed, "Tahiti." They followed his directions, and when the island came into sight, the man pointed at each of the bays and headlands in turn and named them. During Boenechea's return visit to Vaitepiha Bay on the south coast in 1774–1775, he decided to go to Ra'iatea, and recruited two local navigators to guide the ships to the island. The Aguila was piloted by a Tahitian named Papparua, and the storeship Jupiter by Puhoro, a man from Ma'atea (Corney,[6]). As these men guided the ships past a succession of islands, they named each one, describing its harbours, produce and the character of its inhabitants. Upon their return to Tahiti, Puhoro agreed to sail on the frigate as a pilot during the return voyage to Lima.

When Puhoro saw the ship's pilot drafting a large scale chart of the islands, he asked what it was. When he realized that this drawing represented the islands east of Tahiti, Puhoro told the Spaniards that he had visited all of these places, identifying each island by the passages through its reef. He reported that there were many more islands in that direction, although he had visited only 18 of them, and told them the number of days it took to sail from one island to another, and which islands had pearls in their lagoons. According to him, almost all of these places were inhabited.

During the voyage to Lima, Puhoro dictated a list of 15 islands to the east of Tahiti, including most of the NW Tuamotus, and 27 islands to the west, including many of the Society Islands, Atiu and Rarotonga in the Cook Islands, islands in the Marquesas and Fenua Teatea and Ponamu, also listed by Tupaia, which are almost certainly the North and South Islands of New Zealand. As he listed each island, Puhoro made comments about its topography and reefs, its main produce, whether or not the island was inhabited, the ferocity or otherwise of its inhabitants, and how many days it took to sail there from other named islands (Corney, [6]). The precise sequences of stars to be followed from one island to another were not listed, however, probably because it was too difficult to calibrate Tahitian names of stars and constellations with those used by Europeans.

Like Tupaia, Puhoro was an excellent source of knowledge about Tahitian navigational methods. He told the Spaniards about the wind compass used by his compatriots, with its 16 points, and how they sailed by the stars to their destinations:

When the night is a clear one they steer by the stars; and this is the easiest navigation for them because, these being many, not only do they note by them the bearings on which the several islands with which they are in touch lie, but also the harbours in them, so that they make straight for the entrance by following the rhumb of the particular star that rises or sets over it; and they hit it off with as much precision as the most expert navigator of civilized nations could achieve. (Corney,[6]: 286)

In addition, the Spaniards remarked on the uncanny accuracy with which Puhoro predicted the next day's weather each evening, "a foreknowledge worthy to be envied, for, in spite of all that our navigators and cosmographers have observed and written about the subject, they have not mastered this accomplishment" (see Corney,[6]: 284–287 for an account of Tahitian navigational methods). When they reached Lima, Puhoro lived there for some months before returning to Tahiti.

Conclusion

From the evidence of these voyages, it seems that the exchanges between Tahitian and European navigators were characterized by a kind of rough intelligibility. In the beginning, each drew upon their own familiar practices to make sense of the other. For the Europeans, the maritime practice of using local pilots to guide ships into unknown harbours gave a precedent for drawing upon the expertise of island navigators. For the Tahitians, an ancestral relationship had to be established before the navigators could share their knowledge with the strangers. This was achieved by forging a taio, or ceremonial friendship, in which part of the being of each was bound into the other. By the ritual presentation of names and gifts, the taio shared part of each other's identities, including kinship networks and alliances. Through this exchange of personhood, and perhaps only in this way, the gift of navigational information to the Europeans could be accomplished.

As they began to learn each other's languages, Tahitian navigators were able to recite lists of known islands to the explorers, along with brief descriptions of their topography, inhabitants and produce. At sea, ostension or pointing at landmarks and destinations, and naming these places, provided a first step in sharing navigational information. As the navigators became familiar with each other's vessels and their capacities, this experience provided bridgeheads for practical collaboration. Eventually, Tupaia drafted a chart of the islands around Tahiti, perhaps drawing upon the island practice of drawing the relative positions of islands in the sand; and by indicating the bearing and elapsed nights of voyages between named islands, he was also able to help Cook to draft a chart, although this led to some confusion.

At the same time, much was lost in these partial and approximate exchanges. There is no evidence, for instance, that Tupaia or Puhoro ever mastered European navigational instruments, or grasped the mathematical calculations by which the Europeans charted the islands. They understood enough about the power of the strangers and their systems of long-distance control, however, to decide to travel to the European homelands to meet their viceroys or monarchs. No doubt they hoped to recruit these leaders as taio, binding them and their power into their own kinship networks. At the same time, the Europeans were not able to record much Tahitian navigational knowledge (for instance the starpaths between particular islands), probably because the translational task was too difficult. It is also clear that for them, the ancestral strategies and purposes of the Tahitians remained largely unintelligible. The ways in which island navigators called upon ancestors to guide their craft fell into the realm of superstition, and this attitude is replicated in most historical accounts of the voyages. Interestingly enough, the use of ancestral power is also largely absent from the literature on Polynesian voyaging (for a striking exception see Finney,[13]) – although not, by all accounts, from voyaging practice.

In discussing anthropological fieldwork and writing, Marilyn Strathern has reflected upon the nature of complex engagements between different fields of action. Her reflections could equally apply to the early encounters between Tahitian and European

navigators, and the distinct fields of action and assumption in which they operated:

Each is an order of engagement which partly inhabits or touches upon, but does not encompass the other. Indeed, each may seem to spin off on its own trajectory. Each point of engagement is thus a replacement or reordering of elements located in a separate field of engagement altogether. And the sense of loss or incompleteness which accompanies this, is common anthropological experience. (Strathern,[41]: 2)

I have this sense of loss about these early encounters. It is not possible to talk with those who participated in them, who are long since dead; only the oral histories, chants, logs, journals, sketches and charts survive to speak of their experiences. One can try to enrich the account by delving into background information from a variety of sources, but this cannot be elicited at will. Too often, no-one at the time recorded crucial details of what happened, and all of the oral histories and some European sailors' accounts are retrospective, shaped by hindsight; Tahitian and European accounts are shaped by very different interests and questions. In trying to understand Cook and his men, the Spaniards and their crews, and the various Tahitian navigators they encountered, and their mutual impacts on each other, there are doubled and redoubled hazards of distance in time, and the different forms of life they inhabited.

These were very great voyages, however, and Cook's voyages in particular now have almost mythical status, both in Europe and in Polynesia. At the same time, European myths, social hierarchies and technologies of power are still visible in many contemporary histories of these expeditions. Often, the islanders are rendered passive, mastered by their own myths or acting as bit-players in European dramas while their own accounts are trivialized or ignored. In these histories, one can still see European systems of long-range control at work, obscuring Polynesian intentions and purposes. For these expeditions were collaborative accomplishments, to which men like Tupaia and Puhoro and their knowledge systems made significant contributions. It seems better history, and better anthropology, to try to do justice to the complex, many-sided dynamics of these engagements, but this is not simply an academic matter. In the post-colonial Pacific, Vaita's prophecy still echoes:

Their body is different, our body is different

We are one species only from Te Tumu.

And this land will be taken by them

The old rules will be destroyed

And sacred birds of the land and the sea

Will also arrive here, will come and lament

Over that which this lopped tree has to teach

They are coming up on a canoe without an outrigger.

Notes

Footnotes

[1] [1] For accounts of Pacific navigation, see Finney ([11], [12], [14]), Gell ([16]), Gladwin ([17]), Howe (in preparation), Hutchins ([22]), Irwin ([23]), Levison et al. ([26]), Lewis ([27], [28], [29]) and Taonui ([42]).

[2] [2] An excellent account of the arioi in Tahitian and English is given by Rev. John Orsmond in his unpublished manuscript *The Arioi Wars in Tahiti*, Mitchell Library, Sydney, MS A2608.

[3] [3] For an account of these migrations, see the unpublished manuscript history of Tahiti by Rev. R. Thomson, an English missionary in Tahiti, who died in 1857, pp.13–17. Since he was able to interview old people who were alive at the time of the Dolphin's arrival at Tahiti, his account of events from the 1740s onward is one of the most reliable available; however, the even earlier account given by Morrison, one of the Bounty mutineers, is also very valuable. Thomson names Tupaia as the priest of 'Oro who took the image of the god and the red feather girdle to Papara (p. 16 of the manuscript) who later became Purea's "paramour" (p. 36), describing him as "Tupaia, the priest of Oro who had accompanied the God from Raiatea, and who is reputed by the people themselves, as well as by Cook to have been one of the cleverest men of the island" (p. 38, ATL Micro Ms Coll 2 Reel 169, London Missionary Society M660).

[4] [4] For illuminating reflections upon the first encounters between Melanesians and Europeans in Papua New Guinea, and the islanders' lack of surprise, see Strathern ([40]).

[5] [5] For accounts of the Dolphin's voyage, see Robertson ([37]) Rowe ([38]) and contemporary records held by Public Records Office in London: Captain Wallis's journal (Mss Adm 55/35), records kept by Lieutenant William Clarke (Adm 51/4538/97), Francis Wilkinson (Adm 51/4541/95–6), William Luke (Adm 51/4541/107–108), Anonymous (Adm 51/4541/123–4), Benjamin Butler (Adm 51/4541/125), George Pinnock (Adm 51/4542/109–10), Henry Ibbott (Adm 51/4542/111–2), Tobias Furneaux (Adm 51/4542/113–4), William Hambly (Adm 4542/126–7), George Robertson, Master (Adm 51/4539/102–6), Pender (Adm 51/4543/115–6), Samuel Horsnail (Adm 51/4543/117–9), Thomas Coles (Adm 51/4543/128), John Nichols (Adm 51/4544/129), Anonymous (Adm 51/4544/131) and West (Adm 51/4544/132), and the Muster Roll of the Dolphin (Adm 36/7580). Many of the men were ill during their stay in Tahiti (including Captain Wallis) and their journal entries for Tahiti were written after the events described, so that dates and details given for particular episodes are often in disagreement. On the whole, I have relied on the excellent account given by George Robertson, the ship's master, for the basic chronology of events during the Dolphin's stay on the island.

[6] [6] For an excellent later account of these events see Adams (1901). Other, slightly different versions are given by Morrison, one of the Bounty mutineers (Rutter, [39], Thomson, nd). The most authoritative general discussion is in Oliver ([33]).

[7] [7] For accounts of James Cook's life and the Endeavour voyage, see Beaglehole ([2], [3]), Hough ([20]), Rae ([36]) and Villiers ([48]). Beaglehole gives an excellent description of the crew, and a meticulous account of the preparations for the voyage. For primary sources see also James Cook (PRO Adm 55/40, BM Add Mss 27955, 27885), Ship's Log (BM Add Ms 8959), Zachary Hick (PRO Adm 51/4546/147–148), Log in the Alexander Turnbull Library, Wellington, W. B. Monkhouse (BM Add Ms 27889), Robert Molyneux (PRO Adm 51/4546/152, Adm 55/39), Richard Pickersgill (Adm 51/4547/140–141), Francis Wilkinson (Adm 51/4547/149–150), Stephen Forwood (Adm 51/4545/133), James Bootie (Adm 51/4546/134–135), Jonathan Monkhouse (Mitchell Library Log), Charles Clerke (Adm 51/4548/143–144), Anonymous (Adm 51/4547/153, Adm 51/4548/154, Adm 51/4548/155), Joseph Banks's journal (Auckland Public Library Grey Mss 47–75) and Charles Green (PRO Adm 51/4545/151); see also Marra ([31]) and Parkinson ([34]).

[8] [8] See Henry's ([19]) discussion of two dolls given by a Russian navigator to a high chieftainess, who treasured them as the representations of two deceased women from her own family.

[9] [9] It could be worth checking whether Tahitian dyes, rather than English watercolours, were used for any of Tupaia's paintings.

[10] See Parkinson's ([34]) account of dyeing cloth. The Quaker artist also had himself tattooed, so his interest in Tahitian art was genuine. It is also interesting to note William Wales's comment after his first visit to Tahiti during the second voyage: "Since Europeans have come amongst them they sometimes print [bark-cloth] in diverse figures by dipping the End of a Bambo, cut properly, into the juice, in imitation of our Handkerchiefs; but they seldom ever wear it thus printed (in checkers?) themselves, at least I never saw them do it" (Beaglehole, [5]: 799).

[11] For accounts of British navigation in the 18th century, Taylor ([43]) and May ([32]).

[12] For an intriguing discussion of the work that charts and maps do, see Turnbull ([46]).

[13] See Cook in Beaglehole ([2]: 157). John Beaglehole, and, most recently, Nicholas Thomas ([44], [45]), Ben Finney ([14]) and David Turnbull ([47]) have all discussed Tupaia's chart at length, pointing out a basic misunderstanding over Polynesian directional terms in its construction, identifying the islands and assessing its accuracy and significance. Thomas ([45]) asks why this chart, "an extraordinary ... document that fuses an indigenous perception of the world with the moralizing cartography of the Enlightenment" has been so little remarked on, claiming that it presents "Tupaia's vision ... in its integrity." (Thomas, [45]: 4) The chart, though, incorporates Cook's understanding of the locations of some Pacific islands in addition to what Tupaia had to say, and is thus much more mediated than his paintings.

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By Anne Salmond

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