IN SEARCH OF **TE LAPA:**
A NAVIGATIONAL ENIGMA IN VAEAKAU-TAUMAKO,
SOUTHEASTERN SOLOMON ISLANDS

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David Lewis, in his classic *We, the Navigators*, discussed a phenomenon which he called “deep phosphorescence”. It is used for land finding by navigators in the Santa Cruz group of the Southeastern Solomon Islands (Lewis 1972: 208-11). A similar phenomenon was described to him by one navigator from Kiribati and one from Tonga; otherwise it seems to be unknown outside of the Santa Cruz area. Yet, his Reef Islander consultants regarded it as a fundamental part of their way-finding repertoires. Speakers of the local Polynesian language, known as Vaeakau-Taumako, call it *te lapa*.\(^1\)

Lewis described it in the following terms:

*Te lapa* has nothing in common with ordinary surface or subsurface phosphorescence (save that both can be seen best on dark nights)…. It comprises streaks, flashes, and momentarily glowing plaques of light, all well beneath the surface. Exactly like lightning, it flickers and darts and is in constant motion. It occurs a good deal deeper down than common luminescence, at anything from a foot or two to more than a fathom.

He went on to say that these lightning-like flashes emanate from islands and reefs, indicating the direction in which they lie, and that they are most readily visible between 80 and 100 miles from land. They become less obvious as one approaches land and disappear by the time land is in sight. The further from land, the more slowly *te lapa* moves, and *lapa* from reefs moves more slowly than that coming from islands. Lewis (1972: 209) reported observing what he called “near-land *lapa*” and “reef *lapa*” but not “distant-land *lapa*”. With the help of famed Pileni navigator Basil Tavake (Lewis spelled his name “Tevake”), he was able to identify distinct flashes coming from Tinakula volcano, Ndeni (sometimes spelled Ndenō) Island, and the reefs surrounding the small *makatea*-type island of Matema. He speculated that *te lapa* is related to “deep swell movement, perhaps to ‘ground swell’ or ‘backwash waves’ reflected from land or reefs” (p. 209) but was puzzled at the appearance of such a wave-generated phenomenon so far from land.

Other navigators from Taumako and the Outer Reefs, known locally as Vaeakau, broadly agree with Lewis’s (and Tavake’s) account. Marianne
Figure 1. Map of Solomons with inset of marked area (based on map drawn by Amanda Mullett).
George, who sailed with Lewis to the eastern Solomons and worked for over 15 years with the Vaka Taumako Project, has confirmed the thrust of those reports (George, pers. comm.). She disagrees with Lewis’s description of *te lapa* as “deep phosphorescence”, stating that it usually is at or close to the surface, and she leans towards electromagnetic fields for explanation. However, she agrees with Lewis and his consultants that it is a common phenomenon, readily observable if one just knows what to look for. Surprisingly, however, it has never been documented scientifically, published references to it are few, and islanders from other parts of the Pacific—with the two exceptions noted above—fail to recognise anything matching Lewis’s description. As Lewis himself observed (p. 210), even Tikopian navigators, “whose voyaging range overlaps that of the Reef Islanders and who are also Polynesians, do not know of *te lapa*”. For that reason, George, Ben Finney and I, in a study funded by the U. S. National Science Foundation, proposed “to inquire into how Taumako navigators home in on islands”, noting that “they seek land by observing streaks of ‘undersea lightning’… which point toward islands well before they can be seen….” Upon witnessing *te lapa* during sea trials, we planned to record its “location, shape, direction, and spread, and seek indigenous explanations”. In addition, we envisioned collaboration with marine scientists to develop a proposal for further investigation. Optimistically, we even imagined photographing *te lapa* and publishing those photos for the benefit of marine science.

In this article I describe my efforts over nine months of field research, from the middle of 2007 through the end 2008, to pin down *te lapa*. I discuss the observations of experienced sailors from Taumako, Vaeakau and other islands of the Solomons, their rather inconsistent accounts, and my own frustrating and inconclusive attempts to document it.

LOCAL UNDERSTANDINGS AND DESCRIPTIONS

In 2007-08, I spoke with dozens of experienced Taumako sailors, about a dozen mariners from the various Vaeakau islands, several Polynesians from Anuta and Tikopia, and a few Solomon Islanders of European descent. My experience with Tikopians and Anutans paralleled Lewis’s: even well-respected navigators showed only the vaguest recognition when I described *te lapa* to them. Vaeakau-Taumako sailors, by contrast, expressed little doubt about *te lapa*’s existence and navigational value, they largely agreed about a number of its characteristics, and many reported seeing it and depending on it during their own inter-island voyages.

Paramount Chief Crusoe Kaveia, who passed away in 2009 at about 90 years of age, was regarded by many as the most accomplished Vaeakau-Taumako navigator of his generation. He, in collaboration with Marianne
George, founded and led the Vaka Taumako Project, an effort to revive traditional canoe-building and voyaging skills in the region. In a conversation on 14th September 2007, shortly after my first arrival on Taumako, Kaveia characterised *te lapa* as an indication that one is approaching an island and described it as resembling lightning. However, he insisted that it does not have a lightning bolt’s zigzag pattern but comes in a straight line running directly from its island of origin. He indicated that one might see *te lapa* from the Reef Islands while still fairly close to Taumako, 80 to more than 100 miles away. At distances greater than that, he averred, it is not perceptible.² He asked me if Europeans experienced *te lapa* and I replied that David Lewis’s reports had met with some scepticism. He was incredulous, since to him it seemed so obvious and important. He did, however, object to Lewis’s characterisation of *te lapa* as “deep phosphorescence”.

Figure 2. Paramount Chief Kaveia on outrigger platform of voyaging canoe.
Also contrary to Lewis, Kaveia asserted that *te lapa*’s contours do not vary depending on the source. Rather, one knows which island is generating a particular appearance by the direction. If, for example, one departs Taumako, is heading westward, and sees *te lapa* off the port bow, it is likely from Ndeni. If that is true, however, one must already know the canoe’s general heading to identify which island is indicated. Therefore, it must be an auxiliary—not a primary—navigational indicator. That point is consistent with the statements of other Vaeakau-Taumako navigators, who emphasise stars, wave patterns and the ‘wind compass’ (*te nohoanga te matangi*). Still, Kaveia noted that *te lapa*’s intensity varies with its distance from the source island, and perhaps with the island’s size. And George (pers. comm.) has suggested, plausibly, that the different configurations cited by Lewis may reflect the intersection of *te lapa* from different islands at any given point.

On another occasion, I had an in-depth conversation with Mostyn Vane and Fox Boda, both experienced sailors. Fox is a nephew and foster son of Crusoe Kaveia and is one of his most devoted apprentices. Both regarded stars as the primary navigational aid. *Te lapa*, they said, is second in importance, with wind and waves third. *Te lapa*, they said, looks like lightning. It is on the surface and appears about once an hour throughout the night. It points to an island and enables the navigator to correct his course if he starts to go in the wrong direction. It is reliable for as much as 60 to 80 miles, but not hundreds. Moreover, it is invisible when one is too close to any island. From just outside Taumako’s reef, for example, one cannot see *te lapa* either from Taumako or the Reef Islands.

On the 2nd of October, I had a long talk with Abraham Maone, an important leader and experienced sailor, about 80 years of age. When he was young he did a good deal of sailing throughout the Santa Cruz Islands and said that much of his voyaging was with the famous Basil Tavake. Maone considers himself to be a capable navigator and asserted that even if he is turned around several times, he can orient himself with respect to all the nearest islands. He uses an array of tools, including the stars, winds, swells, reflected waves and *te lapa*. Among these, no one is primary; in his opinion, they are “sems-sem” ‘all the same’. If one is unavailable, the navigator simply looks for others. If one cannot see the stars, one goes by the wind. If the wind changes, one navigates by the swells (*hokohua loa*). When the canoe gets close to an island, the navigator knows by the reflected waves (*hokohua ssuki*). *Te lapa* is important, but primarily as one is homing in on an island. He agreed with Kaveia that one cannot *normally* see *te lapa* from Makira while in the neighbourhood of Santa Cruz or *te lapa* from Tikopia when one is near Taumako. If the wind is strong and conditions are right, however, one may sometimes see it from such distances. Like Kaveia, he said one knows which
island te lapa is coming from by its direction relative to the canoe and other appearances of te lapa, rather than by its shape. Normally, it appears as pretty much a straight line.

Moses Memuana is another of Taumako’s important leaders and one of the community’s most experienced inter-island sailors. In 1980, he sailed with Crusoe Kaveia and several others aboard a voyaging canoe from Taumako to Vella Lavella in the Western Solomons. He told me that he never served as captain (aliki vaka) of his own canoe, but he professed confidence in his ability to read the stars, swells, reflected waves and te lapa. On the trip to Vella Lavella, he spent much of his time at the helm and, he said, depended fairly heavily on te lapa.

Jonas Holland, like Moses, is among Taumako’s most accomplished navigators and sailors, and he was also on the voyage to Vella Lavella in 1980. In a number of lengthy conversations, he described following wave patterns during the day by sight and at night by feel. Then he discussed what he referred to as his “compass”, by which he meant te lapa. He said it comes straight from an island and is fairly constant throughout the night. I told him I had not been able to observe it, and he suggested that was because it passes very quickly—“like lightning”. But unlike a lightning bolt, which has a kind of zigzag conformation, he agreed with Kaveia that te lapa comes in a straight line. I asked if it is something one sees every minute, every hour, or perhaps once a night. He responded that it is fairly constant. In contrast with Kaveia, Jonas said that one can follow te lapa most of the way from Lata to Makira. Even at distances of hundreds of miles, it will guide the navigator who knows to look for it.

I was given a quite different view by Clement Teniau, a respected navigator from Nukapu Island in the Polynesian Outer Reefs (Vaeakau). Teniau is Kaveia’s sister’s daughter’s husband and, at about ten years younger than Kaveia, was approximately 80 years of age when I met him on Ndeni in 2007. He never owned his own voyaging canoe but sailed extensively with his father and other skilled navigators when he was young. He sailed to all the Vaeakau islands as well as Ndeni, Utupua and Vanikoro, and even Tikopia. For several decades he has made his home at Manongi, a subdivision of Otmongi Village on Ndeni, and regularly makes the voyage to Lata, the provincial capital, in either his large dugout or a borrowed fiberglass canoe, relying on a combination of outboard motor, sail and paddle. He continues to visit Nukapu where he still has family and land, usually making the half-day trip by motor canoe. He is well regarded for his knowledge of the sea and is one of the few living navigators for whom Kaveia expressed genuine respect. I also had the opportunity to travel with Teniau through much of the Santa Cruz area and to talk with him about his navigational procedures (Feinberg
and Genz n.d.). Unlike most of my interlocutors, he insisted that his primary guide is the swell patterns, with stars and te lapa playing distinctly secondary roles. Te lapa, he reported, can only be seen when one is very close to an island; close enough for visual sighting in good weather and daylight. In bad weather, at night, however, it can be extremely useful.

Nathaniel Leiau, in the view of many Taumako, is the island’s second most accomplished navigator after Chief Kaveia. In his view, te lapa’s range is similar to that of reflected waves. If one sails from Taumako to Nifiloli and leaves around 4 pm, both reflected waves and te lapa from Nifiloli become perceptible before 2 am. Expected arrival time would be around 6 or 7 in the morning.

In sum, Vaeakau-Taumako of a generation that learned the arts of inter-island non-instrument way-finding considered te lapa to be an important navigational tool. They disagreed on how far from an island it is visible and precisely how reliable it is, but no one questioned its existence or utility. Many younger islanders, however, appeared unfamiliar with the phenomenon, said they had seen it rarely if at all and disagree about its fundamental characteristics. Honourable Stanley Tehiahua, Taumako’s representative to the provincial
assembly and a man in his 30s, for example, agreed that *te lapa* looks like lightning near the surface of the water but described its shape as resembling a zigzag lightning bolt rather than the more-or-less straight line in his elders’ accounts. Others of his generation were still less certain of its appearance.

One example was my friend Basil Tavake, namesake of the illustrious Pileni navigator. Tavake was one of Taumako’s most avid fishermen, and it seemed that with all the time he had spent on the water he should be a good authority on *te lapa*. At first, he asserted that one often comes across it close to shore and sometimes even sees it from the beach. After further conversation, however, he agreed that what he had described was not *te lapa* but ordinary bioluminescence (*te ikalama*).

Another Taumako man who knows the ocean well is Luke Vaikawi. Luke is around 40 years of age and has worked as a patrol boat officer in the Royal Solomon Islands Police for approximately two decades. He is interested in learning as much as he can about traditional navigational techniques and reported to me that he is adept at feeling wave patterns. In all his years at sea, however, he could not recall a sighting of *te lapa*.

**VOYAGERS FROM OTHER ISLANDS**

Unlike Vaeakau-Taumako sailors, islanders from elsewhere in the Solomons showed little recognition of *te lapa*. When I repeated the descriptions of my Vaeakau-Taumako interlocutors to islanders from Tikopia and Anuta, I received a few vague hints of recognition. The most positive response that I received was from Anutans Frank Kataina (Pu Teukumarae) and Mike Rotu. They said they have no word for the phenomenon, but that it might be what some fellow islanders call *te rotoara* ‘the road’, *te mārama* ‘light’, *te purapura* ‘flashing light’ or *te pakamarū*. A *pakamarū* is a men’s bark waist cloth. They stated that it is as if someone were to unroll a long, bright bark cloth strip that stretches from the canoe to the island.

Pae Marepe, an elderly Tikopian, had extensive seafaring experience in a variety of vessels, including a small canoe that he paddled to Vanuatu during the Second World War. I asked if he were familiar with what Vaeakau-Taumako call *te lapa*. He was unfamiliar with the word, but when I explained it, he responded with apparent recognition and offered two Tikopian expressions: *te mapurapura* and *te māramarama*. However, he immediately opined that it is less reliable than stars and waves.

I received another hint of recognition from John Tepēpe Kilatua, a man from Sikaiana, a Polynesian atoll in Malaita Province. It appeared, however, that this was something he had picked up from Taumako and Reef Islanders over several years of living in Temotu Province.
Ross Hepworth is a Solomon Islander of European descent. His parents sailed to the Solomons from England a half century ago, settled there and established a successful trading business on Pigeon Island in the Reefs. Ross grew up on Pigeon Island and has spent much of his life on or around the water. He told me that he had, indeed, seen *te lapa*, and remarked: “It’s the most amazing thing!” His description, however, was rather different from that of indigenous islanders. He said it looks like lightning way off on the horizon, but it is in the water and is clearly something different from true lightning. He has never witnessed it from a ship but has seen it from a motor canoe. He speculated that a ship’s deck may be too high above the water, creating a poor angle for observation. His motor canoe averages about 20 knots—considerably faster than local cargo ships. By his reckoning, then, high speed and turbulence should not be obstacles to viewing *te lapa*. Ross considers it to be a thoroughly reliable guide when visible. However, he has only seen it “about three times” in his life.

**MY HUNT FOR *TE LAPA***

One goal of my 2007-08 study was to document, describe and perhaps photograph *te lapa*. However, it proved exasperatingly elusive. To view it one must be at sea at night, and experts insisted that one must be at least five or ten miles from the nearest island. Most maritime activity during my investigation occurred in daylight and was relatively close to shore. No voyaging canoe was in operation, so I had no opportunity to observe traditional navigators plying their art under normal conditions. Most inter-island travel in the Santa Cruz region in the 21st century is by motor canoe. Travellers rely largely on visual sighting of the target island and, secondarily, on a magnetic compass or—in a few cases—GPS. I did make a number of multi-day voyages aboard cargo ships and spent many hours on the deck at night scanning the ocean for some sign of *te lapa*, but to no avail. A few times I thought momentarily that I might have sighted my quarry, but it turned out to be the moon’s reflection on the ocean’s surface. That, however, did not dissuade my interlocutors from their conviction that it was, indeed, “out there”. Some opined that I could not see it because the ship’s deck was too high above the water. Others suggested (contra Ross Hepworth, see above) that we were moving too fast. At length I did manage to make several nighttime trips via canoe, but *te lapa* remained elusive.

My best opportunity occurred after I left Taumako. My friend and master navigator, Clement Teniau, agreed to show me four of the five Vaeakau islands. The expedition included three night-time excursions. Still, I came up empty-handed.
The first leg of the trip was from Lata to Otmongi, Teniau’s home village on Ndeni Island. I departed in a wooden dugout with Teniau’s son Lionel on the afternoon of 18th November 2008. The plan had been to leave early in the day, arrive at Otmongi village around midday and leave for Nukapu at 7 pm, shortly after nightfall. As it turned out, we were unable to get underway until late afternoon, and by the time we paddled to Otmongi it was 8 pm. As we approached our destination, I observed something that looked like descriptions I had heard of te lapa: a ribbon of light stretching from the canoe’s vicinity toward shore. However, we were quite close to the island and, on further inspection, it proved to be the reflection of a fire on the beach.

The next morning, Teniau, his son Lionel and I traveled together to Nukapu, Teniau’s original home island. We stayed overnight at a house he still maintains there and on the 20th we made our way to the Vaeakau islands of Pileni and Nifiloli. On the 21st, after consulting with an old Nifiloli sailor named Peter Taea, we continued to Matema where we spent the afternoon and evening. This portion of the voyage is described elsewhere (Feinberg and Genz n.d.).

Our next destination after Matema was Kala Bay on Ndeni. We planned to make the voyage at night, arising at 2 am for a 3 o’clock departure. At 2:30 Teniau was still asleep, so I nudged him and asked if he still wanted to sail at night—what little of it was left. He got up, woke Lionel, and after some additional delays, the three of us cast off at 3:30. We were joined by two additional human passengers and a very large pig.

I had hoped for an earlier departure, but Teniau insisted that the trip would not take long and was concerned about arriving at a time when everyone at Kala Bay would be asleep. However, dawn began to break at around 4 am, so by getting underway at 3:30 we only gave ourselves a half hour to see te lapa. It took us that long to get away from Matema and close enough to Ndeni for te lapa to be potentially visible. In a perfect world, we might have been able to view it coming behind us from Matema; but that was directly in the path of the moon, which rendered invisible any lapa that might have been present. Since the moon did not rise until late, and up to 3 am it was obscured by clouds, an earlier departure could have provided at least a one- or two-hour window of opportunity. But it was not to be.

After spending much of the fourth day at Kala Bay, we returned to Otmongi and, that evening, decided to make an all-out effort. Gordon Otai, Teniau’s neighbor and the canoe’s owner, joined us, along with two other men whom I did not know. They all had spent considerable time at sea but had never witnessed te lapa, and they were as anxious as I to be introduced to this important navigational phenomenon.

We cast off at 7:20 pm, shortly after full nightfall. The night was clear, with scattered clouds; and it was very dark, as the moon would not rise for
several hours. We sailed straight for Tinakula, figuring that there should be a strong system of *lapa* generation from that fairly large island. As on our first day, when we sailed for Nukapu, the swell coincided with the wind, both coming from the northeast.

We continued north-northwest toward Tinakula, with Lionel at the helm, at a moderate speed of seven or eight knots. There was plenty of bioluminescence, but nothing I could describe as resembling “underwater lightning.” After an hour, Teniau (who was standing with me in the bow) proclaimed that we were going too fast, and he told Lionel to slow down. After another hour of traveling at three to five knots and not seeing *te lapa*, he declared that it was there but was obscured by the strong wind and rough sea. However, if it only is perceptible in good weather, it would seem to be of little value. In clear weather, one can see the stars, the sun and the waves with minimal interference, and one can also see the island from a long way off. It is precisely because bad weather can obscure the other tools that *te lapa* is supposed to be important.

By this time we were close enough to Tinakula that Teniau said if it were daytime we could see waves breaking on the coast. This was too close for its *lapa* to be visible, so we turned around to head home. I continued to stand
In the bow, hoping to see flashes from Ndeni, and a few times I observed what I could almost convince myself was more than a distant flicker of bioluminescence or a star’s reflection. However, I saw nothing that looked like it would be a reliable guide to an island if one were lost at sea. My companions all agreed that we had failed in our quest. Teniau announced that we would have had a better chance of success had we sailed toward Matema. Every one of its four reefs, plus the island itself, plus the other Vaeakau islands and their reefs, should be giving off te lapa. He also said that the longer reefs and bigger islands give off “longer” lapa emanations than their smaller counterparts. He announced his intention to take me back to Matema at night in search of te lapa; but that opportunity never materialised.

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My attempt to document te lapa ended in frustration. I even noted in my journal feeling as if I had been searching for the “abominable snowman”. Am I ready to conclude that te lapa is a figment of the Vaeakau-Taumako collective imagination? Almost, but not quite. David Lewis (1972) and Marianne George (pers. comm.) both have reported witnessing it. Elderly navigators from the Vaeakau-Taumako region are in unanimous agreement that it has been an important weapon in their way-finding arsenal. And even my Anutan and Tikopian consultants offer vague hints of recognition when it is described.

At the same time, there are ample reasons to be sceptical. Younger sailors, even those with extensive seafaring experience, rarely report having seen it. When they do claim sightings, their descriptions often are at odds with those of their elders. And even older navigators disagree on such crucial matters as how far from land it may be seen, and whether the phenomenon looks different depending on the reef or island from which it has emanated. Just as problematic, in nine months, over a two-year period of concerted effort, I found only one navigator who was willing to embark on an expedition to search for te lapa. And that expedition, plus countless hours of observation from the decks of ships, failed to produce any positive results. Although I am not quite ready dismiss te lapa out of hand, it is hard to see how a phenomenon so rare and difficult to find could be a dependable navigational tool, particularly in an emergency situation—precisely when it would be needed.

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NOTES

1 Vaeakau-Taumako has been well documented in a series of publications by Evan Hovdhaugen and Åshild Næss, particularly Hovdhaugen (2002, 2006); Hovdhaugen and Næss (2002); Næss (2000a, 2000b, 2004a, 2004b); Næss and Hovdhaugen (n.d.).

2 On another occasion, Kaveia reported that he had used te lapa in 1980 when he navigated between Ndeni and Vella Lavella, well over 500 miles apart. He later clarified, however, that his main guide was the stars. Te lapa was an auxiliary tool, used primarily for homing in on an island when it was still invisible but within a few dozen miles of his canoe.

REFERENCES


ABSTRACT

David Lewis, in his classic *We, the Navigators*, discussed a phenomenon that navigators in the Santa Cruz group of the southeastern Solomon Islands use for land finding. Lewis described it as akin to underwater lightning and referred to it as “deep phosphorescence”; speakers of the local Polynesian language call it *te lapa*. Here I present the somewhat inconsistent *lapa*-related observations of experienced sailors from Taumako, Vaeakau, and other islands of the Solomons as well as my own frustrating and inconclusive efforts over nine months of field research to observe and document it.

*Keywords*: Polynesia, Solomon Islands, navigation, *te lapa*. 