The Canoe Is the People

Indigenous Navigation in the Pacific

BECOMING A NAVIGATOR

United Nations
Educational, Scientific and
Cultural Organization

LINKS
Local and Indigenous
Knowledge Systems

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Becoming a Navigator

Becoming a navigator is a lifelong experience. Learning happens in many places (the home, the canoe house, the sea) and in many ways. On Satawal, everyone learns some things about canoes and sailing from a young age – for example, by playing with model canoes. Children, including girls, learn mostly from their father or uncles. If their mother is a navigator's daughter, she teaches them what she knows too.

But there is also a lot of secret knowledge. This includes knowledge about navigation, canoe building, the weather, and even knot *divination*[*]. The knowledge is like property. Secret navigational knowledge is passed on only through certain families. In the past, a tribal group without a navigator would sometimes pay to have a student trained. Some young men learn in the school of a reb (master navigator). They are initiated through a pwo (initiation ceremony for navigators). There were once many traditional schools in the central Carolines, but only two remain – Warieng and Faaluur.

In the Marshall Islands, navigational knowledge is considered a sacred gift from the ancestors. Only some families have access to it. Polynesian people say that knowledge is mana – the power to change. In Tonga, there were special navigator tribes like the Haa Fokololo oe Hau, who navigated the kalia (double hulls) of the tui Tonga (kings). A young boy from a high family was chosen to learn on board. Some boys were trained as ula lahi (navigators), and some as lomu lahi (canoe builders).

Video 1 - Cook Islands navigator Tua Pittman

In traditional navigation, you never know if you have enough knowledge. You never know. You never know what the elements will put up in front of you, so you are forever learning.

Video 2 - Satawalese navigator Jerome Rakilur

The first time I heard about navigators, I very much wanted to be one of them so that I could go to the far islands, like Pik or Pikelot. I first learned from one of my uncles from Pulusuk when he came to Satawal.

[*] NOTE: Definition of words in *italics* can be found in the Glossary in the CD-ROM Storehouse.

Video 3 - Satawalese Lourdes Lepanemai

My grandfather, Safwa, and my father, Fituu, were both navigators. They taught us that if we have kids, we should teach them too. That way, when my grandfather and father die and we go on a sailing canoe, we can still direct the canoe if we get mana (lost in the ocean). The crew can know where they are in the ocean.

Video 4 - Canoe builder and navigator Sir Tom Davis (Papa Tom)

Navigators were very secretive of their knowledge. I think they let friends know, and their apprentices and the passing on of the navigational methods they used were through family, preferably their own children or their nephews, this knowledge was passed on. Knowledge is mana, authority. If you have it, you have something better than anybody else has.

Story 1 - Father Teaching Son (Caroline Islands, Micronesia)

One of the greatest navigators was Anoun Foeng, from Lukunor Atoll in the Caroline Islands. His son, Sou, loved to practise navigation with his father. One day, Anoun decided to test Sou's navigation skills by voyaging to Moen Island in Truk Lagoon. As they sailed, Anoun taught Sou many secrets of navigation.

One morning, after some time on Moen, Anoun took his son to the beach. There, they checked the weather. At sunrise, they chose a day to return. Helped by his father, Sou set their course for home and led the voyage. They stopped first at Losap Atoll in the Upper Mortlock Islands, then at Piafo. Piafo was very beautiful, and they stayed for some days. Sou didn't want to leave. But the journey couldn't continue without his son, so Anoun promised that Sou could own the island when they got home to Lukunor.

Sou couldn't imagine how this could be true – he didn't know that Anoun had spiritual powers called Ngorongorin Faneu. Anoun whispered to the spirits, and Piafo moved from the reef on Losap to the reef on Lukunor. Sou was overjoyed when he got home to find Piafo waiting for him.

In modern spelling Moen is Weno and Truk is spelled Chuuk.

1 Ways of Learning and Remembering

Navigator Jacko Thatcher from Aotearoa (New Zealand): "It wasn't until I started learning the Maori names for the European stars … and I realised I've seen these before somewhere … I [went] through my old songbook from my school days, and there it was …" He had once learned a waiata (song) that named the same stars:

Takinga mai ra ko nga hui a Matariki,
Tuanga, Tautoru, Kangaroa-Atutahi,
mai Karewa, te tini o te whetu ariki.

Here above are the stars of Matariki,
Tuanga, Tautoru, Kangaroa-Atutahi,
and Karewa, the many chiefly stars.

From Bader, H. and McCurdy, P., eds (1999).

Until modern times, knowledge about navigation wasn't passed on through books … or CD-ROMs! It was passed on by careful watching, listening, repetition, and practice. Ways were developed to make the knowledge easier to remember and to preserve it over time. Everything had to be memorised because nothing was taken to sea — not like western compasses today. The sky and sea were often "mapped" using real objects (for example, stones or sticks to show stars or wave patterns) or mental images. Songs, chants, and stories helped navigators to remember the knowledge.

In Aotearoa, knowledge about the stars was recorded in some tukutuku (weavings), and in Samoa and other islands, it could be shown in tapa cloth (painted bark cloth) or in people's tattoos — for example, on women's legs.

Video 1 - Hoturoa Barclay-Kerr of Te Toki Voyaging Trust

So the next thing for us is to do what we do quite a lot with our young people. We take them out and show them. We take them somewhere, and then we say, "Look, you go and hold this, you touch this, you do this, and once you do it, you remember." And so I think that one of the biggest differences for us is that as soon as we can after talking about something, we take them to do it. Whereas often if they were at school, they would have to spend maybe three to four weeks learning about something before they might get a chance to have a little bit of a practical demonstration of something.

1.1 Satawal Ways

Nang (Star Compass)

To learn about stars, stones or pieces of coral are placed on a mat in the ut (canoe house). These represent the stars in the sky. Europeans call this a star compass, but it's really more like a map of the sky.

First, the student learns the names of the most important stars for navigation and where each rises and sets on the *horizon*. The stars are divided into groups for memorising. He learns to recall pairs of opposite stars. This helps him to remember the return course for any path. The most detailed step is learning the star paths to certain islands. He learns the positions of the stars in relation to parts of his canoe when he is sailing on different paths. He also learns about the stars that pass directly above particular islands – the *zenith star*. He practises on the beach at night to learn his own island's star paths.

Video 1 - Satawalese navigator Mau Piailug

Satawalese navigator Mau Piailug shows the star compass to some children and names some stars as they are seen from Satawal.

From The Last Navigator © INCA 1989. Directed by Andre Singer.

Ofanuw (Island Looking)

Ofanuw (or wofanu) is a way of remembering the star paths to certain islands. The student chooses an island. Using that island as the centre, he goes around the star compass and *chants* all the islands that lie in each direction: "I sit on Satawal. I go rising Mailap to Chuuk." This forms an island chart in his mind. He does this with all the islands: "I sit on Chuuk. I go setting Mailap to Satawal."

Later, he learns to include reefs and then living sea marks. In the evening in the ut, the older men test the younger men and each other. It's endless practice!

Video 1 - Maverick Eranginug

Maverick Eranginug points out the directions of the islands around Satawal.

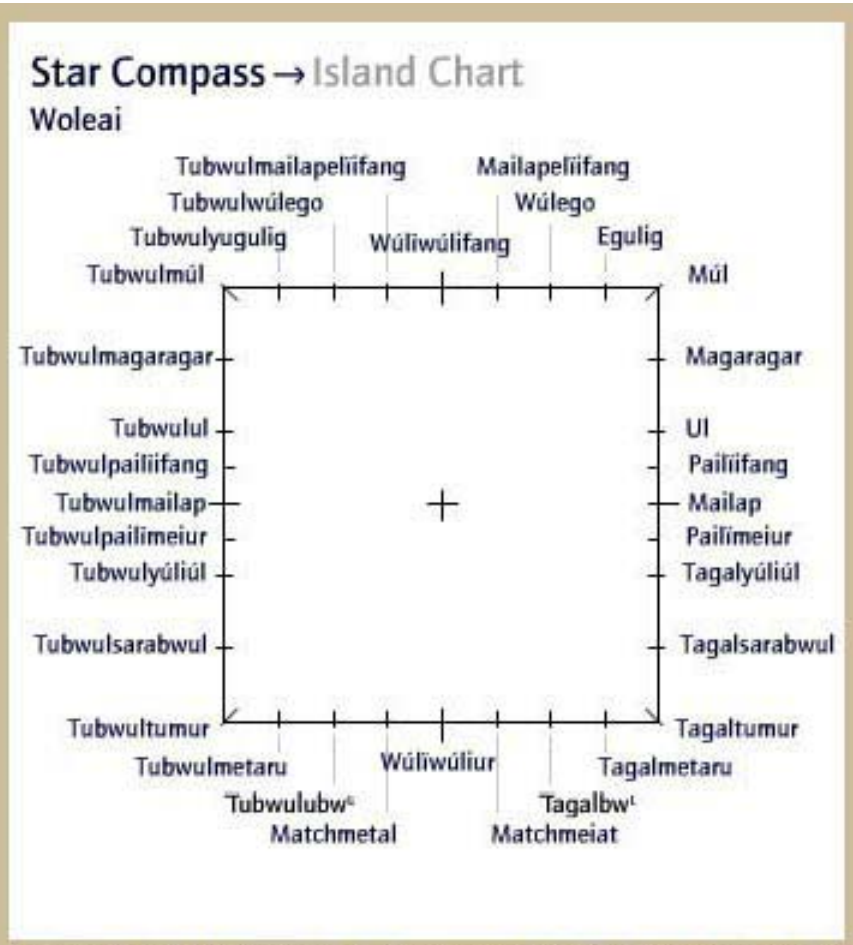


Diagram based on diagram which appears in "Systems of Measurement on Woleai Atoll, Caroline Islands" by W, Alkire, 1970, pg 42.

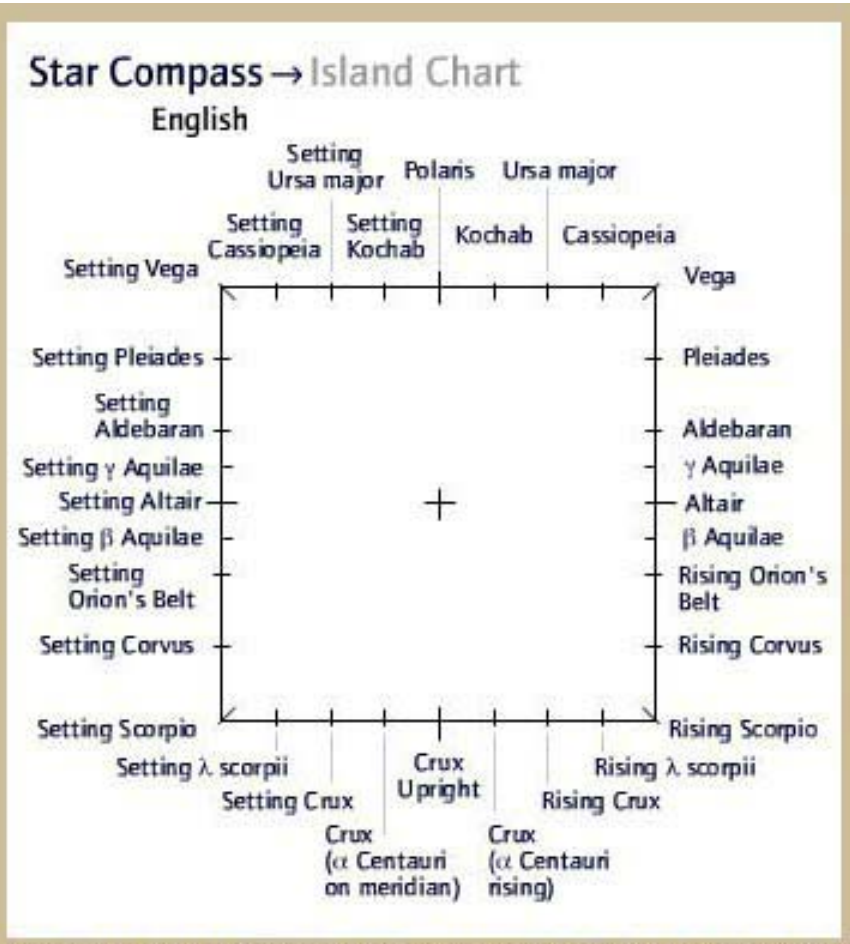


Diagram based on diagram which appears in "Systems of Measurement on Woleai Atoll, Caroline Islands" by W, Alkire, 1970, pg 42.

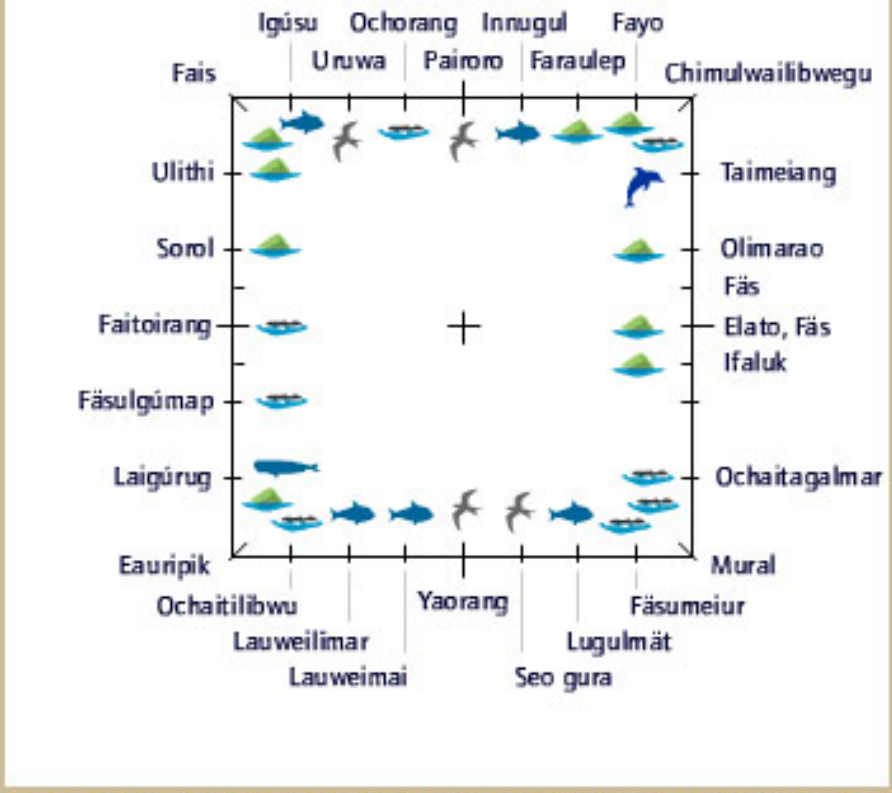
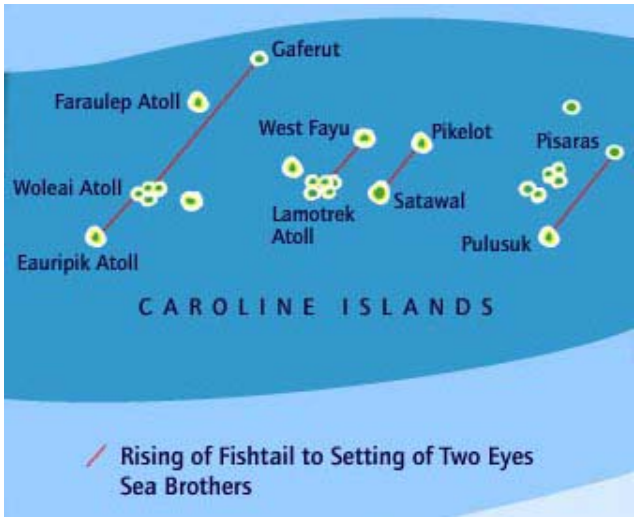


Diagram based on diagram which appears in "Systems of Measurement on Woleai Atoll, Caroline Islands" by W, Alkire, 1970, pg 42.

Arurwow (Parrot Fish)

Like ofanuw, arurwow is a way of remembering the star paths between islands. The navigator imagines an ura (parrot fish) hiding in the wow (reef channel) of an island. When the fisherman tries to catch the ura, it swims to the wow of the next island. Again the fisherman tries to catch the ura, and again it swims to the next island. Finally, it returns to the wow in Satawal. Because navigators never say the island names in arurwow, they can use it to talk about voyages in secret (the same as in sea brothers).

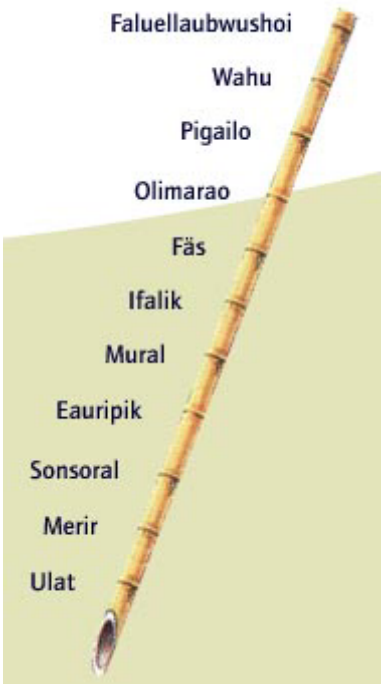
Sea Brothers



Navigators name all the sea roads between islands and reefs. For example, sailing on the Sea of Beads means sailing between Woleai and Eauripik on the star course from Rising of Fishtail (in Cassiopeia) to Setting of Two Eyes (Shaula in Scorpio). By using these names, they can say where they've been without other people understanding! With sea brothers, they group sea roads that use the same star compass points. For example, on the course from Rising of Fishtail to Setting of Two Eyes, there are several sea roads. These connect the islands of Pisaras and Pulusuk, Pikelot and Satawal, West Fayu and Lamotrek, Gaferut and Woleai, and (as mentioned above) Woleai and Eauripik. If a navigator forgets the directions from Woleai to Eauripik, he might remember that this sea road is brother to the West Fayu–Lamotrek sea road.

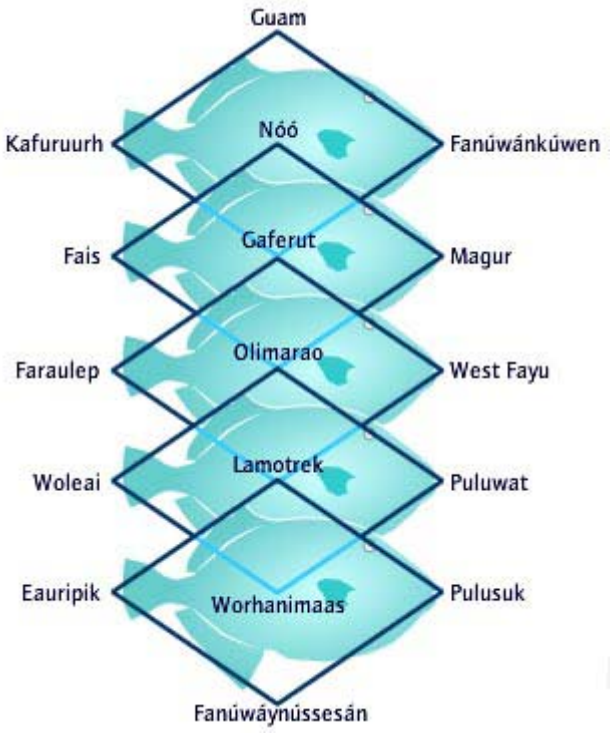
Yet (Pole Charts)

The navigator uses the image of a yaoiteyet, or long bamboo pole, to help remember what he will find when travelling from one island in a straight line to another under a particular star. The pole charts that he keeps in his mind list reefs, islands, and other reference points.



Pwuupw (Triggerfish Charts)

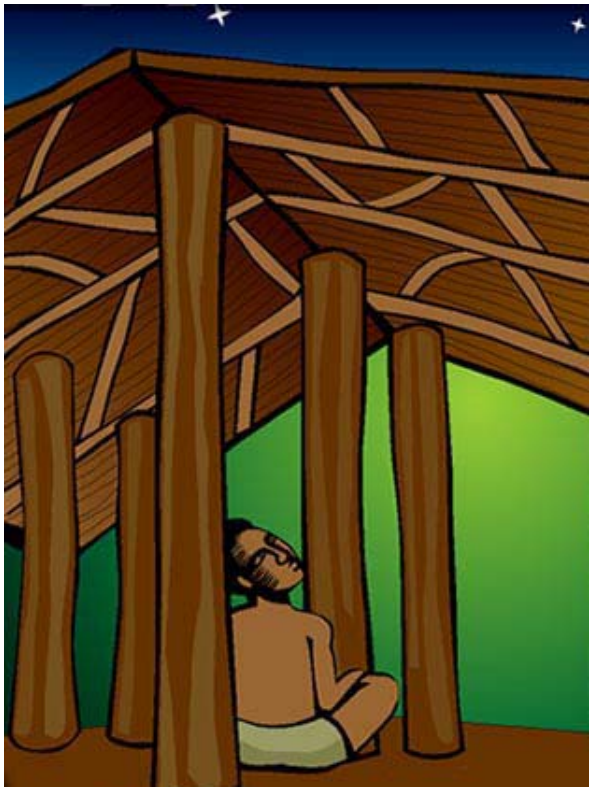
Pwuupw (or bwubw) is the Satawalese name for the diamond-shaped triggerfish as well as for the Southern Cross (also diamond-shaped). Both are important in navigation. The triggerfish image helps a navigator to map and remember the positions of islands in his mind. He imagines a triggerfish lying on the sea. He places himself in the middle of the fish and associates islands and other points (like reefs, *swells*, and sometimes mythical islands) with the five parts of the fish: the head, spine, tail, and two fins. A single triggerfish map overlaps others to provide a large triggerfish map of an area, called pwuupwunapanap.



1.2 Kiribati Ways

Uma Ni Borau (Roof of Voyaging: Star Compass)

Like the use of stones in Satawal, this is another way to learn the star compass. In Kiribati (Gilbert, Phoenix, and Line Islands), the roof of the maneaba (meeting house) represents the night sky. A young navigator sits by the central pole. He faces east and looks up. Various oka (rafters, poles) divide the sky into sections. The student first learns the stars in one section (where they are for each season) and then in the next sections. He might have to remember the names and positions of more than 100 stars! He also learns star paths – the order of stars to follow to reach an island. Stories about gods or heroes help him to remember.



Stone Canoe

In Kiribati, stones are arranged into a canoe shape to teach about the stars and ocean *swells*. To learn the star positions for his island, the student sits on a large rock – as if he is sitting in his canoe. When he learns about swells, the large stone represents his island. The smaller stones represent the wave patterns where the different swells meet.

Figure 1: Diagram based on the diagram which appears in We, the Navigators: The Ancient Art of Landfinding in the Pacific by D. Lewis, 1994, pg 229.

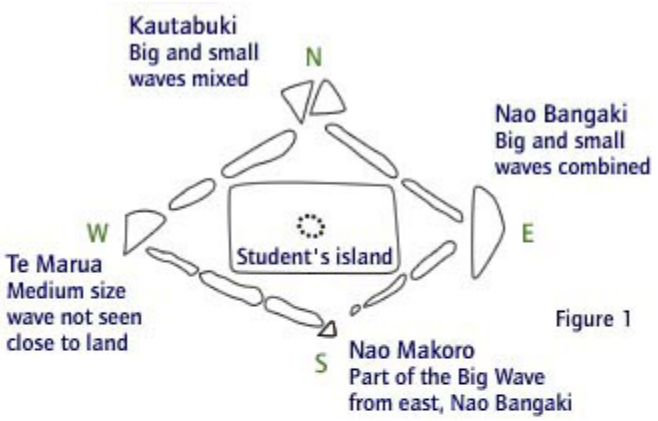


Figure 1

An instructional stone canoe, Beru, Gilbert Islands.

1.3 Marshall Islands Ways

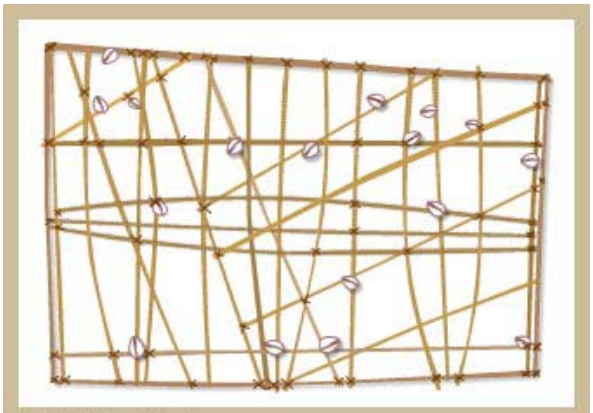
Stick Charts

The Marshall Islands chain stretches along the face of the predominant *swell*. This makes the swell very useful for navigation. Teachers make young navigators lie on their backs in the ocean to learn how to feel the swell. For teaching the main patterns, the Marshall Islanders tie sticks together. They attach shells to indicate islands.

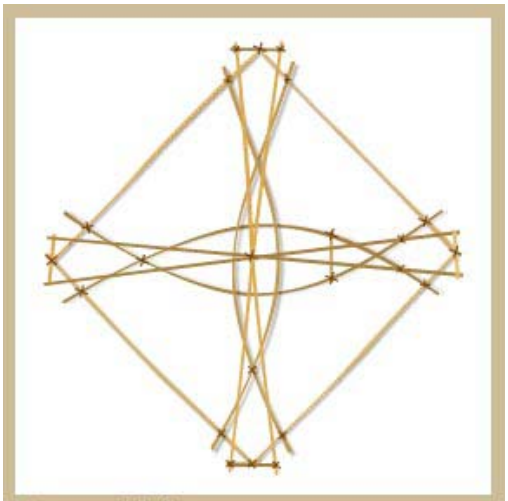
• The mattang is a *sophisticated* model used to teach students how swells bounce off islands and affect one another.
• The rebbellith and meddo are navigational charts that show how to get from one island to another by following the swell patterns. A return voyage has a different chart. The rebbellith covers the Radak or Ralik island chains or both. The meddo focuses on a smaller group of islands.

It would be embarrassing for a navigator to carry a chart with him on a voyage because he should already know what it shows. In the past, only a few people were taught how to make the stick charts.

Note: The above information is from research done over a hundred years ago by Captain Winkler of the German navy. It has yet to be confirmed by the few remaining people who know about stick charts. Other researchers talk of a wabebe chart (instead of a mattang), which they say shows the swells around a single island.



Rebbellith stick chart



Mattang stick chart

2 Initiation and Rank

On Satawal and other Carolinian islands in the past, boys went through a pwo (initiation ceremony for navigators) to become palu (initiated navigators). The Catholic Church stopped the pwo ceremony 50 years ago. This is now changing and some parts of the ceremony are once again being performed.

The pwo lasts about four days, but training goes on for many months afterwards. During the pwo, the boys stay in the canoe house and have no contact with women. They are taught secret knowledge about navigation and learn their role as navigators. After, there's a big ceremony with dancing and singing. The women prepare the food for the men separately. They oil the palu and paint him with yellow turmeric, which has spiritual properties. The families of the palu give tur (valuable weavings) to the teacher. The teacher then takes a student on his first voyage to a distant island. If the student succeeds, he can do longer voyages. He is no longer mesag (afraid).

Palu are the lowest *rank* of navigators. Reb (master navigators) are the most wise, skilled, and respected navigators. Only one man on an island is given the rank of most senior navigator. He has a special hand tattoo, sometimes showing star paths.

Video 1 – Kenneth Urumolug's pwo ceremony

In June 2002, a shortened version of the pwo ceremony to initiate navigators is performed on Satawal for the first time in over 50 years, as part of celebrations for Kenneth Urumolug's ordination as a Jesuit priest. Kenneth is prepared for the pwo by the women of his family, and Mau Piailug, master navigator, conducts the initiation. He confers spiritual power while attaching a coconut leaf bracelet to Kenneth's wrist.

From Becoming a Navigator, Becoming a Priest © UNESCO 2004. A film by J. Blumberg, R. Hunter-Anderson, R. Apusa, and B. Feinberg.

Video 2 - Satawalese navigator Lewis Repwanglug

I was 18 when I was initiated in the pwo.
Interviewer: 18? So he'd been sailing for 4 years before he did the pwo. And was it here in Satawal?
Translator: Yes.
Lewis: I'm like Roy Rogers, the straight-shooting cowboy in the movies. I could hit any island!
Translator: He says that's why he really, you know, like he really concentrates on where he's going to go. His first trip to Pikelot was only one time and he reached the island, so he's never scared to go to Puluwat, to anywhere.

Video 3 - Satawalese navigator Jerome Rakilur

The first time I sailed, I travelled to Pik on the canoe named White Horse that belonged to Weneito. Five men were on my canoe. When I was learning navigation, I still remember that they told me, "If you go on a canoe, you will not be afraid. You have to be strong, not afraid. If you are sailing for the first time, you will not be scared any more once you see the island." So the first time we went to Pik, I was very mesag (afraid) because I might die in the ocean. I was also afraid for my crew of five - that they will get angry with me. That was my first time sailing. After that I was not scared any more. I travelled many times ... going to Pikelot, going to Lamotrek. My uncles had told me that if I reached the nearest island, my fear would be gone. After that I wanted to sail to distant islands, because I felt that I could do it. I felt that I could sail to Woleai and Pulowat and could not be scared.

3 Role of the Navigator

Ua fili e le tai se agavaa … the sea tests the quality of a sailor.
Samoan saying

In Pacific communities, navigators are highly respected – not only for their practical skills but also for their wisdom. A navigator has to know huge amounts of information about the environment. Having access to navigational knowledge is an honour, and a navigator has a responsibility to use, protect, and pass on that knowledge in a way that best serves the community. He also has to live by the highest values — like modesty, respect, and patience. He is seen as the father of his crew and must protect them from danger. He is considered a wise leader, both on and off the canoe.

When navigators and their crews are away, the community sings to keep them safe and to be close to them.

Video 1 - Lourdes Lepanemai and Josefa Napiailug sing about Satawalese navigators at sea

The women of Peinripinong are sad and tired because we haven't seen them, those boys from our place. When they have a meeting at the mesan eraw (men's house), we get mad at our ancestors who taught them how to sail! They are not with us now. We wish the ancestors could see their sons now … surround them and smell the good smell of their mwarmwar (flower headdresses) … the men under the sun, under the rain. I don't want them to spend two weeks on the ocean!

Story 1 - The Wise Navigator (Yap, Micronesia)

A navigator from Yap taught navigation to his sons, Rongolap and Rongoschig. One day, Rongolap (the oldest) asked if he could journey to another island. His father agreed and gave Rongolap some advice. He said, "After you leave, you will see an old woman on the reef. You must stop and give her food. Then four rocks will appear. Your crew should sit at the first, stand up at the second, remove their hats at the third, and replace them at the fourth."

Rongolap chose young men for his crew. After they set sail, they saw the old woman on the reef. But they didn't stop! At the rocks, they mixed up all the instructions. After some time, they reached an island. The people there were really ghosts. They offered to clean the canoe. Then they took Rongolap and his men to two pools – one clean and one muddy. The men washed in the clean pool and then fell asleep. While they were sleeping, the ghosts ate them all!

When Rongolap didn't return, Rongoschig decided to look for him. Unlike Rongolap, Rongoschig chose older men for his crew and followed all his father's advice. When he arrived at the island, he didn't let the ghosts clean the canoe. The crew bathed in the muddy pool and felt strong again. The ghosts waited for them to fall asleep, but they stayed awake all night … and the next day, Rongoschig and his men sailed safely home.

Story 2 - The Rat Navigator (Vanuatu, Melanesia)

In the islands of Vanuatu, a group of seabirds decided to build a canoe. They chose a breadfruit tree and asked the spirits for permission to cut it down. But when the tree was on the ground, the birds couldn't move it. So, instead they chose a giant taro and hollowed it with their beaks. There – a beautiful canoe! But they still needed a navigator. A rat came along and said "Stop everything. I will be navigator of this canoe!" The birds thought him unfair – but when the rat starting biting at the canoe, they agreed.

The rat was a bad navigator and argued with the birds. "You stupid birds, you don't even have arms! I'm better without a crew!" He tried to bite one of them. At this, the kingfisher got angry and stuck his beak into the canoe. Water rushed in, and the canoe began to sink. The birds flew into the sky, but the rat fell into the sea. The birds didn't care. He deserved to drown!

The rat couldn't swim. An octopus came by, and he asked for a ride. The rat's claws hurt her skin, but she took him anyway. When they got to land, the rat began to laugh. "Thanks for the ride. Now get your ugly face back in the water where it belongs!" he said. The octopus was so angry that she picked up a stick and hit the rat as hard as she could. One end stuck in his back. The rat threw ashes on the octopus. And that is why the rat now has a long tail and the octopus has black marks on her head.

4 Role of Women

Old stories tell of the special role of women in navigation. A Micronesian story tells how the kuling bird (sandpiper) gave the knowledge of navigation to the people of Pulap by teaching the chief's daughter. A story from the Marshall Islands tells how Liktanur passed on the knowledge of sails to her sons.

In Satawal, girls used to be trained as navigators, but now it's mostly a male activity. However, girls whose fathers are navigators still learn many things. This way, they can help to guide a canoe if a navigator becomes confused. It's like a safety net.

Women prepare the food for navigation *rituals* and voyages. Another important *contribution* is their weaving. In the past, women wove not only pandanus canoe sails but also special tur (valuable weavings). Carolinians carried valuable tur to their relations in Yap on sawei voyages (a traditional ceremonial voyage in Micronesia).

In Carolinian pwo (initiation ceremony for navigators), hundreds of tur were given to the reb (master navigator) who taught young navigators. A community that didn't have a canoe builder could use tur to buy a canoe from another island.

Video 1 - Satawalese Lourdes Lepanemai talks about the story of her ancestor Ukura, who helped to navigate

Ukura went on a canoe trip with her father, Suk. Coming home from Saipan to Satawal, Suk lost his way. They were drifting until they saw the white-tailed seabird also called Suk.* The crew all wondered where the bird had come from. Ukura called out, "Father, why do you say you don't know where that bird is coming from? You told me that Suk lives north of Fais, under the star of Weno!" So they turned the canoe to where the bird came from and sailed until they saw Fais.

*Many Carolinians have names that relate to navigation, like in this story.

Video 2 - Satawalese Rosemary Lafilmal Apusa

I still remember when I was a little girl. Sometimes, I looked in the sky with my grandma, Lepalmai, and she said the names of the stars. I asked her to teach me because I wanted to learn. But I didn't really care to remember. So now, I want to learn again for when the old people leave us. We just go to school, but we don't care about our custom any more.

Video 3 - Carmen Piailug weaves on Satawal

Carmen Piailug (Mau Piailug's oldest daughter) weaves on Satawal. Modern tur are made from cotton. Traditional tur are made from banana and hibiscus fibres (strings). Weaving a tur takes a long time. This makes them very valuable. Girls start learning to weave before they finish primary school.

Video 4 - Mau Piailug removes each tur and calls out the star path

In June 2002, a shortened version of the pwo ceremony to initiate navigators is performed on Satawal for the first time in over fifty years, as part of celebrations for Kenneth Urumolug's ordination as a Jesuit priest. During the ceremony, Mau Piailug, master navigator, removes the tur one by one as he calls out star paths. It is the women who weave these tur on their looms for special occasions such as this. They use fibres from the bark of the banana tree, a very challenging material to work with. Below the stack of tur is a bowl filled with pounded breadfruit or taro, also prepared by the women.


Hawaiian Islands
North Pacific Ocean
MICRONESIA
Northern Mariana Islands
Guam
Federated States of Micronesia
Yap
Palau
Marshall Islands
Bismarck Archipelago
Papua New Guinea
Nauru
Solomon Islands
Louisiade Archipelago
Reef and Santa Cruz Islands
Vanuatu
MELANESIA
New Caledonia
Gilbert Islands
Kiribati
Phoenix Islands
Tuvalu
Wallis and Futuna
Tokelau
Samoa
Line Islands
POLYNESIA
Fiji
Tonga
American Samoa
Niue
Cook Islands
Rarotonga
Society Islands
Tahiti
Marquesas Islands
French Polynesia
Tuamotu Archipelago
Gambier Archipelago
Austral Archipelago
Pitcairn Islands
Easter Island
South Pacific Ocean
Kermadec Islands
Norfolk Island
Australia
New Zealand
Chatham Islands