

Kaleo, Hokule'a navigator

S: Anyways yeah but you didn't grow up that way? You didn't grow up on the water?

Kaleo: I did. I did but not so much on boats or voyaging canoes, mostly just from shore – fishing diving surfing, throwing net, paddling canoe. Not until did I start going on Hokule'a did I start sailing.

S: So where did you grow up?

K: I grew up on Oahu, in Kalama Valley, I grew up at Sandy beach, that's where I learned how to surf, swim about the ocean, about the whole east side of Oahu where I learned to dive and fish, paddle canoe. But it wasn't till I started sailing with Uncle Bruce that I started to go out onto the open ocean.

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M: I guess we're kind of scared to make mistakes

talking about speaking Hawaiian and Tahitian

is Tahitian kind of taking over for a

it's like a new colonization

Tahitian is spoken by the majority of people so the Marquesan language, the Paumo language are kind of what you call that influenced by all this. Some of the dialects use Tahitian words instead of using their own.

more talking about language

K: French polynesia is becoming french and polynesian.

M: scholars and people working for the language academies so that people actually know that this word belongs to this dialect and vice versa.

S: I heard that this is where the shearwaters nest and that if you come up here you'd hear them but I guess they're not nesting.
talking about shearwaters.

K: Shearwaters. We call them ua'u kane, in Hawaiian.

S: What do you call them?

K: Ua'u Kane

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K: In Hawaiian. That's their name. Sound like cats at night.

S: So there's a spot not too far from here where we can stop.

walking

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ocean

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S: There's also another spot that's dropped down below the cliff.

K: Here's probably good. Shearwater burrows, right there, that's what you're looking for.

crickets and ocean

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S: So, say I wanted to learn how to become a navigator but I didn't know nothing. And I came up on this hill. And what would be the first thing you would tell me about.

K: I'd say south is that way, and you can tell because of the southern cross there?

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Up there right above those two bright stars, which in Hawaiian we call Kamelehua and Kamelehope. And English it's alpha and beta centauri. And it kind of points to that cross, right above there.

And that cross, if you follow the top star which is the star to the left, and the bottom star which is the star to the right, you make a line from the top star through the bottom star it points down to the right there, down to the right. And that's the south celestial pole. And if you can see that you know where south is based off of that.

In Hawaii the sky is very different, so all of this south celestial pole is way down low because we're in the northern hemisphere. And the only way we can tell our latitude when we're sailing is by the southern cross. So the top star to the bottom star is equal to the bottom star to the horizon, when the southern cross is standing straight up and it's at its highest point, that's the latitude of Hawaii.

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K: So it's a very good constellation to know.

S: wait so say that all again. Say the last part again.

K: The southern cross so the top star to the bottom star in the latitude of Hawaii, the same distance from the top star to the bottom star is the same distance from the bottom star to the horizon, and that's how you know you're in the latitude of Hawaii.

K: So as you're voyaging you can't tell longitude, you can only tell latitude. So if you're sailing from Tahiti to Hawaii you keep sailing north until you use the stars like the southern cross to tell you're in the latitude of Hawaii, and that's how you tell how far north you are.

Here down south it's so high, the southern cross never goes down below the horizon, it'll just keep spinning around the south celestial pole. If you're sailing and navigating and you have a night like this, you look for that guy in the sky, the southern cross – in Hawaiian we call it Neve, one word, Neve, and if you find that guy, you'll never be lost.

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S: So they call southern cross Neve?

K: Neve. There's a couple of other names. Hanaiakalama is another name. But Neve is an older name.

S: What does it mean?

K: I'm not sure what it means besides the southern cross. Hanaiakalama means to be cared for by the moon. I'm not sure why it was called that.

S: And what about the alpha beta stars, what are their names again?

K: Kamailehua and Kamailehope.

S: And do you know what those names mean?

K: The first maile and the second maile. I'm not sure why they were called maile. Maile is a plant in Hawaii. It's also the name of some girls, there are these Maile sisters who are kind of famous in a story. But there's five of them. So I'm not sure if it's related to the story or not. Kamailehua Kamailehope. A lot of our star names were recorded in our dictionary and the names written down but we don't really know what those star names are what star names are applied to and so even moreso when we do know the star name and what star they're talking about a lot of times those stories are not associated with why those stars are named that way. Some of the names we know because those are the names of the navigators and those are the stars they used to come to Hawaii.

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Or to sail back to Tahiti. Similar to the names of our islands, we don't know why Kauai is Kauai. We just know that's the name.

I'm not sure Hawaii is Hawaii we just know the name not the story.

S: Ok so there's the southern cross.

K: The southern cross. The best thing to see in the southern sky. Or even in the northern hemisphere where you can see it it's really good. But what's advantageous for us is in the north we have the north star, and there's no equivalent of the north star in the southern hemisphere. So if

you're above the equator in the northern hemisphere, the north star will always be there. As long as you can see it through the clouds that pass through or the sea spray if you're close to the equator.

But the southern hemisphere, the south celestial pole has kind of a ring of stars that rotate around the south celestial pole.

S: So what are the other stars that are rotating around it?

K: So they got Kamailehua, Kamailehope, those two bright stars there, and Neve, up there, there's a false cross, that's over there, called vela in english. I think those names might be greek I'm not sure. It's like the sail of a ship. But there's a false cross over there. And we've got Kealiiokonaikaleva which is Canopus in greek, english. That's the bright star over there, it's the second brightest star in the sky. To the right of that is Sirius, that really bright star over there, that's the brightest star in the sky.

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Then we have Kealiiokonaikaleva the second brightest star and that rotates around the south celestial pole. And if you see Kanopes up there, Kealiiokonaikaleva, right to the left and down there's a little cloud looking thing. That's the magellanic cloud. There's two of them and I think Magellan was the first one to describe them so they're named after him. Magellanic clouds and that one and the small one it's hard to see here with all this light from the town but there's kind of a bright star over there. And this other small magellanic cloud is right below it and those two stars also rotate around the south celestial pole and then there's a couple of other stars here that's hard to see right now.

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So if you see those, if you see any of those stars, then you know, you can guess where south is. And if you know where south is then you know where every other point- you know if you're facing south, then you know north's behind you. You know if south's behind you north's behind you. North's in front of you, west is on your left east is on the right. As long as you know one point in the sky you can tell where all the other points are. Just like a normal compass it tells you just north, based off of north, you know where all the other compasses are, so this is like our compass right here, which is all of these clues in the sky. It's just being able to read this compass, which is the hard part. And actually the easy part when it comes to navigation, being able to see stars on a night like this, on a beautiful night like this, is a easy part of navigation. Nothing is really easy about navigation but when you have a clear night like this it makes it alot easier. It's when there's complete cloud cover and you can't see stars you cant see this compass that makes it alot more difficult.

S: Yeah so what do you do?

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S: I know we talked about it before but lets' say that if you don't mind.

K: Yeah so then you use the star use the swells, use the wind. We got to

do a lot of that on this last trip. I think we had – it took us 11 days to get here from Aotearoa to here, and I think it was three complete days maybe four, when it was complete cloud cover couldn't see the sun.

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K: We couldn't see the moon couldn't see the stars at all. So we used the swells so we used the wind, so based off of the days that we could see the sun and the stars we noticed that the swells came from a certain direction. And it didn't appear that the wind shifted, and because the swells are created far away that we knew that just a locally generated storm wouldn't change the effect of the swells that we're using so we would just use the swells and the wind and navigate that way.

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S: So have you ever gotten lost?

K: I've never – there's been times when I've been like what direction are we going? But this is my first time navigating by myself, and Uncle Bruce was on board and he's the master, so there's been times where I wasn't totally clear what direction we were going how many miles but he was there he knew and I could talk to him ask him questions ask him, so, just to be sure this is the same swell we're using? And it's still in the right place? And yup that's the guy we're doing good and so for me I haven't been in that position. I've been part of the navigation with another woman, Kalii Murphy, and we just recently sailed from Samoa to Tonga to Aotearoa and the two of us was able to navigate, but we had beautiful weather, but besides those two times I haven't had those experiences where I've been in charge of the navigation. So I haven't been in that position and I think if there comes a time when you don't know which direction to head because of the clouds and the wind's shifting and the swells from a steady location, that they just close the sails and wait for an opportune time when they can see the sun and the stars to tell them what direction they're going.

Don't want to be lost out there.

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Once you're lost and confused, if you keep sailing in that direction you wouldn't be sure of where you are at that time and which direction you need to go. So if you're heading south, if your course is south and you end up going southeast. If you sail for 100 miles and you don't know what direction you're heading, if you think you're still on your course you'll miss the islands that you're searching for, especially if you're going for, aiming for small islands, which we normally are. If you're aiming for Australia, it's a huge target and there's pretty much zero chance that unless you're totally way off confused for weeks, you're going to find Australia. But if you're going from Aotearoa to Lord Howe Island which we just did, if you're off just for a little bit then you're going to sail right by the island and not even know it. So if you find yourself in that position then we close the sails and drift through the night till we can be sure

what direction we're headed, be sure the swells we're using are still coming out of the same direction. Be sure that which we can tell by the rising of the sun and the setting of the sun.

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S: And are there other things – I've heard that there are other indicators that you're getting near an island, like

K: yeah yeah. Near islands, so we have this expanded landfall that we use. Sometimes it's just what we see floating in the water, if we see a lot of limu floating or coconut fronds or other natural debris, we know we're somewhat close. You normally don't see those hundreds of miles out to sea. And then we look for the Manua Ku, those white birds, the fairy terns, and those have to return to the land every day. Every night they don't stay out on the water like Uva or frigate birds they have to return. So if you see those islands you know you're close. And then there's other birds like terns as well. Most the time stay even closer to land than the noddy terns. They stay closer to land than the fairy terns. The Manoa ku. So as you're going you look, you know based on the calculations of speed that you're close to land, the island and you're at least close to land, and when you see those birds they're affirmation that you are where you think you are.

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And that you are close to land. We saw those as we were sailing towards Lord Howe, we saw six manoa ku birds that told us we were close to the land. Sometimes you get a manoa ku, one or two birds that fly far out to sea. They're kind of just the travellers, they go far by themselves, but they still have to return to land. But when you see clusters of birds like six like we just saw off Lord Howe we know that we're pretty close to land, we're within a hundred miles. And as we're travelling the next morning we saw big flocks of birds that were diving on a pile of fish and we normally don't see them far out to sea, they're normally close to shore. Sometimes, like when you go to places where there are atolls, they're normally in the lagoon, stay close to land and we saw that the next morning and so we knew that it was really close to where we were. But those are some of the expanded landfalls, as we call them. Other close that we look for to see if we're close to land.

S: Yeah and so what about, does the swell change at all by an island?

K: Yeah yeah so the swell will change if we're sailing from Hawaii to Harangiroa in the Tuamotu Islands, there was a large swell that was coming to us from the south southeast I believe and as we got closer the swells died, because they were being blocked by the land. So that was an indication that we were close to land as well. When you're on the open ocean it's pretty these big swells because they're created from storms far away. Hundreds thousands of miles away. And when you get to an area where they just stop you know they're stopping because they're being

blocked.

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By something. Or they're changing their shape and they're changing direction. So you know you're close to land and same when we sailed from Tonga to Aotearoa. There was a big westerly swell and when we got close to Aotearoa we were in the lee of that island that swell stopped and we knew as we kept sailing because of our wind angle, we had to keep sailing north of our reference course, we knew that when the swell picked up again from the west that we were north of Aotearoa, and those swells are coming to us through the Tasman sea. The direction of swells are affected by land that's in front of us. So we use that as well.

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S: I wonder if – we see so many stars. Do you memorize the names?

K: Yeah

S: How many names of stars do you know?

K: I'm not sure.

S: What's the Hawaiian name for the milky way?

K: We call it the I'a. The name of a fish. And so we talk about "huli ka i'a" we see that alot it means like the fish has turned, a reference to the milky way moving across the sky. I know in Samoa they call it the alake'a. Likely it could have been called the same in Hawaiian as well. Lucky that in Polynesia we have very similar languages and similar cultures and there's some people in Samoa that are doing alot of research on stars and star movements and us in Hawaii can benefit from their research and likely apply what they're learning to our own understanding for how our ancestors viewed the stars as well. And similar for Tahitians and other islands in the south pacific – we're so closely related that it's likely a name a similar name that they're using that we once used and same for us and names that we use that perhaps they use as well. Right now we just call it the fish.

The ka I'a – the fish has turned, but alakea totally makes sense to be the name in hawaiian. It seems like that's the name they were using in Samoan. The more you learn about other pacific languages, the more you learn about your own language. You see about the origins of words and perhaps other definitions of what those words are based off what they used those words for.

S: We're pretty far south but are there any stars that you can see in this sky that you can also see in Hawaii?

K: Yeah yeah there's alot of stars that we can see here just most of them that we can't is just centered around the south celestial pole, because we're north that we don't see them. But we still see the southern cross, the kamailehua, kamailehope, these other bright stars. We don't see these magellanic clouds, they're too far south for us to see. But all the stars north of this circle around this south celestial pole, we see. And

more so this big this big constellation here that looks like a hook facing the land, is scorpio to the greeks, but we call that kamakanui a maui, the fish hook of Maui. Another name is Maniakalani, that was the name of Maui's fish hook. So we see this in Hawaii and use these stars as well.

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S: And so when I go to the Line Islands – what are the – have you been to the Line Islands?

K: I haven't. I've been to Palmyra which I think is pretty close to Christmas island, but I haven't been to those other islands.

S: And so tell me what stars I'm going to see

K: You'll see these stars as well these stars to the north of the south celestial pole. So you'll see this guy here, kamakanui o maui. This bright star here Hikianalia is the name of one of our canoes. And this orange star here is Hokulea, so you can see the difference in the sky where in Hawaii Hokulea and Hikianalia, these two stars rise together. While down here we're so far south that Hikianalia rises way before Hokulea so if you can imagine this whole plane shifting south so that these two stars rise together – that's what it's like in Hawaii.

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talking about the trip

K: I think we have 18 more days to get there.

S: It'll fly by.

K: It's not always nice like this.

S: Yeah, it's too bad it's not good sailing weather. And what's your job on the boat?

M: I'm a watch captain.

S: Ok yeah got it.

S: So let me go back to the Line Islands, Palmyra. You were starting to tell me what are the key stars in that part of the ocean.

K: You'll still see the southern cross, but you'll be there in September. So they might be below the horizon. At that latitude could see them, but it might be the wrong time of year to see them come above the horizon. But you can see all these stars here. So Hokulo'a, that bright orange star. And Hikianalia, so we're talking about the differences of latitude, if you can imagine this whole sky shifting down south so that Hikianalia and Hokuloa rise together that's what it'll be like in Hawaii and similar, more similar, to what it would be like in the line islands instead of what it looks like now with Hikianalia so far high in the sky and rises alot earlier than

Hokuloa.

S: And what about those guys over there. Am I going to see any of them?

All these

K: yeah you'll see all of them. That bright star over there is Jupiter and Jupiter right now is in the constellation of cancer. And right next to cancer that question mark looking thing in the sky?

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K: That hook, that's leo. You'll see all those stars. Everything north – we're facing north right now – all of those stars you'll see. in the Line Islands.

S: So is there a Hawaiian name for Leo?

K: Not that I know of, but Leo is just a constellation made up by the greeks, so there likely isn't the same equivalent in Hawaiians, because the hawaiians don't see the sky as greeks, you know probably everybody sees the sky as different. To them they saw a lion. To hawaiians I'm not sure what they saw, but we don't have hawaiian names for those bright stars in Leo.

There likely was names for them they're very prominent stars in that part of the sky we just don't know what they're called right now, and hopefully some of my research that I'm planning on doing will help uncover the old names of these stars and we can use them.

When you're first using navigation a lot of it is based off of what Mau, Papa Mau taught us from Micronesia and his system of viewing the sky and viewing the ocean and reading the swells, but then after that some of that comes from learning what the stars mean to people today. And since we don't know what they're called today, it's easy to go to a planetarium and ask what is the name of that star and they'll say that's regulus. And then ok that's regulus. And it's easy to attach names to those based off of western names because it's known throughout the world its in planetariums and computer programs as regulus and to try to find the names of what they were to our ancestors is a lot more different.

And it's fortunate though we have over a million pages of Hawaiian language text written in the newspapers, they're now all being digitized. And searchable on the computer. So those who speak the language have access to understanding and going back to learning about the world view of the ancestors that our parent generation didn't have. Because they don't speak the language. They didn't have the computer programs, or even computers, to digitize a million plus pages of Hawaiian language text at the touch of a button that we have now so hopefully our research can help uncover the names of these stars. Or because we have names recorded but no actual star placed with them that we can try to say this name was for this star, and make educated guesses.

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Based off of our understanding of navigation, our understanding of looking at the stars, plus the understanding of our language that we can put the two together. I can't imagine the people who put the dictionary, wrote the dictionary, recorded the names, they can't be experts in everything everything, Hawaiian, every single hula motion, every star in the sky every plant on the land, and so when they wrote the names down they might have its understandable oh it's the name of a star. If someone were to tell me the name "zubu wanta nube" I would no idea what star that is but I would write it down, like this is a name of a star and that's probably what happened back then and because we have this full recovery of reading the stars and using the stars as our ancestors did for navigating from island to island. Plus we are recovering our language that we are maybe to match the two up as people of the ocean who use the stars to navigate and people who understand our language. So hopefully some of the research that we'll be doing in the future will help tell us what they are.

S: Have you seen that book the polynesian star catalog?

K: Is that by Rubelitte Johnson.

I've seen that and a lot of that is just names of stars again but being able to put the names of the stars with the actual stars would be a big leap forward I think for navigation and understanding of how all of this works.

S: Anything else that I didn't ask you about that you thought I should have asked you?

K: I can't think of anything but well be here for a couple of days so if you have any more questions that you think of

S: I'm going to leave tomorrow. But anyways I'm around in the morning. talking about email