

Hokule'a

*Voyage proving
old Polynesians
weather-wise*

The arrival on July 16 of Hokule'a in the Cook Islands from Samoa may have completed the most significant voyage in modern Polynesian history because the canoe traveled from northwest to southeast.

This is in spite of the opinions of some anthropologists, including Thor Heyerdahl, that the old Polynesians could not have migrated from the west because their canoes were not capable of sailing against the southeasterly trade wind.

How Hokule'a did it shows that the old Polynesians knew more about weather in the South Pacific than modern meteorologists until satellites began plotting global weather systems, said an anthropologist last week.

He is Ben Finney, chairman of anthropology at the University of Hawaii and co-founder of the Polynesian Voyaging Society.

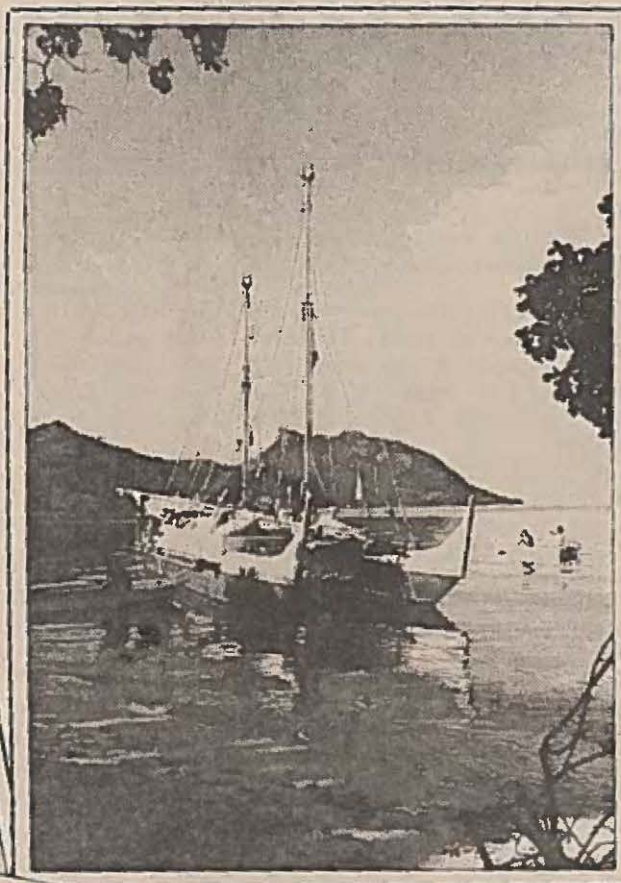
His opinion agrees with that of Hokule'a navigator Nainoa Thompson who studied satellite weather photos before beginning the Voyage of Rediscovery last year.

"We could have sailed on to Tahiti from Samoa," said Thompson last week before returning to the Cooks after resting in Honolulu.

"When you think about it, this is the last piece of the puzzle. Language, plants, artifacts all indicate that the Polynesians came from the west.

"The big stumbling block was, how did they do it? How did they sail against the trades? The biggest gap between Western Polynesia and Eastern Polynesia has been closed."

Yoshihiko Sinoto, chairman of anthropology at the Bishop Museum, said he believes the voyage of Hokule'a from Samoa southeast to the Cooks "certainly shows that the old Polynesians could have migrated



Advertiser photos by Bob Krauss

In Rarotonga, above left, it's a welcoming feast for the Hokule'a; above right, the canoe is moored at Huahine and folks, above center, gather at the kawa bowl in Moorea.

to come first," he said. "It probably wind was coming around to where they wanted it," he said.

Finney said the objections of doubters like Heyerdahl imply that the southeast trade winds blow constantly. But they don't.

During the South Pacific summer — winter in Hawaii — winds sometimes blow in the opposite direction like konas in Hawaii, Finney said. The problem is that summer is also the season for storms in the South Pacific, he added.

"That's why Nainoa didn't want to try it," he explained. "It's unsafe. So he went during the trade wind season. That made it more difficult."

Thompson said a study of satellite weather photos had taught him that the trade winds are sometimes interrupted by westerly winds even during the tradewind season.

"In 1984 the photos showed a low pressure system that would allow a canoe to sail east but it was south of Rarotonga (in the Cooks)," he said. "In 1985 it was different. The lows migrated north and would have allowed a passage."

"This year we lucked out. There have been five or six lows during the trade wind season. When we got to the Cooks (from Samoa) another low hit and the wind came around. That's why we could have gone on to Tahiti."



bob krauss

"It doesn't happen every year. But even if it happened every other year, in 1,000 years that's 500 chances to sail east."

Thompson said low atmospheric pressure swings the wind around in a clockwise pattern. Asked if the old Polynesians could have recognized the pattern, he said, "If you lived on a beach on an atoll, you'd know. If you fished for a living, you'd know. Otherwise, you'd be dead."

Finney agreed that the old Polynesians must have been able to recognize the weather patterns that permitted them to sail east.

"They couldn't predict the weather," he said. "But when the wind began to shift they would have known what would happen, even if it happened once in 10 years, from what their grandfathers told them."

Thompson said he now believes the winds were not as critical in Polynesian migrations as the seaworthiness of their canoes.

"I think the canoe technology had

weather that held them back.

"Our voyage to the Cooks from Samoa was not a navigational leg, it was a sailing leg. The crew under Shorty Bertlemann did a fantastic job. It was all hands on deck most of the time."

"We carried more sail than normal in strong winds and pushed the canoe to the max because we had to make easting. The shortest distance is 620 miles but we sailed a horseshoe course that covered 1,100 miles."

Finney said Hokule'a is more comfortable than the voyaging canoes of the old Polynesians and old canoes probably could not sail so well to windward.

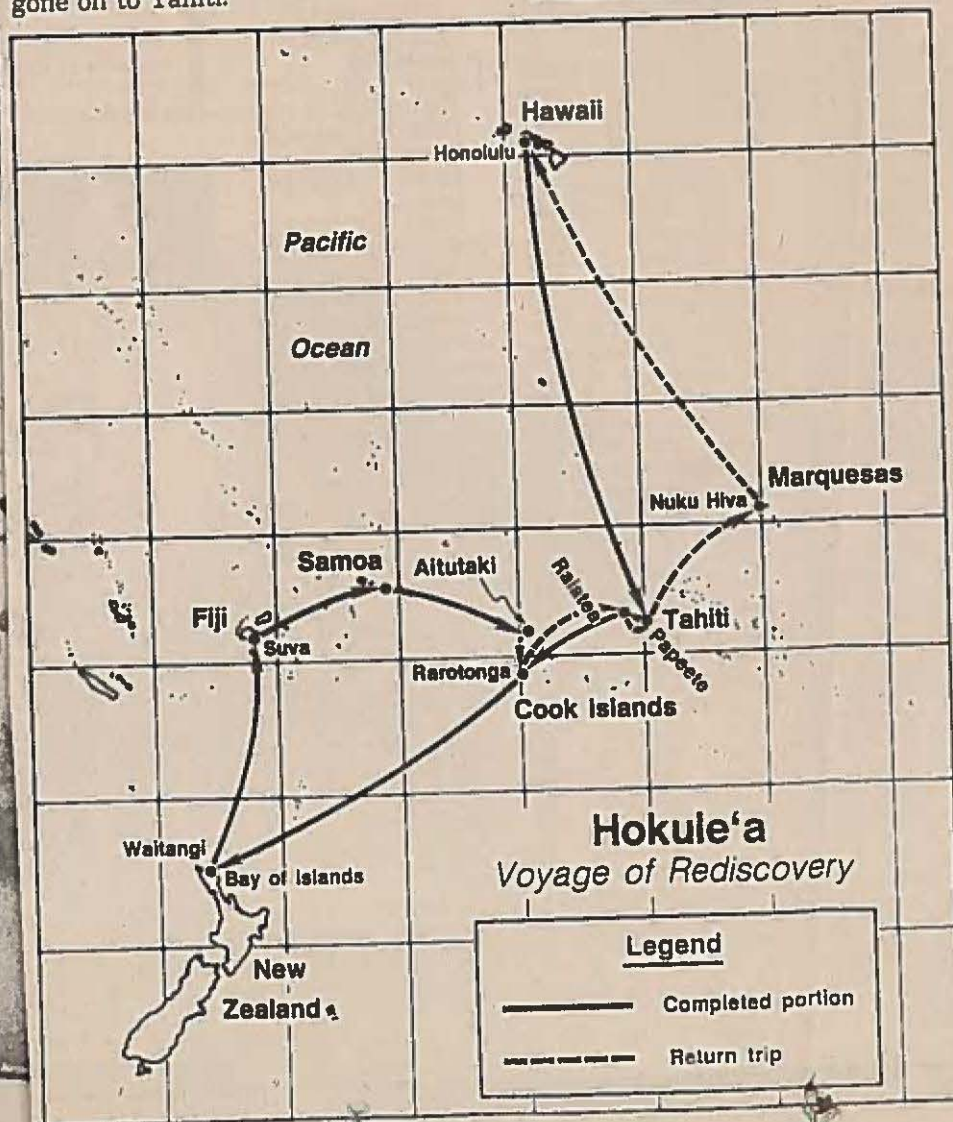
"But they must have been able to hold their own on a tack so they wouldn't lose too much while the

Finney said he is editing a series of seven articles authored by scientists and members of the Hokule'a crew for the "Polynesian Journal" with a world wide circulation among scientists interested in Polynesia.

He said the articles will describe significant discoveries made during the voyage of Hokule'a.

"This voyage is giving us a realistic knowledge of the ancient navigators and how they worked their way around the Pacific, so it's very significant," he said.

Thompson said Hokule'a landed at Aitutaki in the Cooks. He will catch a trade wind for Rarotonga, then wait for a westerly wind to take him east to Raiatea in the Society Islands.



Crewmembers set up the standing rigging.