

Mystery isles

No stone left unturned checking early habitation

By Barbara Hastings
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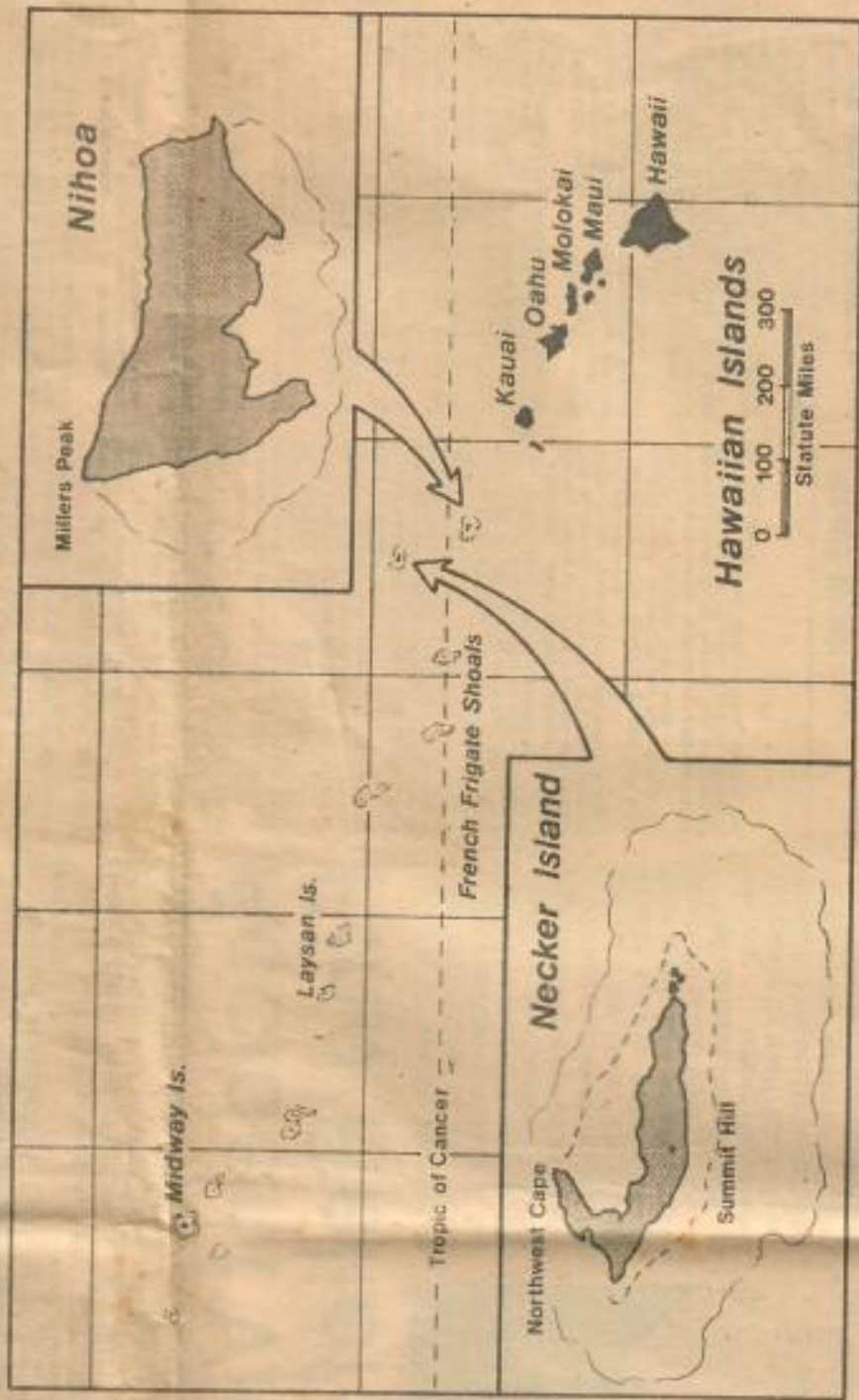
The next two islands above Nihoa in the Hawaiian chain are uniquely perplexing puzzle pieces for archaeologists trying to understand the ways of early Polynesians.

When the first Europeans discovered these two specks of islands in the late 18th century, no one was living on them. Nihoa, which is 150 miles west of Kauai, was sparsely vegetated steepness; Necker, 158 miles beyond Nihoa, was barren rock. Each is about three-quarters of a mile long and a half-mile or less wide.

Yet, it was clear that people indeed once lived on Nihoa, and Necker was at least used as a religious site. The how and why of that habitation was a mystery then, and remains a mystery today.

Sixty years ago, noted anthropologist Kenneth Emory did the first scientific work on the two islands — they had already been disturbed by earlier landings, and artifacts removed to farflung places like British museums.

Emory's expedition found numerous dwelling sites and some religious sites on Nihoa, and extensive agricultural terracing. Necker was jam-packed with marae — religious sites.



Advertiser graphic by Greg Taylor

No one was living on Necker or Nihoa Islands when Europeans first discovered them in the 18th century, but there was clear evidence Polynesians had inhabited them.

Report

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A barren rock about 300 miles west of Kauai, Necker Island is jam-packed with Polynesian religious sites. Archaeologists look for clues on whether it was a permanent or temporary living site.

Bishop Museum photo

Two things that distinguished what has been found on Necker and Nihoa from the other Hawaiian islands are male figures carved of stone and stone bowls.

On the main Hawaiian islands, there are male statues, but they are carved of wood, and bowls are either gourd or carved wood. There's no other evidence of stone vessels or statues in the Hawaiian chain, says Bishop Museum archaeologist Paul L. Cleghorn.

Cleghorn, just back from a check-up expedition of the two islands, says the stone statues bear a similarity to Marquesan ones, but are different. Stone bowls are found on Easter Island.

By the time Emory got there in 1924, Necker "had been pretty well picked over," said Cleghorn. First discovered by Europeans in 1786, it was officially visited by the Hawaii annexation party in 1894 — "they collected a number of things" — and a British ship after that which did some museum collecting.

Emory thought, and Cleghorn agrees after visiting Necker, that the stone statues all came from one marae. "It is quite different from the others, it has a water-worn stone paved floor, and a wall," said Cleghorn.

But what does it all mean? That's still unclear.

Cleghorn, along with fellow ar-

chaeologist Eric Komori, went to the pair of islands as part of a team funded by the U.S. Fish and Wildlife Service. The archaeologists went to check on the conditions of the sites outlined by Emory, and to recommend ways to protect them.

Cleghorn said they found some holes and wondered if Emory had done some excavating that he didn't tell anybody about. Then, when looking for a site clearly marked on Emory's papers, they discovered another giant wound in the earth instead — the work, apparently, of World War II target practice.

In fact, the team found two meter-long unexploded bombs at the tip of Necker.

"On Necker the religious sites are packed in there. In a room this size (about 20 feet by 25 feet), you would have two or three," said Cleghorn.

The purpose of these ritual sites (marae) is unknown, Cleghorn said. The sites are made up of a courtyard and a raised platform with a series of upright stones at the back.

On Nihoa, he and Komori were able to find even more extensive agriculture terraces than Emory had. Some are on hillsides as steep as 45-degree angles.

The marae on Necker are all remarkably similar. Does this mean people came on successive visits and built new ones each time? Or was there a whole group (perhaps from a Polynesian shipwreck) there building them all at once?

Similar questions remain about Nihoa. Was this a permanent settlement? Besides dwelling, agricultural and religious sites, there are also two burial sites with bones of male

and female adults and children, indicating a complete population (as opposed to a fishing or hunting expedition).

But was it a temporary settlement, reused time after time, perhaps to exploit Nihoa's extensive bird population? Cleghorn hopes further research will answer this.

He believes it was a permanent settlement, but other scientists think it was temporary. He thinks the terraces were used for raising sweet potatoes. Others think it was dry land taro.

Cleghorn says dry land taro is riskier, takes longer and requires much more water (not abundant on Nihoa) than sweet potatoes.

The archaeologist hopes that a relatively new process will determine what was raised there.

He explained that every single plant manufactures microscopic stones — bits of silica actually — in its leaves. Remarkably the shape of the tiny stone is different, unique to each different species of plant.

Through a process called opal-phytolith, some of these bits of stone can be sorted out from the earth in the terraced areas, their structure studied and "maybe we can find out what they were growing on these terraces," says Cleghorn.

He also anticipates that future expeditions will be able to excavate (the Fish and Wildlife Service contract wouldn't permit it on this trip) and use carbon dating to determine when Nihoa was used by the Polynesians.

There was such an attempt in 1955, when a piece of charcoal from a fire site was split and sent to two



Paul L. Cleghorn
Back from expedition

different laboratories. The result, alas, was a 500-year discrepancy between the two. One lab said 1,400 A.D.; the other, 900 A.D.

But carbon dating has come a long way since then, Cleghorn said, and he thinks a more accurate date can be fixed.

Excavations will also help determine whether this was a permanent living site or a temporary one, he added. If temporary, then fire pits might be found overlapping one another — that is, as each successive group came, instead of locating the fire directly on the old site, it might be next to it.

A permanent habitation might be denoted by a more permanent hearth — stone-lined, perhaps.

'Mystery Islands' leave silent clues

Archaecologist Patrick Kirch calls them Polynesia's Mystery Islands.

They are the islands where people once lived, but which had been abandoned by the time European explorers found them. There was something about most of these islands, something probably in the limited nature of their environment, that made them ultimately incapable of supporting human life.

There is evidence on some that the humans destroyed those very things about the islands that had initially made them habitable.

Two of the mystery islands are in the Hawaiian chain. They are Nihoa and Necker, uninhabited islands just beyond Kauai, now part of the Hawaiian Islands National Wildlife Refuge.

Another is Pitcairn, where mutineers from the HMS Bounty went to hide from British maritime justice after setting Captain Bligh afloat. More than Nihoa and Necker, Pitcairn seemed to have everything needed for survival: fresh water, good soil, plenty of vegetation and materials for making tools.

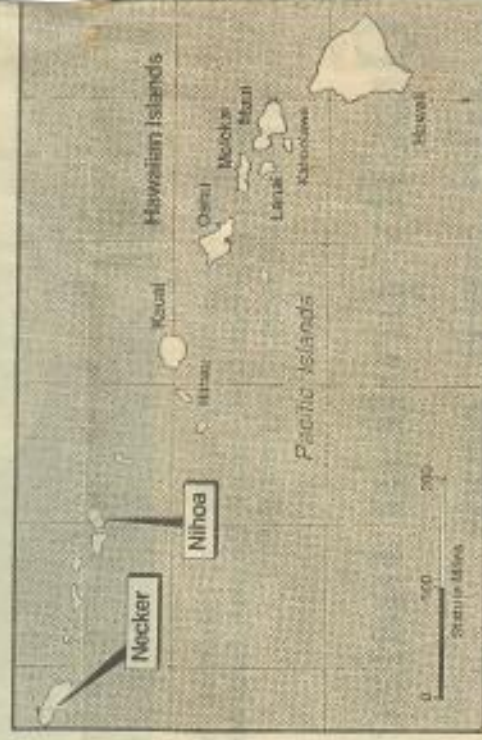
Yet when Fletcher Christian and his band of mutineers arrived, they found pillars, house sites, ovens, coconut palms and breadfruit trees, but no human beings. We still don't know what happened to Pitcairn's earliest residents.



Necker Island, 40 acres big, about 325 miles from Kauai.



Nihoa Island, 156 acres big, about 150 miles from Kauai.



Advertiser map by James Takamiya

"We now know that 12 scattered Pacific islands were once settled by Polynesian voyagers, only to be abandoned later," Kirch wrote in *Archaeology Magazine*. "In addition to Pitcairn ... Necker, (and Nihoa) archaeological evidence of Polynesian settlement has been found ... on Henderson, an upraised limestone island near Pitcairn; on seven coral atolls lying astride the equator (Howland, Washington, Fanning, Christmas, Maiden, Palmerston, and Suvarrow); and on Raoul; in the Kermadec group, north of New Zealand."

What the islands have in common is small size. Nihoa, Necker and Suvarrow are all less than half a square mile in size. Most of the others aren't a great deal larger. Christmas is, but most of its land is barren sand flats.

On most of the islands, fresh water was limited, and that, combined with small size, meant agriculture would not provide a great deal of food. A lack of trees meant little material for construction, for firewood or for canoes.

There was the ocean for food, though many of the islands had no

reefs, and no safe canoe launching areas.

Many of the islands had seabird nesting. Studies on Henderson suggest early Polynesians there may have starved after wiping out the birds, their most available source of protein.

The two Hawaiian mystery islands present some of the most poignant clues.

Necker has only 40 acres of steep rock, virtually no soil. It lies 325 miles from Kauai. Archaeologists found 38 temples there, but shelters for a maximum of 24 persons.

"It seems probable that Necker represents a case of Polynesian castaways, would-be colonists who were unfortunate enough to land on an island that was at the marginal limits of human support," Kirch wrote. Maybe their canoe was destroyed in landing, and they survived on seabirds, eggs and fish, and built temples to their gods in hope of divine intervention.

"In the end, as food resources ran low, they perished, leaving only the lifeless eyes of their stone gods to gaze across the horizon," Kirch wrote.

Nihoa is bigger, 156 acres, and about 150 miles from Kauai. There is soil, and scientists have found agricultural terraces, house sites, temples and other evidence to suggest "Nihoa must have been occupied for some centuries, by a population which had managed to establish some kind of agricultural system in addition to exploiting the natural seabird and marine resources."

But it, too, was abandoned. What Kirch did not know is that islanders of Nihoa have a tradition that at least one Nihoa family annually sailed to Nihoa through the 1800s. The fishing trips were believed to have lasted some months, thus involving extended visits to the island. Are Nihoa's archaeological remains evidence of a

seasonal habitation? The issue has not been studied.

Kirch said radiocarbon dating on some of the mystery islands links their settlements to the period of great Polynesian voyaging. Kirch sets that period at the 500 years before Christ. Bishop Museum archaeologist Yoshinori Sinoto puts it at between 500 and 1,200 A.D. During the voyaging time, islanders in canoes "sought out virtually every speck of land in the vast eastern Pacific" including some of the tiniest, "ecologically disadvantaged islands," Kirch said.

"In more than one case, however, the environmental challengers to human existence proved too great, and the islands had to be abandoned to the terns and shearwaters, leaving only the crumbling walls of temples and house platforms as witnesses to the greatest human migration of all time."