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HOKULE'A

Sailing by the Sun and Stars

- The voyage from Tahiti to the Cook Islands
- *Hokule'a's* history
- Exclusive photos

TEN YEARS AFTER TAHITI HOKULE'A

Hokule'a has made it to Tahiti, the Cook Islands and New Zealand. The long trip home still lies ahead

MORE THAN 200 YEARS AGO Capt. James Cook arrived in Hawaii, looked at the people who lived here, listened to their language, and asked: "How shall we account for this [Polynesian] nation having spread itself to so many detached islands so widely disjoined from each other in every quarter of the Pacific Ocean?... It is by far the most extensive nation on earth."

For the past decade the Polynesian Voyaging Society has worked to answer that question. By building a craft in the ancient Polynesian style and sailing it without modern navigational instruments, the Honolulu-based organization has tried to show that centuries before Europeans came to the Pacific, long interisland voyages were indeed possible.

Hokule'a—the 60-foot double-hulled canoe named for the bright orange-yellow star that passes directly over Hawaii—is now 10 years old. It has made two journeys to Tahiti and back, and is currently one-third of the way through its most ambitious project yet: a two-year, nine-part voyage retracing the major routes traveled by the ancient Polynesians.

No ocean voyage is without risks, and over the years Hokule'a has had its share of setbacks. The initial 1976 voyage to Tahiti was marked by bitter dissension among the crew. A 1978 voyage to Tahiti ended prematurely when the canoe swamped in the Molo-kai Channel. The crew spent nearly 24 hours in the water clinging to a capsized craft. One crew member, Eddie Aikau, left on a surfboard to try to get help and was never seen again.

Still, when everything is considered, Hokule'a's accomplishments have far outweighed its troubles. The experiment has proven, to most people's satisfaction, that the ancient Polynesians did not have to drift aimlessly from island to island (as anthropologists often contended), but could have sailed

purposefully into the wind. The voyages have revived interest in the long-lost art of non-instrument navigation. And the canoe itself has served as a proud symbol to people throughout the Pacific, a reminder of their seafaring heritage.

In April, Hokule'a will continue its "Voyage of Rediscovery," sailing from New Zealand northward to Tonga (see map, page 4). So far, three legs of the current voyage have been completed: from Hawaii to Tahiti, from Tahiti to the Cook Islands, and from the Cook Islands to New Zealand. On the second leg, a writer from HONOLULU was aboard Hokule'a, and his account of the journey begins on the next page.

Hawaiian-born Nainoa Thompson (below) has learned the ancient art of navigating without instruments.

On the island of Moorea, Hokule'a's oldest crew member, Abe Piianaia (bottom), gave a speech in Hawaiian and the Mooreans understood him because Hawaiian is so similar to their own language, Tahitian.



CURT WATSON



CURT WATSON

THE WAY TO RAROTONGA

Hokule'a's voyage from Tahiti to Rarotonga featured exotic tropical islands, wet weather and white birds

Written by Victor Lipman
Photographed by Cliff Watson

IN AUGUST AND SEPTEMBER I sailed with the *Hokule'a* from Tahiti to Rarotonga in the Cook Islands.

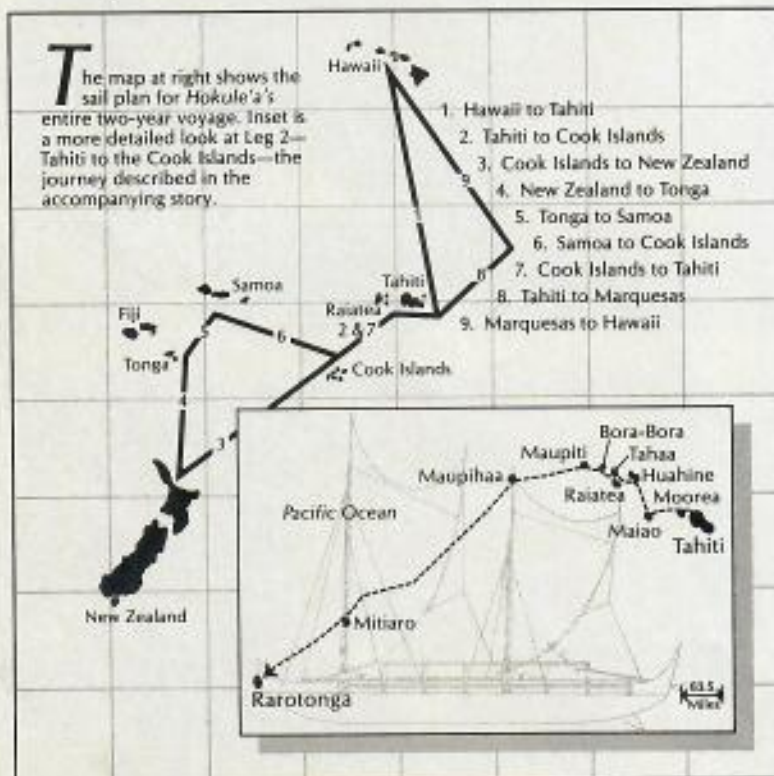
Significantly, this was the first major voyage taken by the *Hokule'a* outside of its now-familiar Hawaii-Tahiti and Tahiti-Hawaii journeys. Although not nearly as long as those earlier voyages (this one was 700 miles, as opposed to 3,000), it was an exercise in island-finding, in locating tiny islands over long stretches of featureless ocean without using navigational instruments—a difficult task that tested the skills of *Hokule'a's* navigator Nainoa Thompson as well as the steering abilities of the crew.

Hokule'a bills itself as a "cultural, educational and scientific expedition," and this trip, more than any other thus far, emphasized cultural and educational aspects. In fact, the voyage could be divided into two parts: the first 150 miles, which took nine days and included stops at four of the Society Islands—Moorea, Huahine, Raiatea and Bora-Bora—and the second 550 miles, which took six days and proceeded from Bora-Bora to Rarotonga, the main island in the Cooks. Much of the first part of the trip was cultural and educational; everywhere we stopped, many people—from schoolchildren to politicians

Below: On a sun-drenched morning, Hokule'a moves through calm waters after leaving Raiatea. Ahead looms the faint but distinctive outline of Bora-Bora.

Right: At Bora-Bora, scores of schoolchildren came to the dock to visit the canoe.

Far right: The crew was welcomed with leis at Raiatea. From left, crew members are Abe Piiianaia, Chad Babayan, Pat Aiu, Karim Cowan, Mau Piiailug, Mel Paoa and Mike Tongg.







Vic Lipson



Vic Lipson

Top: Non-instrument navigators do take certain kinds of measurements—they just don't use modern instruments. Here, Nainoa uses his outstretched hand to make a calculation with the setting sun.
Above left: Mau, in yellow T-shirt, fillets a mahimahi.
Above right: Capt. Gordon Piianaia helps himself to a meal of Vienna sausage, mahimahi and rice. As Hokule'a progressed south toward the Cook Islands, the weather turned grayer and colder, and foul weather gear was worn more often.



Hokule'a's steering is controlled by three long paddles. Chad Babayan and Nainoa look out from the navigator's platform as Mel Paoa and Vic Lipman steer.



Deck space is limited aboard Hokule'a. For a long-distance voyage to be successful, the crew must get along well in close, crowded quarters.

to passers-by—turned out to look at the canoe and talk to the crew. The second part of the trip was devoted to sailing and navigation.

What is life aboard *Hokule'a* like? This is a question people often ask, and the first thing I would answer is that, on a journey of any duration, it is not as glamorous as people imagine. It is far more glamorous to *have made* a voyage on *Hokule'a* than to be in the process of making one. Sailing the canoe involves plenty of hard work, and there's nothing enjoyable about being tired, cold or wet. Still, the primitive nature of the craft that leaves you vulnerable to the elements also keeps you close to them, day after day, in all their splendor: the ocean, the sky, the wind, the waves, the sun and the stars. Along with the people on the canoe, these are your constant companions.

While I was on *Hokule'a* I kept a journal, and following are some of my thoughts.

Day 1: Tahiti to Moorea. Blue skies, brisk winds as we leave Papeete. About 100 people have turned out to watch us depart. Moorea, 12 miles away, is capped by white clouds.

I'm not sorry to be leaving Tahiti—Papeete seems like a hectic, grimy city afflicted with motor scooters and cars that are driven too fast. I would have liked to see the Gauguin museum on the other side of the island, but I never got the chance; we spent long hours the last two days working on the canoe—adjusting rigging, re-doing some of the lashing, and loading food and personal gear.

It's an easy sail to Moorea, and we arrive around noon and anchor in a calm bay near a church. We're being

hosted here by an organization called Te Pupu Arioi, a group whose members are dedicated to preserving their Polynesian heritage and following, to an extent, a traditional lifestyle. They're particularly interested in *Hokule'a* since they'd someday like to build a voyaging canoe of their own.

They treat us like royalty. In mid-afternoon we sit down to a feast of pig, chicken, raw fish, taro, breadfruit, bananas, coconut milk and other delicacies.

Day 2: Moorea. It's a day of ceremonies. We're awakened at 4 a.m. to walk barefoot on hot coals—an old, important ritual of purification in Polynesian cultures—to prepare us for the upcoming voyage. Personally, I don't think it's a wise idea to risk burning your feet at the start of a long trip, but I give in to peer pressure: At the appointed time, everyone else starts walking on the coals, so I fall in line and do the same. The coals actually turn out not to feel too hot, something like an asphalt tennis court which has been baked by a noonday sun.

Then there's a kava ceremony, another important Polynesian tradition. Members of Te Pupu Arioi and *Hokule'a* sit in a circle, drink kava (a murky liquid made from the kava root, which sometimes has a narcotic effect) and talk. Everyone introduces himself, and the Mooreans have a lot of questions about building their own canoe. *Hokule'a's* oldest crew member, 70-year-old Abe Piianaia, gives a speech in Hawaiian and the Mooreans understand him because Hawaiian is so similar to their own language, Tahitian.

In the late afternoon I walk down

to the canoe and stop at a small store near the bay to buy French bread and cheese. The French bread is excellent—better than any I've had in Honolulu. Along the road, a pretty Polynesian girl, about 7 or 8, rides by on a bicycle, wearing white underpants and nothing else. Then a young man zooms by on a motor scooter. He cuts an odd sight: His one concession to vehicular safety seems to be a plastic replica of a Nazi war helmet.

We leave Moorea around 10 at night. For navigational purposes, Nainoa wants to be around the island and a good distance away from it by dawn so he can watch the sun rise over it, use it to take a bearing, and help determine his course toward Maiao, the next island.

Day 3: Moorea to Huahine. Now seems like a good time to introduce the crew. The canoe is crowded; there are 19 of us, and *Hokule'a's* usual crew size is 12.

We are divided into two watches of five persons each that alternate four-hour shifts. The captain of the first watch is Leon Sterling, the canoe's first mate. Also on first watch are Pat Aiu (a doctor), Peter Sapelalur from Satawal, Cliff Watson (a photographer) and Chad Piianaia. The captain of the second watch is Mike Tongg, an attorney who's a past president of the Polynesian Voyaging Society. Also on second watch are John Kruse from Kauai, Mel Paoa from Molokai, Andy Tutai from Rarotonga, and myself.

Gordon Piianaia is *Hokule'a's* captain, Nainoa is the navigator, and Mau Piailug, the master navigator from Satawal who has helped teach Nainoa, is along as advisor. Chad Babayan is working closely with

Nainoa and will document the navigation. Snake Ah Hee is our cook. Abe Piianaia, a former ship's captain himself, is head of Hawaiian Studies at the University of Hawaii.

In addition, we have three people who will be leaving the canoe at Raiatea or Bora-Bora: two Tahitians—Karim and Puanoho—and Bob Krauss of *The Honolulu Advertiser*.

This crew has both plenty of experience and plenty of inexperience. Nine people—Mau, Nainoa, Gordon, Leon, Mike, John, Snake, Chad Babayan and Pat—have made previous long-distance voyages on the *Hokule'a*. Peter, Mel, Karim and Puanoho are new to *Hokule'a* but are capable sailors. Chad Piianaia, Gordon's son, is the youngest member of the crew (16), and Abe, Gordon's father, is the oldest. Bob Krauss, Cliff, Andy and I are inexperienced.

Watch change, 4 a.m. I stumble out of my sleeping bag and get my first try at steering. The direction of the canoe can be controlled by three long paddles, or steering sweeps, one in the canoe's center and one on each side. Depending on how the wind is blowing and how the sails are set, *Hokule'a* can be steered by one, two or all three sweeps; occasionally no steering is needed.

I take over the center sweep from Mel Paoa, who tells me to keep the middle of the canoe's stern between two stars (they happen to be Procyon and the fainter star in the constellation Canis Minor). By regulating the angle and depth that the paddle cuts into the water, you can change the direction of the canoe. But keeping the canoe on a steady, straight course requires practice, and I have little "paddle sense." Then—an unforeseen complication—clouds blow in and obscure the stars I'm trying to steer by. Mike Tongg quickly corrects me. "You've got to have alternate marks," he says, meaning other stars to steer by. That way, if you lose one star, you can just pick up another one (knowing of course where it should be in relation to a certain part of the canoe). I feel like I'm taking a crash course in confusion.

Late morning. We're nearing Maiao, a small island we'll pass on the way to Huahine. Maiao is 47 miles west of Moorea and 56 miles south of Huahine. Actually, this isn't the shortest way to get from Moorea to

Huahine, but it's probably the safest, or most conservative. Instead of one long stretch of open ocean, this route involves two shorter stretches. By "backsighting" islands (first Moorea and then Maiao) as we sail away from them, Nainoa can be certain, at least

this would be easy. Mau casts a puzzled glance at me as the canoe slides slowly off course.

Late afternoon. Maiao is out of sight and we've not yet spotted Huahine, but land may be near.



Right: Hokule'a's bathroom facilities are primitive. A pail of salt water poured over your head constitutes a shower at sea.

Inset: On one especially hot day, an awning was rigged to give shelter from the sun.



VO LIPMAN

while an island is visible, that the canoe is holding the course he wants it to. Thus the amount of unknown—or open ocean—that we have to cover is reduced.

Maiao has a few low, green hills. It looks like a lonely place. Offshore, waves are breaking over a reef. Onshore is a strip of sandy beach. The island is mysteriously silent; the only sounds are made by the wind and the water slapping against the canoe's hulls. Karim says 150 people live on the island, but we see none of them.

Afternoon. Maiao is growing smaller behind us. I'm steering, trying to keep a declivity between two hills of Maiao in line with the middle of the canoe. For a competent steersman,

Nainoa is scanning the horizon intently. Mau too is alert.

Certain kinds of birds—those that regularly come home to nest for the night—can be valuable indicators of land. We've seen a few white birds (white terns, or fairy terns), which are helpful birds for a navigator, but Nainoa said it was too early to use them to try to determine the direction of land since they usually don't start home until nearer sunset.

Suddenly, on the distant horizon, a faint triangular smudge: Huahine.

It is one thing to see an island 30 or 40 miles away, and another to get there. It's long after midnight when we finally glide into Huahine's harbor. The waterfront is deserted, except for

a young couple in sleeping bags who are startled by our arrival. A full, silver moon casts its pale reflection on the water. A large fish, maybe an ulua, is occasionally breaking the water's surface in an otherwise tranquil bay. There are a few stores, all

boards and pitching headlong into the water as others sitting on the beach are hooting and laughing. But with their sailing, surfing and paddling backgrounds, it doesn't take these guys long to catch on. Within an hour Peter, Nainoa and Snake have

deep.

Then someone from the nearby houses came over, waded into the stream, and began to chum the water with bits of canned mackerel and a fish head. Attracted by the scent of blood and oil in the water, other eels began to appear and swim to the area. Karim then joined the man, and soon the two of them, standing in calf-deep water, had about 15 or 20 of these enormous eels swimming around them.

I thought they were fearless or foolhardy but it turned out they knew what they were doing. They would throw bits of fish to the eels, and even hold out some of the larger pieces, and the eels would come to the water's surface and snap the fish out of their hands. Occasionally the villager would run his hand under one of the eel's bellies, lift the eel slightly out of the water, and gently let the eel slide over his hand back into the stream. In effect, he was petting the eel, but if he lifted the creature too high out of the water, it would react and thrash about, and the ritual would be interrupted with a splash. To say the least, it was an unusual sight: two humans feeding and stroking a stream full of semi-domesticated eels.

Afterwards, I asked the man from the village (with Karim as interpreter, since the man spoke only French and Tahitian) if anyone ever caught and ate these eels. He said no. Quite the contrary—when people from the village have extra food, they bring it to the eels. Thus the eels are sort of communal pets, to be enjoyed by the people of the area and occasionally shown to visitors.

When one thinks of how small this stream is, and how easy it would be to kill off this population of eels (and eels *can* be good eating), it seems to me the people who live here are doing an admirable job coexisting with a fragile resource. There must be a lesson here somewhere.

Day 6: Huahine to Raiatea. We leave around dawn for the 25-mile sail to Raiatea. An overcast day. We pass through a squall, and for the first time of the trip, some people put on rain gear.

A brief scene: We have with us today a man from Huahine who knows some of the crew, has treated us kindly during our visit to his island, and is being rewarded with a sail on *Hokule'a*. Unfortunately, on



closed, and a half-completed construction site. I wonder what this place looks like in the day. It's a ghost town now.

Day 4: Huahine. Well, I circled part of the island this morning in the back of a pickup truck, and I found out what it looks like in the day: It's the most beautiful island I've ever seen. Mountains, huge lagoons, rich vegetation, clear water, long white-sand beaches. All untouched and unspoiled.

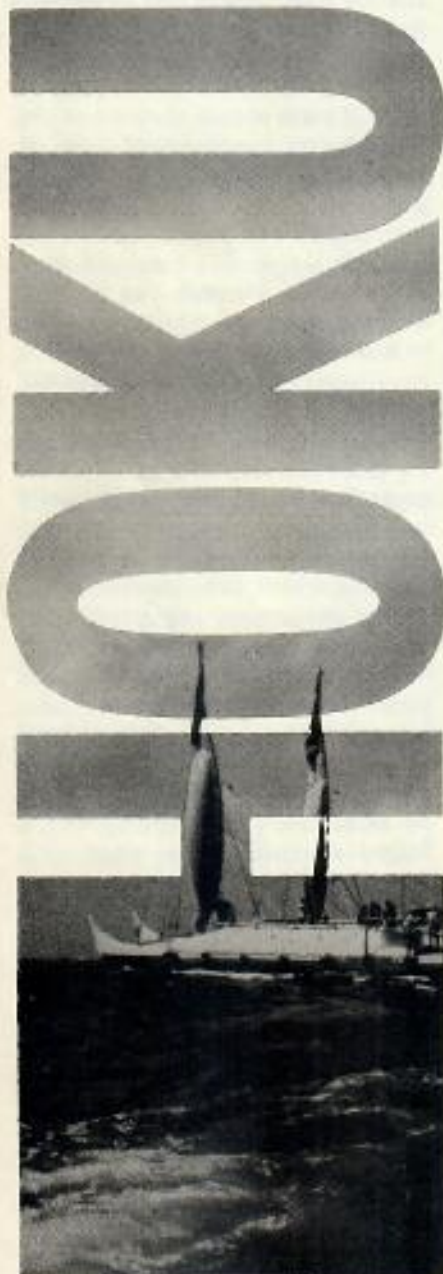
Around noon there's a lunch for *Hokule'a's* crew at one of Huahine's few hotels. In front of the hotel is a lagoon, with windsurfing boards available for guests to use. I watch the windsurfing; at first no one from *Hokule'a* knows how to do it. It's funny—people are falling off the

mastered the fundamentals of the sport and are sailing back and forth across the lagoon.

Day 5: Huahine. Today I watched a bizarre scene. A bunch of us were being given a pickup-truck tour of the island by residents (with plenty of Hinano beer, Scotch and bottled water on hand to ward off the heat) when we stopped near a small village. Along with a few other people, I wandered over to a nearby stream. As we sat there, a huge eel slithered out from under some rocks. It was about 6 feet long and not at all thin for an eel, brownish green on top, whitish silver on its underside. It moved slowly and gracefully along the bottom. The stream was narrow and shallow, maybe 10 feet wide and a foot or two

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this choppy crossing he's gotten seasick, and is lying on his stomach, leaning over the canoe's stern, throwing up. Mike Tongg, who's doing a thorough job documenting this trip (in a journal, on tape and with photographs) happens to have his camera out, sees the ill passenger, and gets into position to snap a photo or two. It won't make a pretty picture, but it's a genuine enough instant of what life can be like at sea. Snake Ah Hee notices Mike readying his camera and is troubled, I suspect, by what Snake considers an intrusion into an uncomfortable, private moment. Shaking his head, he says, "No, Mike..."

But the wind is whistling, the canoe is rocking, the masts are creaking, and I don't know if Mike even hears him. Under gray skies, we speed along.

We catch our first fish of the trip, a mahimahi of about 25 pounds. There's excitement as the fish is landed on one of the several handlines we invariably have trolling behind us but until now have not produced a strike. The golden fish flops on the deck. Mau shows how to kill a fish quickly by maneuvering his hand through the gills in such a way that he can poke out its eye from the inside of its head.

Raiatea is the spiritual center of much of Polynesia. At Taputapuatea on Raiatea is a large *marae*, or heiau-like shrine, that could be considered the Polynesian equivalent of the Vatican. A pass through the reef leads to this *marae*. According to legends, it was through this pass that the great voyaging canoes set sail centuries earlier—to Hawaii, to Rarotonga and other places.

In modern times there has been a kapu on this pass, which is considered sacred. The only ones who are supposed to be able to lift the kapu are the people of Hawaii—by sailing through the pass. Around midday, *Hokule'a* sails through the pass.

At the *marae* a small ceremony is held. A few dozen people from Raiatea have turned out to greet us. It's a desolate, isolated part of the island, made more somber today by a leaden sky.

Evening. We're now docked at Uturoa, the main town of Raiatea. We left Taputapuatea after a couple of hours and came up the coast to our present harbor. Now, Andy (from

Rarotonga) and I walk into town to see if any shops are open so we can buy French bread and cheese for dinner. But the stores are closed. Andy is grumbling because things seem disorganized: Some of the crew have left the canoe for the night to stay in a hotel or with friends, and we're not sure where to eat or what to do.

But when we return to the canoe, we find that Snake has fried up the mahimahi caught earlier today, and made fish soup besides. A few local people have come aboard, and Snake and Nainoa go out of their way to make sure that everyone gets enough to eat. Andy is cheered up considerably by the good, hot soup.

Afterwards, I'm doing dishes with Chad Babayan. Chad is normally energetic and optimistic, but tonight he's in a pensive mood. Yesterday on Huahine he was riding a bike when a car behind him forced him off the road and he fell and hurt his arm. Also, with all the island-hopping we've been doing, we've been gone almost a week but have covered less than 150 miles. That's not even one-quarter of the way to Rarotonga. I think Chad would like to get to the open ocean and really get on with the voyage—it's a sentiment I've heard from other crew members too. Chad has a wife and two young children back home on Maui, and tonight they're in his thoughts.

Day 7: Raiatea to Bora-Bora. Early morning clouds have broken, the day is fair. Right now we're moving through calm water inside a long reef. Islands are all around: Raiatea is on one side, Tahaa on the other, the sharp outline of Bora-Bora looms ahead, and the sun is shining on them all. An exquisite morning.

As we sail smoothly through these waters, someone remarks that *Hokule'a* could be quite a money-maker down here as a cruise boat, shuttling tourists around this picturesque lagoon. It's just a joke of course, almost sacrilegious, but, who knows, it could be true.

We reach Bora-Bora around 3:00. We clean the canoe—wash the deck, get rid of many of the bananas we're carrying that are starting to rot, and rinse off the canvas that covers the hulls. This is our last stop until Rarotonga.

Day 8: Bora-Bora. A day of rest. Most of the crew is staying at an

empty meeting hall a quarter of a mile from the canoe. Everyone has a chance to catch up on personal chores. This morning I shaved, washed my shorts and T-shirt and took a shower, though I still haven't had a hot shower since Honolulu. The water pressure is better here than on Huahine, meaning that showers do more than drip on you and toilets actually flush (most of the time anyway). Still, Huahine remains my favorite island. Bora-Bora is more built up. They even have a Club Med here.

Most of the crew are resting now—lying on sleeping bags, reading, sleeping. But Chad Babayan is seated at a table studying. He's poring over notebooks full of navigational information—star charts, nautical charts, pages full of hand-written distances and directions. On the canoe all navigational data is off-limits; Chad's trying to memorize all he can now. His eyes are bloodshot.

I walk down to the canoe to get a book that I left there. To my surprise, kids are everywhere. It turns out classes are visiting *Hokule'a* from the local schools. John Kruse is helping kids aboard, physically lifting the smaller ones from the dock to the deck, then showing them around and explaining what *Hokule'a* is about. In bright sunlight, the canoe is swarming with the children of Bora-Bora.

Crew meeting, 5 p.m. Gordon gives a short talk. The hard part of the voyage is coming up. So far we've usually been in sight of land; once we leave here and pass Maupiti, 27 miles west, all that changes. There's hundreds of miles of open ocean, with only a few tiny islands interspersed. Rarotonga, about 550 miles away, is 4 miles by 6 miles—a small target.

We review man-overboard procedures. *Hokule'a* is not a maneuverable craft; in rough seas, even with an escort vessel trailing us (and *Dorcas* has been doing a fine job), a rescue wouldn't be easy. As Gordon stresses, the best plan is, "Don't fall overboard."

After Gordon, Nainoa says a few words. We hope to leave tomorrow, but the wind and weather must be right.

Day 9: Bora-Bora. We wake to a total overcast with light rain. We're not going anywhere today. Everyone is disappointed, but you cannot argue with the wind.

For the last few days, winds have

been blowing from the south. This is unusual; it would make it hard to get to the Cook Islands, which lie west and south of here. The ancient Polynesians would have waited for the best possible conditions for such a voyage—the best phase of the moon to navigate by, ideal winds and so on. We don't have that luxury. But we do have a little time to play with, so we'll wait. Nainoa doesn't want to jeopardize his chances for navigational success (or safety) by leaving under unfavorable conditions.

Day 10: Bora-Bora to Maupiti. Blue skies. We leave at 10.

But outside the pass, the sea is calm, the calmest it's been in 10 days. There's little wind; we're barely moving. We can see Maupiti faintly on the horizon. At this speed it will take us hours to get there. Off the port bow, a flock of birds is diving for fish.

This is my simplistic understanding of our intended route to Rarotonga. I've divided it into three phases. Phase I is Bora-Bora to the westernmost Society Islands. Maupiti, of course, we can find visually. After Maupiti, it's 97 miles to an island called Maupihaa. From Maupihaa it's 42 miles to another island called Manuae. These islands are so out-of-the-way and obscure that it's been difficult to learn anything about them. Back in Honolulu, all I could find was a brief mention of them in an old edition of *Sailing Directions for Pacific Islands*. There's even confusion about their names. Maupihaa is also called Mopihaa and Mopelia; Manuae is also known as Fenua Ura and Scilly. Both islands are low, which means they're hard to see and would be dangerous to approach at night. In 1952, 20 to 40 people lived on Maupihaa; I don't know if anyone lives there today. Karim had a little knowledge of these islands, since he once fished near them, but he's no longer on board. As planned, he and Puanoho left the canoe at Bora-Bora. I was especially sorry to see Karim go. He was cheerful, strong and he knew these waters well.

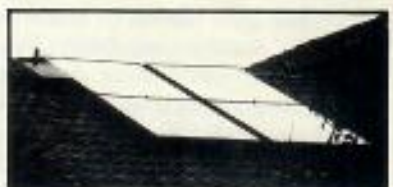
But I'm getting sidetracked. That's just Phase I of this trip. Phase II is Manuae to the Southern Cooks, our longest stretch of open ocean, about 270 miles. We'll be heading toward a string of six islands, all small, four of which are close enough together to provide a bit of an expanded target. The four islands are: Mauke, Mitiaro,



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Atiu and Takutea. Farther west are Herve Island and Aitutaki. Aitutaki is renowned for having the most beautiful lagoon in the Pacific.

Phase III is the Southern Cooks to Rarotonga. If we don't find any of the Southern Cooks to make sure we're on course—and this is entirely possible—finding Rarotonga will be much harder.

Mike Tongg has just shown me an interesting sight. There's an island to the northeast of us—Tupai—which we can't see because it's below the horizon. We know it's there, however, because we can see the green from the lagoon surrounding it reflected on the undersides of the clouds above it. In short, the bottoms of normally white clouds are tinged with green. It's an unusual phenomenon, but a potentially useful one for finding islands. At first I couldn't see the green, but when I put on sunglasses I saw it clearly.

A gorgeous sunset as we near Maupiti. We're heading toward the setting sun.

Day 11: Past Maupiti. The wind has picked up a bit as I come on watch at midnight. As Orion rises behind us, I steer by three stars in that well-known constellation: first Bellatrix, then Mintaka, then Betelgeuse. By giving detailed steering directions ("bring 'er up," "bring 'er down," "blade in," "blade out" and so on), Mike Tongg, Nainoa and Chad have devised a system to get a decent night's work out of me and other inexperienced steersmen. Basically, they are constantly correcting my errors. As soon as I go off course in one direction, they have me compensate back in the other. You can get tired in a hurry doing this.

Out of the darkness comes a light off our starboard bow. It's a boat, and not far away. We get the brightest flashlights we have and shine them high on our sails to help the other boat see us.

The boat changes course. It's either seen us or picked us up on radar. As it passes, we can make out its full length: It's a big ship. John thinks it's probably a fishing vessel, a Japanese long-liner.

Exhausted, I'm overjoyed when 4 o'clock comes so I can go to bed. But I don't sleep well. I don't know whether

it's the peculiar rocking of the canoe in this light wind, the cramped sleeping quarters, or the groaning and squeaking of the masts and gaffs, but I find it hard to sleep tonight.

8 a.m. Mau awakens, goes to the bow of the canoe to get a coconut, deftly cuts it open with four swipes of a long knife and starts drinking the milk.

"Hey, what, you got whiskey in there?" Gordon says jokingly.

Mau grins and laughs.

"Only guy," says Gordon, "I've ever seen open coconuts with a corkscrew."

More laughter. It's a funny scene, and it tells a little about two personalities.

Gordon, as captain, doesn't say a whole lot, but has a good dry sense of humor. He has a quiet kind of authority and sees more than he says. People respect him.

Mau's situation is more complex. Without doubt he's *Hokule'a's* best, most experienced sailor. When he was introduced by Abe at the kava ceremony on Moorea, Abe said, "Mau's 54 years old, and he's been sailing for 53 of those years." Mau has lived with the ocean all his life and knows it intimately; he's survived all kinds of storms, even hurricanes, at sea; he was the person the Polynesian Voyaging Society first turned to in 1976 to navigate *Hokule'a* to Tahiti without instruments. He succeeded. Then he helped teach Nainoa the secrets of a dying art.

But Mau is a navigator, and on this voyage he's not navigating. He's along as "advisor," available if Nainoa needs him, but Nainoa seems to have learned his lessons well, so Mau doesn't have much to do. He's also a long way from his home and family in Satawal, and has been gone for half a year now. On this trip, at sea, he's been spending much of the time below in his compartment, sleeping. On land, he sometimes finds solace in drinking.

Mau reminds me of the old line from the TV commercial: "When E. F. Hutton talks, people listen." Mau doesn't say much, but when he does, everybody pays attention. If he suggests handling a steering sweep a certain way, the paddle moves more smoothly. If he says to tie the shrouds a certain way, they'll be easier to untie in an emergency. If he puts on his light yellow windbreaker, it will probably soon rain.

But hardened to the elements, Mau seldom wears many clothes. The image I have of him on this trip is standing on the deck with his short, solid build, wearing a T-shirt, shorts and aviator sunglasses, his skin blackened from the sun, barefoot, with a rubber band around each ankle. His T-shirt says "Retired Superstar."

No one ever questions Mau's seamanship, and he is the man everyone would turn to in a crisis, but to me he seems unhappy.

A nice afternoon. This is a quiet time of day on the canoe; most people are asleep. Right now Peter is steering, Leon and Chad Piianaia are tying fishing lures, and Chad Babayan is giving steering instructions while Nainoa sleeps.

I finally have time to describe our living/sleeping quarters. They aren't luxurious. Basically, each person's home is a section of the hull of this double-hulled canoe. My area—which I share with Cliff, the photographer—is about 6 feet long and 3½ feet wide. It's covered over with white canvas to provide shelter from the waves and rain, and we enter it through a Velcro-sealed flap. The overall effect is like being in a small tent.

At this moment I'm lying on a plywood board which is placed across the two cooler chests that contain all of Cliff's and my clothes. A thin foam pad on the board makes it softer. We have a clothesline in here, and my bathing suit and T-shirt are drying on it. Also hanging here is a miniature hammock which serves as a handy place to store things. Right now the hammock contains my sunglasses, hat, flashlight and wool cap, plus Cliff's and my toilet articles. The only toilet things I use much are a toothbrush and toothpaste, sunscreen, aloe, a comb, a communal bottle of liquid soap, and toilet paper.

Which brings up the subject of toilets. *Hokule'a* is a primitive craft, and a toilet is one thing it doesn't have. There are two main ways people go to the bathroom here: They crouch in the net beneath the bow (a wet and sometimes bumpy way to relieve yourself) or they walk out on a sort of running board and hang over the side of the canoe. Privacy is limited, but that's something you get used to. A more serious concern is safety; you would not want to get hit by a freak wave while hanging out over the canoe. We've been advised to wear

safety harnesses in these situations, but nobody does.

Evening. Birds—white terns and boobies—are flying in the direction of the setting sun. We've traveled almost 24 hours since Maupiti, and should, if we're on course, be nearing Maupihaa. The birds are a good sign and they're all flying in the same direction. They're not skimming over the ocean randomly, searching for fish—they're flying purposefully. Home, in all likelihood, to land. Some are flying straight and high; perhaps they can even see the island from that altitude.

A solitary bird flies off in a different direction from the rest, and this brings a laugh from Mau. "Crazy bird," he says, "he's getting lost in the clouds."

We follow the birds.

Darkness comes, but still no sign of Maupihaa. Nainoa calls a crew meeting. We're going to look for the island. He thinks we're near it, probably to the north, and the northern side of Maupihaa, which is about two miles long, is wooded, with no reef. Nainoa admits that looking for a small island on a moonless night may not exactly be prudent, "But what the heck—it's what we came here to do."

He appoints a special watch with Peter, a fisherman with sharp eyes, and John, who also has excellent eyes, to keep a constant lookout for land.

We continue through calm waters. Now the cries of unseen birds surround the boat. The bird cries reassure Nainoa. He feels that if we lose the birds, we'll have missed the island.

My watch ends at 8. Still no island, I go to bed and sleep soundly.

Up for midnight watch, my first question is: What happened to Maupihaa? It turns out we found it and passed it a couple of hours ago. It was a thin black contour against the night sky. There were no lights on it. Mau saw it first.

Nainoa is in high spirits ("stoked" is the word he uses). This has to be a great confidence-builder for him. Over a distance of 100 miles, he's taken us without instruments to a low, unfamiliar island, and found it in the dark.

Nainoa has decided not to continue toward Manuae. The winds have slowed us more than expected and there's no sense hunting for a second

island at night. Maupihaa was enough; we're right on course. Nainoa has changed our bearing and we're heading southwest to the Cooks.

Day 12: Past Maupihaa. Mid-morning. Heat. No wind. We're going nowhere.

The only excitement comes when someone spots, several hundred yards off our port beam, an enormous flock of birds chasing fish. The birds circle in the sky and dive. Below, the water is bubbling, being churned up by a frenzy of activity. What's happening



An inside look at sleeping space.

is this: A school of large fish, probably tuna, is chasing a school of smaller bait fish. The birds then prey on the bait fish, who are being driven toward the water's surface. "Boy," says Abe, "the bait fish get it from above and below."

Miles from anywhere, under a hazy sun, we all watch the birds and roiling water.

The sun moves higher in the sky. A doldrum-style day. Intense heat. Those who are on watch but not steering haul up buckets of water to pour on the deck and over the bare feet of those who are steering.

Today I kept a list of everything I ate. This is it:

During midnight watch I had a few handfuls of trail mix (nuts, raisins, coconut flakes, etc.). For breakfast I had a bowl of rice and corned beef hash. Later in the morning I had two bananas and half a pamplemousse (a large, Tahitian variety of grapefruit). For lunch I had a bowl of rice and Vienna sausage with tomato sauce; dessert was a piece of sweet, fruitcake-

like bread. For dinner I had rice and beef stew. With each meal I drank water.

Evening. A big change in weather is coming. The wind has picked up, and a mass of dark clouds spans the horizon ahead of us. There are all different kinds of cloud formations—what is sometimes called a "chaotic sky." In short, we're sailing into a storm.

I turn in at 8:00, but it's hard to sleep. I'm being tossed all around in my berth, and water from waves is splashing in over the top through gaps in the canvas.

Sometime before midnight I hear Pat call to Andy, who is sleeping in the next berth, "Andy, we need everyone on deck." I put on my foul weather gear and go out.

Outside waits a wild scene, with high winds, sheets of rain, and waves breaking over the sides of the canoe. It feels like we're flying through the water—we have to take down the mizzen sail (the smaller of *Hokule'a's* two sails) so we can cut our speed and gain more control of the canoe. The boat is pitching so much it's hard to keep your balance when moving around. For the first time of the trip, I'm frightened of the ocean.

Day 13: Past Maupihaa. Once we've taken down the mizzen sail there is not much to do but steer and try to stay warm throughout a long, squally night.

Mike Tongg is at his best tonight, coaching and coaxing us as we steer, with a stream of constant, encouraging chatter. ("Give me a little blade, give me a little juice," he says. "Atta boy, good job, good job," and on and on like this.) He's working hard to keep our spirits up.

"Mike," I say at one point, "were you getting wet earlier tonight down in the hull while you were sleeping?"—knowing of course that he must have been.

"Nah," he laughs, "just a little shower, bruddah."

Nainoa once described Mike to me as "mentally tough," and tonight I see what he means. It's hard to complain when someone you're working with is uncomplaining.

Rain, cold, wind.

I am very pleased when 4 o'clock comes so I can return to my sleeping bag, even if it is wet.

Gray morning, choppy seas. The weather last night was really, to more experienced sailors, probably not so bad; the ocean can conjure up much worse. Nainoa says that at its strongest the wind was blowing about 35 miles an hour, with 16-foot swells. Now the wind is 15 miles an hour, with 12-foot swells. The good side to this rough weather is that we're making excellent speed.

4 p.m. watch. We're flying through squalls. Gusty winds.

At sunset Nainoa estimates we're 70 miles from the Southern Cooks. He hopes to reach them tomorrow morning, but is concerned he might have underestimated our speed and that we might come upon the islands—or miss them—during the night.

With the wind whipping by us and a gray evening turning into what will undoubtedly be a cold, damp night, I ask Nainoa a question that has been on my mind for some time: Is this kind of trip *fun* for him?

He practically spits out the answer: "No." Fun? This kind of sailing involves staying up long hours in uncomfortable conditions, and pushing yourself long past the point of tiredness. The navigator has the hardest job of all—rarely sleeping, always concentrating to make sure the canoe is holding the course he wants it to.

Nainoa has spent almost a decade—in the Bishop Museum Planetarium with astronomer Will Kyselka, and at sea with Mau—learning to navigate without instruments. He knows the sky intimately. He has in his head a star compass that contains the rising and setting positions of more than 100 stars; he also uses the sun and the moon. He's learning to read the ocean's different swell patterns and currents, though his knowledge of

them isn't yet as sophisticated as Mau's. On this trip he's already found out a lot about using birds to lead you to land.

Navigating without instruments is a little like putting together the pieces of an elaborate natural puzzle. The environment provides many clues; it's up to the navigator to recognize them.

No doubt there's deep satisfaction in mastering a respected art that in your part of the world hasn't been practiced for centuries. But tonight, Nainoa is worn out. He admits there are times he'd like to be home. "I love the ocean," he says, "and I think I always want to work near it. But in shallow water, where I can go home at night, take a shower, watch TV."^{*}

Day 14: Mitiaro. The day dawns dreary and overcast, but there's a sense of anticipation that land may be near. We're 2½ days from Maupihaa, we've been sped along by a storm, and if Nainoa's calculations are right, we should be nearing the Southern Cooks.

Several hours pass with no sign of land. I'm concerned; I would have thought that if we were near land we would be seeing birds.

Off our stern, a whale spouts.

Late morning. Gray sky, dark ocean. Suddenly someone calls out, "White birds"—two white terns fly by—and everyone comes to life. In a few minutes another white bird is seen, and then another, and almost before anyone expects it or is ready for it, Peter has spotted land. It's far off our port beam, not really in the

direction we were heading; it's amazing Peter saw it. My eyes are good, but I see nothing but ocean and sky. Years of fishing and scanning the horizon for birds and land have sharpened Peter's vision.

We turn toward the distant island. "Micronesian eyes," says Chad Babayan respectfully.

As the island grows larger, rain begins to fall. The island is low, green and small. Now we can see a patch of cleared land—perhaps an airstrip?—a couple of houses, and smoke. In the distance people are standing on a beach. In the water are canoes.

What island is this? Andy thinks it's Mitiaro or Mauke, but he's really not sure. Atiu would be higher (400 feet) and Takutea smaller. It's raining heavily now.

As we close in on the island, the people paddling canoes close in on us. There are about 10 or 15 small canoes, crude, hand-crafted outriggers of different faded colors. The people are light-skinned Polynesians, wearing Western-style clothes, most of which are ragged and dirty. They have bad teeth. None of them have any rain coats and everyone is soaked. They pull up to *Hokule'a* and begin to climb aboard. For an instant no one is quite sure what to do. Then Chad Babayan reaches out to help someone aboard, shakes his hand with a friendly greeting, and the man smiles in return.

At first no one says anything. A few of the islanders are walking around *Hokule'a*, inspecting the canoe curiously, as if it had just sailed in from some unknown watery planet. But most of them are clustered in one area, and we are in another. Then one of them, a handsome man in his 20s who has been standing there with his arms crossed, thoughtfully surveying the scene, looks at me and says, with a vaguely British accent, "Do you speak English?"

I assure him that we do, and he says, "Oh, we weren't speaking at all because we didn't think you spoke English." For some reason this strikes me as absurdly funny and we both start laughing.

"What island is this?"

"Mitiaro."

It turns out Mitiaro has about 300 people living on it. The people had heard about *Hokule'a* on a radio report this morning, but they were surprised to see us because the report

*Anyone wanting more detailed information about non-instrument navigation—particularly as it pertains to Nainoa and the *Hokule'a*—should read Will Kyselka's book *An Ocean In Mind*, to be published later this year by University of Hawaii Press.



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inaccurately placed us near Rarotonga.

The pass through the reef is a channel barely wide enough for a homemade outrigger canoe, so we anchor a few hundred yards offshore. Two small boys have now come aboard and, shirtless and in shorts, they're shivering. John Kruse gets a shirt and puts it on one of them; it comes down to his knees. Someone else gives a shirt to the other boy.

I talk to the man who first asked if we spoke English. His name is Julian; he's from Mitiaro, but he went to college in Rarotonga. I ask him about life on Mitiaro. It's subsistence-style living: fishing and a little agriculture. Julian has a government position, one of the few jobs on the island. Cook Island Maori is the main language, but English is spoken as a second language. Julian says they are just about to start their seasonal volleyball league on the island; at other times of the year they play tennis.

Everyone is getting drenched in a cold, miserable rain. We rig up an awning with plastic tarps to provide a makeshift shelter. More people have now come aboard. Among them are several young girls, all dressed alike, wearing green dresses with white blouses. It turns out these are uniforms; the girls have just gotten out of school. There are younger children as well, and we offer the kids candies. Kids are the same everywhere: Shy at first, they giggle self-consciously, then accept the candy. Ironically, we also offer bananas and pamplemousse while the residents of this South Pacific island have brought us what must be some of their delicacies—canned corned beef and spaghetti from New Zealand.

Leon gets the stove going and cooks up bowls full of rice and Spam. The hot food tastes delicious.

It's an afternoon to remember. Huddled under an awning in a drenching rain, we share food and try to stay warm with the people of Mitiaro.

There's a break in the rain and we leave around 7 p.m. We were invited ashore, but the wind has shifted and there was a danger of the canoe's being driven up on the reef. Also, now that we've reached the Cook Islands, everyone is anxious to finish the voyage.

We're 274 miles from Maupihaa and 142 miles from Rarotonga.

Day 15: Mitiaro to Rarotonga. Up for midnight watch. Got a good sleep from 8 to 12. I'm now in a condition where, because of accumulated tiredness, regardless of where I am or how the boat is moving I automatically fall asleep within minutes by closing my eyes.

Everything is in a state of perpetual dampness. Sleeping bags are damp, clothes are damp, people are damp. But at least our foul weather gear is made of materials that still insulate you when wet. I may not be comfortable, but I'm not cold either.

Morning. A weak sun tries to shine through billowy gray clouds.

Last night I began to feel, for the first time of the voyage, sadness, anticipating the trip's end. As difficult as it has sometimes been (and I would certainly be lying to say I've enjoyed it all), there have been good things too: the islands, the stars, the ocean, the friendship of people thrown together for a common purpose. The canoe is a small self-contained world we've all gotten very used to—one that, when all is said and done, has taken good care of us for the last two weeks and shown us some rare parts of the world.

Now, as I look around the canoe on this cloudy, windy afternoon, everyone is absorbed in his own pursuits. At this moment Gordon is cleaning his glasses, Snake is cooking lunch, John is tightening a rope around the mast and gaff, and Mau is showing Chad Piianaia how to make a net, Micronesian-style. Everyone seems comfortable today. Leon and Peter are steering. The deck is a clutter of bananas, food containers, and foul weather gear and sleeping bags lain out to dry. Not everything is shipshape, but no one seems to mind.

Bad weather may be just ahead, but no one is concerned. Rarotonga may be small and hard to find, but I don't think anyone has any doubts we'll find it.

Shortly after 4 p.m., Mike Tongg sights land. At first there's confusion over whether it is land, since Nainoa didn't expect to be able to see Rarotonga so early. It looks like two separate, dark-blue triangles poking above the horizon, which is puzzling since Rarotonga is one mass of land, but apparently the middle of the island is being obscured by a low

cloud cover. In fact, it takes a few minutes to positively confirm that we are seeing land, since the whole horizon is rimmed by dark cloud formations that at a quick glance could be mistaken for islands. But the clouds change subtly in shape and texture; the land doesn't.

There's no jubilation or yelling or hand-slapping. Chad Babayan comes around and pats people on the back, saying, "Nice going, guys," and things like that, but in these few words you can hear he's deeply pleased. Nainoa goes to the bow of the canoe and just stands there for what must be 20 minutes or half an hour, holding on to one of the shrouds and looking out at the land ahead, which is still very small. Everyone leaves him alone. Then he comes back to where the rest of the crew is gathered near the stern and quietly shakes hands with everyone.

Day 15: Off Rarotonga. On this trip, as in life, things never end quite the way you expect them to. We reached Rarotonga around midnight (we must have been 30 miles away when we sighted the 2,000-foot-high island) but we've learned that Cook Island authorities don't want us to come ashore until tomorrow morning when a big, formal celebration is planned. So we're now drifting half a mile offshore, talking, sleeping, looking in at the glittering lights of Avarua. I'd like to say it's a balmy tropical evening, but the truth is it's cold. From some bar in town, strains of rock 'n' roll music come pulsing across the water.

Everyone is up by dawn. We clean the canoe and clean ourselves—faces are washed, teeth are brushed, hair is combed. Everyone tries to find clothes that are neat or at least dry, so he can look presentable when he steps ashore. Otherwise the mood is subdued; as we start our final sail toward Rarotonga, everyone is alone with his own thoughts.

I'd like to sum up a few weeks in a few words, but what is there to say? That we found small islands? That everyone is safe? That on the whole trip I never heard a serious argument? I would like a hot shower and a warm bed that I won't be wakened from at midnight. And I will miss this canoe and these people and the ocean.

In brilliant early-morning sunlight, the island grows larger and greener before us.

Hulō, Hulō
e nā hoe wā'a
kaulana o Hōkūle'a,
na pua mae'ole
o na Kūpuna




[Hurrah! Hurrah! Famous Paddlers of Hokule'a, never fading descendants
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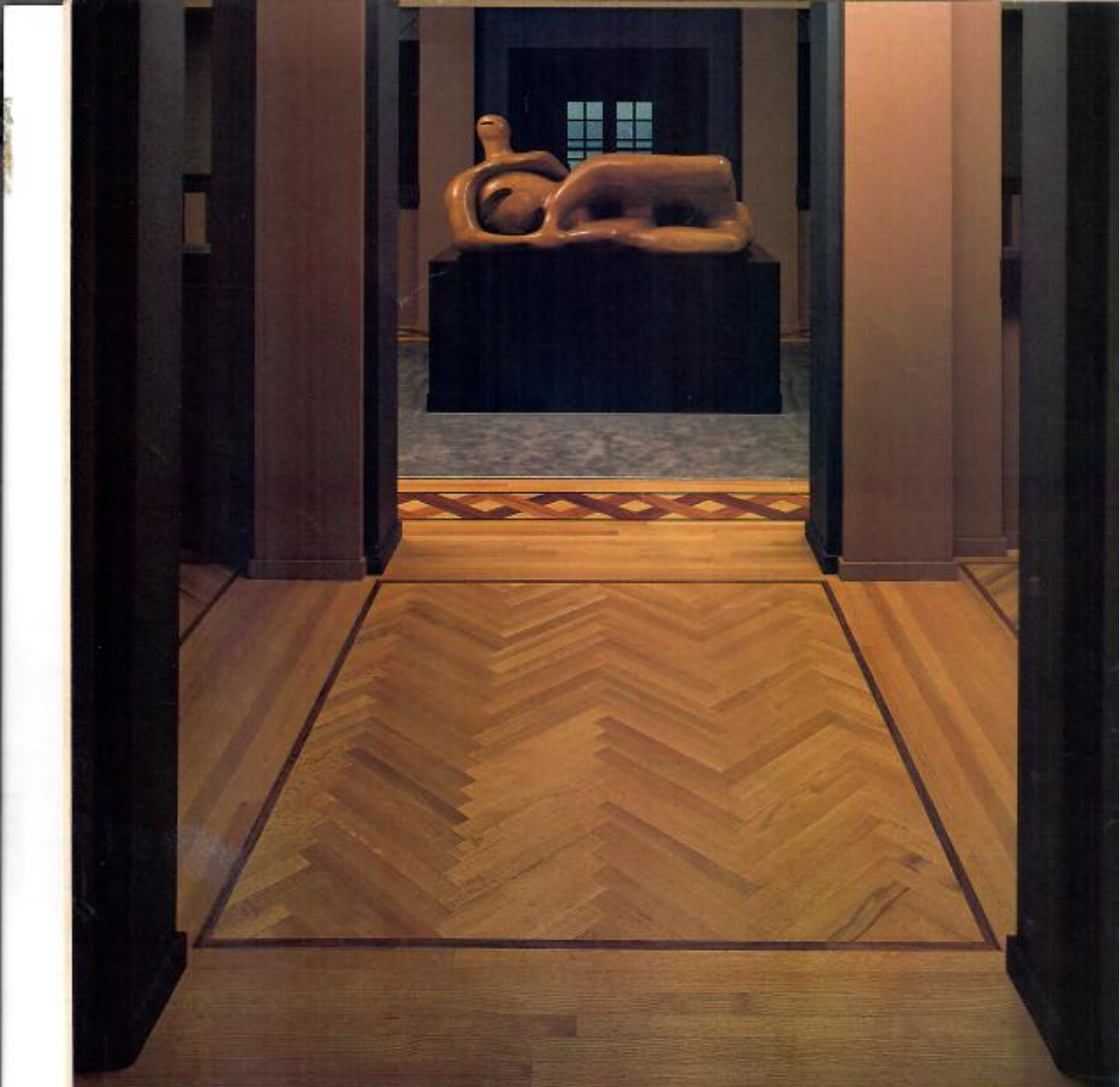
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