

Looming high above North Star Bay, Dundas Mountain is the most distinctive landmark in the Thule area. The Peregrine Falcons nesting on this massive butte were the farthest north breeding pair of this species known in the Western Hemisphere and perhaps the world—until we headed farther north this past summer and found three additional peregrine nests that broke this record. The tiny, starling-sized Dovekie, at right, is one of the most abundant birds in Northwest Greenland, with a breeding population of approximately 60 million.



True North

TEXT AND PHOTOGRAPHS BY TIM GALLAGHER

With the Dovekies in Northwest Greenland

24 JULY 1999; THULE/PITUFFIK, GREENLAND: Thule Air Base is an eerie place. With its huge fuel tanks, its rows of long barracks raised above ground and weighted down with massive concrete blocks to withstand hurricane-force winds, and its elaborate network of heating pipes threading across, around, and into every building, the place looks like a NASA outpost on Mars. And the barren, reddish hills and vast glacier looming above it only add to the effect. Still, it's a welcome sight after flying due north for six hours in the cramped rear cabin of a cargo plane with nothing but glaciers, icebergs, and dark, frigid sea as far as you can see below.

It is late July, shortly after the annual breakup of the pack ice in northwest Greenland, and I've come to visit the High Arctic Institute—a private research center headquartered at the base. The





two years ago when Bill, his son Kurt, and Jack Stephens (a weather forecaster at the base) made a horrendous voyage in a twin-engine rubber motorboat, traveling from their Dovekie base camp south of Thule up the coast during a storm. As they plied their way northward, the seas churned violently and the winds blew at more than 100 miles per hour, pushing apartment-house-sized icebergs shoreward. With icebergs moving fast behind them, they ran the boat up a glacial stream at Cape Atholl and tied off on some boulders, just before the icebergs clogged the entrance. If they had arrived just five minutes later, the stream would

Kurt Burnham steers his Achilles twin-engine rubber boat through icebergs on the northwest coast of Greenland. The boat's brand name made me wonder what its Achilles' heel might be. Below, standing atop the Greenland icecap gave me a new appreciation of the word cold.

Peregrine Fund launched the institute several years ago and is conducting ongoing studies of far northern birds. I'm traveling with Bill Burnham, president of The Peregrine Fund, and we plan to spend a couple of weeks banding Dovekies (*Alle alle*) and exploring the coast and offshore islands of Greenland, searching for nesting Gyrfalcons (*Falco rusticolus*) and Peregrine Falcons (*Falco peregrinus tundrius*).

At a latitude of 76 degrees, 32 minutes North, Thule is hundreds of miles north of the Arctic Circle and only about 800 miles from the North Pole. At this time of year, the sun is up 24 hours a day and doesn't even touch the hilltops as it makes its daily circuit around the sky.

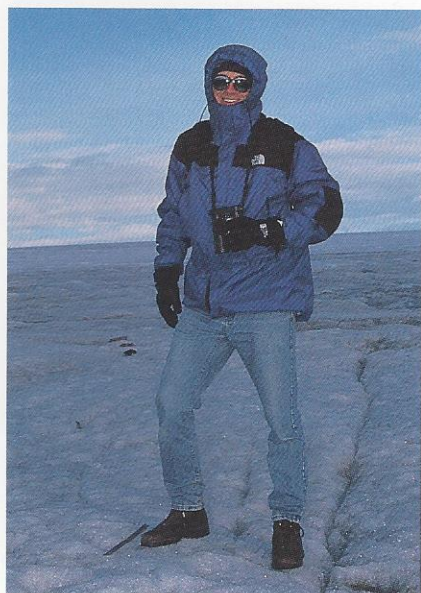
It can be as bright at midnight as it is at noon. But in October, the sun sets for the winter, plunging the area into darkness until February. The winds here are legendary. The massive fuel tanks at the front of the base—as large as those in an oil refinery—bear massive dents from the incredible pounding of the northern Greenland winds, which can hit at any season, bringing all travel to a halt. On several occasions, Bill has been stuck far from the base for days at a time—hunkered in a low tent in the lee of some protective boulders, waiting for the squall to die down.

More frightening was the time

have been blocked, and they would have had to make an all-out run north, around the point and into the huge Wolstenholme Fjord that leads to Thule. Bill doubts they would have made it. As they got to land, the snow was blowing horizontally, drifting several feet deep in places. And this was on the eighth of August—the height of summer in northern Greenland. Everyone who travels by boat in this area constantly searches for inlets, bays, or other sheltered areas to run to if a storm comes up, because the weather can change in a matter of minutes.

27 JULY 1999; WOLSTENHOLME FJORD, GREENLAND: On this, our third day in Greenland, we get up at 4:00 A.M., eat a quick breakfast, and head to sea. We've been grounded at the base by gale-force winds for the past 30 hours but are heading to the Dovekie base camp today, hoping that the weather conditions will continue to improve. Bill and I travel in the red boat, while Kurt and Jack take the faster gray boat. These are both Zodiac-style rubber boats, although they carry the brand name Achilles—which makes me wonder what their Achilles' heel might be. They each run two hearty 40-horsepower outboard motors, which provide power and dependability—if one motor dies at an inopportune moment, you still have the second motor to get you safely home.

The temperature plummets as soon as we leave shore and start threading through the



icebergs in Wolstenholme Fjord, a vast inlet, miles across, leading from Thule Air Base at North Star Bay to the open sea. Even though I'm wearing an expedition-grade parka, I'm unbearably cold a lot of the time. I put a fleece hat on, pull my head deep inside my parka hood, and cover my eyes with glacier glasses to block the icy wind. I only wish I had something to cover my nose, which feels like a block of ice stuck to the middle of my face.

Though the environment here is harsh, it is incredibly rich. Everywhere I look I see bird life—squadrons of Common Eiders (*Somateria mollissima*) fly past almost constantly; Black Guillemots (*Cepphus grylle*), Thick-billed Murres (*Uria lomvia*), and Dovekies skitter over the frigid water in front of us.

Two days earlier we took a shakedown cruise to make sure the boats were running well, and we visited many of the bird islands in Wolstenholme Fjord. On Dalrymple Rock, a pointed outcropping about 15 miles from the base, we visited nesting colonies of Atlantic Puffins (*Fratercula arctica*), Common Eiders, and Black Guillemots. I took many full-frame pictures of these birds as I scrambled around a rocky cliff with my cumbersome 500mm lens and tripod. We also explored Saunder's Island, one of the largest islands in the area. The cliffs surrounding the island are full of nesting Thick-billed Murres, which is not surprising—the Inuit name for the island, Agpat, means murre. We circled the island, checking the lofty sea cliffs for falcon nests but found none, although we did find, in addition to the murres, many nesting Black-legged Kittiwakes (*Rissa tridactyla*) and Glaucous Gulls (*Larus hyperboreus*).

As soon as we round the point and move into the open sea, we're hit by large swells that pound the boats, rocking the icebergs around us. But at least we can see the big bergs. It's the smaller, low-lying chunks of ice you have to scan for constantly—especially the clear ones that lie on the surface of the water like great sheets of Saran Wrap but can slice a rubber boat like a can opener or flip it over, spilling its passengers into the icy sea. It only takes a few minutes to lose consciousness and die in this frigid water. Even Inuit walrus hunters, who know these waters better than anyone, sometimes wash ashore, perhaps thrown

from their boats by hidden chunks of ice or waves. Most of the local people don't even wear life preservers. They call them "body finders," which is about all they're good for if you fall overboard.

When we reach our base camp, several miles south of Cape Atholl, we take the boats up a glacial river and tie them to boulders. It is high tide but in a few hours the tide will go



out, leaving the boats high and dry until the tide comes in again. It's vital to have a tide chart and follow the risings and fallings of the tides closely, or you could get stuck for hours before the tide rises enough to float your boat out.

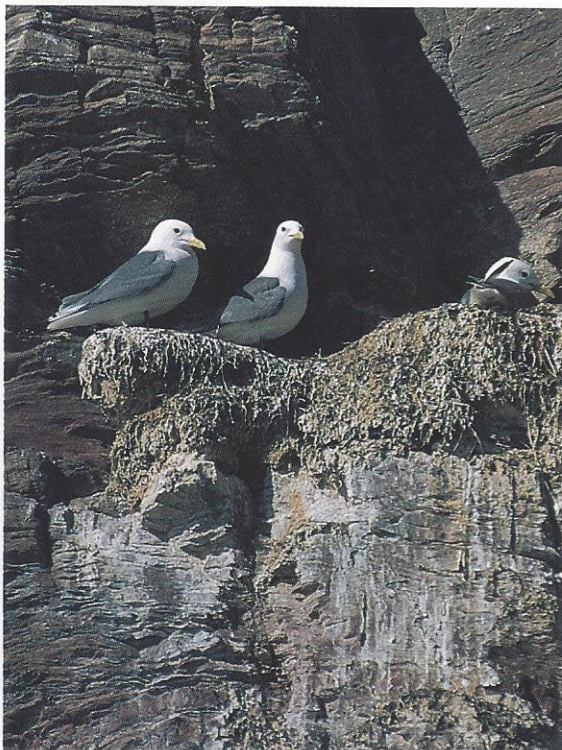
Unloading the boats resembles a military assault. We form a line, handing trapping gear, tents, stoves, food, and other equipment from person to person, quickly emptying the boats. We then clamber over the streamside rocks and carry everything up a steep trail to a large, grassy, plateaulike shelf 50 or 60 feet above the river, where we pitch our tents.

This is an ideal camp site, close to a major Dovekie colony and with a spectacular view of the sea and a convenient supply of fresh water at the stream. But we're not the first people to choose this remote spot as a camp. Close to where we pitch our tents are traces of an ancient Inuit encampment—the foundations of several huts dug into the ground. After Bill first reported seeing these ruins, a team of Danish archeologists visited the site and said

A Peregrine Falcon, the female of the pair nesting on Dundas Mountain, flies above the bizarre landscape of Thule Air Base—a place with the look and feel and all the charm of a NASA outpost on Mars.



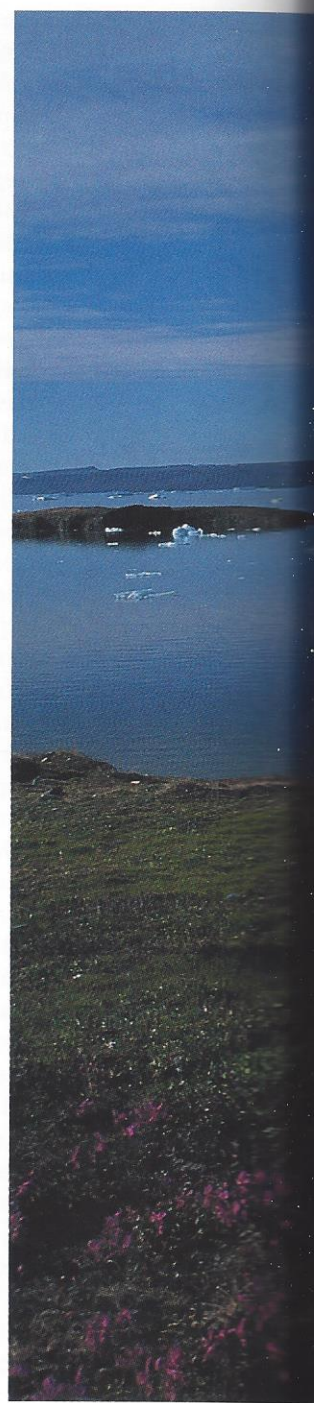
they were centuries old, perhaps the oldest ruins of their kind in northern Greenland. These tiny, eight-by-ten-foot huts probably originally had whalebone struts holding up a roof of animal skins, and each one would have housed an entire family. Perhaps the Inuit came here to catch Dovekies, which, to this day, they consider a great delicacy. They traditionally caught the birds by snatching them



out of the air, midflight, using a hoop net on the end of a long narwhal tusk.

The Dovekie colony lies straight across the river from us, up a steep grassy slope, among the talus rock at the base of a cliff. Peregrine Fund researchers have been trapping and banding Dovekies here for the past five summers. We set up mist nets in three areas of the colony, right at the base of the talus slope. Each year, the team has set up the nets in exactly the same places. The researchers are trying to learn more about the nest-site fidelity of these birds as well as their longevity. Not much is currently known about Dovekies, and virtually all of the data the institute gathers are useful. The birds fly far out to sea and feed on zooplankton. When they fly back to their nests, their gular pouches are bulging with slimy, purplish-red zooplankton, which they regurgitate for their young. They are very sociable birds, frequently gathering together in little groups, chattering softly and interacting with each other. Though they are not much bigger than starlings, they remind me a little of penguins as they waddle around together, showing off their striking black-and-white plumages.

Each of us lay on the grassy slope below the mist nets, hiding under see-through camouflage material, waiting for Dovekies to get snagged. The trapping is sporadic at best. Sometimes an hour or more goes by with no action, and then suddenly five or six birds fly into the nets at once. Some of the Dovekies immediately



The cliffs on Saunderson Island provide nest sites for thousands of Thick-billed Murres (above left) and numerous Black-legged Kittiwakes (left). The Inuit name for the island, Agpat, means murre.



spin around when caught and require a lot of work to untangle. They nip our fingers hard with their little puffinlike bills but usually don't quite break the skin.

Lone Glaucous Gulls occasionally cruise over the colony, flushing thousands of screaming Dovekies, which fly around above the canyon in a panic until the danger passes. The sound is deafening but oddly familiar, like the crowd roar at a Major League baseball stadium when a home-team player hits a grand slam, but heard from five miles away. I see a Glaucous Gull fly past with a Dovekie in its bill, once again putting up countless scores of birds. I also spot an Arctic fox working the colony, sniffing around,

trying to find an adult Dovekie or its young sitting a little too close to the entrance of their nest hole in the pile of talus rubble.

We quit trapping at 7:00 in the evening. The sun has barely broken through the bone-chilling fog all day. Kurt cooks a spaghetti dinner, with meat sauce, vegetables, and home-baked biscuits. It's the best meal I've ever eaten—except for the wine. The chardonnay Bill and I brought from Thule has turned an odd, pinkish-red color, somewhat like the color of gasoline, and it smells like vinegar. Was it shaken up too much as we bucked the waves coming down here? Is this what they mean by bruising the wine? I don't know. We drink it anyway.

Flowers bloom in profusion in the brief High Arctic summer along Wolstenholme Fjord. This picture was taken in the 24-hour-a-day sunlight of August. In October, the sun sets for the year, plunging the area into darkness until February.



29 JULY 1999; DOVEKIE BASE CAMP: This is the third day of trapping Dovekies for Bill and me. Jack and Kurt returned to Thule yesterday toward the end of the day so that Kurt could give a talk about the High Arctic Institute. He was also going to pick up another researcher, Jim Enderson, at the airport.

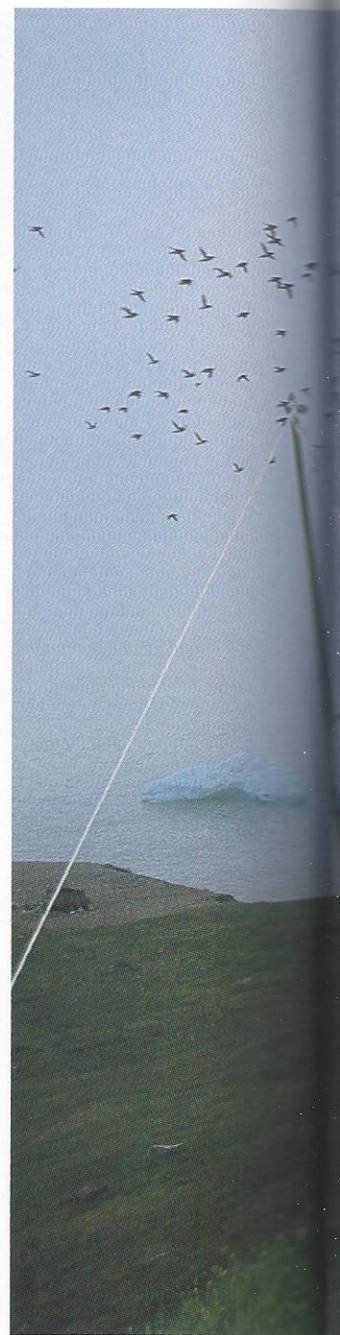
We catch several more Dovekies in the morning but things are definitely slowing down. At one point, Bill shows me a banded Dovekie he retrapped. The band, provided by the Danish government, is numbered 001—the first Dovekie Bill banded here when the study began five years earlier. “These birds are living longer than many people thought,” he tells me. The site fidelity of these birds is also amazing. All

of the retraps from year to year tend to be in exactly the same section of cliff where they were originally trapped.

Bill plans to continue banding Dovekies in this location in the years ahead. He sees Dovekies as an effective barometer for monitoring the health of the High Arctic maritime ecosystem. In many ways, zooplankton and the animals that consume it are the keys to the whole food chain here. Dovekies exist entirely on zooplankton from the deep Arctic seas. Many predatory birds and mammals in turn depend on these easy-to-catch Dovekies for food. If global warming, environmental contamination, or other ecological threats should devastate the zooplankton in the High Arctic, a crash in

Dovekie numbers might be the first indication of a problem.

Although Bill has been a raptor researcher for most of his adult life, he is clearly fascinated by Dovekies. “The site fidelity of these birds is so phenomenal that you could probably learn enough from a small population like this one to extrapolate to the entire population.” Dovekies nest on newly fallen rock talus slopes and breed there each summer until the slopes become lichen covered and the rocks start to break down. Then they leave to find new nesting areas in places that have had recent rockslides. Dovekies provide food for more than just the



Dovekies fly far out to sea and feed on zooplankton. When they return to their nests, their gular pouches are often bulging with these slimy, purplish-red organisms (at left), which they feed to their young.





animals that prey on them. The grass and peat at the base of these cliffs is only there because of the guano these birds excrete, providing a rich source of nitrogen for plants. Musk oxen, Arctic hares, and other herbivores make good use of the habitat created by the Dovekies as they transform zooplankton from the deep sea into grass on the hillsides.

It has been foggy most of the morning but it starts to lift at midday, about the time we are leaving. The tide is turning just as we pull out. Bill says if we'd left five minutes later, the boat would have been stuck, and we'd have had to unload it quickly and push it out to deeper water, then load it again. We cruise up the coast in the eerie sunlight, stopping at the Cape Atholl Gyrfalcon nest. We spot the adults

on a nearby cliff face—the male sitting several feet below the female. They're the whitest falcons I've ever seen. I don't see a dark mark on the adult male Gyrfalcon's entire body.

We tie the boat to a boulder at the bottom of a massive sea cliff. The nest must be 600 feet up and a tough climb. I almost leave my camera gear on the boat, rather than taking it on such a treacherous climb. But then I think, when else will I get a chance to photograph white Gyrfalcons? It's quite a struggle trying to keep up with Bill, who climbs like a mountain goat, consistently staying 20 or 30 feet above me. What a climb. It seems to get steeper and steeper. And now we're not even climbing on solid rock, but reaching high over our heads to grasp round tussocks of grass, which we're

For five seasons, researchers from the High Arctic Institute in Thule have trapped Dovekies with mist nets set up in three locations in front of a massive breeding colony. Each bird trapped is quickly weighed, measured, banded, and released. At far left above, Bill Burnham (left) and his son Kurt band a Dovekie.



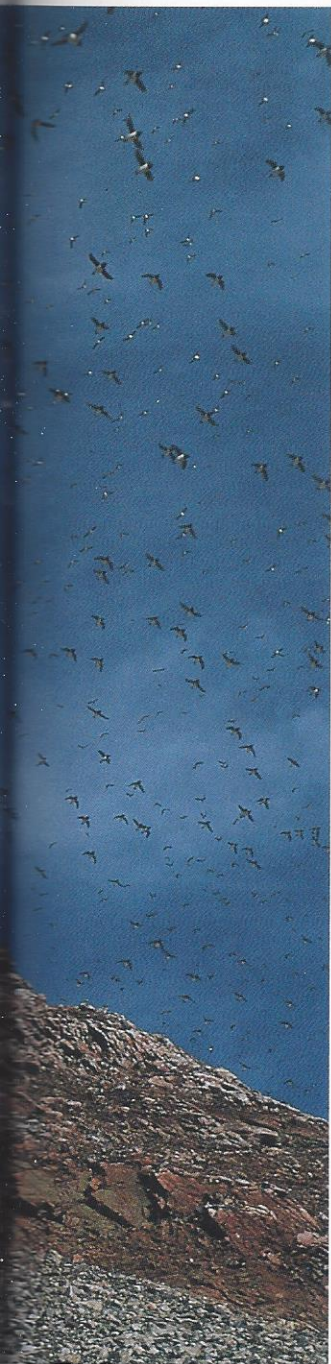
using for handholds and footholds—and we're not using any ropes, ascenders, or pitons to assist our climb.

About two thirds of the way up, Bill stops to wait for me and asks if I'd like him to carry my gear for awhile. Of course, I have something to prove and don't want to seem like a wimp, so I wait a full tenth of a second before replying, "Yes!" I feel guilty but grateful. We climb to a ledge even with the nest, directly across a narrow gully from it. The view is fantastic, and a beautiful, fully feathered male Gyrfalcon sits sunning himself at the front of the nest ledge. I take many pictures of him and also some of a Glaucous Gull with one young on another ledge.

As we sit there watching the young falcon,

fog starts drifting in again. Bill suggests we make our way back to the boat as soon as possible. It is even more treacherous on the way down than it was going up. I try descending a different way than Bill, hoping it's easier, but I end up standing on a lone boulder, far below, with waves lapping against it. Bill finally drives around with the boat and I jump aboard.

It is flat calm and eerily quiet on the way back, with no tossing swells like we had on the trip here three days earlier. But the fog continues to build, coming on thick and heavy and gray. Massive white icebergs loom ahead. The thunder of calving glaciers echoes in the distance. Some of these glaciers move more than 100 feet a day and calve icebergs the size



Each time that a Glaucous Gull (far right) or other predator flew over the nest colony, thousands of Dovekies would explode from the cliff, flying around in a panic and emitting a shrill distress call. It sounded almost like the crowd roar of a distant baseball stadium.

of city blocks. We move slowly along, trying to keep sight of shore without hitting jutting rocks in the water. At one place, near a river delta, the water is only two feet deep and we have to crawl along, searching for protruding boulders and jagged ice. It is freezing all the way back. I hunker into my parka, the hood pulled tight. My thoughts are far away. The endless drone of the engines sounds like the braying chant echoing from a distant Buddhist monastery.

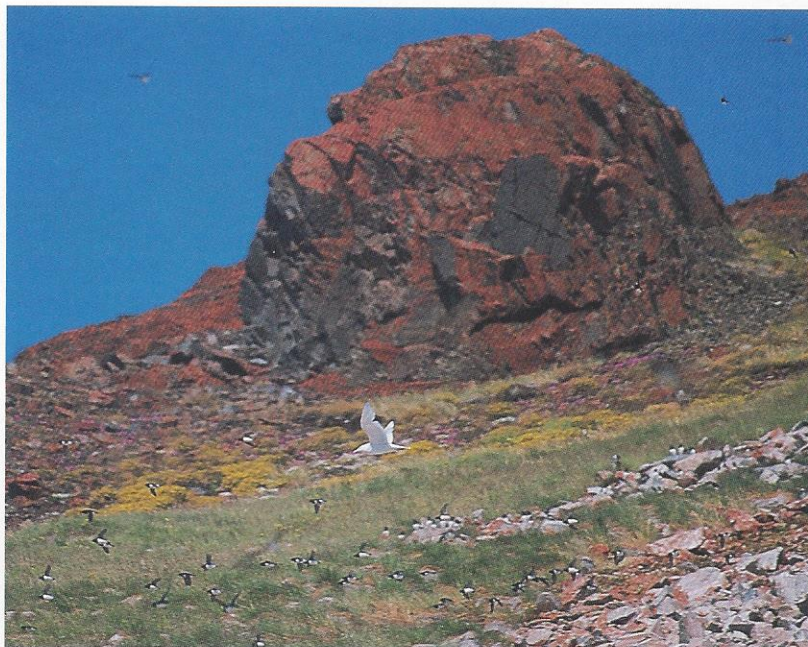
Through the fog, I make out the indistinct shapes of some shacks, which the Inuit use as a winter hunting camp. It occurs to me what a fleeting presence the native people have been for me here, more intuitively sensed than seen. I've run across signs of them everywhere—their piled rock graves on the islands; their food caches of walrus carcasses and eider eggs buried in the shallow, perpetually cool beach gravel—but I've met few of them. I remember seeing an Inuit hunter's motorboat tied to the jetty in North Star Bay. The boat's small outboard motor was bare to the elements and rusted, its metal cover long since lost. Three huge plastic containers of fuel, a couple of duffel bags, and several cases of Pepsi-Cola were the only supplies aboard. A high caliber, bolt-action rifle lay on top, in plain sight and badly rusted. But lashed on top of the boat and to one side, to leave room for the boat's driver, sat a sleek Inuit kayak, the most beautiful, well-crafted one I've ever seen, with a hand-held harpoon attached to it. What an odd mix of cultures and technologies was represented there.

30 JULY 1999; THULE AIR BASE, GREENLAND:

It is foggy today, so we take the opportunity to work on the boats, making minor adjustments. We eat at the mess hall, which is an interesting place. In large, bold letters on the wall as you enter is a message written in both English and Danish warning about the dangers of eating high-cholesterol foods. This is a lot like the health warning on the side of a pack of cigarettes, because the food they're serving is an amazing assemblage of greasy bacon, ham, and fried eggs, as well as wonderful, butter-rich Danish rolls. As I stand in the cafeteria-style line, a young Danish woman behind the counter

asks me if I'd like some bacon. "Yes, please, a couple of pieces." She reaches into the huge pile of bacon with tongs and pulls out 15 or 20 thick slices of bacon, stuck together like glue. Dropping them on my plate, she smiles and says, "I hope you like bacon."

Thule Air Base is like a huge life-support system dropped in the middle of a wilderness. Walk just a mile or so from the base, and you're in a different world—one of the most unforgiving environments on the planet. Few roads exist up here—just the gravel road that runs five or six miles to the Ballistic Missile Early Warning System facility and a much



longer road, which is rarely passable anymore, that leads to an abandoned Loran station at Cape Atholl—so boats are the preferred means of travel for the researchers working here.

In its Cold War heyday, Thule Air Base employed several thousand military and civilian personnel. Bombers armed with nuclear weapons flew constantly, while others stood by in secret hangers as a deterrent to attacks by Soviet bombers coming over the Arctic Ocean. But satellite technology and guided missiles have made this base less important than it was in the past, and its footprint has been shrinking each year, as staff is moved out and barracks are demolished.

The High Arctic Institute is headquartered in a barracks that would probably have been demolished if The Peregrine Fund hadn't acquired it. And it's a wonderful place—warm, dry, and homey. When you push down the lever locking the eight-inch-thick front door, which resembles the door of a bank vault, you're about as protected from the elements as you can get at this frozen northern latitude.



In the afternoon, Bill and I climb Dundas Mountain to look for the pair of Peregrine Falcons that nests there each summer. For several years, this site has been regarded as the farthest north Peregrine Falcon nest in the Western Hemisphere and perhaps the world (though a few days later, in an exploratory trip north to Booth Sound, we find three more Peregrine Falcon nests that beat this latitude record). We climb up the back side of the rock while Jack and Kurt and Jim Enderson take the boat around front, along the cliffs, to see if they can spot the nest from below.

Dundas Mountain is a huge butte rising 1,000 feet above North Star Bay and is Thule Air Base's most distinctive landmark. It's also another steep, tough climb on broken, loose, jagged rock. (This time, though, I manage to carry my camera gear myself.) We walk around the entire top of Dundas Mountain and finally flush both birds on the air base side. I take some shots of the birds flying over the iceberg-filled water, but we don't stay long—peregrines nest much later than Gyrfalcons, and these birds probably have small young. We don't want to keep them off their nest long.

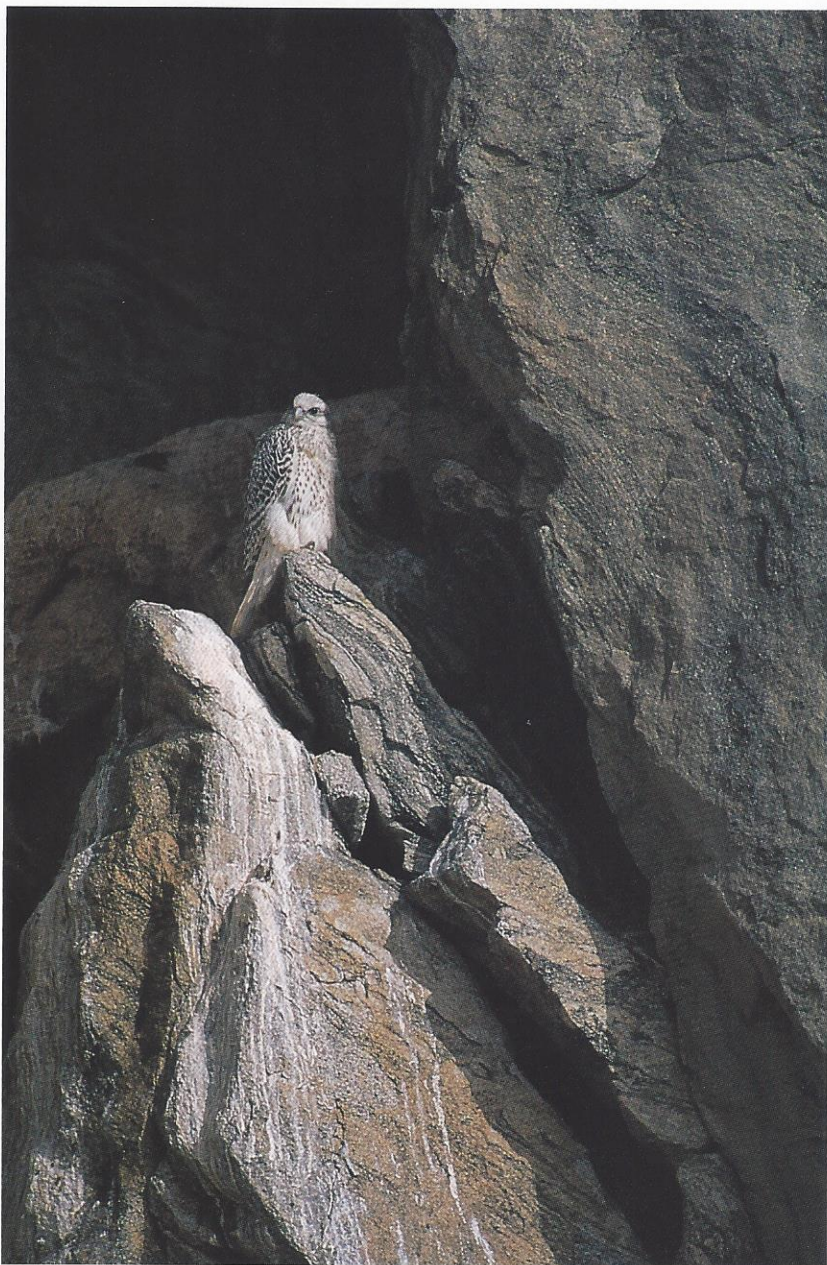
I photograph an ancient Inuit fertility statue—a huge, headless, limbless female torso carved of stone that faces out toward the open sea. I also photograph a memorial cairn for Knud Rasmussen erected on top of Dundas Mountain. In 1910, Rasmussen founded the trading post and village of Dundas at the base of the rock. He and his friend Peter Freuchen became major Arctic explorers, traveling by dogsled across the northernmost parts of Greenland and extending Danish rule to the entire area. Both men married Inuit women and lived their entire lives in Greenland.

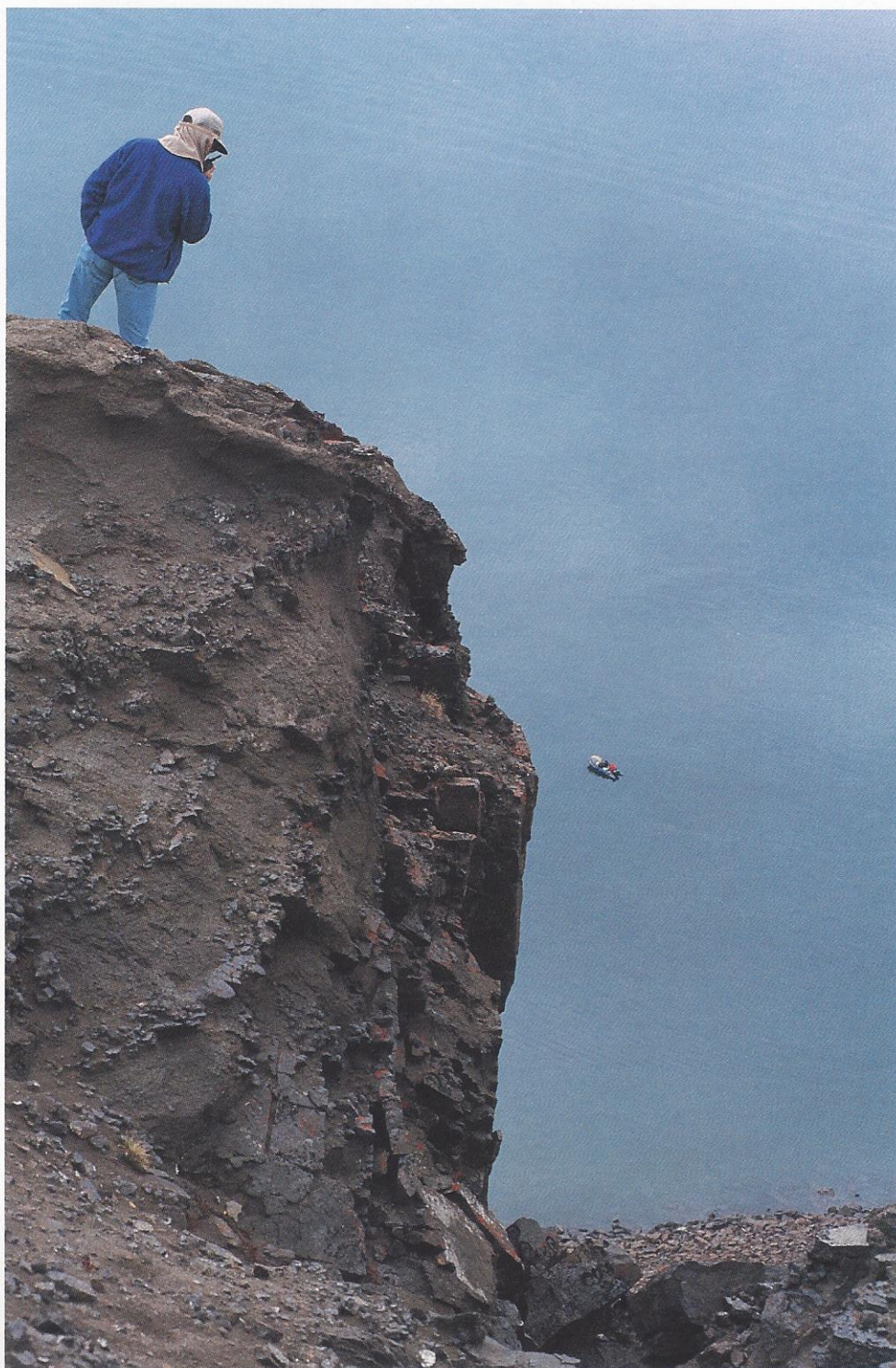
Later I visit their village, which has changed little since they lived here, except that it is now a ghost town. When the Thule Air Base was constructed, in the early 1950s, the Danes built a new village for the Inuit and other inhabitants about 100 miles north of this one and moved them. This is an amazing place. So silent and peaceful. You'd never know that there's an air base just the other side of the hills. In the shadow of the neat frame houses lay earlier human traces: earthworks and the foundations of sod huts. Here on the shores of North Star Bay a human community thrived for centuries. And here, too, the great Robert Peary anchored many times on his Arctic explorations. Though history has been unkind to him, even doubting his achievement of reaching the North Pole and condemning him for exploiting the Inuit, it is he more than most of the other early explorers who has the respect

of these people. He adopted their ways and used their techniques to achieve his accomplishments as an explorer.

As I stand there in the purple hue of a late summer night in the High Arctic of Greenland, I can't help thinking about the Inuit who once lived here, as well as Peary, Rasmussen, Freuchen, and all the other people from faraway lands who have been drawn to Greenland, again and again and again, as though they are addicted to the place. And I realize that this also applies to my friends at the High Arctic Institute—like Jack Stephens, who has lived at Thule Air Base for 27 years. Jack, an affable, good-natured Georgian, had been recently divorced and was living in Arizona when he saw an ad for one of the weather forecaster positions at the base. He jumped at the chance to come here and has never even thought about re-

To photograph the young white Gyrfalcon below, we had to scale the lofty sea cliff on the facing page, without the benefit of ropes, pitons, carabiners, ascenders, or other climbing aids.





From the top of a Peregrine Falcon nest cliff, Bill Burnham (above) confers via walkie-talkie with the boat far below, trying to pinpoint the exact location of the nest before rappelling to it.

turning to a stateside job. An avid wildlife photographer, Jack takes a leave each summer to work with Peregrine Fund researchers, accompanying them on all their explorations. In the winter, he lives alone at the High Arctic Institute, surrounded by his library-sized collection of books—ranging in topics from history and science to literature and the arts—and his vast collection of classical music CDs.

Then there's Kurt Burnham, who, though only 23 years old, has spent nine summers in Greenland. Earlier this year, he made a 200-

mile journey by dogsled with an Inuit, searching for new Gyrfalcon nesting areas. The temperature hovered in the 50-below-zero range the entire time. He told me that his goal is to someday go to the North Pole by dogsled, as Peary did nearly a century earlier.

And finally there's Bill Burnham, one of the most determined and hard-driving people I've ever met. Several days after we climb Dundas Mountain, he goes back alone, carrying all the climbing gear with him. As he reaches the top of the cliff, Jim Enderson and I stand on the nearby pier at Thule Air Base, peering at the cliff with a spotting scope and talking with Bill via walkie-talkie, trying to help him locate the nest site. I watch him climb down the cliff and back up again three times before he finds the right ledge. Each climb is well over 100 feet, and he does it quickly to minimize bothering the birds.

A couple of weeks later, in Boise, Idaho, I speak with Bill Mattox, president of the Conservation Research Foundation, who had sent Bill Burnham on his first trip to Greenland in the early 1970s. (Mattox himself had first gone to Greenland in 1950 and had met Peter Freuchen.) He laughs when I tell him how hard it was to keep up with Bill when we were hiking overland or climbing cliffs. "Bill was always a real tundra burner," he says. As they were crossing massive expanses of Greenland tundra, he says Burnham would consistently walk 100 yards or more ahead of him and then stop, sit on a rock, and wait for Mattox to catch up. "As soon as I got there, he'd stand up and say, 'Well, we better get

going now,'" he says, laughing.

Later in our conversation, Mattox gives me a knowing look and says, "You've got the bug; you'll go back to Greenland."

Could be. ■

To learn more about the work of the High Arctic Institute in Greenland, visit The Peregrine Fund's web site at <<http://www.peregrinefund.org>>. To view an amazing set of photographs of the Thule area, visit Jack Stephen's web site at <jackstephensimages.com>.