The Antigua, a three-masted sailing ship, carries 29 artists and writers to Norway's Svalbard archipelago in the fall of 2022.



valbard archipelago, October 2022: "Stop talking," commands Sarah, our expedition leader, as 10 of us set off from our ship in the Arctic Circle. An intensely focused Dutch woman in her late 30s with a mass of red curls, Sarah steers a Zodiac inflatable raft across the waters of a fjord in the direction of a striated blue and jade-green glacier. We're heading toward the region's alpha predator. These beautiful and dangerous animals are

the reason Sarah and our three other guides carry loaded rifles every time we leave the relative safety of our ship. And because the creatures are skilled swimmers, Sarah doesn't want us to attract this one's attention by making noise.

Her radio crackles. The ship's first mate, Matu, has climbed one of its masts and sits in the crow's nest, peering through his binoculars into the nautical twilight of late autumn, as the dark season approaches. Matu is watching the animal's movements from his perch; none of us in the Zodiac can see it yet.

away from us.



A voyage to the Arctic reveals how climate change is tied to the extreme weather in California and the West. The polar bears' fate is tied to our own.

"It appears to be sitting on the ice itself-the frozen lagoon ice-and it's slowly making its way back east. It should come into your view soon. Still a safe distance...," Matu says.

"Oh my god, there he is," I whisper after spotting the large, yellowish polar bear, slowly sauntering a few hundred yards

It's about 25 degrees Fahrenheit—relatively warm for the time of year—but the rising wind makes it feel colder. I'm bundled up in a hooded red parka and an inflatable life vest. The low grind of the outboard motor vibrates through my body. Surrounded by a wilderness of ice, fjords, and mountains, I am shivering at the top of the world-from awe, not cold.

Sarah turns the engine off. The only sounds are the unzipping of our camera bags and the lapping of the Arctic Ocean against the thin, easily punctured sides of our rubber raft.

For weeks after returning from the Arctic, I dreamed about that solitary polar bear silently ambling along the icy shore of the lagoon. The dreams felt like an omen—a sign of changes ahead.

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I'd had bears on my mind for months before leaving the Bay Area for Norway last fall. I went to the Arctic Circle to spend two and a half weeks on the Antigua, a three-masted sailing ship with 29 artists and writers aboard on an expedition to explore the Svalbard archipelago.

I was researching a California woman named Louise Arner Boyd, a pioneering Arctic explorer and photographer in the mid-20th century. I'd found a photo, taken in 1926, of Boyd standing next to a dead polar bear, its huge white paws arranged so that its curved black claws embraced her shoulders.

Though Boyd was tall, the bear looms above her, stretching to 10 feet or so at its full height. The animal is strung up by the neck—a white cord just barely visible behind it—its long tongue hanging out between two sharply pointed incisors. Since Boyd's time, polar bears have become protected species in many places. Photos of solitary polar bears, perched precariously on melting sea ice, have become global symbols of climate disaster.

The image of Boyd and the dead bear is a sorrowful reminder of a reckless era. At the height of the Roaring '20s, a time when biggame sprees were widely celebrated, Boyd embarked on a hunting cruise to the Far North. Accompanied by a Spanish count and countess and another society friend, Boyd provisioned the ship with champagne and cartons of Gold Flake cigarettes. Her group reportedly killed 29 polar bears on that trip, and Boyd shot many of them herself. Her exploits made headlines around the world, attracting so much attention that a friend penned a limerick in her honor with these opening lines:

# There was a young lady named Boyd Whom polar bears tried to avoid

But after her 1926 hunting cruise, Boyd underwent a dramatic change of heart. She quit killing bears after that first trip and swapped her gun for a camera, leaving behind an invaluable legacy of Arctic still photos, film reels, and mapping materials, many now housed in the National Archives. Aside from that, Boyd herself has mostly been forgotten-her horrifying slaughter of polar bears as well as the six subsequent Arctic expeditions in the late 1920s and early 1940s that she financed and led, with scientists aboard.

I hoped that by spending a few weeks on a wooden sailing ship like the ones that Boyd had chartered for her expeditions, I'd not only absorb what it felt like to live on a boat in such an unforgiving climate but also learn what had changed in the century since Boyd had explored the Arctic. Although I'd spent months in the archives digging through Boyd's papers, I'd never visited a polar region myself. Our ship would be traveling to Ny-Ålesund, the world's northernmost settlement and the area where Boyd, in 1928, joined an international rescue mission to find the lost Norwegian explorer Roald Amundsen. And after two years of pandemic restrictions, I longed for escape and adventure.

I found both in Svalbard. During the journey, my shipmates and I slogged through melting ice, touched the edges of retreating glaciers, gasped at the sight of breaching beluga whales, and stood awestruck on the icy deck of the boat at night during the ethereal light shows of the aurora borealis. We got hit by a windstorm, which sent many of us to our bunks to ride out the swells (or to heave in the toilets). On a calmer evening, some of my shipmates plunged into the polar sea, whooping with joy.

Not long after I returned from the trip, a series of rainstorms pummeled California, leading to widespread flooding and at least 20 deaths. Scientists now know that the warming Arctic directly influences the dramatic climate swings of California and many other parts of the world. The phenomenon calls to mind the butterfly effect, a nod to chaos theory and the idea that a small action in one part of the world, such as a butterfly flapping its wings in India, can cause a tornado somewhere else. Melting sea ice, scientists now believe, is setting off a chain of events leading to storms in the Pacific, including the violent "atmospheric rivers" and "bomb cyclones" causing mayhem in my home state.

As my husband, Charlie, and I braced for incoming storms in late 2022 and early 2023 by digging out the drainage ditches that run under our driveway and clearing our gutters, I struggled to make sense of the intertwined relationship between the Arctic and California. I thought about the way the polar bears' fate is tied to our own. I longed to return to Svalbard, the distant, icy wilderness with which I'd just fallen in love.

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On October 16, our crew of (mostly) landlubbers gathered for the first time in Longyearbyen, the world's northernmost large settlement, where a stuffed polar bear greeted us at the airport. The artists and writers chosen for this residency, organized by a nonprofit group called the Arctic Circle, came from Hong Kong, Canada, Britain, the United States, and Germany. Four of us were from California: Venice Biennale visual artist Shirley Tse, photographer Frankie Carino, sculptor Sylvia Hardy, and myself. Another three were from the western United States: Santa Fe, New Mexico, sculptor and painter Yuki Murata, Washington State sound artist Perri Lynch Howard, and Alaska writer and poet Daryl Farmer.

The expedition's goal was to bring artists and writers to the Arctic so they could witness the region's fragile beauty and incorporate their experiences during the residency into their work. Most of us expected to experience solitude and quiet; some, a place to reflect on the climate catastrophe of rapidly melting ice.



LOUISE ARNER BOYD/MARIN HISTORY MUSEUM

Louise Arner Boyd, a pioneering Arctic explorer from California, with a dead polar bear in 1926.

The Svalbard archipelago, an area in the Arctic Circle governed by Norway under a century-old treaty, is one of the fastest-heating places on the planet. We were visiting a landscape that was losing ice in many places that had been covered by it for centuries or even longer. I soon realized that some of the glaciers and icy places Boyd had seen were now shoreline covered by rocky scree.

We left port in mid-October, a time of year that few expedition leaders several decades ago would have considered safe, given the dangers of autumn storms and sea ice surrounding a ship and trapping it in place over the winter. (Boyd's voyages generally took place in the summer.) Even the fact that we could leave for an Arctic expedition aboard a sailing ship (versus an icebreaker vessel) in



documented record summer melting in 2022.

Our Dutch captain, Jonathan, who'd been sailing for a decade, had initially balked at the idea of an expedition leaving so late in the season—calling it "a calculated risk." (The organizer of the trip was trying to squeeze in extra ones owing to COVID delays and has not scheduled a residency so late in the season for 2023.) Because of the dwindling light and possibility of violent storms, the trip was a gamble. I'd grown up sailing in the fast-changing and sometimes treacherous conditions of the San Francisco Bay. I'd also spent months writing about one of Boyd's few expeditions that had stretched into the fall, when the ship was pummeled by towering swells and 100-mile-per-hour winds. I knew this was a precarious time to set out.

But my choice was to go on the trip or skip it: I'd been offered a berth only on the last expedition of the season-despite my pleas to switch to a summer sailing. Like Jonathan, "I was picturing doom," as our captain later confessed.

A windstorm rocked our ship for about 18 hours. But the Antigua's pitching was lessened by our captain's decision to tuck the vessel into the nose of a fjord, behind a wind-blocking mountain. Since I have sea legs, I didn't suffer the way some of my shipmates did. But it felt as if doomsday was approaching as the amount of daylight during our journey steadily dwindled. A few days before our ship returned to port, the sun stopped rising in the morning. We woke to pitch darkness. And as the sun disappeared, time took on an accordion-like quality, speeding up and slowing down.

We began sharing whiskey earlier and earlier each afternoon (I'd discovered the joy of returning to the ship from our daily landings by Zodiac and spiking my ginger tea with a slug of smoky single malt). The somber beauty of our surroundings filled me with melancholy. We were entering what Sarah called the dark season.

I'd expected the Arctic wilderness to be much quieter than my home in Marin, with its weekday rumble from parents making

SARAH GERATS

Scientists have tied a warming climate and melting ice in the Arctic to extreme weather events in California and other parts of the world.

mid-October reflected Svalbard's rapid warming. In fact, scientists

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school runs and a constant parade of construction trucks. It wasn't. The landscape was cacophonous, with gale-force winds howling through the ship's stays and ice chunks clacking into the wooden boat's hull. And there was also coughing—lots of coughing. COVID made its presence known within the first 48 hours of the ship leaving port–eventually sickening a half dozen or so of the 40 people on board. And on a 162-foot ship where everybody ate three meals a day in the same saloon, quarantining was impossible. We were too closely connected.

The high spirits of the healthy members of our group meant a lot of laughter and chatting at mealtimes and during the twice-daily landings. Only the landscape itself jolted us into silence. On day three of the trip, Jonathan slowly navigated the Antigua along steep glacial cliffs in the Hornsund fjord. The mammoth blocks of ice calved, or broke off, nearly every five minutes in dramatic explosions that sounded like gunshots and sent waves rippling across the water.

More dramatic cracks—reminding me of thunder jolts—came in regular bursts after lunch when the boat followed the curved edge of the glacier and pieces of it calved, dropping into the water, creating waves, and attracting red-beaked arctic terns and other birds that had learned that the ice displacing the water would stir up food for them. The first time I saw a calving, my heart raced. Then it hit me that each calving represented a small retreat of the glacier-a wearing down or erosion of its edge. We were witnessing, in real time, the destruction of these ancient ice structures, which had captured the atmosphere thousands of years ago.

No one spoke—and it may have been the utter quiet of everyone on deck that unnerved me. Several of our shipmates sought out the privacy of their bunks to cry. Conceptually, I knew that the ice breaking off and then melting was slowly raising the level of the world's oceans—and that the effects were already being felt in cities with increased flooding, like New Orleans and Bangkok, and posing existential threats to the Maldives and the Marshall Islands. I couldn't know whether the glaciers were calving more frequently than when Boyd photographed and filmed them a century earlier.



FRANKIE CARINO

A solitary polar bear-the only one glimpsed by members of the Antigua expedition-walks across a frozen lagoon on the Svalbard archipelago.

But I felt the shock of the glaciers' receding in my bones as the boom of calving vibrated the ship and my body.

After dinner one night, we set out in Zodiacs to see the stars. Mist covered one side of the horizon; clear skies, the other. Almost as soon as we started moving away from the ship, we spotted what looked like a glowing white object near the line between sea and sky.

Sarah piloted toward it, and the glow seemed to grow larger, almost pulsing. Ellis, a Scottish landscape painter from the Isle of Skye, said it felt as if we were moving through a portal into a different world. "I remember us all being stunned into silence by the experience," Ellis later recalled. For me, it evoked a fantasy series that visits Svalbard: Philip Pullman's His Dark Materials trilogy, with its armored polar bears. My mind wandered to the description I'd seen in Longyearbyen's history museum. Millions of years ago, the Svalbard archipelago was covered in palm-like trees and ferns, with dinosaurs stomping through the jungle and marine reptiles splashing in the sea.

The nighttime sky was immense and restless. At one point, it felt as if all the stars and constellations were rapidly swirling above us. Was it an illusion created by our small boat moving across the water? Nothing seemed fixed: water, stars, sky, or people. It was all changing and rotating and moving in a dance governed by randomness. Had I ever seen so many stars out at one time or felt such quiet before? Even the humming of the boat receded, and eventually the crew turned off the *Antigua*'s mast lights, making the night even darker.

Sarah pointed out the North Star, which was almost directly above us because we were so far north on the planet. There was also a large, reddish star low to the horizon. But the biggest surprise was reaching our mystery object, which turned out to be a large iceberg, bouncing back the lights from the ship and from Sarah's flashlight.

In the darkness, where the sky seemed to merge with the sea, I felt far away from Northern California, where I'd grown up in reverence for coast live oaks and redwoods, now endangered by construction, fire, and disease. Floating on this alien and treeless planet of ice and sea, I felt vulnerable-aware that we were surviving only because of the thinnest membrane of food and shelter provided by the ship. I missed the comforting coastal green of my Bay Area home.

Daryl, who, as a resident of Fairbanks, Alaska, was more familiar with the cold and the dark than the rest of us, read a poem one night about the many questions we asked our guides regarding the region's charismatic predators. It was titled "Can the Polar Bears Enter the Town, the Answer is Yes.," and he dedicated it to our shipmate Lucy, a British writer. Lucy made us laugh by asking our guides variants of the same question at our morning and evening gatherings in the ship's saloon.

Can the polar bears come into town? The answer is ves. Can the polar bears swim to the Zodiac? The answer is yes. Can the polar bears climb into the Zodiac? The answer is yes.

Can the polar bears' claws puncture the Zodiac? The answer is yes.

We applauded, since the poem had captured our collective existential unease. But were we asking the right questions about polar bears, which have been a protected species in Svalbard since 1973? As the sea ice melts and the Arctic warms, these beautiful animals are finding it harder to hunt the seals they depend on to survive. With about 300 bears living year-round in Svalbard rather than venturing farther out to hunt on the ice edge, polar bear sightings are becoming more common. The bears threaten individual humans: we're threatening their species. We're all threatened by the changing climate.

Sarah and the captain both told us we were lucky to see a polar bear in such serene surroundings. In July and August, the height of the tourist season in Svalbard, boats often line up 10-deep to catch a glimpse of these large predators. And as tourism has replaced fur

trapping and mining as the region's biggest business, fjords such as the ones we visited have come to regularly host 70 tourist boats at any one time. Although the official tourism website of Svalbard declares "there are no polar bear safaris," the summer jostling for trophy photo shots of bears suggests otherwise. Seeing a polar bear is an implied promise made by the marketing materials of many Arctic tourist expeditions.

We weren't immune to this promise, of course. The writers and artists on board the Antigua also hoped to catch a glimpse of a bear. It was our luck, by going so late in the season, to see one in isolation. The experience helped me appreciate why Boyd, over the course of seven expeditions to the Arctic, came to love these ferocious carnivores. Indeed, when this California gold rush heiress returned to the Bay Area, her chauffeur-driven car sported a polar bear hood ornament. In contrast to her life as a society doyenne in California, she found the Arctic to be "a great human sounding board" that "speaks out loud your innermost thoughts; it makes you see them more clearly and understand their flaws, as well as how best to correct them." The Arctic changed Boyd. I hoped it would change me.

ship were supplemented by a powerful diesel engine. Boyd's carbon costs were also likely heavy-since the ocean liners she traveled aboard to cross the Atlantic and the Arctic ships she chartered were diesel fueled too. But unlike Boyd, our group questioned our impact and wondered whether the works produced by the artists and writers aboard the ship could possibly justify the carbon expense. "It's not ethical, this," concluded Lucy in our last few hours on the Antigua. Was it?

Bearing witness is important, but it's likely to take months or years for the artists and writers on board to fully absorb what we saw and experienced. We all knew we were privileged to be there. One of my great joys on the trip was joining my shipmates as they worked. Ira, a Harvard-trained architect, crawled along the frozen and rocky shore on his belly, like an infantryman or perhaps a very awkward inchworm, with a headlamp on as I and other shipmates digitally recorded him. Bea, a Slovak Canadian musician, played an unusual long reed instrument to a glacier, wearing a dress despite the chill. Frankie, an L.A.-based photographer, dressed head to toe in neon green, shone different-colored lights on small glaciers, and photographed them like ice sculptures. Delanie, a Pittsburgh art professor, rubbed rice paper and then a blue cloth against small, intricately pocked icebergs (leaving a bit of blue behind, which she tried to rub off).

Each day, we climbed into Zodiacs for the trip to the shore, and then everyone would set off on their own adventure. Katja, a German performance artist, wore a scary black monster/crocodile sort of mask and posed with long black feather sticks-in a way that reminded me of Ingmar Bergman's The Seventh Seal. Perri dangled a hydrophone into the icy water to record the sound of beluga whales (and, one day, narrowly escaped being swamped by an oncoming wave from a calving glacier). As one of four writers on the ship, I walked the perimeter of our permitted area (defined by the four guides carrying rifles) several times to get some exercise while listening to a biography of Amundsen. Circling the frozen tundra in my Arctic muck boots, I was stomping through territory similar to what he'd explored long ago.

It felt as if we were seeing the ice before it was gone-seeing something our grandchildren may never see, just like the psychedel-

Our expedition had a heavy environmental price tag. My roundtrip flight from California to Longyearbyen alone put out nearly 2,000 kilograms of carbon dioxide, and the sails of our barkentine

ic colors of coral reefs in Hawaii that are now bleaching out. Delanie, the art professor, cried every day and decided to collect samples of her tears in tiny glass bottles, "partly because I kept freezing my eyelashes and partly because I remember reading that the chemistry of tears of sadness or pain and tears of joy is different." Acting on this belief, she planned to send the tears out for testing to find out whether she was crying from joy or sadness.

There was a giddy, end-times feel to our final days on the boat. My sleep became restless and broken as the mostly younger, partying shipmates ran down the halls whooping it up at 1:30 a.m. and we awoke to find the hut (a cozy area with four banquette tables, green walls, and brass fittings) littered with empty bottles, half-filled wineglasses, and the sour smell of people having been crammed in there until late. Those last mornings, the space reeked of cigarettes and spilled alcohol, with a definite post-frat party vibe. The experience made me feel old: I grumpily cleared away empties while others slept. The weight of climate disaster seemed to be carried differently by older shipmates. The end felt nearer for us.

"If I'd known it was going to be an Arctic party boat, I would never have come!" Lucy, who is a mother of three, later said. While I see her point, the trip had more profound moments than irritating ones for me. It changed my understanding of how quickly the top of the world is melting and what receding glaciers and sea level rise in the Arctic mean for the rest of us. And it made me ask: Now that we've witnessed

this seemingly unstoppable ecological disaster, what do we do with this experience? How do we carry it home with us and try to relate it to others?

The photographers can bring home pictures; the filmmakers can make films. How to write about this magnificent world whose melting is leading to wildfires and floods in my home state of California? How should we mourn its disappearance? That melting ice in the Far North contributed to the days Charlie and I spent huddled downstairs in our home, air filters whirring, as the sky turned a menacing red. The powerful beauty of Svalbard's glaciers may soon be a thing of the past: within two generations, it may be experienced only through photos, videos, pencil sketches, and wood carvings from expeditions like ours. California's beauty, too, seems to be fading.

"It's like saying goodbye to something you love," said Eleanor, an octogenarian painter who was the oldest artist on our trip and produced dreamy watercolors of the glaciers, which she would use as studies for oil paintings when she returned to New York. "We have to pass it on."

My instinct was to find a way to return to this fast-disappearing place—to prolong my fever dream of the Arctic. In that way, I was again following Boyd, who went north on ship expeditions seven times and became the first woman to fly over the North Pole in a plane she chartered in 1955. So, ignoring the issue of my heavy carbon footprint, the day after saying goodbye to my group, I wrote to the captain of another ship, seeking a berth on his planned expedition this summer. Several months passed without a reply. I wrote to him again.

In late February, my heart soared when a captain newly assigned to the Arctic boat wrote back, offering me the possibility of a bunk aboard his ship. The terms were unimportant: I felt like I had fallen in love with a dying place. I didn't want to say goodbye.

Julia Flynn Siler's article about the murder of Jane Stanford in Alta Journal 16 won a Southern California Journalism Award for crime reporting. Her most recent book, The White Devil's Daughters: The Women Who Fought Slavery in San Francisco's Chinatown, was a New York Times *Editors' Choice*.

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