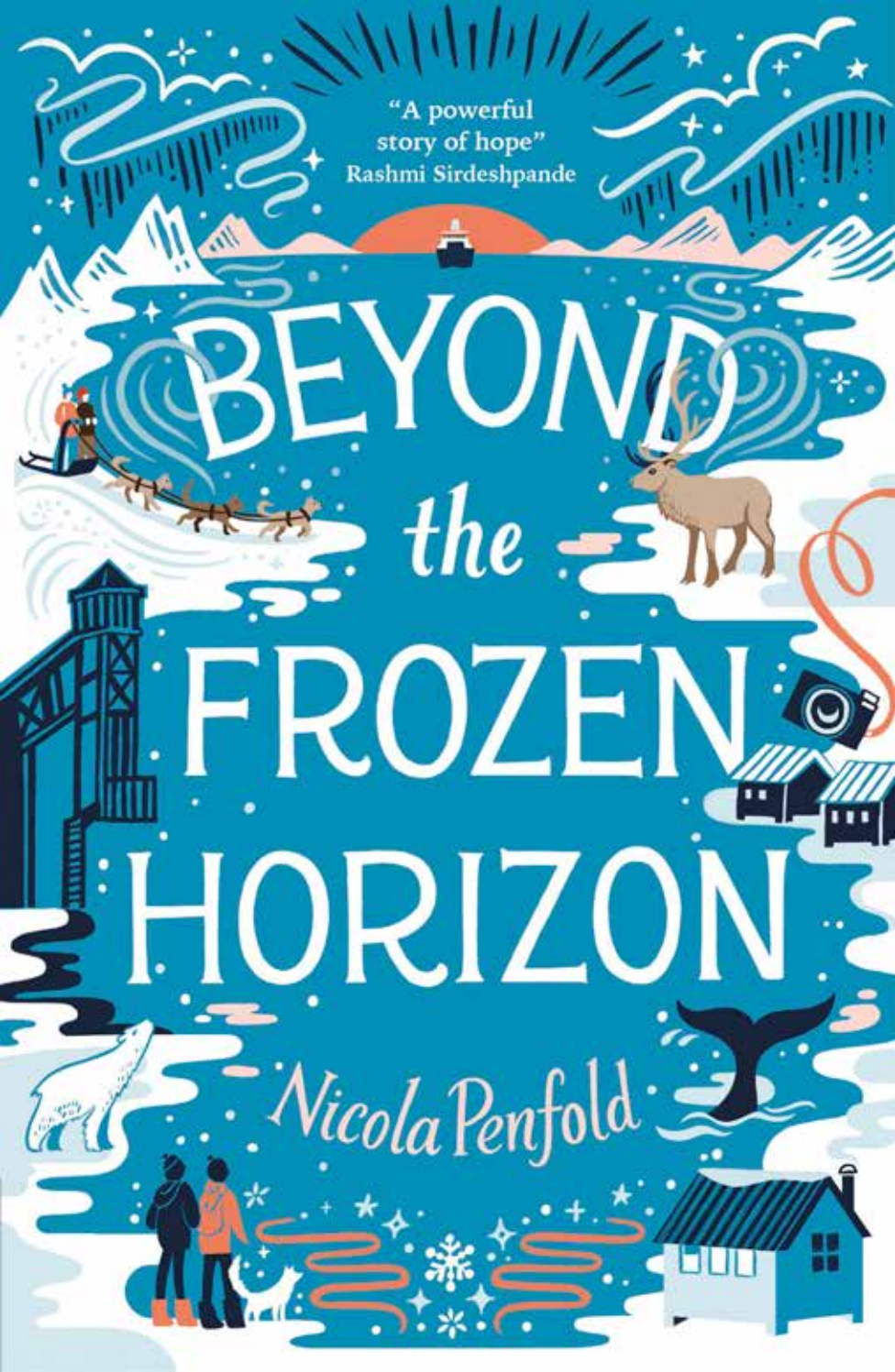

"A powerful story of hope"
Rashmi Sirdeshpande
BEYOND
the
FROZEN
HORIZON
Nicola Penfold

Praise for *Beyond the Frozen Horizon*

"Through Rory's epic journey, Penfold builds an awe-inspiring, light-filled environmental adventure story for readers, allowing us all to journey into this precious future Arctic wilderness."
Sita Brahmachari, author of *Where the River Runs Gold*

❄

"A powerful story of hope – a glimpse into a brighter future, a world where we have taken action to protect our fragile planet."
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❄

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Kevin Cobane, teacher

❄

"A high-stakes adventure that will leave readers thinking about their place and impact on the world for a very long time."
Kate Heap, *Scope for Imagination* blog

❄

"An eco-adventure, ghost story and love letter for a better world."
Gill Pawley, *Inkpots*

❄

"I loved this utterly compelling near future ecological thriller set in a vividly evoked remote Arctic landscape."
Joy Court, UKLA

❄

"A plot as devastating and mesmerising as the frozen landscape of the Arctic night."
Lindsay Galvin, author of *My Friend the Octopus*

BEYOND *the* FROZEN HORIZON

Nicola Penfold

STRIPES PUBLISHING LIMITED
An imprint of the Little Tiger Group
1 Coda Studios, 189 Munster Road,
London SW6 6AW

Imported into the EEA by Penguin Random House Ireland, Morrison Chambers,
32 Nassau Street, Dublin D02 YH68

www.littletiger.co.uk

First published in Great Britain by Stripes Publishing Limited in 2022
Text copyright © Nicola Penfold, 2022
Cover image © Kate Forrester, 2022

ISBN: 978-1-78895-447-1

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A CIP catalogue record for this book is available from the British Library.

Printed and bound in the UK.



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BEYOND the FROZEN HORIZON

Nicola Penfold

LITTLE TIGER
LONDON

For the eco-activists
and the wonder seekers





Background

In 2030, world leaders pledged a coordinated and unprecedented response to the Climate Crisis. Global Climate Laws were brought in, including a ban on the extraction and burning of fossil fuels, stringent targets to reduce the consumption of meat and dairy products and a ban on single-use plastic. World Wilderness Zones were also established, setting aside vast areas to absorb carbon and act as vital wildlife refuges. For the first time in history, wildlife was prioritized over humans and people were moved out of the Wilderness Zones. The High Arctic was one of these designated zones and included the archipelago of Svalbard.

Temperatures have continued to rise, but there is hope that the rate of warming has slowed.



Flight

I'd never been in the sky before.

It feels unnatural. A subversion of all the laws of physics, and all the Climate Laws too. Humans don't belong in the air.

But I hadn't reckoned on the excited twitch of my brain as the metal cylinder hurtled into the sky. Above the clouds, looking down on England as we left it behind for six whole weeks.

The box-like shapes of Mum's and my estate, with its new build apartments and neat green spaces, and my sprawling academy school, glowing in the early morning light. Then more town buildings – the leisure centre, supermarket, hospital, sports stadium – and roads whirring with electric cars, until a swathe of green, like someone got a paint pot and threw it over the earth's surface. One of the

new forests, to suck up carbon and give wildlife a fighting chance to recover. The trees are a collage of shades and textures, in different brushstrokes – alder, cherry, maple, birch, willow, hawthorn. Somewhere in the tangle of trees is Dad's wooden hut with a solar-panelled roof and a tiny annex that's mine every second weekend.

I pull myself away from the window. A book's open on the table in front of me. *Creatures of the Far North.* It was Dad's gift to me for the trip, alongside a Polaroid camera that's sunshine yellow and little boxes of film. "To capture your adventures," Dad had said. He doesn't trust phone cameras.

"How are you feeling, Rory?" Mum asks beside me. "Six weeks in the Arctic! It's quite something, isn't it? I hope we're doing the right thing taking you out of school like this."

I let the words drift over me. "It's only Year Eight, Mum. It's not like I have exams or anything."

"You must still do the work you were set. I promised Ms Ali…"

Typical of Mum, to start up about school when I'm strapped in and there's nowhere to run to. Does she expect me to have a textbook out instead? It's not like I'm behind. It's not the work that's a problem for me at school.

I close my eyes deliberately.

Mum squeezes my hand. She whispers, "I'm sorry.

We can sort it out later. Maybe you need a break first, time to reset your brain, switch off from all that."

Neither of us wants to acknowledge what "that" is, but behind my eyes there's a crowd of faces and taunts. That I'm strange and quiet. That I don't belong. That I should run away with my dad to the woods. Mum swears I could fit in at school if I try, but I don't seem to know how. It was different when I was younger and we lived in a line of terraced houses with parallel back gardens and my best friend in the whole world next door. Betty. Every morning we walked to school together, Dad waving us off with a smile.

Those houses are gone now. Our primary school as well. They were too old and draughty to bring up to new energy efficiency standards. Or, if you believe my dad, developers moved in waving green home grants and thick wads of cash. Either way, the wrecking ball came and the rubble was repurposed into apartment blocks.

Betty's parents got jobs at one of the nuclear plants and moved out to the coast. We moved to one of the new estates. A two-bedroom cube of convenience on the tenth floor, with a tiny balcony and a couple of planters as outside space. Dad said it was bad for his soul, growing herbs in the sky, hearing neighbours through the walls. He said there wasn't enough oxygen. He and Mum became angrier and angrier with each other until neither of them

could stand it. Dad found a job as a ranger in one of the new forests that came with its own place to live.

Sometimes I take a bus back to where our old street was. It's nice enough – there are reed banks and wildflower beds, bird feeders and children's playgrounds. But I'll never stop feeling sad about our old house. The back garden had a tangle of shrubs with a hidden space inside. Betty and I would lie there for hours listening to birdsong and the hum of the bees, being visited by neighbourhood cats.

"What are you thinking about?" Mum asks now, scrutinizing my face.

"Just school, I guess," I say.

She squeezes my hand and stretches her legs out under the seat in front. Her face breaks into a sudden grin. "I can't believe we're doing this. You and me, girls together. We're going to the far north, Rory. To the land of bears and ice and lights!"

"I thought you said it was going to be twenty-four-hour darkness!" I can't resist saying. We'll be arriving in the countdown to the polar night. Every day shorter than the last until the sun won't rise at all till spring.

Mum laughs. "We have a few weeks of light first. Plus we'll have the northern lights. The *aurora borealis*! We're sure to see them, spending all that time on Svalbard."

"*Aurora borealis*," I repeat, enjoying the way the vowels feel in my mouth. Then "Spitsbergen," I say, emphasizing

the consonants in the name of the largest island in the Svalbard archipelago. It's going to be our home for the next few weeks, in an old coal mining town that Mum's new company, Greenlight, is reopening to extract rare earth metals. Silvery grey elements, magnetic and electrical, that make things faster, stronger, lighter, smaller. Batteries, wind turbines, electric cars, smart phones, cancer drugs – there's a rare earth metal in all of them.

"Spitsbergen," Mum says. "Hard to say without spitting!"

I laugh and she says it again, louder, with even more terrible enunciation. I look about to see if any of our fellow passengers hear, but they all have earplugs in, tuned in to something else.

I smile back at Mum. I wonder if I'd known her when she was my age, whether we'd have been friends.

I force school out of my head. All the girls I feel so separate from. I don't want to bring it with me. That's not what this trip is for.

"I can't believe we're flying!" I say. "I am *so* excited! We're above the clouds!"

"I was a child the last time I took a plane," Mum says dreamily. "We were going to Portugal. Me and your aunty Clem, and Granny and Grandpa. To a villa with a swimming pool on a clifftop. It was two years before the Climate Laws came in. It felt like heaven! I don't suppose we'll be swimming this time." She pretends to shiver.

I frown. “I thought there was a pool? The most northerly swimming pool in the world, you said.” The most northerly pool in the most northerly town. The settlement also once boasted the most northerly school, before all the people left.

Mum nods. “Oh yes! I suppose we can use it. If there’s…” Her voice trails off.

“Time,” I finish for her. I can always see it in Mum’s face when work takes over. A wrinkling by the sides of her eyes; furrows deepening on her forehead.

“Well, you might not have time, but I will,” I vow petulantly, not caring how I sound. Not here on a plane that’s filled with grey middle-aged people, most of them barely bothered about the fact we’re flying. How can they not be gazing out of the window absorbing it all?

Aviation is meant to be for essential reasons only but some of the passengers look far too accustomed to it. They’re working on laptops, drinks on their tables clacking gently with ice. Some of them even have their eyes shut, sneaking in a quick snooze. What a waste!

Standards get eroded over time. That’s why Mum says the Svalbard Rare Earths Project is important. People only put up with so many restrictions, and for so long, and then they want life to advance again. Greenlight is one of the companies promising that can happen. They’re at the helm of the green economy.

Dad would say that’s dangerous propaganda and we should all be learning to live with less. And I’m in the middle. No one cares what I think, and I’m not sure what’s true anyway. What matters most is that I persuaded Mum to let me take a six-week break from school, and Mum persuaded Greenlight to let me go with her. It’s going to be the trip of a lifetime!

I hold my yellow camera up to the window and click. A few seconds later, a black square of recycled film is fed out into the air. I waft it gently between my finger and thumb as a little box of clouds appears. I’m going to stick it on the first page of my travel journal. I want to remember this feeling forever. We’re flying!



Airport

Tromsø airport is full of hot circulated air that makes me think of a hospital waiting room. A strange, stuffy space where no one stays very long – just passengers passing time before their next flight.

Except the staff in the coffee shop. I watch the woman serving. She's young – she must only be a few years older than me, but she's clearly out the other side of school. Independent, free, and glamorous in that way some people are without even trying.

As if she can sense me watching her, she catches my eye and beckons me over. I look around, in case her signal was actually meant for someone sitting behind me. Someone older and more worthy of attention. But there isn't anyone, so I get up, propelled towards her.

Mum's got her nose in some papers. "Don't go out of

sight, Rory. They'll be calling our flight soon." She purses her lips, puzzling over an anomaly in the geological survey she's reviewing. She's stressed about assumptions in the original site report for the island. Some other geologist wrote it, but it's going to be Mum's job to present an updated version to the Arctic Council when they make their final environmental assessment for the mine. I leave her lost in details about depths and seams and lengths of pipeline.

"You're young, for a flight," the coffee shop attendant says when I reach the counter.

"Yes, yes," I say, stumbling over my feet slightly. The woman's even prettier close up. She smells of petals, and I get this flashback to our old garden. Making perfume in the summer from fallen rose petals. Betty and I dabbing it on our necks. It smelled like ice cream. "I came from the UK. We're waiting for a flight to Longyearbyen."

"Longyearbyen? In Svalbard?" The woman's voice rises in surprise.

"Yes. Then we're getting a boat north to Pyramiden, the mining town," I say, faster now, squeezing my fists together in excitement. "We're with Greenlight. Well, my mum is. She's working on the Svalbard project."

The woman raises her eyebrows but keeps on smiling. "This time of year? I hope you've got enough layers to put on!"

"I have. Got warm things, I mean. We ordered them especially." My suitcase is full of thick waterproof trousers, a weatherproof jacket like a quilt and the puffiest boots I ever saw. Snow boots. For real snow!

"Would you like a drink?" the woman offers. "On me. Or on my boss, rather!" She winks mischievously and checks over her shoulder, but the little kitchen area behind her is empty. I look down at the metallic counter with a meagre selection of sandwiches in paper bags and bottles of fruit juice with flavours I can't decipher. "Take your pick. I don't normally get to serve anyone under forty," she says. "You're refreshing for me."

I like her choice of words, and the way she pronounces them in her Norwegian accent. I read her name badge. Nora.

"I'd like a tea, please," I say, trying to sound grown up.

Nora laughs, like I deliberately cracked a joke. "So English! Tea, please!" Then her smile becomes fiercer as she starts making the drink. "Lucky English girl, taking her first flight."

"Have you been up there?" I turn my head to the vaulted glass ceiling through which I can see grey sky.

"Of course not!" Nora laughs, brushing her hair back. "I'm a waitress in a coffee shop. I would never be permitted. You must be more important than me."

She doesn't look resentful or angry, but the words linger

in the recycled airport air.

"It's my mum that's important," I say. "At least her job is. She's going to check the site and advise on all kinds of things." I wave my hand vaguely. I don't ever really know much of what Mum's job involves, just that she's contracted as new buildings are planned, to make site maps and advise the engineers on ground conditions. This will be the first time she's worked for a mining company, but apparently she did a whole thesis on permafrost at university so she's a great fit for the Arctic.

"Ah, your mother is a scientist," Nora declares, pushing a cup across the counter to me.

"An environmental geologist," I correct.

"Ah!" Nora says again, no less certainly. "She found the metals. These precious metals that will allow us to take flights and live in luxury again."

There's a strange tone to her voice. Not like the girls at school, when they throw jokes back and forth and ignore any attempts I make to join in. This is more a general disbelief that the world will ever be any different than it is now.

I shake my head, anxious to avoid misunderstandings. "Mum's not been to Svalbard before. She's just supervising the last stage of the environmental assessment. She's taken me out of school, so I can be with her."

I can't resist getting that in. Nora must see the significance

of this. It can't have been long ago that she'd have been at school too, in a stiff-shouldered blazer. Like a hamster in a wheel, ever turning, only I'm getting to spring off for a while.

"Nora!" A cross voice sounds behind her, followed by words I don't understand but I can tell the meaning of at once. Nora shouldn't be talking to me. I'm not important enough and there are tables to be cleared. A man appears, his face red and bad-tempered.

Nora turns to the sink to wring out a cloth. "Good luck, English girl," she says over her shoulder. "Watch out for the bears!"

Dirty water drips from the grey cloth into the silver bowl.

"Thank you for the tea!" I answer quietly, retreating away from the man's glare.

I wander over to the window with my steaming mug of tea. The window's large and round, like a spoked wheel.

I'd hoped for snow this far north, but rain is falling on the tarmac outside.

Rain is English like tea, I think, except in summer when we go for weeks and weeks without any rain at all. When the hosepipe ban starts and the parks and road verges turn to straw, and the fire stations are put on alert for wildfires.

Mum comes to stand beside me to look out at the runway, with its white and red planes and its spaceship control tower.

"You got a drink?" she asks, surprised.

"You want some?" I say, offering it to her.

Mum shakes her head. "No, you enjoy it. I'd just be trailing to the loo! It's only ten minutes till boarding time – next stop Longyearbyen!"

There are hills in the distance, grey and rocky, with patches of orange moss and lichen. This is tundra – a landscape above the tree line. The only verticals visible on the slope are steadily turning wind turbines.

"Do you think it will be snowing when we get there?" I wonder out loud. The rain gleams on the tarmac like spilt oil.

"Some of the time," Mum replies. "Apparently it can get windy too. Sometimes the wind blows the snow away into the sea."

"I hope it's snowing," I say emphatically. "I want to walk through it and make footprints. Or snow angels!"

Mum smiles indulgently. "It did snow once. When you were a toddler. We took you to the park and you kept picking it up, until your fingers got too cold in your gloves and your toes in your wellington boots. We hadn't thought to put extra socks on. You howled! Your dad had to carry you home on his back!"

She's laughing.

I give an irritated grunt. "I didn't know then, did I? That that was the last time I would see snow for a decade."