Issues in Earth Science

"Eww, There's Some Geology in my Fiction!" Issue 11, Aug 2019

Teacher Resources

Can six arctic explorers save humanity after war induces a chilling of world climate?

Permafrost by Kate Kelly



The cold bit into me. I forced myself on, step by painful step through the deepening drifts. Numb toes. Numb fingers. Beside me Mitzi stumbled and dropped to her knees and the sledge we were dragging slid into the back of my

legs. I reached out with clumsy fur-wrapped hands and tried to pull her to her feet.

"I can't go on, Oscar," she said, her voice half lost as the wind whistled round us, driving the snow against my goggles, frosting my view. Nearby some jagged rocks jutted out of the all-enveloping shroud. The rest of the world was smothered.

I straightened and looked around at the grey mist and bitter whiteness. The snow was coming down heavier, swept by the wind into mountainous drifts.

Soon the day would darken into night.

"We'll camp here," I said. It was as good a place as any, the rocky outcrop affording some shelter at least. I left Mitzi kneeling in the snow and I turned towards the sledge and started to unpack the small two-man tent.

We had ditched the other tent when Anna died, covering her corpse with it and piling on rocks. There had been no signs that anything other than us moved in the desolate place, but I wasn't going to take the chance that there might still be wolves or bears. They weren't going to have her.

We were way behind schedule. Anna had held us up, Mitzi and I taking turns nursing her, hoping. And now the darkness was creeping in, the days shorter, the cold more severe.

And I missed her.

I glanced over at Mitzi as I struggled with my cold numbed hands. The way she was weakening now, soon there would be only me. I blinked the thought away.

It couldn't be far now. We had to succeed.

The world was depending on it.

Once the tent was pitched and we had taken shelter from the driving blizzard, I fired up the stove to heat water. We still had enough fuel – enough to get us there but maybe not enough to get us back. But if what the elders had told us was true – if this really did turn out to be the Source of Life, then somehow we had to succeed. The future hope for mankind depended on us.

In my dreams everything would change and this endless winter and encroaching ice would be gone. The world would return to greenery and birdsong; sunshine and warmth that was now no more than a distant memory – a half forgotten dream. In reality I knew that the world had changed. But mankind had survived the ice before, and would again.

I peeled off my gloves and inspected my fingers, fearful of frostbite, but it wasn't as bad as I had feared. I wriggled into my sleeping bag for extra warmth. The water was close to boiling but Mitzi sat, listless, staring at the side of the tent. It puckered and billowed as the wind sucked at it. I could hear the tarpaulin flapping against the sledge outside, but I didn't have the energy to go out and secure it. Let it flap.

I poured the water onto our dried rations and waited for them to soak it up. Then I dished them out into bowls and handed one to Mitzi.

"Chicken au Provence," I said.

She took it without speaking.

"When we get to the Source of Life we shall drink pink champagne and eat smoked salmon and caviar," I said, desperate to lighten the mood. "I reckon we're close now. Really close."

She spooned the mixture between blue lips and glanced up at me.

"We don't even know what it is, not really."

At least she was talking again, showing an interest. Maybe she would be okay after all.

"We know it will save us. We know it's the last hope for mankind, for our whole planet. We know that our ancestors foresaw a time such as this. The Source of Life is their insurance policy, so that mankind might survive." I said.

"Some old records salvaged from the chaos of war. They're not even complete."

"The archive is damaged, yes, but what is contains, the histories, the science, all of that is accurate. I have no doubt that we will find what we seek."

Mitzi sighed and continued spooning her rations into her mouth. I watched as she forced herself to swallow. Then I fished out my notebook to double check my navigation calculations. We had made up some of the lost time, but exhausted ourselves in the process.

There had been a time, a brief window of technology, when navigation had been easy, satellite navigation that could pinpoint your location to within a metre. But that world was gone. They blasted the surface of this planet to bits in that crazy suicide of a war. And now here I was, with Mitzi, trapped in a world of white and grey, with only the stars and the sun and a compass to map our way. Volunteers for a mission that might not succeed, to bring hope back to mankind.

There was a sad irony to the war – fueled by the troubles of a warming world, famine and drought. Oh yes, the war had changed all that – turning the world to a frozen waste instead. As the ice had expanded, civilization had crumbled. Now only the tropics were habitable, their climate changed beyond memory. Life clinging on while the crops that once grew at those latitudes failed.

"We're close, Mitzi," I said. "Really close." I smiled at her even though the smile wasn't returned. "We'll get there tomorrow I reckon."

Mitzi turned away from me, rolling herself up in furs and sleeping bag. I quenched the light and lay back, staring at the darkness and listening to the beat of the wind outside. I wondered what we would find – what the Source of Life really meant. The records stated that it had been put there for just such a time as this, so that mankind could be saved. But would it still be there? Could anything up here have survived both the war and the endless winter? Doubts filled my mind in the dark, and not for the first time.

We were selected at random from the many volunteers, trusted with the task of saving our planet, our species.

Sent on a desperate mission to this lonely place at the top of a desolate world. The last hope of humanity.

We had started with two sledges and an expedition party of six all those months ago, when it finally dawned on our leaders that the ice wasn't going to retreat; that the freezing of our planet had gone too far; that without action we were sure to perish. Just as those billions had died before, first from the effects of the warming, and then from an outright global war. We had set out, hearts filled with hope. A hope that eroded with time. Now there was only Mitzi and me, and a single sledge.

We had left the other sledge a long way back, back when Anna was still with me. Ah Anna. How my heart ached each time I thought of her. Ached for the future we should have had. But our love had always been marred by this changing world, from the day we met as aid workers, taking food to the starving refugees who had fled the desert that Europe had become. We were lucky, escaping the worst of the war, surviving the bombardment, only for the skies to darken and the world to freeze.

I owed it to Anna to finish what we had started.

Many times on our journey I had been sure we would fail, no more so than as I watched my colleagues die one by one. Slow deaths. Painful deaths. Our party had dwindled until now there were only the two of us.

But we had made it. We were nearly there.

I closed my eyes and listened to the wind. I tried to imagine Anna beside me, the touch of her hand, her smile.

Tomorrow.

But a day turned into a week.

Mitzi woke with a fever and for three days I sat by her side, keeping her warm, spooning melted snow between her burning lips, waiting for the fever to break. I feared she would die like the others and I would be left to do this alone, but the fever broke and then I waited, feeding her the last of our supplies as the wind piled snow against the side of our tent.

I waited as her strength returned. More time, more delay. And we were so close.

The wind had died down when we finally emerged to stand beneath dull dark skies. The snow had stopped falling but the wintery bite was bitter. It felt as if each breath was freezing in my throat.

I clutched my compass and pointed with a fur clad hand.

"This way."

We walked, deep snow, up to our knees. Each step an effort, the sledge a dead weight behind us. And the doubts crept in. What if it wasn't here? What if we missed it and walked straight past? I checked my compass again, then looked again at the hillside before me.

And there it was, jutting out from the bare rock face, pale and unwelcoming, but exactly where they had told us it would be.

Mitzi paused, head tipped to one side. "Is that it? It doesn't look like much."

I felt like laughing. It wasn't what I had expected either, perhaps something grander, more imposing. But now that I saw it, concrete and angular, I knew that this was what we sought.

"That's just the entrance. The Source of Life is inside. You'll see."

I unharnessed myself from the sledge and led the way, ploughing through thigh deep powder. I reached the door

and paused. Mitzi joined me as I ran my mittened hands over the metal and concrete.

"Can you get it open?" she asked.

"Of course." I found a handle and pressed, listening to the satisfying clunk of the mechanism within. But the chain and padlock held firm.

"Bolt cutters?" said Mitzi. We had come well prepared – one piece of kit that I hadn't ditched, and I was glad of my decision. The chain didn't stand a chance.

Inside, a long corridor sloped down into the depths beneath the mountain. I pulled the torch from my pack and gave the handle a quick wind, then let the beam play over the walls and floor. The layer of dust was undisturbed. The place was intact.

We were the first.

"Lead on," said Mitzi and her voice was breathy, excited.

The tunnel led deeper and deeper. My breath formed small clouds of fog in the freezing air. Mitzi kept herself pressed close beside me.

"What is it?" she whispered. "Do you know what's in here? Do you think it will take us out of this nuclear winter?"

"I've no idea about that, the records were incomplete. But so far everything has been accurate, the location, and the purpose." I whispered back, even though I knew there was no-one else to hear. My voice sounded echoey.

Mitzi was smiling. "They foresaw this coming, all those years ago. They knew this would happen."

"They did, and we're lucky as a result. I only hope humanity can learn from its mistakes."

"We've come so close to obliteration." Her eyes were shining. I didn't answer. I was thinking of Anna, of how she should have been here. But this is what Anna would have wanted. She wanted me to live, to go on and rebuild. I was about to save the world

The tunnel ended up ahead.

At first I thought it just stopped, but as we drew closer I realised that it in fact bent off to one side. Another tunnel. We turned and followed. My torch started to fade and I paused to give it another wind.

This tunnel wasn't so long.

The reinforced door at the end led into some sort of airlock, one door hissing closed behind us before the next one opened. We stepped out into a vast room.

I stood and panned the torch beam around. It swept over row upon row of shelving, all stacked high with boxes, different colours, different shapes, grouped together by type. I could not see where the chamber ended.

"What is it?" said Mitzi.

"I don't know. It's some sort of vault. Let's have a look around."

"Maybe it's everything we need to survive, inside these boxes," she suggested. She studied the label of one and frowned.

"It will be everything we need to survive, that much is true," I said. "I guess we need to work out what to do with it all. There's too much here for us to take back."

Mitzi inspected more labels. I walked along the rows, along one, right to the end, and then back along another.

Mitzi was still inspecting labels. "They're all the same," she said and she turned to face me, eyes dark shadows and I felt a chill of foreboding.

"What's wrong, Mitzi?"

She shook her head in despair. "This is it. This is the Source of Life. Everything our species needs to recover from a global catastrophe. But they didn't predict the form that disaster would take. They thought there would still be a world to save. But all that is left is a wasteland of ice. A winter that will never end."

I shivered at her words. "I don't understand, Mitzi. What do you mean?"

"I thought we'd find something to turn off the winter, to send the glaciers into retreat and warm the world so that it would once more be habitable – so that our species could survive."

"But that's never going to happen, Mitzi. You know that."
I took a step away from her and felt the wall of this strange chamber, hard against my back.

"But none of this can save us," she said.

I was starting to shake. "I don't understand."

"I'll show you." She pulled down a box and ripped it open. Inside were sealed boxes. "Hold out your hands."

I did as she asked. Trembling hands. My pulse was racing, my breathing shallow. She tipped the contents onto my palm. Hundreds and hundreds of tiny grains.

"Spring wheat from America and Europe, winter wheat from the northern Europe, Canada, and the American Midwest," she said. "All the boxes are the same. It's just that the seeds are different types. A vast archive of all the food crops of the old world. It's The Source of Life. Only we can't do anything with it. Nothing grows any more. What use are seeds to us?"

I let the grains fall from my hands onto the frozen ground. Mitzi stared at them in dismay.

"Winter wheat from Canada?" I whispered, and smiled.

"Must be cold tolerant seeds."



Kate Kelly's short fiction has appeared in a variety of magazines and anthologies and her collection, "The Scribbling Sea Serpent", is available from CFZ Publishing. Her YA novel *Red Rock* was published in 2013 by Curious Fox. When she is not writing, she works as a Marine Geologist. This story is set in a future scenario where a nuclear winter has tipped the planet into a new snowball earth.

Credit: Permafrost Illustration by Erin Colson.

Editor note: There is a real-world seed vault situated on the Norwegian island of Spitsbergen which, like the vault in the story, is a preservation of seeds made as insurance against global disaster.

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