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Fissures:

A Choose-Your-Own-Adventure Story

Annika Bowman

Introduction

In 2024, a group of scientists published a landmark report on glacier geoengineering. The group recommended further research into technological interventions to stop or slow glacial melt and subsequent sea-level rise. This piece of speculative fiction uses their report as a point of departure, taking the format of a choose-your-own-adventure story in which readers navigate potential solutions for preserving ice, some technological, others artistic. *Fissures* treats experiments in reflection as both the form and the object of critique. The piece considers the illusion of personal choice in navigating climate catastrophe, the techno-optimist logics of many geoengineering solutions, and the importance and limits of imagination for alternative climate futures. To proceed through the story, read the titled pages as directed.

She Lies

In the Oslo fjord, in front of the opera house and the docks, where people sprawl on the decking of the promenade—although it's winter, they wait for the sun—floats an iceberg. Passersby who are unfamiliar with the iceberg point at it. There should not be an iceberg in the Oslo fjord. They wonder where it came from. The locals, who see the iceberg often, remark upon its position in the harbour, different from yesterday and the day before, as it shifts with the wind and currents. You glance up for a moment, noticing how the iceberg reflects the sky and water, and the city behind it, all blurring together. You don't linger; you're late.

*Go to **Body of Work**.*

Body of Work

The conference room is cold, filled with scientists making small talk. Your colleagues shift uneasily in their chairs and fidget with paper coffee cups and name tags. You've read their work, and they yours. The small room overlooks the fjord where the iceberg floats listlessly; from this angle, you realize, it is only an obtrusive hunk of metal and glass panels—a sculpture, not ice at all. Someone closes a blind, and the installation is obscured. You find a seat at the back. A presenter begins a PowerPoint, a plain white screen with an ugly font.

*Go to **Introductions**.*

Introductions

Good morning, the presenter begins, addressing a sea of blank faces. *Welcome to the first annual Global Glacier Geoengineering Summit. We're gathered here to discuss the state of the cryosphere*. The presenter pauses for emphasis. *Since our colleagues first published their landmark report on glacier geoengineering...* The PowerPoint flickers. Since our colleagues... The PowerPoint turns off, a blue power button bouncing across the screen. The presenter, ruffled, fumbles with the remote. *Excuse me, folks. Let me just try...* Another button is pressed. The presenter looks apologetically at the audience. No one offers to assist. The room is filled with the hurdy-gurdy of a house fly, aeroplanes overhead, a radiator. Someone coughs. The presenter presses the power button again, hands clammy, and the screen blinks.

Please turn to the report in front of you, ***White Paper*****.**

White Paper

Report on Glacier Geoengineering Solutions to Slow Climate Change-induced Sea-level Rise
By the International Panel of Cryospheric Experts for Ice Mass Loss Reduction

Our panel of scientific experts has determined that glacial geoengineering—technology which slows the melting of glaciers and ice sheets as climate change intensifies—is the only viable solution to mass ice loss and subsequent sea-level rise. Our comprehensive research on the following schemes shows promising results and a significant reduction in melt. Our teams of scientists are installing and monitoring experiments to slow melt around the globe at this very moment. Successful experiments include: **Hollow Glass Microspheres; Geotextiles; Cloud Seeding; Glacial Curtains.**

Leaf through the report.

You've read through the report, exhausted by the presentation and the news, the speaker droning on, the weather, the enormity and the incredible noise of it all. A headache coming on, you close your eyes for just a moment. Go to ***Landmarks****.*

Hollow Glass Microspheres

A team of scientists has placed a layer of tiny reflective beads over a patch of melting glacier in Iceland. The glacier has been breaking off in large chunks, floating into the sea. The beads are called hollow glass microspheres. They resemble snow but are made from silica, a material 10 times more reflective than regular snow. Many experiments later, many hypotheses, the scientists—your team—hope to find the test square whiter and brighter than the rest of the glacier, if not for the layer of white beads, then for the new glacial ice accumulating. And if new ice forms, well, then, entire glaciers could be coated with silica. You look at the test square before you.

You see the sun, the clear blue sky, and your own features, slightly distorted. The hollow glass microspheres reflect light. Go to ***White Paper****.*

You see dark slush. In a rainstorm, the hollow glass microspheres slid down the glacier, muddied and no longer reflective. Try a different material, go to ***Geotextiles****.*

Geotextiles

The glacier looks like a heaped-up pile of laundry or a child's living room fort. Yet the sun does not discriminate between ice and the thick white tarpaulin now covering the glacier, all the glaciers along the mountain range. Light beamed to Earth bounces back. You wonder if nearby residents blanket the glacier each year. Do they climb up and down the glacier, covering the dirty ice with heavy white fleece? Perhaps they use a helicopter. And each fall, like a giant reptile shedding its skin, the textile is peeled back revealing something both ancient and new.

*You see a promising white surface. Go to **White Paper.***
*You see a pile of rubble. Go to **Whitewashing**.*

Mars

Escape this mess? Nice try!

Come back down to Earth, ***Landmarks****.*

Landmarks

You wake, startled by the movement of people around you. The morning has passed. You must have fallen asleep. You have the sense that the bustling people are all aware of how the day has proceeded. You have the sense that decisions were made. The presenter's monotone voice drones on, though slightly muffled, as if the insulation in the room has changed or the world outside has quieted. It's snowing. The blinds have been raised, and the iceberg appears again in the fjord, turning in the tide, reflecting light which dances across the white walls of the conference room like a disco ball. You flip through the report before you, unable to find where you left off or to discern exactly what the presenter is talking about. Each technology and solution, each page, is equally opaque and certain—*feats of human ingenuity*, the presenter exclaims with practiced enthusiasm, *just imagine!*

*If you're not yet convinced, go to **White Paper**.*
*For a fresh start, a blank slate, go to **Mars**.*
If you're suffocated by the stale air and the bright room, take a break.
*Step outside, **Snow**.*

Cloud Seeding

Title: Scientific public outreach campaigns: communicating geoengineering to the public using AI-generated poems.

Silver iodide

is sprayed across a propane flame.
The iodide particles rise into the clouds and enhance the cloud's ability to convert liquid droplets into ice crystals. The ice crystals

fall
into

targeted
areas

as rain

or

snow

*(go to **Landmarks**)*

Glacier Curtains*

*Below the ice sheet or the glacier, a curtain, anchored to the seafloor. Above it, bright white ice. The curtain blocks warm-water currents and the ice sheet stays cold. To a whale or a fish or small algae, the curtain forms a huge blank wall in the distance. A curtain miles and miles long. A huge dark wall you approach, where warm water pools. Is it heavy? Is it fabric? Do you swim forwards and ricochet off of it like a bird against a clear glass window? On the other side is the water colder, are there different fish? Can you see them, like an aquarium for your own kind? And the glacier curtain, can you swim above it? Around? Where do you go from here? Go to ***White Paper***.

Snow

Outside, the familiar crunch of snow underfoot. The same brightness and quiet. The fjord, the iceberg, the agitated water. You hold your hand in the air. A snowflake lands. It is not cold; it does not dissolve in the warmth of your palm. You shake your hand, startled, and the flake joins the identical others below, reflecting light.

Whitewashing

You paint the rubble beneath you with thick white paint, moving slowly so as not to miss an inch. Brown weeds and grey rocks and green lichen and moss are slathered with paint, now all pale and uniform. You paint over insects, frozen in their path. You wear an orange hazmat suit splattered with paint as you clamber up the rocky mountain slope where a glacier used to be. You paint for hours and hours and miles and miles. The sun touches the now-white rubble and reflects light back up to space and away from the planet and the dark soil that wishes to absorb it. And that evasion of heat and absorption over days and days and years and years creates a cooling. *Yes, a great cooling*, you think, now sweating from the hard work of painting and the sun on your back. You stop to survey your work, thick and blinding white, far into the horizon.

*You imagine a world kept cold. Return to **White Paper**.*
*You imagine a world far, far from this one. Go to **Mars**.*

Further Reading

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