Iceland in Winter, Part 4 - Eldfjöll

Sometimes beautiful things happen in the harshest places. While comfort often morphs into complacency, destruction often gives rise to exquisite beauty. Maybe this is how, in between episodes of volcanic devastation, nature crafted the stark and stunning landscape of Iceland. And maybe the children of the Vikings, knowing that disaster could always be waiting at the door, were able to kindle a culture that has burned so brightly, persisting in the face of all kinds of adversity for over a thousand years.

A lava flow on the Snæffelsness Peninsula covered with a magical little field of tundra plants and lichens

A couple of months before we left for our trip, Craig, a geologist friend of mine who was planning a January visit to Iceland, sent me a copy of a "Geotimes" article entitled, "This month in history ... June 8, 1783: Laki erupts, killing thousands." A little sticky note was attached to the article:

Linda -
Let's hope this doesn't happen in Jan-Feb!
Craig

I couldn't agree more! A repeat of the Laki eruption would be devastating, not only to Iceland but to the whole world. Historians have estimated that the eight-month eruption was responsible for killing one-fifth to one-third of Iceland's human population and well over half of the country's livestock. Persistent sulphuric acid haze was reported over North America, causing crop failure, and in Europe, the fallout increased famines that contributed to the French Revolution. A powerful punch indeed for a few kilometers of volcanic fissures above the Arctic Circle.

A snow-covered crag of volcanic rock on the Snæffelsness Peninsula

Even though a traveler is not apt to see an eruption during any given visit - even though the chances of peering into an active volcano are remote because most of the oozing fissures are under glaciers - and even though residents are likely to go for decades before their lives are disrupted by a significant event - volcanism is inescapable in Iceland. On our first day in Reykjavík, we noticed that the hot tap water at our guesthouse smelled of sulphur. Curious, we researched online and discovered that hot water heaters are rare in the country. They are only used in remote areas far from power plants and pipelines. Cold water is no more than minimally treated glacial runoff, collected in reservoirs that also provide hydroelectric power. But hot water is piped directly from geothermal power plants and volcanic hot springs through large insulated steel pipelines to homes. Everyone, it seems, has a personal hot spring in their home in the form of a shower or a hot bath, and every village we encountered also had a hot springs swimming pool for both residents and travelers to enjoy. The most famous of Iceland's pools is the Blue Lagoon, which we visited on the last day of our trip. Some consider the Blue Lagoon to be Iceland's one and only true "tourist trap" because it is human-made and heavily advertised. Still, thousands of people (including us) have enjoyed the soothing pale blue waters whose minerals were born from both seawater and the red-hot bellies of volcanoes.

Above: People bathing in the azure waters of the Blue Lagoon, with steam from the power plant in the distance.

Below: Additional pools of water - not part of the public spa - at the Blue Lagoon

In Iceland, volcanoes are called "Eldfjöll," more literally translated as "Fire Mountains." The names of some of the island's more well-known volcanoes sound like

toothed creatures from myth: Laki, Krafla, Hekla, Grímsvötn. In 1973, on Heimaey Island off the south coast of Iceland, an eruption created a volcano that came to be known simply as Eldfell (Mountain of Fire). Although nobody was killed by the eruption, it destroyed much of a town, burying homes with ash. The event was included in a recent award-winning Icelandic film, "The Deep," which we watched on our airplane flight into Reykjavík. In the movie, Gulli, the main character, was shown shoveling black cinders and ash from inside and outside his family's home. In places, the ash fall was up to a story deep. Some families didn't want to rebuild after Eldfell, but most returned. Icelanders are reported to have a "things will work out" attitude. I'm guessing it's a necessity in a land where every acre is underlain with churning volcanic fire.

A cross section of an Icelandic soil showing layers of ash from eruptions over time. This is at the National Museum in Reykjavík.

We learned that eruptions can be very different from one another. Some like Laki spew sulfur-tainted lava, and others like Eldfell push out mountains of ash. Still others create new land out of the sea. A 5-year-long series of eruptions in the 1960's created the island of Surtsey, not far from Eldfell, which Joseph and I read about at the Volcano House in Reykjavík. Also at the Volcano House, we sipped hot, tasty coffee while exploring their mini museum filled with different types of igneous rocks and containers of volcanic ash. The ash samples, collected from famous volcanoes that erupted around the country, surprised me in their diversity. Some were gritty, others were soft as powder; some were ash gray, others were sooty black.

Iceland is volcanically active because it lies on the Mid-Atlantic Ridge. This ridge is where the edges of two of the earth's enormous tectonic plates - the North American and the Eurasian - meet. The plates are pushed apart by emerging magma, causing earthquakes and eruptions. Although the whole island is active, the Reykjanes Peninsula, just west of the capital city of Reykjavík, is particularly hot.

A lovely glade in winter along the Mid-Atlantic Ridge at Þingvellir.

Reykjavík means "smoky bay," so named by Ingólfur Arnarson, its first Viking settler, because of all of the thermal vents in the area. Some vents on the Reykjanes Peninsula are reportedly quieter now, as Icelanders have captured the area's geothermal energy with several huge power plants. However, the hissing fumaroles at Gunnuhver, on the southwest tip of the peninsula, are reported to be more active since 2006, when the Reykjanes Power Station drew down groundwater in the area and increased the steam.

We found the Gunnuhver hot springs to be well worth a visit. Over time, fumaroles open and close in different places across the area as conditions shift below ground. On the surface are bright streaks of color where minerals accumulate and colonies of primitive bacteria grow. The volcanic vents make lots of noise as the steam escapes, and they are said to sound like the hisses and screams of the ghost, Gunnuhver, who became trapped there four centuries ago. There are many versions of legend of Gunnuhver. In one version, Gunnuhver was said to be a woman of nasty disposition who refused to pay her taxes. When the villagers collected her only possession - a cooking pot - she flew into a rage. She was said to have died soon after, and her ghost began ambushing and killing villagers at night. Gunnuhver's ghost was finally disposed of when a pastor tricked her into grasping the end of a rope, and she was pulled into a fumarole. Hopefully, this story is all myth, because a fumarole would be a terrible end for anyone, no matter how ill

The colorful volcanic vents (fumaroles) at Gunnuhver

Minerals and colonies of primitive bacteria at Gunnuhver

tempered or murderous they may be. I prefer to visualize hardy Icelandic villagers who, before the days of geothermal power plants, routinely placed cooking pots right into the scalding vents to cook supper.

The Snæffelsness Peninsula is less active than the Reykjanes Peninsula, its neighbor to the south, but it is an excellent place to view volcanic formations. Because the peninsula has existed for a long time and has experienced many types of eruptions, the peninsula is reported to have nearly every kind of lava formation imaginable somewhere on its surface.

On the western end of the peninsula is a national park surrounding an immense stratovolcano, the 70,000-year-old Snæffelsjökull. The mountain is relatively inactive by Icelandic standards. The last eruption is thought to have occurred

View through Gatklettur, a volcanic stone with a hole on the Snæffelsness Peninsula

Columns of volcanic rock near Snæffelsjökull

about eighteen-hundred years ago, before the Vikings arrived. Snæffelsjökull was immortalized by nineteenth-century author, Jules Verne, who made it a centerpiece of his novel, "Journey to the Center of the Earth." In the novel, the volcano is the portal through which the characters enter a fantastic world below. I can understand how this unique mountain might inspire such a story. The landscape and history of Iceland inspires thoughts of trolls, ghosts, and other supernatural creatures. And besides, Snæffelsjökull does look like it could be concealing a whole world under its broad dome.

Snæffelsjökull, the great stratovolcano

While we have some volcanic activity in Western Colorado, the bulk of the rock formations in our area are sedimentary and very ancient. By comparison, the rocks of Iceland are igneous and ruggedly youthful. Icelanders move across new and always changing landscapes made of rock not far descended from molten magma. Dangerous but magnificent, Iceland's mountains of fire are an integral part of this unique land.

A waterfall over a volcanic cliff near Búðir

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End Notes:

Haze over North America:

The American statesman and founding father, Benjamin Franklin, described the clouds of volcanic fumes in a talk delivered in 1784 to the Literary and Philosophical Society of Manchester, England. He theorized that the source of the fumes was a volcano in Iceland, and he suggested that it could effect climatic changes worldwide. It turned out that he was right. Photos of the volcano, Laki, can be found at http://laki-volcano.tripod.com. (To return from the webpage, use your browser's back button.)

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Geothermal Power Plants:

Five main geothermal plants provide energy and hot water to Icelandic homes. The Svartsengi Power Station is on the Reykjanes Peninsula, and it feeds the Blue Lagoon (see note below). Also on the peninsula is the Reykjanes Power Station, which is near the Gunnuhver hot springs (see note, on the Notes 3 page). The Nesjavellir Geothermal Power Station and the Hellisheiði Power Station are just east of the Reykjanes Peninsula. The Krafla Power Station is in the northeast part of the country. There are many other smaller plants scattered elsewhere. To generate electricity, superheated volcanic water is drawn from wells where it powers large turbines.

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The Blue Lagoon:

The Blue Lagoon and its associated spa and clinics make up one of the most publicized and visited attractions in Iceland. While we were in Keflavík, one of the residents told us the story of how the place came to be. When the Svartsengi power plant near the town of Grindavík was built, the lagoons were created simply to collect wastewater left over after extracting the geothermal heat. Icelanders love their hot springs, so one of the employees decided to bathe in the warm pool after work. After doing this for several days, he noticed that his chronic skin conditions began to clear up, and in time they disappeared altogether. The mineral rich water and the pale silica mud that precipitates out of it and coats the bottom of the lagoon are thought to have medicinal properties. The pools are fun and relaxing, and the clay does make your skin feel great! And besides, it's fun to see so many people with white clay slathered all over their faces! The Blue Lagoon was a good place to visit on our last day, so we could relax on the flight home. You can buy silica mud and other products at the Blue Lagoon's shop at http://www.bluelagoon.com/shop/, (To return to the travel journal, use your browser's back button.)

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The Deep:

One of the choices for onboard entertainment on our Icelandair flight was the 2012 Icelandic film, “The Deep,” directed by Baltasar Kormàkur. The film is a true story of a man named Gulli who survived the sinking of the fishing boat, Breki, off the Westman Islands in the winter of 1984. All of the other crewmen froze or drowned within a few minutes, but Gulli had a unique physiology that allowed him to survive for hours in the frigid North Atlantic and also endure a bone-chilling walk across frozen lava fields to safety. The film is fascinating and very well done. A trailer can be found at http://www.youtube.com/watch?v=FfDP44g__Q0. (Your browser’s back button will return you from the trailer to the travel journal.)

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Surtsey:

Read more about the history of this new island at the Surtsey Research Society's website: http://www.surtsey.is/pp_ens/gen_3.htm. (Use your browser's back button to return to this journal.)

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The Mid-Atlantic Ridge:

Most volcanic ridges are found at the bottom of the ocean, but some volcanic ridges have formed land masses above the water. At volcanic ridges, lava creates the youngest land on the planet. This action occurs where tectonic plates are pushed apart, and the force of the new-formed land eventually causes subduction zones on the far sides of the plates, where volcanoes and earthquakes are also common. We walked up the Mid-Atlantic Ridge when we visited Þingvellir National Park, but the “bridge between two continents” on the Reykjanes Peninsula is another place to view the North American Plate on one side and the Eurasian Plate on the other. Unfortunately, we did not have time to visit the bridge on this trip.

A lava rock on the edge of the Mid-Atlantic Ridge

A view along the Mid-Atlantic Ridge near Þingvellir

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The Legend of Gunnuhver:

One version of the legend can be read at Wondermondo's website at http://www.wondermondo.com/Countries/E/Iceland/Sudurnes/Gunnuhver.htm. (Return to this journal with your browser's back button.) Our map of Reykjanes tells a slightly different story, as do numerous other online resources. In some versions, she is called Gunna, in others Gunnuhver, and in others Guðrún, a common Icelandic woman's name. However the story is told, it is colorful, as are the violent volcanic steam vents that bear Gunnuhver's name.

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Another shot of the fumaroles at Gunnuhver

Snæffelsjökull:

Technically, the mountain itself is called Snæffels (Snow Mountain), and Snæffelsjökull refers to the large glacier that covers the peak. Although I've read that the glacier melted completely for the first time in recorded history during the summer of 2012, the entire peak was covered with snow when we visited in February 2013. There is a peak in the San Juan Mountains, near where we live in Colorado, called Sneffels, and I'm told it's a corruption of Snæffels. I don't know whether it got its name because it means "snow mountain" or because our peak has two little ridges on top that look a lot like the ones on top of the Icelandic stratovolcano. I can't detect any other similarity between the peaks. Stratovolcanoes are built up over time by multiple eruptions of different sorts and intensities. This explains how so many types of igneous rock and lava flows occur on the peninsula. By the way, Mt. Fuji in Japan is another famous stratovolcano.

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