

Eugene and Sissy and the Curious Egg



Written by Jacinta Behne for
NASA's Genesis Mission ©2006

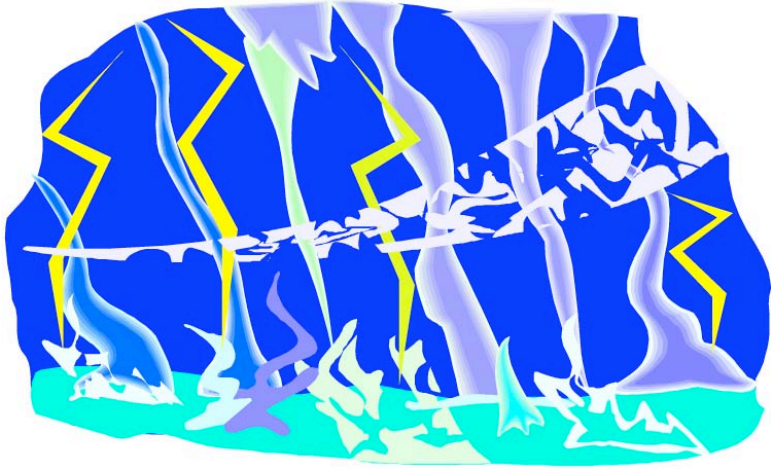


A long time ago in a land not so far away, there was a magical kingdom called **Bonneville**, where little villages scattered the countryside. There was a beautiful lake that stretched for hundreds of **miles** with small **islands**—almost like stepping stones—dotted across the surface. The forests were deep green; the mountains stretched high; and the water and skies shared a bright color of blue. Some of the villagers were fishermen; some were craftsmen; others tended great herds of geese. But none—not even one—of them was a farmer. Even the most talented gardener couldn't get a thing to grow—not a carrot, potato, onion, ...nothing.

Lake Bonneville was a large, ancient lake that existed from about 32 to 14 thousand years ago.

At its largest extent the lake covered about 20,000 square miles of western Utah and smaller portions of eastern Nevada and southern Idaho.

Lake Bonneville contained many islands that are the present-day mountain ranges of western Utah.



You see, one day, in a fit of anger, the evil wizard Igmund put a curse on all of the land in Bonneville. The soil became barren—nothing could grow in it—and it was covered with a hard, **salty** crust that went "crunch" wherever they stepped.

Today in what is known as the "Salt Flats" a hard, salty crust covers much of the land.

But now, I'm getting ahead of my story.



The kingdom was ruled by **King Iso and Queen Helio**, both of whom were known for their kind and generous ways. Iso and Helio loved everything about their kingdom: the people, the water, the sky, and yes, even the stark, barren land. The king and queen also instilled a love for learning far and wide. You see, they knew that as long as their kingdom kept its love for learning, it would survive. So, anyone who lived in Bonneville was forever poking here, prodding there, studying the land underneath its crust, surveying the surrounding waters, and searching the skies above. They welcomed challenges—especially those that appeared nearly impossible.

Iso in Greek means equal and Helio refers to the Sun.

Well, not ALL of the villagers thought it was a good idea to be so curious. Some of the elders said that it wasn't a good idea to ask so many questions ...to be forever gazing into the deep water or searching the endless skies. Some said that it was that very curiosity that brought Igmund's spell to their kingdom.

The story went that the queen had enraged Igmund one day when she sat at her window, gazing across the lake toward his neighboring castle. He was seated at breakfast, salt shaker in hand, when the Sun caught the queen's eyeglass and sent a reflection right into Igmund's eyes.



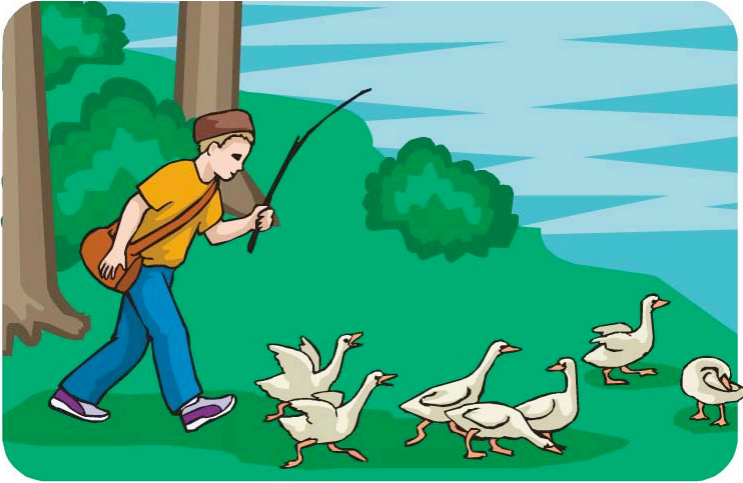
Tracing the source across the lake to the Queen's quarters, Igmund was furious. He didn't like being spied upon one bit. He threw the salt shaker to the heavens and cast a magic spell. The next morning, all of Bonneville awoke to a land covered with a salty crust. It was horrid.

And so, it was for good reason that some of the villagers were afraid of Igmund and his magic spells. The days went by. With land where nothing would grow, the villagers lived off the fish from the lake. It was fine, if you didn't mind eating fish, and only fish—well, MOST of the time. There were the geese who flew over and stopped as they made their annual trip north in the spring, then south again in the fall. They brought a supply of



wonderful eggs for eating. Some stayed near the villages in **herds**, while others moved on. As such, the geese that stayed were indeed treasured by one and all. The villagers tried not to think about the lack of plants, flowers, and grains. They even tried to ignore the evil Igmund. How could they ever please him? ...plead with him to lift the spell? ...politely ask him to find another place to live? ...stop him in his tracks?

When a flock of geese isn't in flight, the herd is also called a gaggle.



It was Eugene, a lowly goose herder, and his twin, Sissy, who came up with the grand idea one day. Standing in village center, they rang the calling bell. Everyone came running. Gene—as he was called by his friends—had a plan, and he shared it with the village.

"A goose? Your plan is a goose?" The villagers were shocked.

"Not just any goose!" replied Gene.

"We're willing to share our prized goose," said Sissy. "The one that lays very smart, very special eggs!"



And so they told the rest of the story, and when it was done, the villagers had to admit that the plan had merit. When they asked the king and queen's permission, it was immediately granted. And so, they set to work—Gene, his sis, and their fellow villagers. Surely if they were tired of a diet of fish from the lake, Igmund was also? Their mission was to send Igmund an egg—a gift from them.



The day came that Gene and Sissy's prized goose took flight and landed inside the walls of Igmund's castle. After building a nest, the goose laid an egg. Igmund was certain to come and snatch it up—which is exactly what happened. "I'll

have me a grand feast," said Igmund. But when he took his first bite, he knew something was wrong. "Poison!" he cried as he spat it out. "That goose tried to poison me!"

He ran to the spot where the goose lie, only to find her flying over the wall, back home, and right back to the village where the whole plan began.



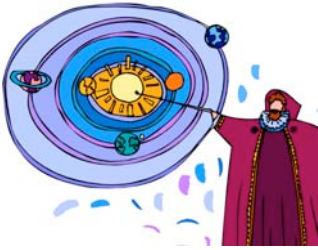
In a fit of rage, Igmund raised his hand to the skies, and in a great bolt of lightening, the rains came, ...and came, ...and came. It rained for days, weeks, months on end. When finally one day the rains stopped, the villagers came out of their huts, looking up to the skies in disbelief. It was Sissy who looked down.

"Hey! Look! The ground has lost its crust! It's no longer brown!" she exclaimed.

Sure enough, the salty brown crust that covered their land had washed away—right into **Lake** → Bonneville! Fish were jumping high into the air, trying to escape the salty water.

Lake Bonneville was originally a fresh water lake, and only through the ages, evolved into smaller bodies of water.

"Now you've done it!" cried one of the villagers. "We have our land back, but we've lost our lake to a pool of salt!"

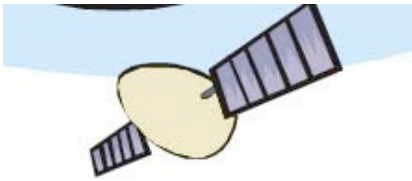


Eugene, Sissy, and all of the villagers didn't know whether to laugh or cry. It was King Iso and Queen Helio who set to work. Now it

was their turn to face a challenge and make a plan. The king had heard of a wondrous lake, far away in the Solar System, in the region of the Sun. It was a golden, magical lake with a source that, if captured and returned, might restore Lake Bonneville.



So the king set his scholars to work. They were on a mission. A spacecraft would be built, and it had to be just right.



In honor
of their
kinship

Many robotic spacecraft use solar panels to help capture energy from the Sun.

with the geese, the ship was designed in the shape of an egg. It had wide wings to carry it into the heavens. Like the queen's eyeglass, the wings would capture the Sun's rays and use them, but this time, for fuel to fly the ship. Like Gene



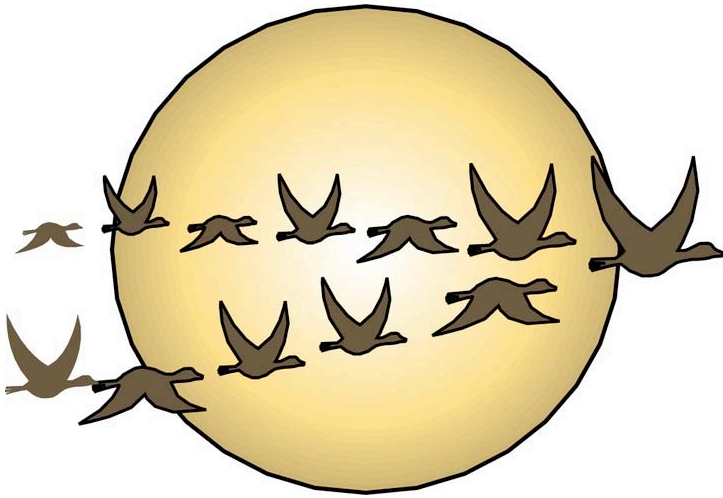
and Sissy's goose, the "eggship" would return home after its mission.

Some missions are launched, enter the Solar System, follow their trajectory path, conduct their science collection phase, and return to Earth. These are classified as "sample return"

Inside was a hexagon—a six-sided steel plate. It too was a sun catcher and would capture the secrets of the golden lake and return them to Bonneville. They named the ship Genesis, after Gene and his sis. After all, it wasn't their fault that Igmund sent the rains. Their plan was actually a good thing. It seems that when the lightning bolt exploded, it sent a jolt so strong that even the horrible Igmund couldn't survive.

NASA's Genesis mission used six-sided hexagonal wafers to capture samples of solar wind. The hexagon-shape, as seen in beehives.

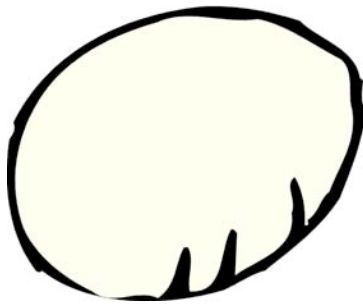
Genesis is the seventh mission funded as part of NASA's Discovery Program.



The day came to launch *Genesis* on its mission toward the Sun. All of the villagers came to watch as great flocks of geese came from far and wide to carry the ship aloft—farther than the eye could see. Then, all the kingdom of Bonneville waited. Some said the eggship would never return. Others remained hopeful.

More than a couple of **years** had passed when one day, one of the villagers heard something approaching from above. Another saw the large white egg, its wings long gone, on its return to Earth. "Look! It's here! It's come **back!**"

The Genesis spacecraft flew for a little over three years.



Genesis' spacecraft returned precisely to the area in the Utah desert where it was programmed to return.

And quick as a wink, the eggship came **tumbling** down, down, down, until it reached the sandy Bonneville soil below. It was a bit of a mess—the curious egg broken open and contents scattered. But there in the sand lie the six-sided plate—the hexagon with its secrets to the Solar System and the golden lake in the sky. Villagers came from far and wide to spend the day carefully **gathering** and storing the pieces.

It's true that upon return, the Genesis return capsule that contained its science canister separated from the spacecraft.

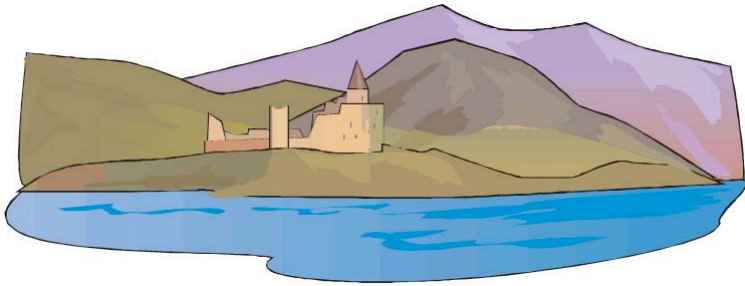
In the course of one day, after Genesis' parafoils failed to deploy, engineers and scientists recovered Genesis' hardware and safely stored it.



Then the great science masters set to work. They **studied** the hexagon, unlocking its clues. There was a lot to learn about the Solar System. It was a fascinating piece of work, with new discoveries made on a daily basis.

Teams of scientists from all over the world are using sophisticated instrumentation to study the *Genesis* samples in order to have a definitive set of initial conditions, i.e., the average isotopic and elemental composition of the original solar nebula (the whirling cloud of dust and gas from which the Solar System formed).

Soon King Iso, Queen Helio, and the villagers gathered at the lake's edge. They watched as Gene and Sissy, with great effort, hurled the hexagon into the water.



In a flash, Lake Bonneville turned its original bright blue. A great shout of joy rang up. They had done it! They had unlocked the secret of the solar lake. Gene and his sis were dancing with joy. There was a great celebration in the kingdom. It was indeed a very curious egg that saved the great kingdom of Bonneville.

The End