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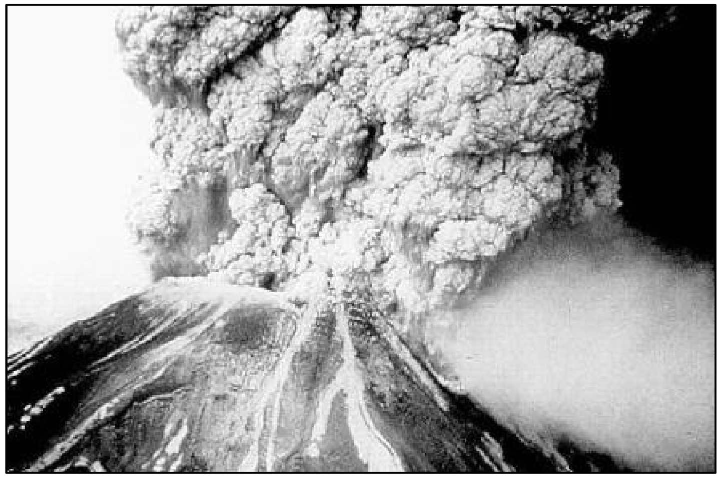

Age of the Earth, Part 1
Mount St. Helens and Surtsey

by Warren Krug

On May 18, 1980 there was a tremendous explosion on a volcanic mountain in the state of Washington. Initiated by an earthquake and a rockslide involving one-half cubic mile of rock, the top and north slope of Mount St. Helens (picture, above) slid off the mountain, releasing pressure in the form of steam, with energy equal to 20 million tons of TNT.

In six minutes 150 square miles of forest were knocked over. In Spirit Lake, north of the volcano, the blast caused a huge water wave to strip trees as high as 850 feet above pre-eruption water levels The total energy output, on May 18, equaled 400 million tons of TNT, about the same energy as 20,000 Hiroshima-size atomic bombs could have produced.

As interesting as the volcanic eruption at St. Helens was in itself, what was even more interesting was what geologists found after studying the site once the mountain simmered down. Major geological changes had occurred in a very short time. As Dr. Steven Austin says, the eruption and the processes involved "serve as a miniature laboratory for catastrophism." The potent geologic processes have challenged the traditional uniformitarian way of thinking regarding how the earth works. 1

Rapidly Formed Stratification

Since 1980 about 400 feet thickness of strata have formed at Mount St. Helens. These deposits were created by forces such as the initial air blast, the landslide, waves on the lake, mudflows, hot ash flows, etc. One 25-foot-thick deposit accumulated in less than one day, on June 12, 1980, and contains many very thin layers of sediment and beds.

Conventional thinking assumes that long seasonal variations or annual changes would be necessary for such layers to slowly form. Mount St. Helens though has taught us that stratified layers can form very rapidly by flow processes.

Rapid Erosion

During the volcanic eruptions on Mt. St. Helens, erosion was caused by the steam blast as well as by the landslide, water waves, pyroclastic flows (hot pumice ash flows) and mudflows. Additional erosion has since occurred due mainly to sheet flooding and channelized flow of water with some mud flows. Less than five days after the initial explosion, rills and gullies over 125 feet deep and resembling badlands topography had already formed. Geologists had assumed it would take hundreds and thousands of years for such features to form on earth.

The most significant erosion was caused by mudflows. A mudflow on March 19, 1982 eroded a canyon system up to 140 feet deep in the Toutle River Valley. This little "Grand Canyon of the Toutle River" resembles the Grand Canyon of the Colorado River but is only one-fortieth the size. Its formation provides clues as to how the bigger canyon could have been created. Although the Toutle River canyon looks like it should have taken long periods of time to form, it obviously was created in a very short time.

North Fork Toutle River valley showing debris avalanche caused by the volcano.

Upright Deposited Logs

Powerful waves were generated on Spirit Lake by the landslide. These waves stripped forests adjacent to the lake and created an enormous log mat made up of millions of trees and covering two square miles of the lake's surface. Although most of the trees in the mat were in a prone position, many were seen floating upright, the root ends submerged and the opposite ends sticking out of the water.

A research team a few years after the volcanic eruption surveyed the lake bottom using sonar and scuba. Hundreds of upright, fully submerged logs were found in Spirit Lake. As of August in 1985 the survey team estimated there were 19,000 of these stumps on the floor of the lake with an average height of 20 feet. Some of the randomly spaced trees were already solidly buried by sediment while others had no sediment around their bases, indicating they were deposited at different times.

If found in the stratigraphic record, the trees would likely be interpreted according to current theories as having grown at different levels from multiple forests and been buried over thousands of years of time. However, the Spirit Lake experience means the ages of "petrified forests" need to be reevaluated.

Peat Layer in Spirit Lake

Already only a few years after the eruption, layers of peat moss were found in Spirit Lake. The Spirit Lake peat resembles certain coal beds found in the eastern United States. Both these coal beds and the Spirit Lake peat are dominated by tree bark and appear to have accumulated beneath floating log mats.

Supposedly coal is formed from organic matter in swamps. Because the accumulation of peat in swamps is a slow process, conventional geologists have estimated it takes about a thousand years for each inch of coal to form.

The Spirit Lake peat, which texturally is very similar to coal, shows that all that is needed for coal formation is burial and slight heating. Coal was already forming in Spirit Lake only a few years after the Mt. St. Helen's eruption!

Spirit Lake

Surtsey Island

Creation of Surtsey Island

Surtsey (picture on right) is an island which in 1963 was born as a result of an undersea volcano off the coast of Iceland. Surtsey is also a bundle of surprises to geologists who have been studying it. One geologist wrote, "On Surtsey, only a few months sufficed for a landscape to be created which was so varied and mature that it was almost beyond belief."

A 2006 article in New Scientist magazine commented, "The island has excited geographers, who marvel that canyons, gullies and other land features that typically take tens of thousands or millions of years to form were created in less than a decade."

Biologists too have been amazed by Surtsey. Researchers who reached the island in 1965 didn't find the flora consisting of simple plants such as lichens and mosses, as they had expected, but were instead greeted by the green shoots and white flowers of the sea rocket, its roots sunk into the ash and in full bloom. Soon to appear were lyme grass, sea sandwort, cotton grass and ferns. It took a couple of more years for the mosses to arrive, and it wasn't until 1970 that lichens made an appearance. This is noteworthy because according to standard evolutionary theory, mosses and lichen should have appeared before any more complex plant. The New Scientist article indicated there was no evolutionary logic to what has happened on Surtsey or neighboring islands. "What came, came," it said.

As for animal life, early arrivals included flies, spiders flying through the air on silken threads, mites riding on a floating gatepost, and other insects traveling on clumps of grass. Seabirds arrived and began nesting in 1970, producing chicks just three years after the lava stopped flowing. Other birds brought seeds which grew rapidly thanks to the bird droppings. Now a regular cycle has been established: plants supporting insects which attract birds which bring more plants. The Icelandic Institute of Natural History says, "We now have a fully functioning ecosystem on Surtsey."

Something else to consider about Surtsey is how rapidly it is eroding. It now is only half the size it was in 1967 when the eruptions stopped. One geologist says Surtsey's ash plains will be totally washed away within a century or so. Fast erosion testifies to the fact that the Earth is young. **2**

The Problem With Conventional Dating Methods

Why have these recent events produced features that appear to be thousands or millions of years old according to the conventional way of looking at things?

Dr. Austin tells of a lava sample he obtained from Mount St. Helens after the eruption, a rock that couldn't have been more than eleven years old. He sent the sample to a laboratory that specializes in dating rocks, but, of course, did not tell the laboratory where he had gotten the rock. The dates the laboratory gave for the minerals in this eleven-year-old rock were up to 2.8 million years!

How could this happen? Conventional radioisotope dating looks at the decay of certain minerals in rocks into other minerals, for instance uranium into lead or potassium into argon or rubidium into strontium, Scientists determine how much of the new mineral is in a rock and, assuming there was none in the rock to begin with, they determine the age.

The weaknesses of these dating techniques are the assumptions involved: **1**. that the beginning quantities are known; **2.** that there has been a constant rate of decay, and **3.** that the decaying process has happened in a closed system.

The following story might show how such assumptions can lead to false conclusions**:** Suppose you are returning to your home from a flight across the country and find it raining "cats and dogs." Being curious as to how long the rain has been falling, you go outside with a yardstick and do some measuring. It appears the rain is falling at a rate of 1 inch per hour. You notice a barrel sitting by the side of the house. You put the yardstick into the barrel and find 36 inches of water in it. "Okay," you say to yourself. "At a rate of one inch per hour, it must have been raining for 36 hours."

It is easy to see that our assumptions could lead to a conclusion that could be way off. First, how do we know there wasn't water, perhaps a considerable amount of water, in the barrel before the rain started falling? How do we know the rain has been falling at a constant rate? How do we know that nobody for some reason could have added tap water to the barrel after the rain had started?

Errors in radioisotope dating are likely for the same reasons. Dr. Austin tells of having rocks from the same area of the Grand Canyon. Using different radioisotope methods, he came up with widely varying dates as to the age of the rocks, from 0.84 billion years to 1.4 billion years. **3** *LSI*

Mount St. Helens Before the Blast

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(Photos from Wikimedia Commons)