Tales from the depths of Howe Caverns …

THE GREAT EARTHQUAKE?

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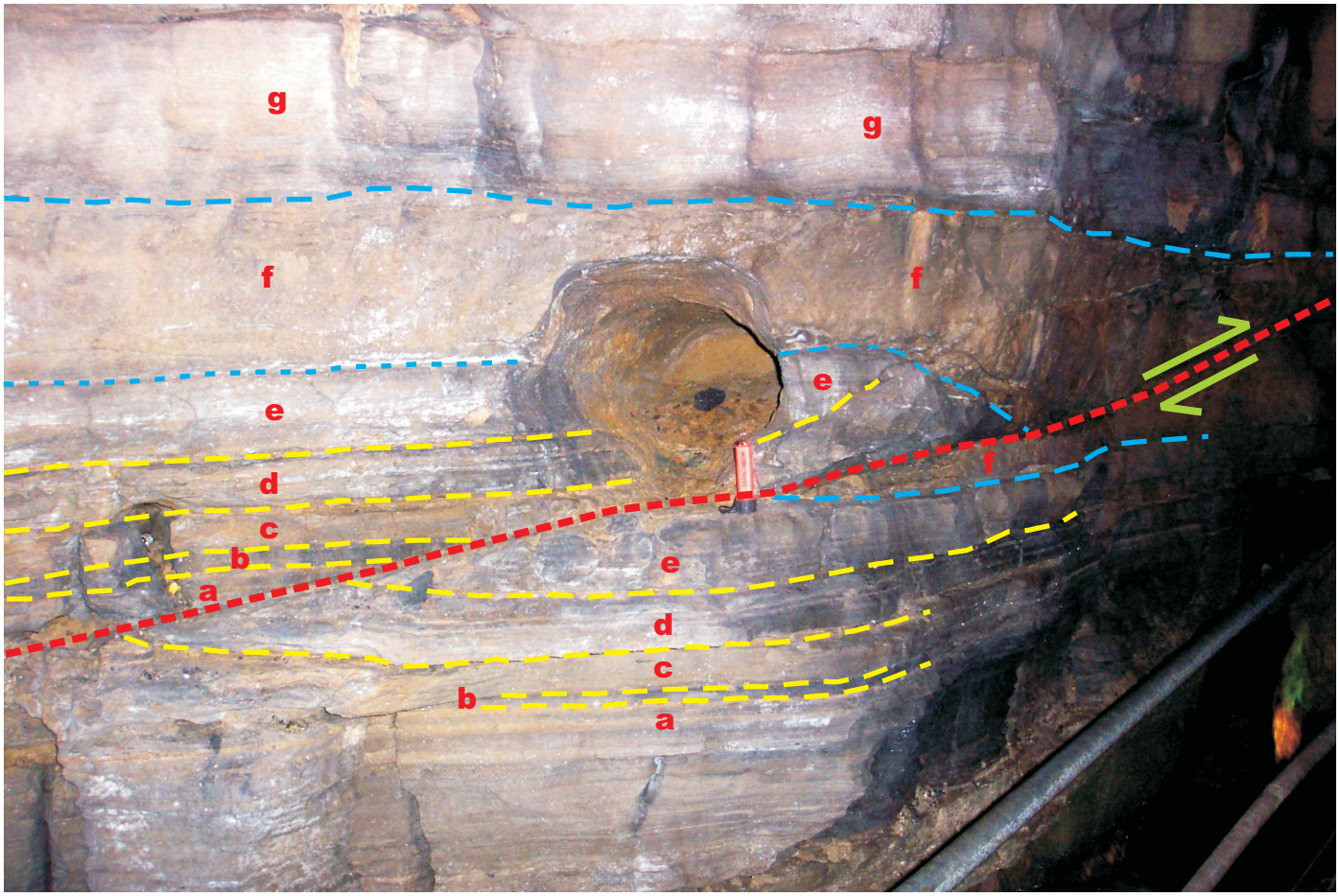

Long, long ago: over 300 million years ago, one of the greatest earthquakes that ever rocked the earth may have occurred throughout the Howe Caverns area. The offset layers of bedrock (beds) revealed in the walls of Howe Caverns show great shearing as seen in the figure above where beds are offset by about two meters. While it is possible that the displacement of beds occurred gradually, it is also possible that faulting occurred in jumps or catastrophically as it does today in geologically similar and active fault zones of the growing Himalayan Mountains. Fortunately for us, the geologic conditions that caused this faulting no longer exist. Later in time, probably between one-half and two million years ago, this fault zone became a preferred pathway groundwater followed as it carved Howe Caverns. Evidence of the fault zone is visible throughout Howe Caverns, including the portion downstream of the Lake of Venus.

Shown above: Thrust fault in the Manlius limestone exposed above the River Styx below the Bridal Altar. The rock layers below the fault (the footwall) have moved southwest relative to those above the fault plane (the hanging wall). The bedrock layers may have moved gradually during the Acadian Orogeny (a mountain building event) between 400 and 380 million years ago or catastrophically resulting in one or more major earthquakes.

Geology & Graphics: Paul Rubin 5-06

HOWE CAVERNS
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