Resurrection of The Flutestone

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In 1979, the cave room containing the Flutestone was discovered when a group of cavers made a brief dunk through a bathtub-sized pool under a low ceiling into virgin cave. The terminal room of the newly-discovered cave contained massive flowstone and a 10.5-foot (3-meter) stalagmite that resembled a giant flute, a narrow totem that was naturally slanted a few degrees.

Within ten years of this discovery, the Flutestone was pushed over by vandals who also broke a number of smaller speleothems in the cave. The totem repair project culminated in the attachment of the final top section. Once again, the Flutestone stood tall at its bizarre angle.

Figure 1. The completed Flutestone repair. Caver Bill Heim (6-feet, 7-inches tall) is standing beside the restored totem.
Ozark Highlands Grotto members were disheartened to find that vandals had made their way into the Flutestone Room and pushed the stalagmite over again. We plan to gate the cave and repair the Flutestone again.

A long, slender stalagmite tumbled into more than 23 pieces. In 2001, members of Ozark Highlands Grotto began a 4-month task of reassembly. First, we carefully carried all retrievable pieces out of the 4,109 foot (1,252 meter) cave.

Using a garden hose, we cleaned the pieces, and then allowed them to dry. In my garage (known as “The Calcite Clinic”), we realigned the pieces like some bizarre three-dimensional jigsaw puzzle. Archived photos of the Flutestone in situ provided instruction for the reconstruction.

Once realigned, we made aligned drill holes and groups of pieces were reattached using 3M® two-part epoxy paste with sections of stainless steel all-thread. After 23 pieces were reattached into five “master pieces”, they were wrapped in plastic bubble wrap, slipped into heavy-duty plastic sacks and loaded into my vehicle.

Meanwhile, we prepared the base where the Flutestone once stood. We drilled a hole through the thin flowstone floor that covered underlying clay. We excavated the clay and filled the void with concrete. We attached the base “master piece” to the floor using an 18-inch (0.5-meter) piece of stainless all-thread and epoxy.

On a subsequent visit, we attached the next “master piece” to the base piece with all-thread and epoxy. It was allowed to set before continuing the reconstruction. In March of 2002, the project culminated in the attachment of the final master piece. Once again, the Flutestone stood tall at its bizarre angle.

Later that year, after the maternal gray bat colony had left the cave, Ozark Highlands Grotto members were disheartened to find that vandals had made their way into the Flutestone Room and pushed the stalagmite over again. We plan to gate the cave and repair the Flutestone again.