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The Association

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The Journal

The Journal of Spelean History (JSH) is the Association’s publication and is mailed to all members. JSH includes articles covering a wide variety of topics relating to man’s use of caves, including historical cave explorations, saltpeter and other mineral extraction, and show cave development. Members are invited to contribute material and to comment on published material. ASHA assumes no responsibility for statements made by contributors.

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Caves and Dragons

Colleen O'Connor Olson

Cave dwelling dragons appear in Asian and European folklore. In Eastern cultures, dragons have good and bad qualities, but in the West they're strictly evil. Here is a short selection of stories.

******

In a cave on a mountain in Borneo, lived a dragon who owned a beautiful giant pearl. The Chinese emperor sent his two sons to steal the pearl. The emperor’s sons and their soldiers arrived at the dragon’s cave. The dragon did not want to give up his pearl, so he killed many soldiers. Not one to give up, the younger son noticed that the dragon left his cave to hunt at the same time each day and thought of a way to take advantage of this. He had his soldiers make a fake pearl. When the dragon stepped out for lunch, the younger son used a giant kite to fly up the mountain to the cave, where he stole the pearl, left the fake, and went back to the ship to sail to China.

Upon returning to the cave, the dragon knew the pearl was fake. Determined to get his real pearl back, the dragon ran down the mountain and into the sea, in pursuit of the Chinese ship.

The younger brother spotted the dragon and had his men fire a red hot cannon ball at it. In spite of not being fooled by the first fake pearl trick, the dragon mistook the cannon ball for his pearl, swallowed it, and sank to the bottom of the sea.

When the brothers got home, the older son took credit for their success, so the emperor gave him the pearl. The younger son was upset that his brother had lied. He left China, went to Borneo, married a Sultan’s beautiful daughter, and lived happily ever after. The older brother missed his brother and was forever sad in spite of his giant pearl.1

******

Another dragon in Borneo was a rich man’s pet. Before going on a long trip, the man stashed his gold, jewels, and other assorted riches in a cave and told his dragon to guard them.

The man traveled many years. When he returned to the cave to get his treasure, the dragon did not recognize him. Obeying the command he had received years earlier, the fire-breathing dragon chased him off.

The rich man hired strong, brave men to conquer the dragon and get the treasure. They all left the cave with third degree burns, but no jewels.

When there were no strong, brave men left to do the job, a scrawny fellow who didn't look like much of a hero offered his services. Out of desperation, the rich man hired him.

But the scrawny fellow understood dragons. He took some roasted swallows to the cave and offered the dragon lunch. This pleased the dragon; the other men had approached him with swords, not food.

After the meal, the fellow suggested the dragon go for a walk outside the cave—get some fresh air, stretch his legs. The dragon did not completely trust him, but the fellow assured him the treasure was safe. While the dragon was gone, the man took the treasure from the cave and returned it to the rich man.

The rich man and everyone else were impressed, but they worried that the dragon might seek revenge by burning up the whole town.
The scrawny fellow went back to the cave. The dragon, displeased about the little fib, was preparing to roast him, when the fellow pointed out he had done the dragon a favor. The dragon had spent years guarding the man’s treasure for no pay, no benefits, and no vacation. With no treasure to guard, he was now a free dragon! The two became friends, the fellow married the rich man’s daughter, and everyone was happy.2

*******

European dragons share their Asian cousins’ fondness for caves. Many years ago, a dragon named Smok lived in a dark, spooky cave on Wawel (pronounced “Vavel”) Hill above the Vistula River in Poland. Smok slept a lot, so he didn’t cause trouble. Some people in the village at the foot of the hill even doubted Smok’s existence. But old men knew the sleeping dragon had evil potential and warned everyone to stay away from the cave to avoid waking him up. Some curious boys who thought themselves much wiser than the old men decided to check out the forbidden cave. The boys were brave and confident as they climbed Wawel Hill, but as they entered the dark cave with only flickering torches, their courage waned. They heard deep breathing much stronger than their own breath, but not wanting to be cowards, they continued. The boys found Smok napping. That was enough, time to run away! A bunch of clamoring boys was not a pleasant way to wake-up, so the dragon awoke angry and chased the boys with breaths of fire (a skill common among dragons).

This incident put Smok in a bad mood, so he began to create havoc by eating cattle, sheep, and small children, which put him in bad graces with the village people.

Getting rid of an angry, fire breathing Polish dragon is not easy. Many men tried to kill Smok but failed; weapons were useless against him.

The villagers sought help from a wise man named Krakus who was skilled at making potions. He mixed a poisonous concoction, coated a sheep with it, carried the sheep to Smok’s cave, and threw it in. The dragon devoured the poison coated sheep. The poison caused terrible heartburn, so Smok charged out of the cave, ran down the hill, and drank half of the Vistula River. What Smok mistook for a bad case of indigestion was more serious; he swelled up and exploded.

The villagers were so thankful to Krakus that they made him their leader and named their town, Krakow, after him.3

*******

Mixnitz, Austria, had a resident dragon that lived in a cave appropriately named Drachenhohle, German for Dragon’s Cave. The dragon ate livestock, making him unpopular with the people of Mixnitz. A farmer offered land and his daughter’s hand in marriage as a reward to whoever could kill the dragon. The farmer’s servant, who was in love with the daughter, took on the job. He buried sharp scythes and sickles in the gully the dragon slithered through to get from his cave to the Wiesen Valley. On a routine lunch trip, the dragon didn’t notice the sharp objects sticking out of the ground and cut his belly to shreds. The dragon screamed and flailed about and dropped dead in the Mixnitz Brook. The dragon slayer became a hero, collected the reward and married the farmer’s daughter.4

In the 1600s, the dragon’s skeleton was found near Mixnitz.5 Paleontologists, who tend not to believe in dragons, said the bones were those of prehistoric cave bears.6 Cave bear bones caused similar confusion at Germany’s Einhornhohle, or Unicorn Cave, where the bones were thought to be those of unicorns.7
In a cave in Brunn, Moravia (now Bruno, Czech Republic) lived a dragon with similar tastes as other dragons; he ate livestock with an occasional child. A brave knight solved the problem by taking a calf skin stuffed with lime (not the fruit, but calcium carbonate) to the dragon’s cave. The dragon voraciously consumed the bait. The meal made the dragon thirsty, so he slithered to the nearest stream to drink. The water-lime combination killed the dragon.8

Saints and priests often fought dragons—symbolic of good versus evil. St. Beatus Cave, near Interlaken, Switzerland, was home to a saint and a dragon, but not at the same time. Born in England or Ireland in the first century A.D., St. Beatus went to Switzerland as a missionary. He and his companion, Justus, met some herdsmen who told them about a troublesome dragon who lived in a cave. Beatus and Justus asked to be taken there. Upon reaching the cave, Justus changed his mind about entering, but Beatus bravely went in to meet the fire breathing dragon. Not discouraged by a few flames, Beatus drew his cross in the name of the Holy Trinity and drove the dragon out of the cave and into nearby Lake Thun. The dragon’s hot breath caused the lake to boil. It still boils today. Beatus moved into the vacant cave and lived there for the rest of his life.9

If you reject the dragon’s breath theory for the boiling lake, here is another explanation. Several springs from surrounding caves run into Lake Thun. Heavy rain increases the amount of spring water, stirring up sediment, hence the appearance of “boiling” water.

Other dragon fighting saints include St. Sampson of Cornwall, England, who coaxed a dragon out of its cave and over a cliff into the sea, and St. Serf, who killed a dragon in a cave called Dragon Hole in Perthshire, England.10

Not all dragon fighting clergyman achieved sainthood. A monk met a dragon at Winlatter Rock in Derbyshire, England. The monk exerted so much power while driving away the dragon that the monk’s footprints were imprinted in stone. The dragon retreated to Blue John Mine (today called Blue John Caverns), where he still warms the Derbyshire springs with his sulfurous breath.11

True dragons have yet to immigrate to the Americas, though they have a cousin in Illinois. The Piasa was a monstrous bird that lived in a cave on a bluff along the Mississippi River near what is now the town of Alton. Along with feathers and giant wings, it had horns, scales, a snake’s tongue, a reptile’s tail, and a scorpion’s stinger (clear signs of dragon ancestry). The Piasa preyed on antelope and deer, but human flesh was its favorite food. In 1836, John Russel claimed he and a guide entered the cave and found that “The floor of this cave throughout its whole extent was a mass of human bones.” Legend says the Piasa was killed by American Indians when their chief, Ouatoga, set himself up as bait for the monster. When the Piasa came in for the kill, the braves killed the dragon-like beast with poisoned arrows. They commemorated their triumph with a drawing of the Piasa on the bluff. The original drawing (if there ever was one) is no longer there, but twentieth century artists put their own Piasa paintings on the bluffs near Alton.12

Sources


The Piasa

It was Jefferson who was chiefly responsible for sending out the famous Lewis and Clark expedition, and the American Philosophical Society was also involved in the origin of this plan and concerned with its execution. This party made the first explicit records of western fossil localities and brought back the first specimens.

Their first discovery was the fossil fish that Harlan (1824, 1835) described as *Saurocephalus lanciformis* [see figure on next page]. He gave its origin as follows: “About sixteen years ago [1808], there was deposited by Lewis and Clark, in the cabinet of the American Philosophical Society, a fossil organic remain of some unknown marine animal. During the expedition of these gentlemen up the river Missouri, in the year 1804, this specimen was found in a cavern situate a few miles south of the river, near a creek named Soldier’s River…. A few miles down the river, at Council Bluff, there are hills of considerable size….”

The specimen and its original label [see front cover of this issue] are now in the Academy of Natural Sciences of Philadelphia, catalogued as No. 5516. The handwriting of the label is not Clark’s but is almost surely Lewis’s. It reads:

No. 9 petrefed [sic] jaw bone of a fish or some other animal found in a cavern (some distance) a few miles distant from the Missouri. (the) S. side of the river—6th of August 1804.

(The words in parentheses have been crossed out in the original.)

Although less explicit than Harlan’s statement, this label is in agreement with it, because August 6 was the date on which the party passed the mouth of Soldier’s River. The finding of the fossil is not mentioned in the journals of the expedition. Soldier’s River is still so called and it flows southward into the Missouri in Iowa, above Council Bluffs. Harlan’s statement and the apparent agreement of Lewis’s label that the fossil was found south of the Missouri near Soldier’s River are confusing, first, because the Missouri is here flowing almost due south and, second, because if either side could be called south of the river it would be the (south-) west side and Soldier’s River is on the other side. A possible explanation is that Lewis meant “starboard side,” *i.e.* east, not “south side,” when he wrote “S. side.” Clark habitually called the right side, oriented by the direction of travel, the “S. side” or “S.S.,” although it is true that Lewis sometimes used “N.” and “S.” for north and south and “L.” and “R.” for left (laborboard) and right (starboard) instead of “L.” and ”S.” respectively. In any case the specimen should be either from what is now Harrison County, Iowa, or from what is now Washington...
County, Nebraska. The specimen, itself, apparently indicates an Upper Cretaceous marine deposit, which is also puzzling because no such deposit is noted in this vicinity on the geologic maps available to me. Its occurrence in a cavern is also somewhat anomalous and can be explained only by occurrence in the wall rock, not in a cave deposit, properly speaking.

*Saurocephalus lanciformis*
STEPHEN BISHOP AT MAMMOTH CAVE
Roger W. Brucker

A Slave Caver

Stephen Bishop (1821-1857) is the most famous commercial cave guide and America’s first systematic cave explorer. He was born on the farm of Lowry Bishop, Glasgow, Kentucky. Taking his surname from his owner, as was common for slaves, he then became the property of Franklin Gorin in settlement of a debt. Gorin, an attorney, represented Lowry in a divorce proceeding wherein Lowry’s wife sued on the grounds of adultery, and obtained a judgment of one-half of Lowry’s property. Lowry paid his attorney with a slave, Stephen.

In 1838 Gorin purchased Mammoth Cave from Hyman Gratz, a saltpeter merchant, for the sum of $5,000. Franklin Gorin was a land agent for William Croghan of Louisville. Gorin moved his family to Mammoth Cave, and set the seventeen-year old Stephen to learn guiding the tourist routes in the cave from holdover guides.

Stephen’s discovery of Gorin’s Dome so pleased his owner that Gorin sent letters describing this discovery to newspapers in America and England. Shortly afterward Stephen and a tourist crossed the Bottomless Pit, only a few hundred feet from Gorin’s Dome. The most frequently repeated legend is that Stephen stretched a cedar ladder across the gulf and the tourist followed. They discovered Pensacola Avenue, Winding Way, Great Relief Hall, and River Hall. River Hall led to several bodies of water, Lake Lethe, River Styx, and Echo River.

To cavers who have seen the Bottomless Pit, few would take such a risk as attempting a direct crossing of the Bottomless Pit. There is a seven-foot wide gap between steeply slanting walls that plunge 110 feet straight down.

Stephen did what modern cavers do, he looked for a way around the Bottomless Pit. Since the Lee map in 1835 showed a likely alternative parallel passage over Covered Pit and Scilla Pit, he probably took his visitor that way. An eight-foot ladder was already present at Gorin’s Dome.

To test this possibility a team of Mammoth Cave guides and Cave Research Foundation personnel, including myself, took two four-foot sections of light weight deer stand ladders into Lovers Retreat. The passage is a low crawlway departing from Black Snake Avenue 200 feet from Bottomless Pit. At Scilla we used the ladder as a handrail for simulated tourists to cross a narrow ledge, as the primary means of safety was a bombproof handhold. A climb upward of about eight feet leads to a 24-inch wide ledge on the side of Bottomless Pit. Cavers can easily traverse the ledge to a climb down into an adjacent pit that is not readily visible. We used the ladder sections to make an eight-foot ladder that helped us scale up a ten-foot free climb that is on the far side of Bottomless Pit. This alternative route is safe for cavers but unsuitable for tourists because of the crawling, climbing, and exposure.

Crossing the Bottomless Pit opened literally miles of walking passages, one reason why Stephen Bishop was able to discover about twenty miles of cave. His breakthrough in Sparks Avenue led to his discovery of the bottom of Mammoth Dome. His climb through a small crawlway from El Ghor led to Mary’s Vineyard, Cleveland Avenue, Sandstone Hall (then known as Croghan Hall), Franklin Avenue, and Marion Avenue. Stephen’s wall autographs record many of his discoveries. A number of these autographs are accompanied by Charlotte Bishop’s name, and
indication that Stephen took her into remote parts of the cave.

Why would Stephen take his slave wife off the tourist routes? I speculate that it was to stage supplies of cottonseed lamp oil for long tourist trips. Pictures of old guides show them carrying a small lamp oil can suspended from a shoulder strap, but its oil would not have been sufficient for a party of five or six on the long tour to Franklin Avenue.

**Bishop's Map of Mammoth Cave**

Stephen Bishop drafted his now-famous map of Mammoth Cave in January, 1842. Stephen drew the map at Locust Grove, John Croghan’s estate in Louisville. The map contains a copy of the Edmund Lee survey of 1835, as is evident by the depiction of Main Cave and its unique bend, “Acute Angle.” To this, Bishop added the twenty miles he discovered and explored as a schematic diagram of passages. This cartographic evidence led me to the conclusion that Stephen was a systematic explorer who built on his knowledge of prior explorations.

After 1843, most of Stephen Bishop’s big discoveries were behind him. His name appears infrequently. It is possible that his spreading fame as a guide restricted his exploration time, although his name appears in small crawlways beneath Cleaveland Avenue and elsewhere.

It is interesting to note that Stephen’s map shows a passage leading northeast off River Hall that was later known as Hanson’s Lost River. It was the route by which the Flint Ridge Cave System was connected to Mammoth Cave in 1972 by a Cave Research Foundation survey team. The route does not appear on the 1908 Kaemper map since the water level had risen about three feet due to the new pool behind the Green River Brownsville Dam, constructed in 1907.

**Origins of the Stephen Bishop Story**

How do we know about Stephen Bishop? Stephen Bishop is known from fragments of fact, accounts both fictional and non-fiction, and from the original source—his autograph smoked or scratched on walls and ceilings of Mammoth Cave and Salts Cave.

I first visited Mammoth Cave in 1937 as an eight-year old and have been exploring Mammoth Cave ever since. I have co-authored four nonfiction books about Mammoth Cave, and have heard about Stephen Bishop most of my 80-year old life. As an explorer and cave mapper myself, I could imagine myself into the man, who, I concluded, was curious, had vision, and worked hard. But none of the accounts of his life captured for me the explorer’s drive to discover, explore, and enjoy the cave.

The first descriptive accounts of Stephen were written by Alexander Clark Bullitt in *Rambles in the Mammoth Cave, During the Year 1844, by A Visiter* (sic.). This guidebook refers to “Stephen” in passing as the intrepid guide and credits him with finding Gorin’s Dome, crossing the Bottomless Pit, and discovering Mammoth Dome and Cleaveland Avenue. He is credited for drawing the tipped-in map of the cave. *Rambles* was published anonymously by Morton & Griswold, Louisville, KY, 1845, in several editions. The book was reprinted by Johnson Reprint Corporation, New York, NY, in 1973, and the second reprint edition was published by Cave Books, St. Louis, MO, in 1985. Cave Books is the publishing and bookselling affiliate of the Cave Research Foundation. The book also may be downloaded from the Internet.

In an “Introduction to the (Second) Reprint Edition” Mammoth Cave historian Harold Meloy identified Alexander Bullitt as the author of *Rambles*. Meloy, the unofficial Historian of Mammoth Cave for many years, wrote comprehensively of how John Croghan, owner of Mammoth Cave after Franklin
Gorin, commissioned the guidebook. Meloy’s twenty-five page historical note details the sequence of explorers, mappers, owners, and famous visitors. He provided the first extensive account of Stephen Bishop and his influence on subsequent publications about Mammoth Cave.


When I wrote the “Historical Appendix” to The Longest Cave, by Roger W. Brucker and Richard A. Watson, Knopf, New York, NY, 1980, the sketch about Stephen Bishop was based largely on Meloy’s work. I made an error in that brief account, stating that widow Charlotte Bishop became the wife of William Garvin, instead of the truth that she became the wife of the widower Nick Bransford. That error has been copied by writers who used the account in The Longest Cave as the source of their articles on Bishop.

In 1983 I sent an outline of the book I intended to write to my literary agent, the late Roberta Pryor. She found slight interest in a novel about Stephen Bishop, and I turned to original research on Stephen by examining carefully the places he discovered and locations where his autograph is found on walls and ceilings in Mammoth Cave and Salts Cave. Accompanying his name sometimes in far reaches of the cave is that of Charlotte Bishop—places that I doubt that regular tours would have ventured. It became clear to me that Charlotte was a sturdy, intrepid caver in her own right to have accompanied Stephen so far into the cave.

Charles Swedlund in 2000 compiled an ongoing database of photographs of historic names found on walls, ceilings, and rocks in Mammoth Cave over a ten-year period of an Earthwatch investigation, which provides a systematic gazetteer of explorer and visitor names, dates, and locations. This valuable research tool helped me learn at least some of the places that Stephen went, sometimes with Charlotte.

By 1990 I had written first drafts of some of the chapters in my novel about Stephen Bishop, but did not pick up the project in earnest until 1999. The problem was how to tell the story. A third-person account of Stephen would not capture the obsession and passion of the cave explorer. I wanted to tell his story in first person, but who would read a book that began, “Let me tell you how I, Stephen Bishop, became the most famous cave explorer in the world…”?

The stimulus was meeting Mark T. Sullivan, successful author of many novels, who was a student in the speleology class which I have taught for more than a score of years for Western Kentucky University at Mammoth Cave. I always ask my students what they want to DO as a result of taking my class. Mark Sullivan said he wanted to write a thrilling cave adventure novel, and hoped to gain insight and experiences to make it realistic. That book, Labyrinth, Atria Books, New York, NY, 2002, drew heavily on his class experience. He let me read his previous novel, The Purification Ceremony, Harper Collins, New York, NY, 1997. In that story the narrator is a Native American woman bow hunter. Astounding, I thought, here’s a man writing from the viewpoint of a remarkable woman!

I realized I could write the novel about Stephen from Charlotte Bishop’s point of view. I asked Sullivan how he approached his story. He said he asked some women authors who told him to show his manuscript to several women—they would tell him if he missed the female perspective. When I was
deep into the writing I told an African American friend that I was writing a novel from the viewpoint of an African American woman slave. He said, “You’ll be lucky to get any one of those three right!”

During the time I was writing and investigating Charlotte Bishop’s sketchy background, I read dozens of slave narratives, novels about slaves, and nonfiction books about slavery. I visited Locust Grove, the homestead of John Croghan and his family in Louisville, KY. I talked with Phil DiBlasi, an archaeologist who had investigated Locust Grove.

In 2004 a children’s novel was published, Journey to the Bottomless Pit: The Story of Stephen Bishop, by Elizabeth Mitchell, Penguin Group, New York, NY, 2004. Ms. Mitchell, a prolific author, had read the few accounts of Stephen Bishop and consulted the interpretive staff at Mammoth Cave National Park. Her third-person account describes an obedient and politically correct little boy who stumbles into discoveries, makes a map, and is rewarded by being given a pretty mulatto girl to marry by his kindly owner.

In 2007 a novel was published for young people, Underground, by Jean Ferris, Farrar, Straus and Giroux, 2007. It is written from Charlotte’s point of view (by a woman author). Ms Ferris, an author of many books, had extensively researched the Underground Railroad that helped slaves escape prior to the Civil War. In a published interview, Ms Ferris said that she invented a plot in which Charlotte and Stephen hide escaping slaves in Mammoth Cave as a way station on the Underground Railroad. Since she was writing a novel, who cared whether it was true or not?

The historic research that Ms Harris performed was on the Underground Railroad, not on Stephen, Charlotte, or Mammoth Cave. She read Elizabeth Mitchell’s book, and may have read the few other accounts that exist about Stephen and Charlotte. Unfortunately, The fictional idea that Stephen Bishop was involved in helping slaves escape appeared in Wikipedia. It is not true that Stephen and Charlotte Bishop or Mammoth Cave had anything to do with the Underground Railroad.

When telling Stephen Bishop’s story, I wanted to tell it from the point of view of a woman who had an obsession of her own. I invented running as her obsession. Charlotte would never have understood Stephen’s obsession otherwise. I equipped her with curiosity and tenacity—the resourcefulness to survive and live a rich and adventurous life under the yoke of slavery. In Grand, Gloomy, and Peculiar: Stephen Bishop at Mammoth Cave (Cave Books, Dayton, OH, 2009), I have attempted to tell the story of real people with real motives and real accomplishments without violating any known facts.

Originally I tried to write in what I imagined to be a slave dialect. According to a few authorities, only Mark Twain could pull off such a feat. Some of the transcribed slave narratives in dialect are simply impossible to read. A friend challenged me on my racist approach to dialogue. Then I read works by Frederick Douglas, a slave with only two years of education, who wrote simply and clearly. Stephen and Charlotte learned to read and write in association with the learned gentry of the time. They interacted daily with educated people. It is not surprising to me now that straightforward writing transcends dialect.
E. D. COPE AND THE EARLY BIOLOGY OF WYANDOTTE CAVE, INDIANA

David Damkaer

Edward Drinker Cope (1840-1897) was America’s foremost herpetologist and a world renowned paleontologist, remembered especially for his vertebrate work. The lower-vertebrate journal *Copeia*, from 1913, is named for him. Fittingly, there is much easily accessible biographical material (e.g., Adler, 1989; Spalding, 1993; Anderson and Pietsch, 1997).

Cope was born into a devout Quaker family in Philadelphia on 28 July 1840. His wealthy merchant father encouraged Cope’s natural history interests, after a good classical elementary education. The proximity of the Academy of Natural Sciences had an acknowledged influence, from his first recalled visit at six years of age. Cope volunteered at the academy by 1859, with his first paper, on the classification of salamanders, published in that year.

From 1860 to 1861, Cope studied with the indomitable Joseph Leidy (1823-1891) at the University of Pennsylvania. During the first half of the Civil War, Cope was an assistant to Spencer Fullerton Baird (1823-1887) at the U.S. National Museum (Smithsonian Institution). Probably to keep him from rashly following the colors, Cope’s pacifist father sent him on a European tour from 1863 to 1864. Cope met many influential persons and spent considerable time at the museums of Berlin, Paris, and Vienna, with their eminent researchers.

Cope returned to the Philadelphia area where he became Professor of Natural Sciences at Haverford College, a liberal-arts school founded by Quakers in 1833. He was also a curator at the Academy of Natural Sciences. He turned mainly to the study of fossils after describing his first paleontological specimen in 1865. Because teaching interfered with his research passions, Cope resigned his position at Haverford after three years. For most of the next twenty years, he was an indefatigable explorer of fossils in western North America. He was the opposing party in the famous “dinosaur wars” with Othniel Charles Marsh (1831-1899) of Yale University. This remains one of the best examples of the worst sort of scientific competition (Penick, 1971).

Cope began exploring American caves in 1864, starting in New York State (Grady, 1987; 1992). His last cave was in Tennessee in 1881.
Cope joined two friends, Packard and Putnam, to explore the Mammoth Cave of Kentucky in August 1871. Many species have evolved in this permanent darkness, including blind crayfish, insects, spiders, and three or four species of fish. After Mammoth Cave, still in August 1871, Cope was asked by the Indiana state geologist to look at the Wyandotte Cave. Cope did what he could in two days of exploration. Wyandotte rivaled Mammoth Cave in beauty and it was a fair rival in size.

Cope (1872) reported his findings in the *American Naturalist*:

The Wyandotte Cave traverses the St. Louis Limestone of the carboniferous formation in Crawford County in southwestern Indiana. I do not know whether its length has ever been accurately determined, but the proprietors say that they have explored its galleries for twenty-two miles, and it is probable that its extent is equal to that of the Mammoth Cave in Kentucky. Numerous galleries which diverge from its known courses in all directions have been left unexplored.

The readers of the *Naturalist* have freshly in their memories the interesting papers of Messrs. Packard and Putnam on the fauna of the Mammoth Cave and related species. The writer accompanied the excursion so pleasantly described in the *Naturalist*, and obtained most of the species there enumerated as well as two or three additional ones. At the request of Prof. E. T. Cox, state Geologist of Indiana, I made an examination of the Wyandotte Cave, so far as two days’ exploration could be called such....

The Wyandotte Cave is as well worthy of popular favor as the Mammoth. It lacks the large bodies of water which diversify the scene in the latter, but is fully equal to it in the beauty of its stalactites and other ornaments of calcite and gypsum.... In one respect the cave is superior to the Mammoth—in its vast rooms, with step-like domes, and often huge stalagmites on central hills....

Visitors will also find on their way thither an American Auerbach’s hotel at Leavenworth, near the steamboat landing. This excellent house is not haunted, like its European predecessor at Leipzig, by either a Mephistophiles or a Faust, but by a landlord (Mr. Humphreys), whose charges are low, and whose wife knows how, in lodgings and table, to satisfy reasonably fastidious persons.

An examination into the life of the cave shows it to have much resemblance to that of the Mammoth. The following is a list of sixteen species of animals which I obtained, and by its side is placed a corresponding list of the species obtained by Mr. Cooke and others at the Mammoth Cave. These number seventeen species. As the Mammoth has been more frequently explored, while two days only were devoted to the Wyandotte, the large number of species obtained in the latter, suggests that it is the richer in life. This I suspect will prove to be the case, as it is situated in a fertile region. Some of the animals were also procured from caves immediately adjoining, which are no doubt connected with the principal one....

The blind fish of the Wyandotte Cave is the same as that of the Mammoth, the *Amblyopsis spelaeus* DeKay. It must have considerable subterranean distribution, as it has undoubtedly been drawn up from four wells in the neighborhood of the cave.... If these *Amblyopses* be not alarmed, they come to the surface to feed, and swim in full sight like white aquatic ghosts....

The blind crawfish...is specifically distinct from that of Mammoth Cave, though nearly related to it. Its spines are everywhere less developed, and the abdominal margins and cheles have different forms. I call it *Orconetes inermis* [now *Orconetes pellicidus* (Tellkampf, 1844)], separating it generically from *Cambarus*, or the true crawfishes, on account of the absence of visual organs. The genus *Orconetes*, then, is established to include the blind crawfishes of the Mammoth and Wyandotte Caves....

Dr. Packard described in his article...an interesting genus of Isopoda allied to the marine form *Idotea*...discovered in a pool in the Mammoth Cave. He called it *Caecidotea*. I obtained a second species [*Caecidotea microcephala*], in a cave adjoining the Wyandotte.... Both species are blind. The new species is pure white.

Cope gave a brief description of a new parasitic copepod *Cauloxenus stygius* at a November 1871 meeting of the Academy of Natural Sciences of Philadelphia, with an expanded discussion in the following July’s *American Naturalist* (Cope, 1972). Up to Cope’s time, these seemingly degenerate parasitic crustaceans were often called “lernaeids”:

The Lernaean, *Cauloxenus stygius* Cope, is a remarkable creature. It is a parasite on the blind fish, precisely as numerous species near of kin, attach themselves to various species of marine fishes. The Wyandotte
species is not so very unlike some of these. It is attached by a pair of altered fore-limbs, which are plunged into the skin of the host and held securely in that position by the barbed or recurved claws. The position selected by the blind fish Lernaean, was the inner edge of the upper lip, where she hung in a position provocative of attempts at mastication on the part of the fish and reminding one of the picture of the man on the ass’ back holding a fork of fodder before the animal’s nose, in illustration of the motto that “persuasion is better than force.” The little creature had an egg pouch suspended on each side, and was no doubt often brought in contact with the air by her host.

This position would not appear to be a favorable one for long life, as the body of the *Cauloxenus* would be at once caught between the teeth of the fish, should its direction be reversed or thrown backwards. The powerful jaw-arms, however, maintained like a steel spring a direction at a strong angle with the axis of the body, which was thrown upwards over the upper lip, the apex of the cephalothorax being between the lips of the fish. This position being retained, it becomes a favorable one for the sustenance of the parasite, which is not a sucker or devourer of its host, but must feed on the substances which are caught by the blind fish, and crushed between its teeth. The fragments and juices expressed into the water must suffice for the small wants of this crustacean.

In spite of Cope’s logical conclusion about the copepod feeding on table scraps, the parasite’s morphology suggests that it is a true parasite of the fish. This 3-mm long copepod is whitish, in keeping with the ghostlike colors of other cave inhabitants.

Cope also found four cave beetles, two of which were blind species. There were a few other beetles as well as a cave cricket and a centipede, all described earlier from other caves. However, in the Wyandotte, there was a new spider, *Erebomaster flavescens* Cope, 1872.

Cope’s relatively short life of fifty-six years ended in financial difficulties, saved primarily by his appointment as Leidy’s successor at the University of Pennsylvania in 1891. Cope’s published papers and books numbered about fourteen hundred, many still standard vertebrate references. Cope died in Philadelphia on 12 April 1897, overworked, over worried, and with neglected health.

NOTES

1. Alpheus Spring Packard (1839-1905) was one of America’s most famous entomologists and zoologists. He became especially interested in the evolution of cave animals. Packard’s (1888) classic monograph on the cave fauna of North America has many large and beautiful plates of cave crustaceans, insects, spiders, and anatomical cross-sections. Frederick Ward Putnam (1839-1915) was first a noted ichthyologist, later turning to archaeology and becoming professor of that subject at Harvard, as well as holding the principal state offices in fisheries. Both Packard and Putnam had been students of Louis Agassiz (1807-1873) at Harvard.

2. Packard, Putnam, and two others founded and edited the *American Naturalist* in March 1867. This popular monthly was first published in Salem, Massachusetts, and then in Philadelphia, with Packard and Cope as editors and Cope as owner. When Packard retired from the venture in 1887, John Sterling Kingsley (1854-1929), Packard’s student, joined Cope. The journal is still published and its volumes record the rise of American natural science.

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*Cauroxenus stygius* in position on the lip of *Amblyopsis spelæus*, enlarged.

Oregon-born and University of Washington perpetual student, David Damkaer worked at the Smithsonian Institution from 1965 to 1973 when he returned to Seattle, retiring in 1995 as a division deputy director for the National Marine Fisheries Service. Since then, he has been writing a 3-volume history of the study of copepods; the first volume, *The Copepodologist’s Cabinet*, was published by the American Philosophical Society in 2002.
TALBOT’S CAVE, MARYLAND: NOTHING BUT A MEMORY

Donald B. Ball

Although relatively few studies of the spelean history of Maryland have appeared in print (notable exceptions being Ball 2007; Speece 2000), it should not be thought that the caves in that state are inconsequential. Clearly exemplifying this contention are intriguing remarks appearing in an unattributed article (Anonymous 1860a; 1860b) entitled “A Legend of Maryland” published in the pages of the July and August 1860 issues of Atlantic Monthly.

Efforts to identify the “Anonymous” author of this intriguing footnote in spelean history proved to be an exercise of discovery in the annals of American literature. Further investigation quickly revealed that the two-part article (Anonymous 1860a; 1860b) published in Atlantic Monthly was neither more nor less than an expanded paper based upon an earlier article which had appeared in the March 1857 issue of the Southern Literary Messenger published in Richmond, Virginia, and attributed to John P. Kennedy (1857). The similarity of numerous passages within the text of these two articles leaves no doubt as to their authorship by John Pendleton Kennedy (Figure 1), a highly respected author and political leader of his era.

John P. Kennedy, the eldest of a family of four sons, was born in Baltimore, Maryland, on October 26, 1796, and subsequently educated at Baltimore College where he graduated in 1812. He was admitted to the Maryland bar in 1816 and admitted to practice before the Supreme Court in 1835. In the course of his public career, he would serve two terms in the Maryland House of Delegates, three terms in the U.S. Congress, and as Secretary of the Navy in the cabinet of President Millard Fillmore. While serving as Secretary of the Navy he was responsible for organizing Commodore Matthew Perry’s historic trip to Japan.

Interspersed with his rising political career, Kennedy was also noted as an up and coming American author. His published works included (but are certainly not limited to) three novels originally published under the pseudonym Mark Littleton (Kennedy 1832; 1835; 1838), various public addresses (e.g., Kennedy 1831; 1833a; 1833b; 1839; 1851), and non-fiction (e.g., Kennedy 1834; 1849; 1856; 1865). The style of his imaginative novels was frequently compared to the works of Washington Irving and James Fenimore Cooper. During the period 1818-1819, he co-edited the satirical magazine Red Book and later wrote political articles for the National Intelligencer. A less appreciated aspect of his influence on the literature of his era was recorded by McAlpine (1886:313) who noted, “In 1833 [Edgar Allan] Poe won two prizes of $100 each for a tale in prose, and for a poem. John P Kennedy, one of the committee who made the award, now gave him means of support, and secured employment for him as editor of the Southern Literary Messenger at Richmond.” He would remain a dedicated friend of Poe throughout the balance of his troubled life and often provided financial
with biographical information in mind, we may proceed with reviewing the saga of George Talbot, a relative of Lord Baltimore, as it relates to a lesser known and certainly obscure footnote in the spelean history of Maryland. As recounted by John P. Kennedy (Anonymous 1860a:30-31):

It is now many years ago,— long before I had reached manhood,— that, through my intimacy with a friend, then venerable for his years and most attractive to me by his store of historical knowledge, I became acquainted with a tradition touching a strange incident that had reference to a mysterious person connected with a locality on the Susquehanna River near Havre de Grace. In that day the tradition was repeated by a few of the oldest inhabitants who dwelt in the region. I dare say it has now entirely run out of all remembrance amongst their descendants, and that I am, perhaps, the only individual in the State who has preserved any traces of the facts to which I allude.

There was, until not long ago, a notable cavern at the foot of a rocky cliff about a mile below the town of Port Deposit. It was of small compass, yet sufficiently spacious to furnish some rude shelter against the weather to one who might seek refuge within its solitary chamber. It opened upon the river just where a small brook comes brattling down the bank, along the base of a hill of some magnitude that yet retains the stately name of Mount Ararat. The visitor of this cavern might approach it by a boat from the river, or by a rugged path along the margin of the brook and across the ledges of the rock. This rough shelter went by the name of Talbot's Cave down to a very recent period, and would still go by that name, if it were yet in existence. But it happened, not many years since, that Port Deposit was awakened to a sudden notion of the value of the granite of the cliff, and, as commerce is a most ruthless contemner [sic] of all romance, and never hesitates between a speculation of profit and a speculation of history, Talbot's Cave soon began to figure conspicuously in the Price Current, and in a very little while disappeared, like a witch from the stage, in blasts of sulphur fire and rumbling thunder, under the management of those effective scene-shifters, the quarrymen. A government contract, more potent than the necromancy of the famed wizard Michael Scott, lifted this massive rock from its base, and, flying with it full two hundred miles, buried it fathoms below the surface of the Atlantic, at the Rip Raps, near Hampton Roads; and thus it happens that I cannot vouch the ocular proof of the Cave to certify the legend I am about to relate.

The tradition attached to this spot had [pg. 31] nothing but a misty and spectral outline. It was indefinite in the date, uncertain as to persons, mysterious as to the event,—just such a tradition as to whet the edge of one's curiosity and to leave it hopeless of gratification. I may relate it in a few words.

Once upon a time, somewhere between one and two hundred years ago, there was a man by the name of Talbot, a kinsman of Lord Baltimore, who had committed some crime, for which he fled and became an outlaw and was pursued by the authorities of the Province. To escape these, he took refuge in the wilderness on the Susquehanna, where he found this cave, and used it for concealment and defence [sic] for some time,—how long, the tradition does not say. This region was then inhabited by a fierce tribe of Indians, who are described on Captain John Smith's map as the “Sasquesahannocks,” and who were friendly to the outlaw and supplied him with provisions. To these details was added another, which threw an additional interest over the story,—that Talbot had a pair of beautiful English hawks, such as were most prized in the sport of falconry, and that these were the companions of his exile, and were trained by him to pursue and strike the wild duck that abounded, then as now, on this part of the river; and he thus found amusement to beguile his solitude, as well as sustenance in a luxurious article of food, which is yet the pride of gastronomic science, and the envy of bons vivants throughout this continent.

This is a summary of the story, as it was told to me. No inquiry brought me any addition to these morsels of narrative. Who this Talbot was,—what was his
crime,—how long he lived in this cave, and at what era,—were questions upon which the oracle of my tradition was dumb...

Kennedy (Anonymous 1860a:32, 35-36) continues with his study of the events which led to the cave reputedly being used as a “hideaway” and discovers that Colonel George Talbot had murdered one Christopher Rousby, collector of taxes for the British Crown, aboard a Royal naval vessel on October 31, 1684. Previous to this event, Talbot—a cousin of Lord Baltimore—had been appointed to serve as one of nine Deputy or Lieutenant Governors and was a man of no small power and influence in the affairs of the colony. For present purposes, it is sufficient to note that personal and political differences between the two erupted into open hostility with Rousby decidedly being the loser in the ensuing fray. The captain of the vessel (and a friend of Rousby) made a decision to transport Talbot out of Maryland waters and surrender him to Crown officials in Virginia. The following February, powerful friends of Talbot subsequently succeeded in arranging for his escape from a Virginia prison and safe return to his home in Maryland. While technically wanted for murder, little effort was made to apprehend him although Talbot voluntarily surrendered to Maryland authorities on or about April 25, 1685. While it is known that the authorities in Maryland proposed to send Talbot to England to stand trial Crown officials opted to have him returned to Virginia where “...he was tried and convicted ...on the 22d of April, 1686, and, on the 26th of the same month, reprieved by order of the King; after which we may presume he received a full pardon...” (Anonymous 1860b:151). Kennedy (Anonymous 1860b:151) concludes his narrative with the observation that:

And so I have traced the tradition of the Cave to the end. What I have been able to certify furnishes the means of a shrewd estimate of the average amount of truth which popular traditions generally contain. There is always a fact at the bottom, lying under a superstructure of fiction,— truth enough to make the pursuit worth following. Talbot did not live in the Cave, but fled there occasionally for concealment. He had no hawks with him, but bred them in his own mews on the Elk River. The birds seen in after times were some of this stock, and not the solitary pair they were supposed to be. ...But let us not be too critical on the tradition, which has led us into a quest through which I have been able to supply what I hope will be found to be a pleasant insight into that little world of action and passion,—with its people, its pursuits, and its gossips,—that, more than one hundred and seventy years ago, inhabited the beautiful banks of St. Mary’s River, and wove the web of our early Maryland history.

As students of spelean history, we should legitimately be indebted to the efforts of an author of Kennedy’s caliber for so vividly preserving a footnote in history which would otherwise have been irretrievably lost. We may only wonder how many other comparable fragments of spelean history are yet to be discovered in little examined documentary sources.

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Mapleton Cave, also known as Mapleton Depot Cave and Mapleton Quarry Cave, is located on the north bank of the Juniata River, close to the north end of the bridge at Mapleton Depot, Brady Township, Huntingdon County, Pennsylvania. The Tonoloway member of the Helderberg limestone is exposed in a sizable quarry. One of the blasts designed to bring down a considerable quantity of stone on the face of this quarry blew in, instead of out, and so disclosed a good-sized cave in back of, and partly below the level of the then existing quarry floor. It was explored and beautiful rock formations were discovered along with streams of clear icy water and deep chasms of unknown depths. Although this cave had interesting possibilities and was directly on the main highway, it was opened to the public for only a short time. The quarry operator was more interested in production of crushed limestone than in the commercialization of the cave. Other blasts are believed by some to have broken the walls and roof of the cave. The part adjacent to the quarry is now filled with broken stone. Several small caves exist on the ends of the quarry walls.

There is an old stone furnace lined with refractories along Route 655 just northwest of the Mapleton Bridge. This is most likely the lime kiln, however some have referred to it as an iron furnace. Although Pomeroy's 1873 map does not indicate the limestone quarry, it does show several sand quarries and iron ore mines in Hares Valley.

Leading up to the quarry, behind the lime kiln, is an old road. The quarry is about 40 feet above the highway and is totally overgrown. A small spring and a short crawlway exist south of the quarry at the level of the highway. This has been designated as Mapleton Spring Cave. A second spring nearby once fed a trout pond. These resurgences flowed into the old Pennsylvania Canal.

Mapleton lies in the western shadow of Jack's Narrows, named after "Captain Jack" (others say it was John "Jack" Armstrong who was murdered nearby). Jack was one of the first settlers in Aughwick valley, about 1750. He lived with his wife and two children near a beautiful spring. After returning from a hunting trip he found his cabin had been burned and family killed. He spent the remainder of his days devoted to the destruction of the savages. His fame spread far and wide and he was referred to as the "Wild Hunter of the Juniata." Afterwards, the Native Americans avoided traveling in the area.

When the railroad was built through Huntingdon County, PA, in 1851, the Mapleton Station was established on the property of M.F. Campbell and Col. John Donaldson. However, it wasn't until after 1860 that a community grew around the station just south of the Juniata River. It served as a depot for the shipment of bark, timber, and sand. By 1880 the population had grown to about 450. A number of sand quarries were started as early as 1852 providing high quality rock to glass factories in Pittsburgh, West Virginia, and Ohio. It was also used as building stone and "engine sand." The Pennsylvania Glass Sand Company
consolidated most of these operations in 1902. Early county histories such as Lytle's and Africa's do not mention a limestone quarry.

Just west of Mapleton is a narrow band of Keyser and Tonoloway formations lying beside an equally narrow band of Helderberg limestone, which runs north and south along Clear Ridge. An outcrop of high quality (low iron content) Oriskany sandstone lies along the west side of Jack's Mountain, which parallels Clear Ridge along Hares Valley. At the top of the mountain is the Tuscarora ganister rock used in the production of silica bricks (heat resistant refractories) that are produced by Harbison-Walker in Mount Union. In 1936 the "Thousand Steps" were built by quarrymen to assist the employees in their mile long daily commute up to Ledge Quarry.

A. W. Swope, versatile businessman, became interested in stone quarrying in the 1870's. He set up a crusher and built a plant east of town. There he produced railroad ballast and building stone from ganister rock, employing 20 men. Later he founded the Mapleton Limestone Company, located just north of the river. The quarry was next operated by his son, I. N. Swope. W. B. Simpson then operated the quarry for a while and employed as many as fifty men. George Barr was the last known operator of the lime kiln during the late 1930's. The New Enterprise Limestone Company became an owner in the 1950's, but they closed the operation to avoid any competition in the area.

Mapleton Cave is well known by the older generation of the Mapleton area. Roy Corbin remembers (about 1915) a wooden partition and door just inside that the quarry owners had installed and would charge ten cents to go through. After it was first discovered in 1900, L. C. Morganroth, in the Engineering and Mining Journal, described it as follows:

A cave of considerable extent has been discovered in the limestone quarry near the town of Mapleton, Huntingdon County, Pa. The existence of the cave was entirely unsuspected and its discovery was accidental. The workman had prepared a rather heavy blast to bring down an overhanging ledge, but the explosion did little, if any execution. The reason was soon disclosed in the discovery of a small hole in the face of the cliff in the vicinity of where the shot had been placed. This hole had been broken through a thin strata of rock and the force of the explosion had spent itself in the cave beyond, which was found on examination to be of considerable extent and depth. A small tunnel was then driven into the face of the cliff and the level, and after driving 6 to 8 feet, the cave was struck.

The general direction of the cave is northeast and southwest. The tunnel into it is near one end, and the cave extends 1500 feet southwest and probably 300 to 400 feet in the other direction. The latter portion has not yet been explored, as fallen rock and other debris have blocked it up. It cannot be very extensive, though, as the mountain terminates rather abruptly in this direction. The cave possesses some very beautiful and an unusually large number of stalactites and stalagmites. The owners of the quarry on the discovery of the cave took prompt measures to prevent vandals from destroying the formations.

A spring of water bubbles up at the face of the cave and impartially flows in two directions. One current disappears under the rock at the opposite side of the cave, while the other current flows toward the mouth, soon to disappear, however, in one of the many cracks that seam the floor of the cave. A spring of water on the surface and near the old Pennsylvania Canal is evidently fed by part of the stream, while the major portion finds its way no doubt to the Juniata River, which skirts the cave to the north. Several sinkholes in a field to the east show how part of the water gains admittance and accounts for the rapidity with which the water in the cave rises during a storm. The floor is covered in many places by a fine, yellow silt, nearly as
hard as shale with similar stratifications. Earthy matter is carried by the inflowing water, to be deposited where pools are found or the current sluggish, and slowly to be transformed through long periods of time into a delicate banded sandstone.

The limestone formation in which this cave is found belongs to the Lewistown formation (No. VI Lesley) and is on the east side of Jack's Mountain anticlinal; the formations here are excessively steep, almost vertical; the limestone is close upon 100 feet thick and is distinctly separated into beds of 10 or 12 different varieties. The cave occupies one of these beds and is about 12 feet wide. So regularly does it preserve this width and so straight is it that it gives one the impression of a tunnel.

The Fall 1995 issue of *Common Ground Magazine* reprinted a November 13, 1895, article (five years before the 1900 discovery), stating:

(The) bones of some mammoth animal have been found near the mouth of the cave at Swope & Gayton's limestone quarry... (A) jawbone was found in which there were two teeth. The crown of one of these measured 1-1/4 inches wide and 1-3/4 inches long and the roots were over three inches in length.

A newspaper article in 1905 stated:

The land upon which the cave at Mapleton stands has been leased for quarrying purposes and steps taken to form a corporation called the Pennsylvania Limestone and Construction Company of Mapleton, with a capital of $45,000. The incorporators will be I.N. Swope and W.C. Gayton, Mapleton; J.W. Kauffman, Huntingdon; Geo. M. Houtzman, Dr. A.T. Walter, J.H. Potteiger, J.C. Kirk and Geo. Salther, Harrisburg. Over six million gross tons of stone are now in sight and surface quarrying has only been done. It is expected that operations will begin about the middle of April at which time 40 men will be employed and a greater number later.

Pennsylvania's State Geologist, Ralph W. Stone, records the cave in both the 1930 and 1932 Survey Bulletins using L. C. Morganroth as a reference. The cave is given a brief mention in the 1953 Bulletin with B. Smeltzer and W. White describing several small caves in the quarry and using the name Mapleton Depot Cave. Cullinan & Speece used existing descriptions in their 1978 Bulletin, *Caves of Huntingdon County, Pennsylvania*.

Bernard Smeltzer and William White reported in 1953 that the quarry was worked in two sections. A small opening at the northeast end is believed to be the upper extremity of the former cave. The left side of the ridge 500 feet southwest contains a small cave that can be entered for 30 feet. The passage has some small stalactites that seem to have grown since quarry operations ceased; also some older flowstone. At the southwest end of the quarry, high on the bank, is a room ten feet long and five feet square. The dripstone deposit below it contains bead speleothems or globules. These openings in a straight line are believed by some to be all that is left of Mapleton Cave.

In 1977, Mike Cullinan spoke with the former owner and several of the men who worked the quarry, including Joseph Cullinan (his father), during the 1930's and found that all agreed—when quarrying operations ceased, little of the cave had been destroyed. It is simply covered by the talus slope at the foot of the highwall in the larger portion of the quarry. There is no way of knowing just how much rock is blocking the entrance, and only heavy equipment would be effective in uncovering the site. In the early 1980's Garrett Czmor conducted interviews with men such as Robert Simpson, George Young, and Ralph Parks but could not determine if it was destroyed or just buried under the talus slope. The quarry had been operated into the early 1950's, which may have caused some changes.
During the 1980's, Garrett Czmor along with others did considerable digging in the existing two caves that are ten to fifteen feet above the quarry floor. Again, they could not make any conclusion as to the existence of the original Mapleton Cave. There is much more that can be dug.

Two picture postcards of the beautiful formations in the cave have been found, both produced by Edwards Post Card Company, Huntingdon, PA. One of them has been reproduced below. Postmarks indicate that they were produced shortly after its discovery. A. Newton Parker published a picture in the 1966 Mapleton Centennial booklet, showing some formations and floor planks from its commercialization. Dean Snyder has located an interesting card of "Mapleton Quarry" from the same time period of a quarry and its workers. However, due to the rock strata this is probably from one of the nearby sandstone quarries or the Harbison-Walker quarry on the top of Jack's mountain. The tracks on the quarry floor indicate a much larger operation than that of the limestone quarry. Bryan Donaldson's picture of the "Simpson Limestone Quarry" shows the operation during the 1930's.

No date has been found for when the quarry was started, however, it was probably opened for the nearby Matilda Furnace that was put into blast in 1787.
After 120 years the following features can still be seen:

Cave #2: Located in the left wall of the quarry about 12 feet above the floor. The entrance is about six-foot high by four foot wide. Total length is about 30 feet and ends in a clay plug.

Cave #3: Located in the right wall of the quarry, across from Cave #2 with an entrance of only several feet in diameter. The crawlway extends about 15 feet.

Cave #4: This was a blast test hole for inner rock samples and is about 15 feet long.

Cave #5: This is a 10 foot deep crevice opening.

In every interview, one point stood out: formations! Mapleton Quarry Cave is supposed to be loaded. Also, toward the back of the explored portion is a stream deep enough to require wading to cross. The cave, according to most people interviewed, drops below the quarry floor. Is it still there or have recent quarry operations destroyed its existence?

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PLEASE TAKE ME CAVING: RUSSELL TRALL NEVILLE MEETS FLOYD COLLINS

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In 1922, attorney Russell T. Neville of Kewanee, Illinois, and his daughter Julia traveled to Mammoth Cave, Kentucky. Neville, an accomplished amateur photographer, arrived with several greetings and references from Kewanee residents who used to live near the cave, including Andy Lee Collins, younger brother of Floyd. The Nevilles were disappointed at Mammoth Cave, finding the tour dull and the accommodations unremarkable. They next went to Crystal Cave, hoping to take photos inside the cave. Despite their differences, Floyd Collins and Russell Neville soon became friends. Over the next two summers, Collins took the Nevilles into other caves in the Mammoth Cave area.

During Floyd's entrapment in Sand Cave, Neville remained in Kewanee. He presented slides of Floyd and the cave area at the local theater. In July, 1925, the Nevilles visited Sand Cave, where they took several photos. Russell and Julia descended the rescue shaft with cave owner Bee Doyle to examine the spot where Floyd was trapped.

Neville continued to take visit cave for the next twenty-five years, and conducted lectures across the country that he called, "In the Cellars of the World." When he died suddenly in 1950, he had taken thousands of cave photos and presented 2,600 lectures. However, without the kind assistance of Floyd Collins, he never would have become "The Cave Man of Kewanee."

HISTORY OF THE OWNERSHIP OF SAUTA CAVE

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The history of ownership and use of Sauta Cave (AL 50) spans more than 200 years. Until 1819, Sauta Cave was on the land of the Cherokees. Their Sauta Town or Village was near the lower cave entrance. In 1804 the Cherokee Council of Chiefs gave permission to a Colonel Ore to mine saltpeter in the cave and make gunpowder. During the War of 1812, a Cherokee, Richard Riley, operated a major saltpeter production. As a result of the 1819 US and Cherokee Treaty, Arthur Burns, by virtue of his Cherokee wife, was awarded a 640-acre reservation surrounding the cave. When he died, his heirs inherited the reservation. In 1837, they sold the reservation to Jesse French, whose sons, Jeremiah and Henry, later inherited it. Via leases, they allowed several operators to achieve a very extensive saltpeter production during the Civil War. Later, the cave ownership passed through a sequence of corporations: Southern Guano and Nitre Co (DE), Southern Guano Co (DE), American Mining and Chemical Co (AL), and Alabama Chemical Co (AL). A subsequent private owner, J. L. Mathews, attempted tourist commercialization and installed electric lights. The last private owner, Harry E. Hoover, also had dreams of a show cave. Ultimately, in 1978, the cave property was acquired, through condemnation, by the U.S. Fish and Wildlife Service. The Service has created the Sauta Cave Wildlife Preserve to protect the large endangered bat population in the cave.
SOLVING THE MYSTERY OF THE GREAT CAVE OF DRY FORK OF CHEAT RIVER

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In 1855, a Prof. George Jordan published a pamphlet entitled, “The Great Cave of Dry Fork of Cheat River”. Based on location information in the pamphlet, the cave in question appeared to be what is now called the Cave Hollow-Arbogast Cave System, in Tucker County, WV. When it was printed, the pamphlet was immediately controversial, because beyond the first few hundred feet, Jordan's description was not at all like the passage in the Cave Hollow System. Through the years, there have been two primary explanations for the discrepancy. Either Jordan greatly embellished his descriptions of Cave Hollow-Arbogast and fabricated features that weren't there, or he was describing some other cave.

The truth about Jordan's pamphlet remained unresolved for 155 years, until a serendipitous Google search turned up evidence suggesting that Jordan had plagiarized an article in an 1851 issue of “The Knickerbocker.” Using that article as a starting point, and searching through other 19th century sources, accumulated evidence strongly suggests that Jordan more or less accurately described the entrance and first few hundred feet of the Cave Hollow-Arbogast System, but that the rest of the "Great Cave" is a actually a thinly-disguised description of Howe's Cave in Schoharie County, New York.

BILLY ALTON GARRISON, CAVER AND ART SCHOLAR

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Billy Alton Garrison, caver and art scholar, was born in Russellville, Alabama, on February 9, 1941, and moved to Huntsville in 1957. In Huntsville he became interested in caving, and joined the NSS on April 11, 1959. By March 1960 he had published two articles in the NSS NEWS and others in the Huntsville Grotto Newsletter. However, in March 1960, he left for a tour of duty in the US Army, after which returned to Huntsville. In Huntsville, Bill again began caving with gusto. His home became a meeting place for his many caver friends and caving visitors. But he also developed an intense interest in the art of Vincent van Gogh, and started collecting all the books on van Gogh that he could find. Eventually his obsession for the works of van Gogh crowded out his caving activities. He became a world authority on van Gogh and produced a comprehensive bibliography of publications by and on van Gogh. On July 2, 2009, Bill Garrison died in Anderson, South Carolina. His daughter, Utica Garrison Crouch, donated his extensive book collection and the van Gogh bibliography to the Archives at the Salmon Library of the University of Alabama-Huntsville.

GEORGE EHRENFRID AND THE BOSTON GROTTO

George Ehrenfried (NSS 2099) died in January 2010 at the age of 95. George helped found the Boston Grotto in 1952 as a splinter group of the MIT Outing Club, and provided an essential thread of continuity all the way to the present.
When he visited a Met Grotto booth at an outdoor activities conference in 1951, George was already an experienced outdoorsman and amateur geologist. George's giving and intrepid spirit helped overcome the perennial issues of maintaining a grotto in a cave-poor area: long travel times, high turnover, low recruitment rate, experience retention, and personal conflicts. His wide and deep knowledge of the natural and human history of the region made him a valuable resource and welcome companion in hundreds of outings near and far. He encouraged, and contributed to, every aspect of grotto activities, both of local and national interest. In the early days, he contributed to exploration and vertical techniques. In the middle years, he met the love of his life, Joanne Roberts, at a Grotto meeting, and developed a lifelong love of the geology and caves of Iceland. In later years, he loved to lead grotto trips to his favorite caves, climbs, hikes, geologic formations, and cultural events and artifacts. He put his chemistry degree (Harvard, 1936), to good use with a lifetime of contributions to the science, industry, and practice of photography. On behalf of NSS, he helped with the 1996 SpeleoDigest and the 2002 Convention Guidebook, but his biggest contribution was introducing hundreds of people to caving and respect for the outdoors.

MAPLETON CAVE, HUNTINGDON COUNTY, PENNSYLVANIA

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Mapleton Cave, Huntingdon County, Pennsylvania, was discovered during quarry operations in 1901. This 1,500 foot long, straight tunnel cavity was reported to have many splendid formations. A single picture postcard verifies this claim. Several early written accounts also describe the cave. Some have reported that the cave is buried under a talus slope while others say it was quarried away. The cave still lives in the minds of many of the local residents. What remains of the cave still remains a mystery.

“THE TUNNEL” AND OTHER MYSTERIES FROM CAVE HILL, AUGUSTA COUNTY, VIRGINIA: GEMS FROM A SHORT-LIVED LOCAL NEWSPAPER

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Weyers Cave, now known as Grand Caverns, is the oldest continuously operating show cave in the United States and its history is inextricably tied to that of the town that was built around it, Shendun (now Grottoes), Virginia. Shendun was a boom town of the post-Civil War recovery days. Founded by Stonewall Jackson's mapmaker, Maj. Jedediah Hotchkiss, it rose meteorically out of nowhere and quickly flamed out only three years later. Maj. Hotchkiss founded a newspaper in town, the \textit{Shendun News}, which was outfitted with the newest and finest printing equipment available anywhere in the Shenandoah Valley. More of a propaganda organ for the town than an unbiased newspaper, it still contains numerous tidbits about the caves and karst features of Cave Hill, home to Grand Caverns, Fountain Cave, Madison's Cave, and some twenty others. One of the biggest mysteries of Cave Hill was a report of a tunnel being dug to connect Fountain and Weyers Caves. Tidbits from the \textit{Shendun News} shine a little light on this mystery, and even open up a few more.
Stephen Bishop (1821-1857), a slave born in Glasgow, KY, on the Lowry farm, was tendered in trade for legal services to attorney Franklin Gorin. In 1838 Gorin purchase Mammoth Cave for $5,000 from saltpeter merchant Hyman Gratz. Gorin and his slaves moved to Mammoth Cave and immediately improved the property by renovating the hotel and continuing the cave touring business. Stephen, 17, learned the tour routes and spiel. He indulged his curiosity by exploring when the tour business was slack. His first discovery, Gorin’s Dome, was widely acclaimed in Gorin’s articles sent to newspapers. Stephen and a tourist crossed the Bottomless Pit, opening Pensacola Avenue, River Styx, and Echo River. John Croghan purchased the cave and its slaves. Stephen ranged beyond Echo River into Sillimans Avenue and upward into Cleveland Avenue and Franklin Avenue. In 1842 he drafted a map, published in 1844, showing in schematic fashion the 20 or more miles of cave he had discovered plus the eight miles known before Stephen arrived. Stephen will be remembered as the prototype of modern systematic cave explorers, the prototype of modern guiding that combines science with entertainment, and the economic engine that put Mammoth Cave on the map of American natural wonders. Stephen’s wife, Charlotte, accompanied Stephen into some remote parts of the cave, as witnessed by her autographs far beyond tourist routes.
The clipping below is from the Minneapolis Journal, May 4, 1901. Perhaps a first in the annals of arachnology, the “monster spiders” are portrayed as affectionate, rather than malevolent—it’s not clear that they can be blamed for the death of the man whose skeleton was found in the spider’s cave.
In the first half of the 19th century American millers were considered to be the most advanced in the world having built many mills using the ideas of the American inventor Oliver Evans. These mills were the first example of an automated production system which produced superfine long-lasting flour that was the envy of all flour producing countries.

In the 1820s the Kingdom of Prussia, a forerunner of the present state of Germany, sent two young graduates of the Berlin Industrial Institute to America to act as industrial spies. Their task was not only to learn all about American milling technology but to work in American mills to learn how to use this technology in practice.

In October 1827 Friedrich Wulff and Carl Friedrich Ganzel arrived in New York aboard the packet ship Cadmus. Initially they visited mills in the states of New York and New Jersey but were unable to find work as millers. They then travelled to Philadelphia, Baltimore, and Washington without finding employment so they decided to separate to improve their chances. Wulff went westwards to Pittsburgh and Cincinnati, returning via Buffalo and Rochester to Albany. Ganzel went south to Fredericksburg and Richmond. Returning from Richmond via Staunton and Winchester, he called at the caverns known as Weyer’s Cave which had been discovered in 1806. He was so impressed with these caves that he included a description of them in his official report on his journey to the Prussian authorities, excerpted below. After this visit Ganzel found employment in mills in Shepherdstown and Baltimore before meeting up again with Wulff in March 1829 at Albany, from where they made a tour of the industrial districts of New England before leaving New York for Europe on 1st May, after 18 months in the United States.

On the way from Staunton to Winchester lies the famous cavern, known as Weyer’s Cave, which was discovered in 1806 by a certain man named Weyer. The low and narrow entrance to this cave is some 80 feet above the surface of the stream that flows on the mountain, so that it can only be reached with great effort. One enters first into the so-called Dragon’s Chamber in which numerous stalactites, folds, etc. were formed by water seeping through the rocks. The stalactites have various colours, and the thin stalactites and layers are transparent. Most remarkable in this grotto is the massive gallery with a dome-like ceiling decorated with an endless array of suspended stalactites of different lengths and thicknesses which reflect the light’s rays in a
large variety of ways. From here one passes through a narrow passage, climbs down a ladder several steps, and enters the so-called Solomon’s Temple, a grotto whose beauty is indescribable, due to the variety of its formations and the clarity of its stalactites. Immediately next to the entrance is a formal chair with a royal canopy, which, therefore, is known as Solomon’s Throne. On the right is a stalactite in the form of a waterfall, and on the left is a pillar of immense height and thickness. The ceiling is a vault of myriad stalactites. From this grotto, one descends by another ladder into a long, rocky and uneven passage that leads into the so-called Drum Chamber in which several huge folds hang from the ceiling to the floor, which, if one taps them with a stone, produce a dull, haunting tone. In the same room are lots of stalactites of varying lengths hanging one next to the other which are called the Piano. From here one climbs over a boulder and enters the so called Ballroom, 90 feet long and 30 feet wide, whose floor is flat, made of solid clay and is completely dry. At the end of this room stands a 4 feet high column, a stalagmite 10 inches in diameter, called the Torch, and opposite this is a chair for 2 persons. Then through a side wall one passes by a crooked path shaped by hanging folds into a small room called the Dressing Room, and out of the other side wall juts a platform 8 feet long and 4 feet high, which can be used as a table. Balls are often actually held in this hall, and a guide, the owner of the whole mountain, intends to hold a dance in October 1828 in the grotto lit by 1400 torches. From here one climbs over another boulder, goes through a very narrow, low passage, and climbs down a ladder into the so-called Senate Chamber, which is especially noteworthy because of its broad, unsupported projecting gallery with a dome of innumerable stalactites. Then one goes into the Washington’s Hall, which is 290 feet long, 50 feet wide, 60, and in some places 80, feet high, in the middle of which stands a pillar that from a distance looks like a marble statue. At the end of this hall is a small grotto called the Guest Room, because it contains a spring of amazingly clear water. From this room one goes through another called the Diamond Chamber, because of the quantity of crystals in the walls that reflect the light, then into the so-called Jefferson’s Hall, in which there is a stalactite pillar of immense thickness and height; further there is a very wide, unsupported projecting gallery, in the ceiling of which is a crystal that is shaped like a half moon and when one holds a candle so that only a dim light falls on the roof there are many stars around it. Then one sees a group of beautiful white stalactite masses formed in various shapes, partly waterfalls, robes, creases, curved surfaces, etc. The end of this grotto is 1500 feet from the main entrance, and it is the last one that has been explored, although there are numerous others known to exist. The air is absolutely pure in each room, the lamps burn evenly with brilliant clarity; in some other grottos impure air has been encountered. The temperature in this cave is constant at 56 degrees Fahrenheit.

**BOOK REVIEWS**


In this fascinating tale of adventure and passion in caving, Gary Roberson offers a comprehensive account of a half-century of exploration in Indiana's longest cave system: Binkleys Cave. Making use of historical records, trip reports, survey data, detailed interviews with longtime Indiana cavers, and a host of archived photographs, Roberson has produced an invaluable historical record of Indiana caving. But this book is about far more than just the arduous exploration of a grand cave system. It is also a detailed look at some of the many people who have played a vital role in helping to unlock this cave's myriad secrets.

Roberson recounts the story of a handful of young caving enthusiasts who banded together in 1967 to form the Indiana Speleological Survey (ISS) and take up the mantle of serious exploration and mapping in Binkleys Cave, a project which had been started a decade earlier by members of the newly formed Bloomington Indiana Grotto. As one of the founding members of the nascent ISS and an ardent caver who continues to play an intimate role in the exploration of Binkleys Cave, Roberson is in a unique position to narrate this story from a firsthand perspective.

*Fifty Years Under the Sinkhole Plain* is not meant to be a seamless literary composition or a polished work of underground adventure and it certainly is a bit rough around the edges. Rather, the author’s intention was to produce an enduring record of exploration and discovery in the state’s longest cave system before any remaining details of these historical events were lost for all time. In this regard, he has succeeded admirably, not only in highlighting the colorful history of the ISS and its extensive involvement in the exploration of Binkleys Cave but also in providing a much-needed road map for continued efforts of a future generation of Indiana cavers. And while some readers may find fault with a few of the author’s scientific assertions, this book remains mandatory reading for anyone involved in the ongoing exploration of Binkleys Cave.

Well received by the caving community when first released, the book stimulated a renewed interest in Binkleys exploration. In fact, since its publication, Indiana cavers have added another 2.6 miles of surveyed passage to the still-growing cave system, increasing its overall length from slightly more than 22.7 miles at the time of the book’s publication to a current total of 25.3 miles (see [http://caverbob.com/usalong.htm](http://caverbob.com/usalong.htm) for a listing of the longest caves in the U.S.). Renewed exploration has also led to the discovery of an additional 4.8 miles of passageway in nearby Blowing Hole Cave and searching for the elusive connection between the two systems remains a major goal of Indiana cavers. A chronicle of ISS efforts to
explore the Binkleys Cave System—including historical and recent activity—can be found in the upcoming February and March issues of the NSS News.

For readers not particularly interested in the minutiae of survey data, Roberson still offers a fine story of caving adventure—one that continues to unfold—capturing the many ideals of underground exploration. This detailed and meticulously researched book will be of interest to all Indiana cavers and, indeed, to anyone else with a penchant for pushing grueling underground leads in an effort to drive back the darkness and reveal the face of the unknown.


Unlike Shaw’s recent books on foreign travelers in the Slovene karst and place names in Postojnska Jama, this one is a collection of unrelated articles, and the diversity of material will make it interesting to more readers. The 1545 in the title refers to an upper limit on the date a map of Carniola was drafted that notes, near Oberlaibach (Vrhnika) "Hic Argonautis stationem habuit, et excavao monte, per specu sub terra traducta." One chapter discusses the origins of that myth that the Argonauts (of the golden fleece) made part of their journey on an underground river. The 2008 refers to the last date in a chapter on the sale and public display of formations removed from caves in Slovenia. A long chapter with 221 endnotes surveys show caves in Europe in the nineteenth century. A chapter on the underground post office in Postojnska Jama covers 1888–1945 and is illustrated by photographs of the building and various postmarks; this expands on an article that was in Acta Carsologica in 2003. It is argued in others that Valvasor’s 1869 drawing of Postojnska Jama must in fact have been made in Črna Jama and that Steinberg’s 1758 book on Cerkniško Jezero (the lake in Polje) was, despite the date on the cover, actually published in 1761. (Okay, so that last one is a bit wonkish.) There are fourteen chapters, all including numerous references. A US speleanthropology buff will be jealous of the many sources from the sixteenth, seventeenth, and eighteenth centuries available to his European counterpart.