The Journal of Spelean History

Official Publication
American Spelean History Association
History Section
National Speleological Society

January - June 2016 Vol. 50, No. 1, Issue 149

The Association

The American Spelean History Association (ASHA) is an Internal Organization of the National Speleological Society and exists for the study, dissemination, and interpretation of spelean history, and related purposes. All persons who are interested in these goals are cordially invited to become members. Dues are $2 per issue of the Journal of Spelean History mailed to U.S. addresses. The rate for foreign members is U.S.$5.00 per issue for printed copies or $2.00 per issue for electronic (PDF) copies sent as email attachments. Checks should be made payable to “ASHA” and mailed to the treasurer. Checks must be payable in U.S. dollars and drawn on a U.S. bank.

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.

Authors are strongly encouraged to submit electronic copies in Microsoft Word, with minimal formatting, by email. Images should be saved as jpg. Photos and illustrations will be returned upon request. ASHA cannot publish copyrighted material without permission. Contributors are responsible for determining whether material is copyrighted and securing the appropriate permissions.

Back Issues

JSH began publication in 1968 and copies of all back issues are available, although many early issues are reprints. The cost (postage included) is $2.50 per copy for a single copy, $2 per copy for 2-3 copies, $1.50 per copy for 4-7 copies, or $1 per copy for 8 or more copies. Order back issues from the Treasurer.

Scanned digital copies of all issues over five years old may be viewed and downloaded at no cost on the ASHA website at www.cavehistory.org/back.html.

A complete index to JSH is available at the ASHA website at www.cavehistory.org/cum-index.html.

Officers

President: Dean Snyder, 3213 Fairland Drive, Schnecksville, PA 18078

Vice-President: Carolyn E. Cronk, 1595 Blueberry Hills Road, Monument, CO 80132

Secretary-Treasurer: Bob Hoke, 6304 Kaybro Street, Laurel, MD 20707 bob@rhoke.net

Editor: Greg Brick, 1001 Front Avenue, St Paul, MN, 55103 bric0004@umn.edu

Trustees: Larry E. Matthews, Marion O. Smith, Gary K. Soule, Jack Speece
CONTENTS

Cave Exploration during the Little Ice Age  
Greg Brick.................................................................4

The Lost and Found Tombstone of Dr. John Croghan of Locust Grove  
Bob and Judi Thompson .................................................................9

Landscape Artist Thomas Moran’s Sketches of “Luray Cave”  
Bob Thompson..................................................17

Rare Postcards Document Early Trip to Wind Cave  
Bob and Judi Thompson.................................20

2016 Spelean History Session Abstracts  .................................................................24

Reprints  .................................................................................................27

Clippings  .................................................................................................31

Book Reviews  .................................................................................................32

Front Cover: The Arveyron Cave at the source of the Arve River where it discharges from the Le Bois glacier, Chamonix, France, in an aquatint attributed to Samuel Grundmann (n.d.). This cave no longer exists, having melted away as the glacier retreated, but it was a tourist spectacle during the Little Ice Age. See the article by Greg Brick in this issue.
CAVE EXPLORATION DURING THE LITTLE ICE AGE

Greg Brick, PhD

The somewhat journalistic expression “little ice age” was originally coined by geologist Francois Matthes with reference to glacial moraines in the Sierra Nevada Mountains of California (Matthes, 1939; Porter and Denton, 1967). He was referring not to the Pleistocene ice age we all know about but rather a more recent readvance of the glaciers. Later, the phrase was capitalized and became applied to the Alps in Europe and to events in non-mountainous, unglaciated areas, becoming more of a climatic than a glacial term (Ogilvie and Jonsson, 2001; Matthews and Briffa, 2005). The British climatologist H. H. Lamb assigned a specific date range to the Little Ice Age, “about 1550 to 1800” (Lamb, 1977: 104). A recent popular account brackets it more broadly by the years from 1300 to 1850 (Fagan, 2000). The centuries-long cold snap is usually attributed to solar variability or cooling due to volcanic eruptions (Crowley et al, 2008). The Little Ice Age ended about 1850, when the present worldwide retreat of glaciers began, and this is often attributed, at least in part, to anthropogenic factors (Free and Robock, 1999; Painter et al, 2013).

Once the Little Ice Age (LIA) concept had crystallized, cultural historians drew connections with everything from the medieval witch craze (Behringer, 1999) to the excess cloudiness depicted by painters, especially the winter scenery of Pieter Brueghel the Elder (Neuberger, 1970; Robinson, 2005). The LIA coldness brought everything from mirth, like the frost fairs (winter carnivals) on the frozen Thames River in London (Snider, 2008) to the extinction of the Norse colonies in Greenland (Grove, 1988: 400-402.). The LIA has become a prolific source for teacher’s lesson plans, involving as it does such multifarious historical events (Glenn, 1996). All of these cultural proxy records are invoked to help estimate temperature before the thermometer itself had been invented. So does cave exploration during the Little Ice Age offer any insights?
There have been several excellent book-length treatments of the Little Ice Age (e.g., Grove, 1988). But perhaps the most popular account is Brian Fagan’s *The Little Ice Age: How Climate Made History 1300-1850* (Fagan, 2000). Much of this ground was already covered by Emmanuel Le Roy Ladurie’s earlier book, *Times of Feast, Times of Famine* (1971). Here is the chief cave-related extract from Fagan (2000: 88-89):

On June 24, 1584, another traveler, Benigne Poissonet, was drinking wine chilled with ice in Besançon in the Jura. He was told that the ice came from a natural refrigerator nearby, a cave called the **Froidiere de Chaux**. “Burning with desire to see this place filled with ice in the height of the summer,” Poissonet was led through the forest along a narrow path to a huge, dark cave opening. He drew his sword and advanced into its depths, “as long and wide as a big room, all paved with ice, and with crystal-clear water…running in a number of small streams, and forming small clear fountains in which I washed and drank greedily.” When he looked upward, he saw great ice stalactites hanging from the roof threatening to crush him at any moment. The cave was a busy place. Every night peasants arrived with carts to load with blocks of ice for Besançon’s wine cellars. Another summer visitor, a century later, reported a row of mule carts waiting to take ice to neighboring towns. As late as the nineteenth century, Froidiere de Chaux was still being exploited industrially. As many as 192 tons of ice are said to have been removed from it in 1901. But after an extensive flood in 1910, the ice never reformed, as warmer conditions caused the glacier to retreat. No ice stalactites hang from the roof of the cavern today.

Edwin Swift Balch’s book *Glacieres or Freezing Caverns* (1900) devotes more space to this ice cave, the Froidiere de Chaux, than any of the other ice caves he describes worldwide. He cites Poissonet’s letter, published in 1586, as “the earliest notice of a glaciere which I have been able to find.” But I did not detect in Balch’s narratives any suggestion that ice caves generally were losing their ice with time due to climate change, which Fagan (2000), a century later, was able to argue.

---

Froidiere de Chaux, note figure sitting amidst the ice stalagmites for scale. From Balch (1900).
Fagan (2000: 127) describes another cave in his book, but it is clear that this one is a subglacial cavity rather than a cave in rock (see cover of this issue):

French traveler Pierre Martel climbed up to the source of the Arveyron stream at the foot of the Le Bois glacier [in 1742]. “It issues from beneath the ice through two icy caves, like the crystal grottoes where fairies are supposed to live…. The irregularities of the roof, over eighty feet high, make a marvelous sight…. You can walk underneath, but there is danger from the fragments of ice which sometimes fall off. The Arveyron cave became a popular tourist attraction, a cavern “carved by the hand of nature out of an enormous rock of ice.” The changing sunlight made the ice change from white and opaque to transparent and “green as aquamarine.” The retreat of the Le Bois glacier over the next century and a half caused the cave to vanish in about 1880.

The Le Bois glacier is described as “the tongue of the Mer de Glace,” a glacier in the Mont Blanc massif (Grove, 1966). Those who have read Mary Shelley’s Frankenstein may recall the scene where Frankenstein meets the monster on the Mer de Glace. This book is often said to have been a by-product of the Little Ice Age, in as much as the cold, gloomy weather of that time influenced the author (Nardin 1999; Fagan 2000: 171; Le Roy Ladurie 1971: 207). Among the movie versions of the story, the 1994 remake, Mary Shelley’s Frankenstein, in which Robert De Niro plays the monster, shows the meeting taking place in a subglacial cavity.

An oil painting of Swiss engineer Ignace Venetz about 1815 shows the Gietroz glacier cave over his shoulder (see back cover of this issue). Venetz presided over one of the great dramas of the Little Ice Age, the fatal bursting of an ice-dammed lake in the Alps. If he had not tapped off about one third of the lake’s volume beforehand the destruction would have been far worse. This work got him interested in glaciers and he published an early version of the ice age theory in 1821 that pre-dated Louis Agassiz’s more widely known account (Asimov, 1982; Grove, 1988: 175-178).

Glaciers were still advancing in 1840 when Louis Agassiz published his classic Etudes sur les glaciers, introducing the Pleistocene ice age, which ended thousands of years before the LIA readvance of historical times. Indeed, Agassiz measured this glacial advance by driving stakes into the ice. As a cave-related footnote, while studying the advancing Aar glacier near Neuchatel, Switzerland, Agassiz constructed a makeshift camp in a boulder cave atop the glacier, the so-called “Hotel des Neuchatelois” (Gos, 1928; Walker and Waddington, 1988).

Further physical evidence of changes in ice caves since the end of the LIA has been forthcoming, augmenting Fagan’s examples. Baron Valvasor (1641-1693) published a famous work on the karst of what is now Slovenia in 1689. Kranjc (2004) mused whether the Slovenian ice caves of Valvasor’s day (during the LIA) but now no longer ice caves, are indications of climate change. Subsequently, Luetscher et al (2005) documented how ice caves are indeed valid paleoclimatic indicators.

Overall, the obscure narratives of cave exploration during the Little Ice Age have been resurrected and given new meaning in the context of the climate change debate of our own times.

This article is based on a paper delivered by the author at the 7th International Workshop on Ice Caves (IWIC) at the Karst Research Institute, Postojna, Slovenia, on May 18, 2016. Thanks to Eric Vola of Chamonix, France, for providing information.
The famous boulder cave “hotel” on a medial moraine of the Aar glacier.

REFERENCES


Balch, E.S. (1900). *Glacieres or Freezing Caverns*. Philadelphia: Allen, Lane, & Scott.


Cave Hill Cemetery is a 296-acre Victorian era National Cemetery and arboretum located in Louisville, Kentucky. The cemetery contains many prominent Kentucky citizens including some associated with Mammoth Cave. I visited the cemetery in May 2014, to find and take pictures of the stone grave markers of the noted historical names associated with the cave including Dr. John Croghan.

Dr. John Croghan (1790-1849) was a medical doctor from Louisville who organized tuberculosis medical experiments in Mammoth Cave during his ownership of the cave from 1839 to 1849. He died in 1849 of the same disease.
Croghan Family Plot showing only four grave markers at Cave Hill Cemetery, May 2014.

As I looked over the Croghan family plot of grave markers, I did not find a marker for John Croghan. The markings on the old grave stones were difficult to read, so I could not tell for sure until after I got home and studied the pictures. John Croghan’s stone grave marker should have been to the left of his father’s marker, William Croghan. The marker was not there. What became of the stone marker of this historical figure associated not only with Mammoth Cave but also the historical home at Locust Grove?

Croghan Family Plot at Cave Hill Cemetery 5-2-1916.

According to a cemetery plot diagram, there were originally six standing grave stones (marked on the diagram as #1 thru 6) and two above ground stone crypts (marked #7 and 8) at Cave Hill Cemetery for the Croghan family.
“Maj. W. C.” (William Croghan) and “Mrs. L. C.” (Lucy Croghan).

"E. C." (Edmund Croghan) and "N. C." (Nicholas Croghan).
On my visit in May 2014, there were only four grave markers standing: #3 (William Croghan), #4 (Lucy Croghan), #5 (Edmund Croghan), #6 (Nicholas Croghan), the two above ground crypts, #7 (Mary Carson Croghan, Mary O’Hara Croghan) and #8 (Eliza Croghan Hancock). The grave makers for #2 (John Croghan) and #1 (Mrs. McSorley) were missing.

According to a post on the Find-A-Grave website, John Croghan’s marker was missing in 2010. It is uncertain the amount of time the grave markers had been missing.

In 2012, a historical marker for the Croghan family was placed at Cave Hill Cemetery by the Kentucky Historical Society. With all the publicity and noted personalities present for this special occasion, surely someone would have noticed the absence of the two grave markers?

After doing some research on the Croghan family, I found out that at one time, the original graves of the Croghan’s and General George Rogers Clark (American leader during the American Revolution and the brother of Lucy Croghan Clark, John Croghan’s mother) were located on the grounds of Locust Grove before they were moved to Cave Hill Cemetery. George Rogers Clark was moved and reburied in 1869, the Croghan family (except George Croghan), were moved and reburied in 1916. The text from Lucy Keeler’s book, *The Croghan Celebration*, written in 1907, mentions the discovery of the Croghan graves at Locust Grove by the nephew of William Croghan, Rogers Clark Ballard Thruston, a geologist, historian, and a past president of The Filson Historical Society, as well as an amateur photographer who took photographs at Mammoth Cave in 1913 and 1932. At the time, Thruston was looking for the grave of Colonel George Croghan, son of William Croghan, brother of John Croghan when he came upon the grave stones of the rest of the Croghan family at Locust Grove. The Croghan family granted permission for George Croghan’s body to be transferred to Fremont, OH, where he was considered a war hero.
From Lucy Keeler’s 1907 book, *The Croghan Celebration*:

“The surviving members of the Croghan family graciously acquiesced in Col. Hayes' action and gave all assistance in their power. The following letter, from a nephew of Colonel Croghan, Mr. R. C. Ballard-Thruston, tells the story of the discovery, together with other important facts regarding the distinguished family to which our hero belonged. We give the letter entire:


My Dear Colonel: As per my letter of a few days ago I now take pleasure in writing you of certain data regarding the Clark family, which you desired and, in addition thereto, the facts regarding the location of the grave of Col. George Croghan and the exhuming and forwarding of his remains to you.

Major William Croghan and wife, Lucy, lived about five or six miles east or northeast of the court house of Louisville, Ky., and probably something over a mile from the Ohio River, at a place which was called Locust Grove, now owned by J. S. Waters. What was formerly the rear of the house is now the front. An illustration of the house with the present front is shown in Gov. English's work, vol. H, page 887. And it is north of this house about 300 yards that their family burying ground is located.

As to the family burying ground at Locust Grove, it lies about three hundred yards north of the dwelling surrounded by a stone wall eighteen inches thick and from three to five feet high, the sides facing the cardinal points, and the entrance six feet wide in the center of the southern wall. It, however, has since been filled in with stone, making a north and south walls which are each 48 feet long on the outside, the east and west walls being 47 feet. There are quite a number of trees within the enclosure, the most prominent of which is a five-pronged elm. We also found two red elms, four hackberries, two cherries and two locusts. Almost the entire space is covered with myrtle and some underbrush. The walls are largely overgrown with Virginia creeper and poison ivy or oak. The graveyard seems to have been designed with four parallel rows of graves running from north to south, in each case the grave facing the east. The eastern one of these rows apparently was not used, as we saw neither headstone nor evidence of a grave on that row. On the next row, five feet from the north wall, we found a headstone marked "Mc S." I am at a loss to know whose grave this could be. Fourteen feet from the north wall on this line is the center of a one-foot space between two large marble slabs, each being three feet wide and six feet long with ornate edges. The northern one of these seems to have rested on four pedestals, one at each corner. They have since fallen and the slab is now resting on the ground and covers the remains of Mary Carson O'Hara, wife of William Croghan, Jr. The inscription on this slab is as follows: Beneath this slab are deposited the remains of Mrs. Mary Carson Croghan (late of Pittsburgh) who departed this life October 15th, A.D. 1827, In the 24th year of her age. Also, her infant daughter, Mary O'Hara, who expired July 18, 1826, in the ninth month of her age.

Slab B rests on four slabs, each of which is ornately carved. The inscription being: Eliza, youngest daughter of William and Lucy Croghan, born April 9th, 1801, married George Hancock Sept. 1819, died July 12th, 1833.

The next headstone was twenty feet from the north wall and was marked "Mrs. L. C." The next headstone, twenty-three feet from the north wall, was marked "Maj. W. C." These were evidently the graves of Major and Mrs. William (Lucy) Croghan, the parents of Colonel George Croghan. On this
same row south of Major Croghan's grave was quite a sunken space, which probably marks the spot from which the remains of Gen. George Rogers Clark were removed in 1869. On the next row of graves west of the last and fourteen feet from the north wall is a headstone marked "E. C." This is probably Edmund Croghan's grave. On this row, seventeen feet from the north wall, is a headstone marked "N. C.," or Nicholas Croghan, a brother of Col. George Croghan, who died in 1825. At ten feet from the south wall on this same row is a headstone marked "Dr. J. C." Dr. John Croghan, who lived at Locust Grove after the death of his parents and at whose home my mother, was a frequent visitor in her younger days. As there were no other headstones found between those of Dr. John Croghan and Nicholas Croghan, the probabilities are that other members of the family were buried within this enclosure whose headstones have since been lost, or whose graves were not properly marked.

Near the southwest corner in the most western one of these rows, we found but one headstone, four feet from the western wall and five feet from the southern wall. It was lying on its face entirely covered with myrtle and upon investigation bore the marks of "Col. G. C." marking the grave of Col. George Croghan, which you were searching for, and whose remains you desired to remove to Fremont, Ohio, having obtained permission of his daughter and other descendants.

In addition to those present at the finding of the grave of Colonel George Croghan, above mentioned, there were present at the exhuming of his remains, my sister-in-law, Mrs. S. Thurston Ballard, Miss Mary Clark, of St. Louis, Mrs. J. S. Waters, four of the Waters' children, my little nephew Rogers Clark Ballard, and one or two servants of Mr. Waters.

My brother carried a "kodak" with him and made several attempts to get kodaks of the old Croghan residence and family burying ground, copies of which will be sent you as soon as they are printed. With sincerest regards, I am yours very truly, R. C. Ballard Thruston, Member of the Filson Club, Virginia Historical Society.”

*******************************************************************************

In July 2014, I contacted the Staff Archaeologist at the University of Louisville to see if he knew anything about the missing grave markers. He wrote back saying that he was surprised to hear that the grave marker for John Croghan was missing and he had no idea what happened to it.

He suggested that I contact Cave Hill Cemetery and Locust Grove to see if they had any information on the whereabouts of the missing grave markers. He made the comment that it was possible that the stone markers could have been damaged or removed for conservation.

Shortly thereafter, I contacted Locust Grove which informed me that they knew nothing at all about the missing grave makers.

Cave Hill Cemetery responded to my request for information on September 24, 2014. I was informed by Michael Higgs, Foundation Coordinator and Public Relations Representative for Cave Hill Cemetery that the two missing grave markers for John Croghan and Mrs. McSorley were recently discovered lying flat on the ground and were covered with dirt, not visible to anyone. The markers were never missing, only hidden from view for many years. Shortly thereafter, the cemetery staff issued a work order to reset and clean all the markers on the lot.
“Mc. S.” (McSorley and Child) and “Dr. J. C.” (Dr. John Croghan).

Croghan Family Plot showing all six grave markers at Cave Hill Cemetery October, 2014.
After an undetermined number of years of being covered by dirt, the stone grave markers of Dr. John Croghan (and Mrs. McSorley) are now once again visible to those who seek out one of Mammoth Cave's most prominent figures. Thanks to the staff at Cave Hill Cemetery for rediscovering a significant artifact of Mammoth Cave history.

REFERENCES

Croghan Family Cemetery Plot Diagram 5-2-1916, Cave Hill Cemetery, Louisville, KY.

LANDSCAPE ARTIST THOMAS MORAN’S SKETCHES OF “LURAY CAVE”

Bob Thompson


Thomas Moran (1837-1926) was one of the premier painters, watercolorists, and etchers of American landscapes. He is most noted for his landscape views of Yellowstone National Park as he served as the official artist for the Hayden Expedition of Yellowstone River in 1871. Noted photographer, William Henry Jackson was the official photographer of the Expedition and provided Moran with photographic sketches to aid in finishing his paintings.

Moran traveled throughout the U.S. and Europe for artistic studies and inspiration into the 20th century, participated in the etching revival of the 1870s and 1880s, and by the early 20th century embraced the use of his paintings for commercial endeavors.

He exhibited extensively at the Pennsylvania Academy of the Fine Arts beginning in 1856, was elected to membership in the National Academy of Design in 1884, and designed wood-engraved illustrations for several books, including Joseph Pangborn’s ”Picturesque Baltimore & Ohio” which was considered a model work of artistic drawing, engraving and printing. The book featured a number of artist drawings including “77 large bromide enlargements [by Moran] direct on canvas and retouched by Thomas Moran” which he made exclusively for the book. Included in the book was a wood engraving of “Luray Cave.”

In August 1881, Moran at the age of 44, traveled with other artists on a train through the Shenandoah Valley of Virginia and made sketches of what he saw for the book.

Upon arriving at Luray Cave, Moran and company were presently surprised to see a new hotel, Luray Inn, which made their stay more pleasant. Moran’s group of six was in the cave for hours and ate lunch by “Broddus Lake” with “conversation resounding through the cave.”

According to an 1881 account of the cave, a visitor happened to be in the cave the same day as Moran’s visit and mentioned that Moran made four sketches of the cave:

The next day we had the pleasure of visiting the cave in company of Thomas Moran, the artist, one of that numerous family of talented men. His son, Paul accompanied him. They were on a professional tour in charge of the energetic B. F. Bond, passenger agent, B. & O. Road.

Mr. Moran made four sketches of the cave under the glare of electric light for the engine had been unexpectedly repaired. The change in appearance of the cave was extraordinary. The electric beam brought out beauties that the pale glow of the magnesium tape had failed to disclose, and the sharp delineations that it made against the heavy shadows of this strange world gave new wonders and delights to those who saw this dwelling place of flies, rats, mice, bats, and gnomes.

Moran’s four sketches of the cave included the handrails and surface paths that were installed for tourists. Moran sketched people against the large formations to show the sheer size of the underground chambers. The wood engraving shown above is a representation of Moran’s four sketches of the cave.
The Gilcrease Museum in Tulsa, OK, has a collection of 2,000 works of art from Thomas Moran including many exquisite watercolors of the Yellowstone region of Montana and Wyoming, which was obtained from the estate of Moran in 1948. Included in the collection of Moran’s works of art at the Museum are the four sketches of “Luray Cave” that are mentioned above.

The four sketches from Moran from the Gilcrease Museum Collections are as follows:

1. “Entrance, Luray Cave” Aug. 1881, Graphite on gray wove, signed “TM”
2. “Angel Wing Fallen Column and Saracen Den, Luray Cave” Aug. 1881 Graphite on gray wove, signed “TM”
3. “Luray Cave” Aug. 1881, Graphite on gray wove, signed “TM”
4. “In Luray Cave” Aug 1881, Graphite on wove, signed “TM”

These four sketches of Luray Cave represent the only known works of Thomas Moran done underground. Moran had a chance to sketch the Cave of the Winds in Colorado but they “were hardly in the same league as Luray Cavern” and he “had little inclination to sketch there.”

REFERENCES


J. G. Pangborn's *Picturesque B. & O. Historical and Descriptive* (1883).
RARE POSTCARDS DOCUMENT EARLY TRIP TO WIND CAVE

Bob and Judi Thompson

In 2010, I found a group of privately made real photo postcards telling the story of a 13-year-old girl, Nellie, and her father’s vacation trip from Nebraska to the Black Hills of South Dakota. To document their trip, her father took pictures that were printed as postcards. Later in life, on the back of each postcard, the girl wrote a brief summary of what she saw. The postcards featured here tell only about the Wind Cave part of their trip, even though they also visited other places within the Black Hills.

As I researched the history of Wind Cave, I discovered that two of the postcards featured cave guide Esther Cleveland Brazell, wife of Superintendent Thomas W. Brazell and possibly the first woman ranger in the National Park Service.

Nellie and her father started their adventure from their home on the prairies in Nebraska between 1914 and 1918. They took a train to the Black Hills and arrived in Hot Springs, SD. From there, the father hired a livery team to take them to Wind Cave.

Photo shows the area around Wind Cave between 1914 and 1918, the hotel where they stayed and had dinner, and the steps leading down from the hotel to the small building that covers the entrance to the cave.

“While we were staying in a hotel in Hot Springs, my father hired a livery team and we drove out to Wind Cave. We had dinner in the ranch house in this picture and then went down many steps to the building that covers the mouth of the cave. It is a large cave, covering miles of territory underground. We went down a ladder and a strong wind blew up around us and out the door above.”
Nellie (left) and her father (right) and cave guide Esther Brazell (middle) in an area of the cave called the “Post Office.” Calling cards were left in a rock formation that looks like post office boxes.

“The first room in the cave was covered with a rock formation that looked like post office boxes all over the walls. It was called “the post office.” Here everyone left a calling card. One man had left his hat. On the hat was a sign. “Here’s my hat. Where am I?” He did it for a joke. It was fun to read the cards and see where other visitors came from. Here you will see the woman who was our guide, my father and me. We are carrying candles.”

Photo shows the head of cave guide Esther Brazell and the rock formation known as “popcorn.” The cave guide burned magnesium wire while Nellie’s father took the picture.
The statue and gravesite of noted cave guide and explorer, Alvin McDonald. Shortly after Wind Cave became a national park, the statue was removed to a park building because it was considered inappropriate for a National Park. Later, during a flood in the valley, the statue was broken to pieces. In 1957, a bronze tablet was placed on the grave.

“This is the grave of the man who discovered Wind Cave. The statue tells us what he looked like. He was a cowboy riding his pony and herding cattle. When he passed this place, the wind blew his hat off his head. He got off his pony to pick up his hat and found that the wind was coming from a little hole in the ground in the gulch or gully you see in the next picture.”

Another photo showing the hotel, the building over the mouth of the cave and the grave location of cave guide, Alvin McDonald.
“Here you see the ranch house where we had dinner, the building over the mouth of the cave in the gully and the grave of the discoverer. See how barren these hills are. They are not good farm land and are used for grazing cattle. Our livery team was fed in the barn at the upper right of the picture while we at the ranch house.”

REFERENCES

Wind Cave National Park website: www.nps.gov/wica

Set of 5 Wind Cave Postcards c. 1914-1918, courtesy of the National Cave Museum
**SPELEAN HISTORY SESSION ABSTRACTS**

**2016 NSS Convention, Ely, Nevada**

---

**Devils Hole, Nevada**

Jack Speece

Devils Hole, Nevada has been a noted landmark in the Nevada desert long before the white man first recorded it in 1849. This deep thermal aquifer remains a mystery to science. Here the rarest of all fish can be found. The argument over these water rights continues to divide the public needs with those who wish to preserve an endangered species. Death and mystery also plays a role in the history of this small hole where miners would take a bath on Saturday night.

---

**The Quakers Exiled from Pennsylvania in 1777 and Their Strange Visit to Indian Echo Caverns**

Bert Ashbrook

As the British army marched toward the City of Philadelphia in the late summer of 1777, Congress and Pennsylvania officials suspected the city’s pacifist Quakers of aiding the enemy. With Congress’s approval, Pennsylvania summarily exiled twenty prominent Philadelphia Quakers who refused to take a loyalty oath, banishing them to Virginia. In the midst of their deportation under an armed guard, the prisoners stopped for a surprising diversion: a visit to the best-known cave in Pennsylvania at the time, now known as Indian Echo Caverns. This paper describes the circumstances of one of the most unusual cave trips in American history, recorded in two of the exiles’ journals.

---

**Henry D. Gilpin and His Caving Trips in Virginia in September 1827**

Bert Ashbrook

In September 1827, a young Philadelphia lawyer named Henry D. Gilpin toured the Shenandoah Valley of Virginia and visited Weyer’s and Madison’s Caves and the Natural Bridge. In a series of letters home, Gilpin provides rich descriptions of these caves and the circumstances of his visits, including the names of other famous visitors who signed a register. Gilpin, who would go on to become the Attorney General of the United States, had come to the Shenandoah in 1827 to search for the grave of his grandfather, one of the Quaker exiles who went caving while being deported from Pennsylvania during the Revolutionary War. One of Gilpin’s letters leaves us with a delicious mystery: the identity of a map of Weyer’s Cave that he saw hanging in an inn near the cave.

---

**Special Convention 75th NSS Anniversary Events**

Paul Damon

To help celebrate the 75th Anniversary of the NSS, several special events have been planned. First, on Thursday afternoon there will be a special discussion group presentation titled “History and Founding of the Cave Research Foundation (CRF)”. In addition, all week we have sponsored a special NSS History Display Room, containing various older photographs and memorabilia associated with 75 years of NSS activities. This Room will close Friday at noon. In addition, we have prepared a special Diamond Jubilee publication which is being distributed at the convention to advance purchasers of the book.
Mrs. A. Galbreath’s Stereoviews of Manitou Grand Caverns

Michael McEachern

Women photographers were rare in the 19th Century. Most worked with their husbands and took over the studio when their husbands were absent or had died. Mrs. A. Galbreath was an exception. Anna, who was born in Ohio, owned a boarding home in Manitou Springs called the Ohio House. She bought Thurlow’s studio some time after he died on Christmas day in 1878 and launched a career in the photography business. Four known views of Manitou Grand Caverns were “photographed and published by Mrs. A. Galbreath”. She was associated with several other photographers: H. W. Stromer, James A. Harvey, G. S. Lyles and W. E. Hook. The Stormer stereoviews of Cave of the Winds are not related to W. H. Jackson’s views of the cave. Galbreath apparently hired Hook to take the Manitou Grand Caverns views. Later she sold the studio to Hook, and he was able to publish the view under his own name. Over 50 different stereoviews were made of the Cave of the Winds-Manitou Grand Caverns in the 19th century.

A Medieval Historian’s Interconnected World: Gervase of Tilbury’s Subterranean Passageways

Cordelia Ross

In the early 13th century, Gervase of Tilbury wrote an encyclopedic medieval history called the Otia Imperialia or Recreation for an Emperor. Divided into 3 sections, Gervase’s Otia covers biblical history, medieval geography, and marvelous stories. More so than many of his contemporaries, Gervase pays particular attention to topography. He describes the layout of each region carefully and attributes many of the marvelous stories about that region to its specific topography. An Englishman by birth, Gervase, like many of his peers, describes England as an island oasis. Gervase, who had an unusually expansive international career, does not imagine England’s insularity as restrictive. Instead, he imagines England connected to the larger world by means of subterranean passageways. These passageways function as more than tunnels between spaces, however, they also cross time. One passage leads from Sicily to King Arthur and then to present day England; another called the “Devil’s Arse” leads from England’s Peak District to the antipodes, the theorized, but undiscovered, land on the other side of the world. Engaging with contemporary cartographers and geographers, Gervase’s Otia presents caves that can cross time and space without disrupting accepted geographic knowledge while simultaneously confirming the theorized. Caves and pseudo-subterranean spaces enable Gervase to create a medieval world where England’s influence reaches across time and space, establishing its relevance and demonstrating its power.

Evolution of the “Eye-Draught of the Mammoth Cave, Warren County, Kentucky”

William R. Halliday

The engraved “Eye-Draught of the Mammoth Cave” in the 1853 edition of Jefferson’s Notes on the State of Virginia is well-known. It was processed from an earlier manuscript version tipped into Jefferson’s personal copy of a 1787 edition and is online today. The University of Virginia Libraries attribute it to “C.W. Short for W. Short”. William Short was the “adoptive son” of Thomas Jefferson. Charles Wilkins Short was a favored nephew of William Short, a founding father of American botany, and an exceptionally skilled sketcher as well as a medical educator in Lexington. The paths of the two Shorts coincided in Philadelphia in 1811-1815 and perhaps in Lexington in autumn 1810. At least two additional manuscript versions of the “Eye-Draught” can be differentiated by title blocks and by hand-written notations. In contrast, the outlines of the cave and of the Green River are so nearly identical that a hand lens is needed to verify that the manuscript versions all are independent sketches, probably made employing a camera lucida. Hand-written annotation on the earliest (“the duPont copy”) immediately preceded construction of large hoppers by Gatewood and Wilkins. The so-called “Ridgely copy” followed completion of the hoppers and the production of the Jefferson manuscript copy. Short may have given the original sketch (lacking title block and annotations) to Ridgely who added his own notations.
Family and Business Linkages in the Mammoth Cave Saltpeter Period

William R. Halliday

Forty-eight years ago, Harold Meloy and I published a significant article on the early history of Mammoth Cave. Especially it documented the escrow-like clearance of title to the main entrance in 1812 and discussed the lack of documentation of the relatively new tale of a hunter named Houchins and his bear. Much has been learned since that time. Digitization of Gratz family chronicles and an academic biography of William Short augment understandings of the role of a few interconnected families. Meloy was aware of the Gratz chronicles but the lack of digitization limited his utilization of the extensive family and business linkages which they reveal. The Short family originally was Virginian. Thomas Jefferson praised William Short as his “adoptive son”. After serving as Jefferson’s personal secretary, he became an effective American diplomat. His nephew Charles Wilkins Short, M.D. became a father of American botany. A noted sketcher, he prepared the famous “Eye-draught” of Mammoth Cave. Charles Wilkins and Dr. Frederick Ridgely of Lexington married his aunts. Ridgely was a friend of Dr. Samuel Brown who developed Great Saltpeter Cave and Fleming Gatewood installed similar saltpeter works in Mammoth Cave. The Houchins/bear tale, however, was transmogrified to a Davidson/bear tale told at “Oregon Mammoth Cave” in a lesser national monument in the Far West.

The Writing on the Wall

David Harwood

Lehman Caves was discovered during the boom and bust era of silver and gold mining in eastern Nevada. It was a time of optimism and transition that while not peculiar to this area of the United States is representative of the attitudes and developing ideas of the time. Lehman Caves represents a window into those times through the names written upon the walls. These include names of people who came, stayed, or went; and some whose descendants remain in White Pine County today. The signatures of the early visitors remain as their record, marking their passage through the history of the area and how they may have viewed their visitation to the cave.
PAINTED GROTTO, SLAUGHTER CANYON, NEW MEXICO

The following was part of a lengthy 1930s typescript by Russell Trall Neville, who hoped to see it published as a book. Unfortunately it was much too rambling, and other problems were present. It eventually found its way into the Neville papers obtained by the late Burton Faust and for a time, they were in his Saltpeter Collection, which Burton’s widow gave to me and I donated to the Kentucky Library at WKU. Before that donation I extracted the non-saltpeter material, and over the years I have distributed parts of it where I thought it would be best used. This excerpt on Painted Grotto is one of the last sections still in my possession.—William R. Halliday

I have visited some of the better known cliffdwellings in the southwest, and have been in some of the basket maker burial caves in that part of the country.

Perhaps a few words about a rock shelter, a mere scooped out place in the side of a towering, steep, rocky canyon wall may not be out of place. My good friend, Carl Livingston who lives at Carlsbad, New Mexico, discovered this very interesting situation. He calls it the Painted Grotto because the walls are covered all over with pictographs and painted symbols, all in rather bright colors.

I suppose there isn’t another man, white or Indian, who knows the mountains and canyons of his state as well as Carl Livingston. He had a great deal to do with bringing Carlsbad Cavern to the attention of the world, and his efforts were responsible in no small measure for the fact that this interesting cavern is now a National Park.

Very few people have ever seen this Painted Grotto. Carl took us there on a blistering hot mid-summer day. It was a foolish trip in that heat, and might easily have resulted in tragedy. We left the road and started up Slaughter Canyon in the Guadalupe Mountains. It was through wild, roadless, rough mountainous country. We drove mile after mile up the sandy, rocky dry creek bed where even a momentary stop would mean trouble, as the heavy car would quickly sink into the powder-dry sand. We had filled our desert bags and canteens before starting, but in that high
altitude and intense heat, the engine boiled like a witch's cauldron. Our precious water supply rapidly dwindled under the persistent necessity of keeping the radiator full.

Finally we came to a place where we had to leave the car and walk the rest of the way. High overhead an airplane droned lazily over the narrow steep walled canyon. I doubt if the pilot even saw us, tiny human ants crawling along through the deep gash in the mighty mountains. A mile high and to our right a couple of buzzards, scavengers who roam the sky, drifted slowly on motionless wings, scanning the mountain tops for carrion.

At last Carl pointed to a deep recess carved in the almost perpendicular canyon wall, high over us, shimmering in the heat waves. It was a difficult climb but we made it, beating with stout sticks ahead of us at every step as we climbed to scare away stray rattlesnakes if any might be lurking in our path.

Then we clambered out onto a rocky floor. A huge, semi-circular rock shelter, carved by some freakish prank of nature, surrounded us on all sides except towards the canyon, now three hundred feet below us.

Several large flat rocks, as large as the top of a dining table, were scattered about in this shelter, each with circular depressions worn deep by grinding stones. Some of the pestles were still in place. Several inches of mountain sheep manure covered the floor of the Grotto, some of it very fresh, indicating perhaps, that these very animals had watched our approach and fled to safety, unseen by us, a moment before we intruded.

The Grotto is about thirty feet deep from front to back at the center, tapering off at both ends to become flush with the canyon wall. The face of the opening extends about eighty feet along the cliff. A brightly colored bulletin board spread before our eyes. The entire wall and
ceiling are thickly covered with photographs—these very old pictures where each represents an idea, the very earliest and the crudest form of written record.

A painted serpent stretched along the wall for a distance of forty feet, depicted by small white triangles, and in some places, with touches of bright yellow. This is a striking example of crude workmanship. Solid brilliant yellow snakes run up the side walls from the floor to the ceiling. Paintings in black, red, yellow and white cover almost every inch of the rock surface. A curious mingling of photographs and symbols, perhaps the latter predominating, all tell stories, interesting no doubt, if we could but read them.

Ancient men left many such mysterious records in our great southwest, inscriptions painted or carved on gigantic rock slabs. The dry climate and scant rainfall preserved them for us but we cannot read them.

Some of the symbols found in the Painted Grotto are very similar, Mr. Livingston tells me, to those found in basket-maker caves in the vicinity. Who were these people? I wish I knew.

After photographing the Grotto we started back to the car. The intense dry heat of the southwest dehydrated us to an astonishing degree. We drank of our meagre water supply, always keeping in mind the needs of the engine on our trip back to the highway. I do not know how far it was to the nearest drinking water because the drive out was a nightmare to me. I was fully occupied in tooling the car through the dangerous creek bed. I think it was about sixty-five miles to drinking water. We were all in distress and in bad shape by the time we reached an oil station where we could get a drink. I never knew before what intense thirst meant. It was lucky for us that we did not pick up a puncture or have any car trouble on the way out of that canyon. In the event of any delay we would soon have been in desperate condition.

It was a foolish trip, surely, but we saw some wonderful and skillful
paintings done by artists dead and gone for thousands of years.

With Livingston I have been in some of the basket-maker caves in the Guadalupe Mountains. Carl has done a great deal of work in some of these caves, and some of his findings have attracted considerable attention amongst scientists.

The caves of this sort which we found, all had from a foot to eighteen inches of fine, impalpable dust covering the floor. This debris is as fine as talcum powder. One sinks down through the stuff to the knees at every step. This dust is very irritating to eyes and throat. To do any real worthwhile work in the caves requires that you wear a regular gas mask similar to those used during the World War. Pneumonia of a very serious type will get you if you work unprotected.

It is interesting to speculate as to the identity and the life of the primitive people who lived on this continent hundreds and even thousands of years ago. They endured hardships we cannot imagine. They were venturesome and brave. They left some very interesting material for the archeologists to study.

Perhaps some time scientists will learn more about the hardy folk who lived in the caves in Kentucky. Maybe some time we will have a better understanding of the basket-makers who lived in the caves of the southwest. My guess is that they were closely related.
Life and Times of a Spelunker

Spelunking, or cavern-exploring, has the answer to what to do in an atomic war.

By CLAY PERRY

of Washington, largely in Virginia, West Virginia and Pennsylvania. Other work has been done in Maryland, in New England and New York State and at scattered points from coast to coast.

Up to 1939 there was not a national cave society in the United States, although for many years there had been such organizations in other countries. The inspiration for organizing the NSS in this country came from the activities of a small group in New England led by Roger Johnson, a Springfield (Mass.) bookstore owner, and another small group in Washington, called the District of Columbia Speleological Society. In 1939 the affiliation of the Washington group was brought to the fact that there was a need for a national society and in 1940 a charter was obtained under the laws of the District and the NSS was launched.

Today the society has something over 400 members, scattered from Maine to California and from Mexico to Canada.

The NSS has furnished to the War Department an index of all the known caves in this country, and believes that there is room for the entire population of the United States to hide in deep, safe shelters if atomic bombs are ever to be used against us. Kentucky alone is said to have 100,000 miles of caverns under its surface and there are at least two caves in the Mammoth Cave National Park that would take care of all that State's population and then some.

The Great Salt Lava Caves in that park is considered by the NSS ideal for such military installations as the official War Department plan contemplates, and it can be used without disturbing cave beauties or tourists at the present time. It is of huge dimensions, horizontally and vertically, some of its gypsum rock rooms being big enough to take in a passenger train or two. In the vicinity are other caves as well, some developed as tourist attractions, some "wild" ones which have hundreds of miles of room so deep in the ground that no atomic bomb could disturb its inhabitants.

Carlsbad Caverns in New Mexico is another underground haven of seemingly limitless extent. Recent explorations by Government experts and guides have opened some thirty-five miles more of its still endless rooms.

In England during the war, caves were used to store precious things like radium, art treasures and records. One big cave was completely equipped as a Red Cross hospital, with electric lights, heat, drainage and other facilities ready for use if the German V-bombs—some of them fired from caves across the Channel—should get too destructive. Such was the use to be made of caves in this country had the war come to our shores, and that was where the "spelunkers" came in as assistants to the military and other arms of the Government.

Two of the leading collectors of wild life of the underground world are Dr. Donald R. Griffin of the Harvard Biological Laboratories and Dr. Charles E. Mohr, head of the Educational Department, Philadelphia Academy of Natural Science. These two men have collected and studied more cave life than any others, singly or in groups, in the United States, and Griffin has become the champion bat-hander of the world. He has banded over 15,000 bats and is still at it. He was recently given a citation by the Government for his development of "echolation" to help blind soldiers find their own way about, using the echoes of sound against objects, as a bat does when flying in total darkness.

From the New York Times, June 16, 1946

Standing as an icon of cultural diversity, religious tolerance, economic prosperity, and stunning artistic beauty, the ancient Chinese town of Dunhuang was a celebrated location along China’s famed Silk Road. Located at the western edge of the Great Wall in the Gobi Desert of northwestern China, Dunhuang was established in the second century BCE as a military outpost to guard China’s northwestern frontier against invasion from Central Asia.

As Buddhism spread outward from India, it was favorably received in many locales along the Silk Road, most notably in the region of Dunhuang. Beginning in the 4th century CE, approximately 1,000 Buddhist cave temples were excavated into the local cliff face at the nearby holy site of Mogao. Approximately 500 of these were decorated with a rich profusion of beautiful works of art (painted murals and clay sculptures). Others housed a bountiful assemblage of ancient scrolls and documents. The regional construction and decoration of cave temples, sponsored by various individuals or associations, continued for the next thousand years. These caves were similar to the Ajanta Caves that had been constructed in India several centuries earlier. While the majority of this material is associated with Buddhism, much of it reflects the changing history of the Dunhuang region (including repeated conquests), local political change, economic growth, various aspects of daily life, and the rich religious and ethnic diversity associated with this crossroads of cultural exchange between East and West.

For more than a thousand years, Dunhuang (meaning the “Blazing Beacon”) and Mogao (meaning “Peerless”) were among the most important outposts along the ancient Silk Road, an overland corridor of trade and cultural exchange that connected China with Central Asia and the Mediterranean. With the establishment of more-easily-traveled maritime trading routes in the 14th century, however, the importance of this desert oasis dimmed, and Dunhuang and Mogao were eventually consumed by sandstorms and largely forgotten. From then on, the once-shining Blazing Beacon was generally referred to as Shazhou (“the City of Sand”).

Dunhuang and the Mogao Grottoes were lost to the world for hundreds of years. With the advent of western imperialism, archaeologists began to explore China’s ancient desert trade routes. Investigations of the Silk Road in modern times led to the rediscovery of Dunhuang and Mogao by the Western world. This was quickly followed by renewed efforts to uncover (and plunder) the many hidden treasures of the Buddhist cave temples. As long-buried treasures were unearthed by archaeologists in the late 19th and early 20th centuries, the unparalleled grandeur and majesty of the many painted murals and sculptures, along with the rich array of ancient scrolls and documents secreted in Mogao’s now-famous Library Cave, captured the attention of the world. Unfortunately, archaeologists and academic treasure hunters spirited away many of these artifacts—including most of the documents housed in the Library Cave—to museums and other institutions around the world. In fact, recognizing the significance of this loss may have been the initial impetus that spurred Chinese officials to begin restoring and protecting the remaining treasures of the cave temples.

Renewed investigations ultimately established an essentially new academic discipline: Dunhuang Studies, which encompasses the fields of history, archaeology,
art, and religion. Continued study of Mogao’s cave-temple artifacts opens a window onto China’s past, affording researchers a unique opportunity to explore early Chinese civilization, the spread of Buddhism, and the evolution of Buddhist art.

In 1987, the Mogao Grottoes were declared a World Heritage Site by UNESCO. To this day, the site remains the largest repository of medieval Buddhist art in the world. With the rediscovery of the ancient cave temples, renewed efforts to investigate and protect these artifacts led to creation of the Dunhuang Academy. The Dunhuang Academy partnered with the Getty Research Institute and the Dunhuang Foundation to develop and implement plans to help preserve this unique site. Efforts were directed at restoration of damaged murals and sculptures, protection against ongoing threats to the cave temples,2 continued research and public outreach, and refinement of appropriate management plans that would enable visitors to view the temple artwork while minimizing adverse impact.

Among the many activities sponsored by the Dunhuang Academy is the detailed replication of the many murals and sculptures (and, in some instances, of the actual “caves” themselves). Creating these exact replicas has become a highly skilled art form, evolving in conjunction with the availability of new technologies. Such work is of value not only in providing a mechanism for preserving copies of the Buddhist artwork, but also because the replicas so produced lend themselves to the creation of both a modern, on-site visitor center and portable exhibitions.

Exhibitions of the cave temples have long been shown across China. In May, 2015, the first such exhibition to be seen in North America—Cave Temples of Dunhuang: Buddhist Art on China’s Silk Road—was unveiled in Los Angeles.3 The exhibit provides visitors with a glimpse into a thousand years of life and culture along China’s Silk Road. These artifacts are considered within historical, political, religious, and social frameworks. The exhibition will run through September 4, 2016.

Cave Temples of Dunhuang (the book) was written for this exhibit. It is a scholarly text providing a detailed history of the rise and evolution of Dunhuang and the rich Buddhist art of the Mogao cave temples. The book is well-written and beautifully illustrated. A wide assortment of black-and-white (historical) and modern, full-color photographs highlights the incredible beauty of this early artwork and enables readers to compare the cave temples of ancient Mogao with the site today. It provides a solid foundation upon which to appreciate this once-important crossroads along the overland trading corridor known as the Silk Road.

Discussion includes aspects of Dunhuang culture across a progression of Chinese dynasties. The cultural heritage of Dunhuang’s early history is contrasted with the views of early 20th century western scholars. Both are considered in the context of a renewed need for restoration and preservation in modern-day China...the importance of which is called into specific relief. Attention is focused on the architecture of the cave temples as well as the various works of art and ancient documents within them. These are discussed with respect to Buddhist beliefs as well as the role played by Dunhuang/Mogao and the Silk Road in local economic prosperity and cultural exchange. In this regard, the authors examine a variety of issues, including 1) What was the importance of Dunhuang along this bustling trade route? 2) Why were the cave temples built in the first place? 3) Who sponsored construction of the many temples? 4) Who actually created the artwork and how was it done? 5) What did the artwork depict? and 6) How has the site been managed and protected in modern times?

The book concludes with descriptions of 43 artifacts (including the Diamond Sutra) from the Library Cave on loan for the exhibition from museums in London and France. A selection of references will be of value to readers interested in additional details.

This book will appeal to readers interested in art history, archaeology, comparative religion, Chinese history, and the role of caves in culture and religion.

3The Library Cave contained thousands of ancient documents, including the Diamond Sutra. Dated to 868 CE, the Diamond Sutra is the earliest-known dated, printed book.

2The cave temples face ongoing threats, most notably desert sandstorms, earthquakes, erosion of the cliff face in which they were excavated, periodic flooding, and seasonal changes in relative humidity. After the Silk Road had been abandoned as a trade route, graffiti and soot from campfires within the temple caves added to longstanding environmental impacts, thereby contributing to the site’s further decline. Today, as the world continues to learn about the treasures of Mogao, the prospect of adverse impact due to mass tourism must also be considered (hundreds of thousands of tourists now visit the Mogao caves annually). Hard-learned lessons gleaned from the many management problems plaguing the richly decorated Paleolithic caves of France and Spain have highlighted the potential impact of tourists on delicate artwork.

3http://www.getty.edu/research/exhibitions_events/exhibitions/cave_temples_dunhuang/index.html
Oil painting of Swiss engineer Ignace Venetz about 1815, showing the Gietroz glacier cave over his shoulder. He presided over one of the great dramas of the Little Ice Age. See the article by Greg Brick in this issue.