

Spelean History Session Abstracts

from

NSS Conventions

1968 - 2017

This file contains the abstracts from the Spelean History Sessions at National Speleological Society (NSS) conventions. The abstracts are in year order. The file is searchable.

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*1968 Spelean History Session Abstracts
(Springfield, Missouri)*

**The Past Twenty-Five Years of the
National Speleological Society**

Donald N. Cornoyer

The NSS celebrated its 25th, silver anniversary in 1966, but many members know very little about the Society's past 25 years, especially the younger generation. For the younger members to be knowledgeable and appreciative of the growth of the NSS It is important to know and understand the past as well, as look toward the future including conservation, the closing and preservation of caves, the goals and purposes of the NSS, and the Society's areas of special interest.

A review of the past Includes the early organization of the NSS, the establishment of grottoes and regions, services and improvements to the membership, the establishment of conventions, field trips in the early days such as Floyd Collins Crystal Cave, Wind Cave, Rio Camuy, Guatemala and Aquas Buenas, and special recognition of individuals who have made outstanding contributions toward the growth and development of the National Speleological Society.

**A New Concept of the Initial History of
Mammoth Cave, Kentucky**

Harold Meloy and William R. Halliday

Recent research has revolutionized traditional concepts of the history of Mammoth Cave during the years up to 1813. Basic is the new concept that the traditional three sales during one day in 1812 actually was a misconception based on the filing of deeds in order to clear title to the cave.

The Historic Caves of St. Louis, Missouri

Mr. and Mrs. Hubert Rother, Jr.

St. Louis has more caves than any American city and its caves attracted the brewing industry to Missouri in 1840. The Anheuser-Busch Brewery dates from 1852 and was founded in a cave. Cherokee Cave, Uhrig's Cave and English Cave are among the best known brewery caves of St. Louis. Old brewery

caves are still being re-discovered from time to time beneath the city, and many forgotten ones still await re-discovery.

**The Commercial Caves of Missouri 1886 -
1968**

**A Brief History of their Commercialization,
Historical Significance and Developers.**

H. Dwight Weaver

Missouri has more commercial caves than any state. The development of Missouri caves has been influenced by historical significance, public popularity, personal ambition, the Great Depression, and tourism.

The historical significance of Missouri caves is broad and many faceted but the stories of the developers are often as fascinating as the caves themselves. Among these is the story of Lester B. Dill, the developer of Meramec Caverns. His is a story of perseverance, while the early years of Onondaga Cave were times of turbulent, dramatic events unparalleled in the annals of Missouri cave development.

An account of Crystal Cave in Greene County is a pioneer adventure and the personal story of Alfred Mann and his daughters Agnes, Ada and Margaret; and the saga of J. A. "Dad" Truitt, the beloved and renowned Cave Man of the Ozarks, is a tale of a nomad.

*1969 Spelean History Session Abstracts
(Lovell, Wyoming)*

**The Founding of the National
Speleological Society**

William J. Stephenson

The National Speleological Society evolved from a Sunday School outing group of a Unitarian church group in Washington, D.C. Although the intent was a nationwide organization almost from the outset, the group first formed the Speleological Society of the District of Columbia and this group published NSS Bulletin #1. Clay Perry's "New England Grotto #1 of the National Speleological Society" was formed before the SSDC was rechartered as the NSS.

The Gatewoods at Mammoth Cave

Harold Meloy

With continuing research into the early history of Mammoth Cave, mists which clouded the true facts are beginning to lift in scattered places. This paper mentions some of the activities of Fleming Gatewood in the Mammoth Cave area 1808-1817, and of his son George S. Gatewood in the cave from 1828 to 1835. Religious services conducted in the cave are described, beginning in the early 1830s, together with other events which took place in the cave's "The Methodist Church". Death of the Reverend George S. Gatewood is given as 1886.

History of Cave Valley Cave, Lincoln County, Nevada 1858-1968

Alvin R. McLane

Cave Valley Cave was one of the first caves discovered and surveyed in Nevada. It is about 3,000 feet long and consists of low wide rooms and immense chambers that bewilder explorers. Cave Valley Cave was discovered by members of the second White Mountain expedition of the Latter Day Saints Church on April 15, 1858. The next important visit to the cave was in 18?? [unreadable date] when it was surveyed and explored by 23 members of the Wheeler Survey to a distance of 3,000 feet from the orifice. An interesting 1890 article relates the exploration of the famous mud-plastered shaft and reports it to be 94 feet deep. F.C. Schrader, of the U.S. Geological Survey, visited the cave in 1930 and reported on the cave's clay. In 1942 Carl L. and Earl L. Hubbs discovered a new cave species of polydesmid millipede deep within the cave. In 1953 the California-Nevada Speleological Survey (1952) and in 1954 W.R. Halliday reported a stalagmitic form termed cave money, a flat multianimated form about the size of a half-dollar.

The Russell Trall Neville Expedition in Salts Cave

George F. Jackson

On July 11, 1927, Russell Trall Neville ("The Cave Man") led a party into Salts Cave which lasted 51 1/2 hours, then the world's longest known underground expedition. The making of the first

underground movies was a successful goal of the expedition. An additional unannounced goal was the discovery of additional Salts Cave mummies. This was unsuccessful but many other prehistoric relics were found. During the trip one of the local members of the party pointed out a known connection between Salts and Colossal Cave.

The Man Who Might Have Been the American Martel

William R. Halliday

A Philadelphian by birth, Edwin Swift Belch spent his youth in Europe and became interested in mountaineering and caving. Ice-containing caves became his particular concern and he published several articles and a major book on the subject, all warmly praised by Martel. He began to write as a speleologist, and visited some 300 caves but was suddenly distracted from speleology by geo politics.

Montana Caving in 1950

Basil Rritsco

Basil Rritsco learned of the NSS in 1949 at Lewis and Clark Cavern and promptly joined but had to hire two youngsters to go on his first caving trip in 1950. Bob Wisley and another New York Caver accompanied him on his second trip, also to Flint Cave; Fred McAdams joined him on the third venture, to Beans Hole.

Newly Discovered 1907 Photographs of Lewis & Clark Cavern, Mont.

Dr. William R. Halliday

At least 27 stereoscopic photographs of Morrison Cave, Montana (now Lewis and Clark Cavern) were marketed in and about 1907 by N.A. Forsyth, a Butte, Montana, photographer. These photographs were previously unknown to organized speleology. Several are presented in hopes of identification of individuals shown. A former NSS President, Ralph Stone, is known to have visited the cave about this time and might be one of those pictured.

*1970 Spelean History Session Abstracts
(State College, Pennsylvania)*

**The Sucker's Visit to the Mammoth Cave:
A Background Study**

Dr. John F. Bridge

This book contains a unique account of a trip through the lower Green River country in the Reconstruction Period. The author's love for nature and appreciation of his homeland place him among the few 19th Century environmentalists. The second section of the book describes the trip through the cave and incidents in and around the cave and return to Albion, Illinois. Biographical and other background information is presented.

**Notes on the Early Use of the Name
Mammoth Cave**

Ernst H. Kastning

Until recently the earliest known use of the name Mammoth Cave was on the "eye draught map" of the cave accompanying a letter from Dr. Frederick Ridgley (brother-in-law of Charles Wilkins) to Dr. Benjamin Rush. Recently an article was found in the April 20, 1810 Richmond (Va.) Enquirer (Vol. 6, no. 109, p.4) entitled:

The Subterranean Voyage
or THE MAMMOTH CAVE

Partially explored (From a gentleman in Bowling Green, Ky, to his friend in Russellville). Dated Bowling Green, January 21st, 1810.

The Rediscovery of Nicholson's Lost Pit

Dr. William R. Halliday

Various authoritative sources have listed the depth of Carlsbad Cavern as 1350 feet. This arose from a claim by the controversial spelunker Frank Nicholson who in 1930 led an expedition to Carlsbad Cavern under the sponsorship of the New York Times. In the intervening years, the pit where Nicholson claimed to have penetrated deeper than the Lake of the Clouds was "lost". By the use of the crude sketch map in Nicholson's paperbound booklet on his expedition, however, it was possible to rediscover and descend the pit and it's quite a pit! Details will be provided.

Riddles of Mammoth Cave

By Harold Meloy.

A summary of Mammoth Cave historical research during the past several years and mention of unresolved matters currently under investigation.

**A History of Simmons' Cave, Pendleton
County, West Virginia**

Peter M. Hauer.

Simmons' Cave is basically a large room with three entrances. Its history is closely associated with the descendants of Leonard Simmons, who settled the area before 1768. The earliest recorded entry was in 1847. After an artificial entrance was opened about 1884, the cave was used for July 4 celebrations for many years before the turn of the century. A commercialization attempt around 1929-30 never materialized, but the cave gained considerable popularity after the first N.S.S. expedition to it in 1941.

**First in American Caves: The Life and
Spelunking of the Reverend Horace Hovey**

Dr. William R. Halliday.

Horace C. Hovey was born in an Indiana log cabin in 1833. As a boy, he explored many caves in Indiana, including Wyandotte Cave his articles thereon were published by the Indianapolis Journal and the New York Tribune. They were later plagiarized by Stelle's book on that cave. After a long gap because of family matters, Hovey suddenly was acclaimed America's leading speleologist. His influence extended so far past his 1914 death that in 1930 Wimmiam M. Davis referred to Hovey's work in his classic deductive study on caves.

The Battle at Infernal Caverns, California

J. T. Meador

In September, 1876, General Crook's command fought a battle with a group of Shoshone, Piute and Pit Indians at Infernal Caverns, California. The Indians took shelter in a series of breastworks which were, constructed near cave entrances. Whenever a breastwork was overrun, the Indians retreated through caves to other positions. Finally the Indians

became demoralized and escaped by traversing caves underneath the surrounding troopers.

Deltiology and spelean history

Peter M. Hauer

Deltiology, the pursuit of picture postcard collecting, is of interest to the cave historian. Issued by the hundreds since 1898, cave postcards can provide information for the history of specific caves, for state or regional cave surveys, or for knowledge of early cave photographers. An actual viewing of a sampling of caves on postcards is an invaluable tool in the appreciation of this informative medium.

1971 Spelean History Session Abstracts (Blacksburg, Virginia)

The 1971 abstracts are not currently available

1972 Spelean History Session Abstracts (White Salmon, Washington)

The History and Exploration of Wyandotte Cave

George Jackson

Wyandotte Cave is one of the oldest commercial caves in the United States and was, during the 19th Century, one of the most publicized. As a result, many legends, fascinating stories and "wild tales" and true experiences about it have evolved. It was purchased from the Government in 1819 by Peter Rothrock and remained in the family until it was sold to the state of Indiana in 1966.

Thousands of trips into the cave as a guide and explorer and a long association with the Rothrock family have enabled me to acquire a knowledge of the cavern, its exploration and its history that is not equaled by anyone else now alive.

Details of the authentic history and exploration of Wyandotte are presented.

Decorah's Definitive Ice Cave

James Hedges

The Decorah Ice Cave is the largest glaciere in eastern North America. While the exact date of its discovery is unknown, the cave has figured prominently in the literature on glaciers since 1870 and at one time, during the last quarter of the 19th Century, enjoyed an international reputation.

Ice deposits underground were the subject of much speculation from 1592, when the Glaciere de Chaux-les-Passavant, France, first was described in print, until 1898. In the latter year, Alois F. Kovarik, a member of the faculty of the Decorah Institute, Decorah, Iowa published the results of an extended series of meteorological observations at the Decorah Ice Cave which clarified the mechanics of pit glaciers and rationalized the seemingly incongruous features of such caves. The endorsement of Kovarik's work by E.S. Balch in his monumental "Glacieres, or Freezing Caverns" (1900) assured its acceptance and established the Decorah Ice Cave as the type example of pit glaciere in North America.

The Decorah Ice Cave was developed and shown to tourists by Stanley Scarvie during the 1930's. Despite its scientific importance, however, the cave is too small to support a commercial venture in a day when larger and more spectacular attractions are easily accessible. The cave now is included in the City of Decorah Park system and, although described in many regional tourist handbooks it seems largely to have been forgotten.

Medics at Mammoth Cave

Harold Meloy

Medical men have made outstanding contributions to the history and literature of Mammoth Cave for more than 150 years. Dr. Croghan who owned the cave during the 1840s developed it into a major tourist attraction. Bird, Wright, Binkerd, Forwood and Call wrote books about it. Gaither, Mitchell and Locke added to its history and legend. Contemporary physicians who visit and write about it continue the tradition of medics at Mammoth Cave.

The Finger Of Geology - The Search for Lester Howe's Garden of Eden during the Late 1920's and Early 1930's

Ernst H. Kastning and Marjorie F. Kastning

Lester Howe discovered Howe's Cave, now known as Howe Caverns in 1842. News of this discovery spread and people came to visit Schoharie County, New York and the new natural wonder. The popularity of the cave increased, but Howe later relinquished control of the cave to the Albany and Susquehanna Railroad. Embittered by this event and the continued success of the cave as a tourist attraction, he retreated to his farm, which he had named the Garden of Eden, and became a recluse. It was during his hermitage that he was heard to say that he discovered a bigger and better cave, but in light of his misfortune in the Howe's Cave venture, he chose not to reveal its location, lest someone take advantage of him once more. He supposedly died without revealing the cave's location or whether his story was indeed true.

During the late 1920's and early 1930's, a local group including Arthur H. Van Voris and Gol. Edward A. Rew of Schoharie County were exploring caves in the area when they chanced upon early accounts of Howe's secret. They eagerly sought his Garden of Eden cave and believed they found it. The cave they found and the reasons for supposing it to be the Garden of Eden have recently come to light.

Meramec Caverns - 250 years of History Part 1: 1720-1874

Dwight Weaver

Meramec Caverns is Missouri's most prominent commercial cave and one of the nation's most celebrated attractions of its type. Large, lengthy, and unusually well decorated for a Missouri cave, it is located south of St. Louis about 60 miles along I-44 at Stanton, Missouri. Situated in Franklin County and just outside the borders of Meramec State Park, the cave is along the banks of the Meramec River. It has been open to the public since 1935. In this paper the history of the cave from their 18th Century discovery until their supposed visit by Jesse James in 1874 is discussed.

Caves and Philately

William R. Halliday

Beginning with Cuba's Bellamar Caves stamp, several nations have pictured caves on postage stamps. Besides scenic views, artistic and religious motifs exist. A variety of covers, maximum cards, cachets, postmarks and other philatelic items are of interest to the speleologist.

1973 Spelean History Session Abstracts (Blacksburg, Virginia)

The 1973 abstracts are not currently available

1974 Spelean History Session Abstracts (Decorah, Iowa)

Wandering Willie Walks To Mammoth Cave

Harold Meloy

In 1838 a young man in Cincinnati assumed the name of Wandering Willie and walked to Mammoth Cave. He was accompanied only by his violin with which he amused himself and entertained his hosts along the road. After seeing much of the cave, he asked for, and received permission, to pass the night in the cave. Willie selected a place in the main cave passage at a spring for his underground bedroom. The next morning when the guide came for him, he announced that he had spent a glorious night. Since then the spring has been called "Wandering Willie's Spring." Such is the stuff from which legends are made. Down through the years the tale was told and retold; and it changed and grew with the retelling. Variations of the story appeared in 1840, 1867, 1875 and 1882. Willie's visit named one spring in the cave, and perhaps a second. It also contributed another legend to the folklore of Mammoth Cave.

Thomas Ashe and The Great Catacomb Legend of Fayette County, Kentucky

Angelo I. George

Between 1810 and 1814, an astounding series of real events swept through eastern America and spread all the way to the European continent. Mummies were found in the caves of Tennessee and Kentucky. Ordinarily, this would not stimulate much attention,

but these mummies were thought to have been embalmed just like Egyptian mummies (Swartz, 1967). What is even more remarkable, there is a legend which recounts that hundreds of mummies, each wrapped in linen were discovered in a catacomb or cave near Lexington, Kentucky in 1776; this was substantiated by Thomas Ashe who visited the site in 1806.

The legend rest with statements made by Ashe (1808), most noted as an unreliable English traveler of slight veracity for fact, giving rise to a gifted imagination for physical and historical events. Late 19th and 20th Century historians generally agree that Ashe fabricated the catacomb legend.

The catacomb legend pre-dates the discovery of the Tennessee and Kentucky mummies by four years! It should be pointed out that Ashe did conduct an extensive (although rarely quoted) literature search of each geographical area that he visited (these he plagiarized). I believe that a portion of the catacomb story is based upon a real event. When Ashe visited Lexington in 1806, the town was at the crossroads of the saltpeter industry, commerce, and communication. It is very likely, judging from the frequency of discovered mummies from the Mammoth Cave region, that a similar mummy find may have been made prior to 1806. Ashe, being an opportunist for fantastic frontier tales, changed the locale of the discovery to one with which he was more familiar and that was within the context of his travel book.

The West Virginia Cave Environment and Its Relation To Frontier Pioneer History

Peter M. Hauer

The rugged Appalachian Mountains of West Virginia host a major karst region of the East, and the cave environment is reflected in the pioneer history of this backwoods frontier. Beginning with 18th Century settlement of the region, caves were used for shelter, food storage, saltpeter mining, moonshining, and a host of other uses. These relationships are noted from that time up to the terminal pioneer years, which persisted into the 20th Century in small backwoods pockets of the karsted highlands.

Caves of Fantasy

Ernst H. Kastning

Mystery, intrigue, adventure, and fear commonly determine the plots, themes, and settings of many works of fiction. Symbolic of the unknown, caves have served as settings in scores of such books in the English language alone during the 19th and 20th Centuries. Among these are children's, adventure, historical, romance, classical, and science fiction novels. Authors of these works include such notables as Mark Twain, Jules Verne, Robert Penn Warren, Edgar Rice Burroughs, J.T. Trowbridge, Victor Appleton, and many others. A fascinating and often humorous history of the development of the cave novel is presented

1975 Spelean History Session Abstracts (Angels Camp, California)

No 1975 History session presentations were listed in the Convention Program.

1976 Spelean History Session Abstracts Morgantown, West Virginia

Introduction to Southwestern Pennsylvania Cave History

Paul Damon

This year the NSS Convention is headquartered in the Tri-State area of Pennsylvania-Ohio-West Virginia. Little has been told or published of the cave histories of the area, although history does record much about the caves. This paper will provide a brief insight into the spelean history of this area. Later in this session you will hear more of the story of the area's caves.

Laurel Caverns: A Bicentennial History

Paul Damon

Modern men first took note of Laurel Caverns about 200 years ago when James Downard opened a limestone quarry on the ridge adjacent to the cave entrance in the 1770's. Ever since, the cave has been a local landmark and, with the commercialization of it 12 years ago, it has become a national landmark. The cave was known through the years as Delaney's

Cave, after a family who purchased it in 1814. The cave then was starting to enjoy wide popularity.

Throughout the years, in spite of many thousands of people visiting, little thought was given toward commercialization of the cave. Various owners purchased the cave land for its (dubious) farming values rather than for the cave. However, Norman Cole purchased the land in 1926 with the hope that he could commercialize it. It took almost 40 years for his dream to be realized. He opened its doors in July, 1964.

It is with these thoughts in mind that we now honor the extensive and colorful history of the cave that is participating in this NSS Convention as host cave.

Saltpetre Production From Cave Sediments - An Important and Early American Chemical Industry

P. Gary Eller, P. Hauer, C. Hill and D. DePaepe

The production of saltpetre (KNO_3) has been an important human activity for more than a millennium, providing an ingredient for meat preservation, ceramics, gunpowder, and many other commodities. For America, the availability of saltpetre, especially for gunpowder manufacture, played an important role during the westward movement of the 18th and 19th centuries and during the three major wars (Revolutionary, 1812, Civil Wars). Effective blockades during these wars forced utilization of our principle domestic reserves of nitrates - cave sediments. Thus the conversion of nitrates in cave sediments to saltpetre became one of America's first and most important chemical industries. In this paper we shall trace the history of domestic nitrate production from its frail beginning to its present enormous role in the modern chemical industry. In particular, we shall discuss the interesting role that caves played in this developing industry and the shifting pattern for use of caves for this purpose.

(This research received field assistance from the Cave Research Foundation. and financial assistance from the National Geographic Society.)

Recent Investigations into the Origin of Nitrates in Cave Sediments: Replication of the Saltpetre Conversion Process at Mammoth Cave National Park

by P. Gary Eller, C. Hill and P. Hauer

Although the existence of nitrates in cave sediments has been known for literally thousands of years, and has occupied the minds of some of the best 18th and 19th century chemists, certain aspects of the phenomenon remain mysteries. In the summer of 1974, we conducted an "action history" experiment in which the traditional procedure of the 1800's was replicated in order to understand better the technical details of the operation. Using traditional handtools, a leaching vat was constructed and used to convert 200 pounds of cave sediment from Audubon Avenue, Mammoth Cave, to an authentic sample of Mammoth Cave saltpetre. Several chemical intermediates, described in centuries-old recipes, were identified for the first time in these experiments. Much insight was also gained into the physical nature of the saltpetre conversion process. Additionally, the following accomplishments will be discussed: the discovery of an original boiling kettle used in the Mammoth Cave saltpetre operations during the War of 1812, location of the foundations for the chimneys used in the Mammoth Cave operation, and a much clearer understanding of patterns of saltpetre production throughout the Mammoth Cave region.

This work was supported by the Cave Research Foundation. Financial assistance from the National Geographic Society is gratefully acknowledged.

A Preliminary Report on The History of Biospeleology in Indiana

H.H. Hobbs III and Susan C. Krantz

Mention of Indiana cave fauna appeared as early as 1819 when Edmund Dana reported bats from "a spacious cave" (Wyandotte Cave). During the 156-year span from 1819 to 1974, 792 articles containing information pertaining to Indiana cavernicoles (largely systematics and species distribution) have appeared in journals, books and grotto newsletters. A total of 100 papers appeared prior to 1900, 70 of which were published from 1880-1889. The first half of the 20th century was shaken with wars, depressions, etc., and these appear to have dampened the efforts of many biospeleologists (111

articles from 1900 to 1949). The 1950's produced 85 papers and during the 1960's 153 manuscripts mentioning Indiana biota appeared. From 1970-1975, 191 articles were published, accounting for 24.1% of all literature concerning Indiana cave biota.

Nearly 5% of the publications were contributed by Europeans, chiefly the works of Bonet, Bresson, Chappuis, Jeannel, Kiefer, Vandel and Wolf.

Two hundred and thirty-two have been reported to contain biota and of these 29 have served as type-localities for 74 taxa. The order encompassing greatest numbers of newly described species was Coleoptera (19 species).

Articles appearing in grotto newsletters have played an important role in presenting observations of cavernicoles; 255 (32%) of the total number of articles have appeared in newsletters since 1950.

Cave Hermits: Vignettes of America's Past

Ernst H. Kastning

The formative years of our country's history are filled with legends and tales of heroic figures who shaped our heritage. There is another side of the story, however; one dealing with individuals who may not have struggled or fought for America's common good, but those whose eccentricities have provided interesting vignettes of folklore. These are the great American cave hermits; solitaires who chose to dwell in caves, apart from normal folk. Driven into seclusion, these lonely anchorites sought escape from various hardships, including the anxieties of war, the aches of a lost love one, the persecution by the law, or the general burdens of society.

The greatest number of celebrated troglodytes comes from northeastern caves. Pennsylvania ranks as the number-one state in spelean recluses. Among its most notable are Amos Wilson (The Pennsylvania Hermit), Benjamin Day (The Fiery Gnome), Albert Large (The Lovelorn Hermit of Wolf Rocks), and Coxey "Bivens" (The Delaware Valley Cave Dweller). New York boasts Sarah Bishop (The Atrocity Hermitess), and Jules Bourglay (The Leatherman). Connecticut also hosted Bourglay on his cave-to-cave travels and harbored Edward Whalley, William Goffe and John Dixwell

(The Regicides) in its Judges' Cave. Nike Link and Francis Phyle inhabited two caves in New Jersey. Robert (The Slave Hermit of Massachusetts) became a legendary figure for latter-day abolitionists. Thomas Parr (The Virginia Hermit) was found in a mountainous western Virginia cave. And then there was the anonymous young woman discovered in a rocky cave in the wilderness of the western frontier by some travelers in 1777.

These are but a dozen or so hermits who have been immortalized in the literature. Undoubtedly throughout the years others had inhabited rocky places in efforts to forget their burdens and to reflect upon their lives.

Arch Springs and Cave

Jack H. Speece

Arch Springs and Cave has been a landmark in Sinking Valley, Blair County, Pennsylvania long before the first white man entered the area in the early 1750's. The valley has a limestone floor and contains many caves as well as deposits of zinc and lead ore which became valuable during the Revolution. The first written reference to the cave was in 1788 and history of the area is closely related to the landmarks. Several attempts to commercialize parts-of the system have ended in natural disasters. The world's longest sodastraws are well secured beyond several siphons that challenge the best of diving teams. Interest in the cavern is evident throughout the years by the numerous pictorial arrangements that have been produced.

Tribute to Pete Hauer

by Jack H. Speece

Pete Hauer, long-time spelean history buff and Secretary-Treasurer of the American Spelean History Association, passed away last year. He was an authority of saltpetre in caves, and contributed widely to our knowledge in this field. He will long be remembered by his many friends.

*1977 Spelean History Session Abstracts
(Alpena, Michigan)*

The Legend of Stephen Bishop

Harold Meloy

During the nineteen years that Stephen guided at Mammoth Cave, he almost became as famous as the cave itself. Then, for a dozen years after his death in 1857, his name was seldom mentioned and his memory all but forgotten.

After 1870, when the status of the black guides was at its lowest ebb, they resurrected the memory of Stephen and embellished it with fictional accounts of daring exploits. Their stories improved with the retelling until Stephen became a folk hero to the black community at the cave.

Authors repeated these stories in numerous publications. By 1900 the legend of Stephen Bishop had become a tradition at the cave and remains today a classic example of spelean folklore.

Paleolithic Rock Art in the United States

Col. James G. Bain

From the earliest times, man seems to have had an innate desire to express himself artistically. As a result, engravings and paintings on stone dating from very early times are found world-wide. Although it is known that man has been in the area of the United States for at least 20,000 years, our rock art can not be reliably dated much before about 700 AD. In Europe, Australia, India and other parts of the world paintings and engravings have been found that in some cases are as much as 30,000 years old. This very ancient rock art is invariably located deep in caves where the environment is conducive to its preservation.

It is believed that equally ancient rock art exists in the United States, again deep in caves, but has never really been looked for. The purpose of this presentation is to arouse interest in searching for this art by cave explorers and to present some ideas on where to look, what to look for and some of the difficulties that might be encountered.

**Summary of Some New Mummy Research
at Short Cave, Edmondson Co., Ky**

Angelo I. George

Meloy (1968) has extensively documented the discovery of four mummies from Short Cave, Edmondson County, Kentucky. The revised mummy excavation chronology is as follows: a child, 1811 (Clifford, 1811; Wilkins, 1817); Fawn Hoof, 1811 (Wilkins, 1817); the two scudder mummies, 1814 (Rice, undated letter; Meloy, 1968). George (1972, 1975) recorded a similar mummy site called the Lexington Catacomb, allegedly located in Fayette County, Kentucky. The story of hundreds of embalmed mummies is a distorted account written by Thomas Ashe (1808) ; who visited the midwest in 1805-mid 1806. There is enough evidence to support the supposition that Ashe never arrived in Lexington (Leavy, 1875).

Comparative analysis of the Catacomb story suggests a true historic event and site that may have been located in the Mammoth Cave region (George, 1975). Additional research into Ashe's story has shown the Lexington Catacomb and its mummies to be the earliest written account on the first discovery of Native American mummy burials from the Short Cave site. The exact number is presently unknown, but "hundreds" seems too excessive. Short Cave is the only cave in Kentucky where specific mummy burials have been found and documented. Strength to the Catacomb-Short Cave theory is based on five points: (1) Ashe used an exact description of a real cave mummy; (2) he used a fractured account of a subsoil stone box grave; (3) employs a dry cave; (4) the geography of the Catacomb matches most of the internal features seen in Short Cave; (5) all of the Catacomb mummies were mutilated and destroyed; this is a parallel event that covers the motive of the operation by the petre monkeys in 1811 and 1814 at Short Cave. The superstitious petre monkeys performed ritualistic murders on the mummies to make sure they were not supernatural beings from the infernal regions. Ashe is directly credited with fathering the misconception that Native Americans embalmed their dead prior to internment; and later because of this belief, the Mammoth Cave area mummies were considered to be of Egyptian descent. Not until recently were the mummies found to be simple burials preserved by favorable conditions in the cave environment.

Meriam (1844) allows a three year hiatus for renitrication to occur in the cave soils at Mammoth Cave before resuming mining activity. This practice may have also been exercised in other saltpetre caves of the region. Short Cave being of limited horizontal extent may have only been worked in 1814, 1811 (as the revised mummy excavation data suggest), 1808, 1805, and 1802. It is entirely conceivable that Ashe's Catacomb-Short Cave story dates toward the 1805 or 1802 work period. The technical source to Ashe's Catacomb story is still unknown and under investigation.

Early Accounts of Howe's Cave, Schoharie County, New York: A Review of the Pre-1900 Literature

Ernst H. Kastning

The discovery of Howe's Cave in east-central New York has been traditionally credited to Lester Howe who entered the cave on May 22, 1842. However, there are references in the literature indicating that the cave was previously known to local Indians who called it "Otsgaragee," meaning "cave of great galleries." Howe's Cave was later used by Jonathan Schmul, a local Jewish peddler, and Rev. John Peter Resig, a German immigrant pastor, as a home and a hiding place from Indians. Just prior to Howe's 1842 "discovery," the cave was known as "blowing rock." Less than four months after Howe's visit, E. George Squier referred to the cave as "The Schoharie Caverns" in a newspaper account written in August, 1842. Geologist William W. Mather may have been the first to affix Howe's name to the cave when his description and lithograph of the entrance were published in a report of the New York Geological Survey in 1843. Yet, neither of these names were widely used at first, as suggested by another name, "Cataract Cave," used by A. Eggleston in 1846. One of the earliest published accounts of the cave, following its development for tourists, was written by Professor Simeon North of Hamilton College in 1851. By this time the name "Howe's Cave" was fully accepted. Several other accounts soon followed, as Howe's Cave joined Weir's, Mammoth and Wyandotte Caves as one of America's original show caves. One of the most interesting descriptions of a mid-nineteenth century tour through the cave was hand-written in 1861 under the pen name of Pip. This manuscript matches an article by an anonymous author

published in 1863. Sentence for sentence, the accounts are the same, but the words and names of individuals were changed in an obvious attempt to conceal plagiarism. Evidence suggests that the hand-written version may have been authored by J. Pierpont Morgan, the celebrated railroad and banking tycoon.

The Cave of Delaware

Jack H. Speece

A look at Delaware's geology would be enough to indicate that caves should not be found here. However, a cavity of significance does exist less than 100 feet from the Pennsylvania border. This shelter was used by the Delaware Indians who roamed the Delaware Valley over 200 years ago. Archeological studies were performed here in the 1940's. It wasn't until 1958 that the site became known to the speleological world. Since that time the cave has been "discovered," reported and mapped more than any other cave of equal size in the country. It has become important scientifically, historically, speleologically and archaeologically. This single cave of Delaware has become a matter of great discussion among caving circles in recent years.

Historic Maps of Mammoth Cave

Harold Meloy

The history of Mammoth Cave can be read from its maps. Since 1810, over a hundred have been made. These supplement the published histories of the cave and often provide significant information not to be found in other sources.

Only from its maps do we learn that prior to the erection of the saltpetre vats within the cave that there were earlier V-shaped vats at the cave entrance; that the prehistoric basket rediscovered by archeologist patty Jo Watson in 1969 was known in 1813; and that Stephen Bishop in 1842 was acquainted with the passage rediscovered by the CRF, and by them named Hanson's Lost River, when they connected the Flint Ridge Cave system to Mammoth Cave.

An integrated study of its maps gives us new insight to the history, legends, traditions and folklore of Mammoth Cave.

1978 Spelean History Session Abstracts (New Braunfels, Texas)

Physicians as Cave Explorers

Karel Absolon (deceased) and Karel B. Absolon

This study is based on unpublished material from the archives of the senior author, formerly Professor of Geography, Charles University (Praague, Czechoslovakia). It concerns the exploration of the Moravian Karst, north of Vienna, by the provincial capital of Bmo.

Two physicians were instrumental in exploring caves in this classical karst locality, the umbilicus of which is the Macocha Abyss, one of the largest collapsed sinkholes in the World: Dr. J. Wankel (1821 -1897) in the second half of the 19th century, and J.F. Hertod v. Totenfeld (1648 -1714) two hundred years before.

The motivations of the two physicians were different. J. Wankel, a practitioner to the miners in nearby Blansko, was a scientist, thus named “father of Central European Archeology.” As speleologist, geographist and archeologist, he published a number of scientific books and articles which retain present-day quality and flavour.

J. Hertod v. Totenfeld, aimed at the relationship of geography (spas and its beneficial waters) and health in Moravia, retaining Paracelsian arguments of the previous centuries. Thus, he argues good mother earth “ipse facto” makes remedies available to its inhabitants. Looking for a replacement for the imported “unicorn” powder, an “essential” ingredient of his remedies, he finds replacement in the form of ground up fossilized mammal tusk and bones from localities in and outside of caves. This aim lead him to explore new caves and to finally visiting the awesome Macocha Abyss. He even measured its depth (137 m) by approximating the time it takes to say the “Pater Noster” and a stone to reach its bottom.

Due to his exploits, J. Hertod v. Totenfeld, the main subject of his presentation, reached fame and got involved in controversy. He became “Protophysicus” - first physician in Moravia, physician to the Austrian emperor and king in Vienna, and even the “selector” of the bride for the future King Charles VI. In this capacity, he applied his medical and investigative knowledge to identify

the physical and psychological qualities of the future queen.

The controversy he got involved in related to the efficiency of his questionable procedures and remedies, the underlying motivation of which was professional jealousy of his competitor. Professionally, he was certainly not innovative, but within the limits of the then medical science, a contributor to it. His suggestions regarding hygienic principles were progressive. He thus became a member of the prestigious “Academia Naturae Curiosorum” scientific society in Schweinfurt.

Even though Hertod v. Totenfeld’s “Tartaranastix Moraviae” (1669) did not reach the scope of A. Kircher’s (1602-1680) “Mundus Subterraneus” (1664), he reached fame as physician and became part of medical and speleo-history.

The Olmec Cave Paintings of Juxtlhuaca Cave and Their History

William R. Halliday

The April, 1967 issue of *Natural History* announced the “find” of “what are believed to be the oldest paintings discovered in the New World” in La Gruta de Juxtlhuaca in Guerrero, Mexico. They were and still are attributed to the Olmecs, the first high culture known in the Americas. The great discovery was widely reported at the time, with three color photos in *Life*.

Since these are the only cave paintings known in the Western Hemisphere which are comparable with those of Europe, it is important to clarify their history. Actually, Juxtlahuaca has been a semi-commercial cave since its dedication in 1932. A 43-page booklet on the cave, published locally in 1961, described the three main paintings. The 1964 edition of “Mexico’s Caves and Caverns,” a 32-page booklet in English widely distributed by the Pemex Travel Club, devoted a half-page to them. NSS charter member, Charles Mohr, visited the cave and photographed the paintings even earlier.

Dr. Call at Mammoth Cave

Harold Meloy

One of the very top Mammoth Cave authors was Richard Ellsworth call, M.D., Ph.D (1856 - 1917). His writings flashed across the sky of Mammoth

Cave literature during the 1890's with all the brilliance of an unexpected comet. His descriptions of the famous cave outshone all other accounts then in print, including the Works of Horace C. Hovey. Hovey joined with Call in 1897; and, thereafter Call's prose gave new life and refreshing luster to Hovey's books.

The Skeleton of Luray Caverns

Russell H. Gurnee

On October 4, 1878, Andrew J. Campbell discovered a skeleton at the bottom of a chasm eight hundred feet from the entrance of Luray Caverns. The skeleton was partly covered with calcite; and only the skull, jaw, ribs and leg bones were visible.

Identified by local medical authorities as a "young person," it became a point of curiosity for visitors for several years. The loose bones were quickly taken by souvenir hunters; however there were sufficient parts available for Professor Joseph Leidy to identify them in 1880 as a "young human male." Later in 1887 he again saw them and said they were then almost unrecognizable.

In 1921 Col. T.C. Northcott, then owner of the cave, had the bones excavated by Smithsonian Institution archaeologists. The bones were taken to Washington and identified as a "sub-adult female." They are still there in the storage racks of the institution, but may be transferred to Luray Caverns for the centennial exhibition at the cave in 1978.

Many tales were told of the skeleton. A book, published in 1887 titled Legend of the Caverns by Pauline Carrington Rust, tells in poetry form a fanciful story of a young Indian brave who was sealed up in the cave. Other known references to the skeleton will be discussed.

A Discussion of Graphic Techniques as Related To Spelean History

Emily Davis Mobley and William F. Mobley

Throughout the years many techniques have been used to present visual images on paper. This report will be concerned with the application of these techniques within the spelean history field. Techniques, and how to recognize them, will be discussed so that spelean historians may be able to

date and recognize prints which have been separated from books or those which were never bound.

The earlier prints were woodcuts related to the Bible. Although there may be early (15th century) Biblical cave prints, the authors have not found any. Man progressed through copper etchings and engravings, mezzotints, aquatints, lithographs, wood engravings and has completed the cycle with photography. The paper discusses each of these methods and gives examples of each when possible.

Caves of Fantasy Revisited

Ernst H. Kastning

Countless writers have used caves as settings for novels and other works of fiction. Caves purvey a sense of darkness, eeriness, mystique, intrigue and adventure. They are unfamiliar places to the typical reader of fiction. In many cases the cave is the villain, a natural enemy to be conquered. More commonly it is a physical setting around which hardship, quest, romance and various other life struggles are played out. Caves may also serve symbolically in fiction; never really as tangible places, but rather as figurative images. In this context the mind may be an intricate cavern or the interplay of human experiences may be excursions through the labyrinth of life. Whether the cave is used realistically or figuratively, the variety of fictional works in which it is found is surprisingly diverse. Fiction using caves includes classical works, historical novels, science fiction, fantasy, gothic romance, westerns, pure adventure, children's fiction, the occult and others. The role of caves in fiction is indeed fascinating and ranges from the proverbially ridiculous to the sublime. As speleologists we derive something extra from these works, beyond what the authors had intended: many ways caves are used are downright amusing. This light-hearted overview of spelean fiction is in part a progress report on the compilation of an annotated English-language cave-fiction bibliography.

Speleothem Growth Rate Measured From a Stalagmite in Admiral's Cave, Bermuda

Thomas M. Iliffe

In 1819 Admiral Sir David Milne removed a large stalagmite from Admiral's cave, Bermuda, to be placed in the Museum of the University of

Edinburgh, Scotland. Sir Alexander Milne, visiting the cave in 1863, determined that five cubic inches of stalagmitic material had been deposited on the stump during the 44 years since the original speleothem had been removed by his father. David Milne Home concluded from his brother's observations that, assuming a constant rate of deposition, it would have taken 600,000 years to form the original stalagmite. Sir C. Wyville Thompson, director of the H.M.S. "Challenger" oceanographic expedition, entered Admiral's cave in 1873 to observe the stump. Under Thompson's direction, a slice was removed containing the material deposited in the last half century. Current measurements of drip rate and calcite deposition at the stump and at other locations in Admiral's cave are reported.

Scientific, Popular, Romantic and Enterprising Interests in Ball's and Howe's Caves, Schoharie County New York, 1831-1900

Ernst H. Kastning

Ball's and Howe's Caves received substantial early recognition in scientific, popular and romantic literature of the mid-nineteenth century. Early accounts were authored by renowned and influential persons of that time and have significantly enriched spelean history of the period. Continuing historical research has unearthed several interrelationships among various visitors, authors, scientists, and cave owners and managers.

Local newspaper accounts of the discovery and early visits to Ball's Cave were communicated to editors of established scientific journals such as the *Monthly American Journal of Geology and Natural Science* (1832) and *The American Journal of Science and Arts* (1835). These writings may have inspired Charles Fenno Hoffman to create the Cavern of Waneonda in his romantic novel, *Greyslaer* (1840). So real was his description of this Schoharie cave that it later inspired a young lady named Geraldine to see Ball's Cave and write about it in *The American Literary Journal*.

Meanwhile, Howe's Cave was discovered (1842) and opened to the public by Lester Howe, creating a sensation in the newspapers, geological reports, and in several American and English magazines. Simeon North's "Visit to Howe's Cave" first appeared in the

Knickerbocker (1851). The account was pirated in the same year by *Sharpe's London Journal*, and the New York Evening Post, *The North American Miscellany*, and Littel's Living Age. Two years later, W.H. Knoepfel published his prospectus for developing nearby Ball's Cave for public view, claiming it was rivaled only by the great Mammoth Cave in Kentucky. Surely, Knoepfel was influenced by the publicity given to Howe's Cave. These plans never came to fruition and what may have been America's first "cave war" was squelched.

The popularity of Howe's Cave continued to grow. The enigmatic "Pip Morgan" account appeared in *Continental Monthly* (1863). The first guidebook to Howe's Cave was published in 1865 and contained the celebrated "Greatest Wonder in the world" map of Howe's Cave, later used by Horace Hovey in *Celebrated American Caverns* (1882). Howe's Cave was later subjected to financial vagaries of railroad reorganization and the cement industry. The first phase of its development came to an abrupt halt at the end of the nineteenth century.

George Washington Cave, Jefferson County, West Virginia

Jack H. Speece

George Washington Cave near Charles Town, Jefferson County, West Virginia contains the signature of George Washington, dated 1748. Although this inscription appears to be authentic and similar to those in Madison's Cave and at Natural Bridge, it cannot be verified by historical accounts. The cave is also reported to have been used by him for Masonic purposes. The commercialization of this landmark was short-lived but still retains today in good condition.

*1979 Spelean History Session Abstracts
(Pittsfield, Massachusetts)*

**THE HISTORY OF AMERICAN CAVING
(A special two-part session at the 1979
NSS Convention)**

**PART I: INTRODUCTION: EARLY
AMERICAN CAVING**

Preserving history is an important feature in all categories of technology. Speleological history is no exception. The Spelean History Section of the N.S.S. has long strived to preserve and make available to the caving community the heritage that is uniquely ours. With the annual convention being held this year in Pittsfield, an area abounding in cave and caver history, and the theme of the convention being caving history, the History Symposium has been expanded to cover eight hours of presentations; this will be divided into two sessions:

Many excellent papers will be presented. In addition, on Friday, the annual luncheon and meeting of the American Spelean History Association will be held. That afternoon there will be a Speleomemorabilia Fine Arts Auction.

Early American caving encompasses the period generally prior to 1940 and the founding of the N.S.S. In this period, the story of American caving was generally one of individual, rather than group, effort. The stories of several of the individuals will be presented, along with the story of other more prominent early cave-related experiences.

**Dragon Cave, America's Oldest Cave
Reference**

Jack Speece

Cave historians have observed on a well-known map, produced by W. Soull in 1770, the location of a cave. Most now believe this cave to be Dragon Cave in Berks County, Pennsylvania. Although there is no written account or description of the cave, it is the oldest known written reference to a cave in the United States which has come to light. The unusual legend of this cave, rather than its size or beauty, has placed it "on the map" for future generations to study and recognize.

Outline of Mammoth Cave History

Harold Meloy

Mammoth Cave has had one of the longest and most varied histories of any cave in the United States. To put its story in perspective, a chronological outline of the cave's history has been prepared for the National Park Service, noting events and related incidents at the cave, from 1790 to present.

Lester Howe and His Cave

Kevin R. Downey

Lester Howe was an immigrant to the agricultural area of upstate New York known as the Schoharie Valley. Because this area has many caves, Lester Howe was able to make a mark for himself. Howe was able to find a cave that was larger and more impressive than most of those known in the area and, although the story of the discovery of this cave has been told many times, it is seldom told the same way twice; in fact, there are several discrepancies in the old records. One thing is agreed upon; Howe purchased the cave for \$100 and created a substantial empire in the tourist trade until he was bought out by the Albany and Susquehanna Railroad.

Historians also agree that Howe was an eccentric man. A legend arose with regards to "another cave" which he claimed to have discovered and which he called his "Garden of Eden." The location of this cave he kept secret, but it was supposed to be far greater than his first discovery. The legend has inspired many to search diligently for this cave and there have been many subsequent legends (as well as false rumors) started by those cavers who have joined in the search. Careful research, in an attempt to verify this legend, has not found any supporting evidence; indeed, evidence has been uncovered which leads the author to doubt it. However, there are several unanswered questions and these may still keep Howe's legend alive.

Russell Cave - Man's Home for 9000 Years

Jack Speece

Russell Cave contains one of the most significant archaeological discoveries in America. The deposits were originally found by amateurs in 1953 and were

referred to the National Geographic Society who purchased the property, made a thorough investigation, and donated it to the American people in 1958.

Today it is a National Monument supervised by the National Park Service. This in-place exhibit attracts thousands of visitors each year. Human remains here can be sequenced back for 9000 years.

A Discussion of Graphic Techniques as Related to Spelean History

Emily Davis Mobley and William Frost Mobley

Throughout the years, many techniques have been used to present visual images on paper. This talk will be concerned with the application of those techniques within the spelean history field. Techniques, and how to recognize them, will be discussed so that spelean historians may be able to date and recognize prints which have been separated from books or those which were never bound.

The earliest prints were woodcuts related to the Bible. Although there may be early (15th century) Biblical cave prints, the authors have not found any. Man progressed through copper etchings and engravings, mezzotints, aquatints, lithographs, wood engravings, and has completed the cycle with photography. This paper discusses each of these methods and gives examples of each, when possible.

Confederate Nitre Production

John Powers

The use of caves played an important role in the Confederacy's bid for independence. The Confederate Ordnance Department (later, the Nitre & Mining Bureau) successfully utilized the South's numerous, scattered caves to produce an adequate supply of gunpowder, despite military, political, and logistic disadvantages. Potassium nitrate, an essential ingredient in gunpowder, was leached from the nitrous earth mined from saltpeter caves. Sources of research included official War Department records. Grotto newsletters, Ordnance Department publications and actual explorations of many of the caves were other sources of information.

Saltpetre Mining in West Virginia

Peter Hauer (deceased)

This paper consists of an unpublished manuscript which was found among Pete's personal effects; it will be presented by Jack Speece.

Saltpetre mining in the Virginias became an important industry during the War Between the States due to the scarcity of imported nitrates. The early settlers used the cave soils to produce their private supplies prior to the War of 1812. Gun powder became a valuable trading commodity for the early settlers. Much of the art of producing potassium nitrate has been lost but this study has recorded many of the basic principles.

Edwin Swift Balch - Almost an American Martel

William R. Halliday, M.D.

Today, Balch is largely remembered for his book *Glacieres, or Freezing Caverns*. At the time of his death, however, his speleological contributions were almost forgotten. Primarily this was because his interests were diverted into other fields just when he began to spread out from ice-containing caves to speleology in general. Further, nearly all his caving was in Europe; he had just begun exploring American caves -- primarily in the area of the 1979 N.S.S. Convention -- when he was distracted from speleology. More than a half-century after his death, however, Balch's role in the advancement of speleology still remains incomplete.

James Parrish Steele and Wyandotte Cave

George F. (Wyandotte) Jackson

Wyandotte Cave, Indiana attracted much attention by early speleologists. Descriptions of the cave appeared in numerous magazines and journals by such well-known authors as Horace Hovey. It wasn't until 1864 that James Parrish Steele wrote the first book on the natural wonder. Although he lacked somewhat in scientific accuracy in cave formation, his descriptions and remarks on Wyandotte are hard to equal.

Horace Carter Hovey - An Unfinished Story

William R. Halliday, M.D.

Much has been written about the contributions of the Reverend Horace Carter Hovey to American speleology. Yet a number of puzzling questions remain. A recent discovery by Rick Banning may have clarified the nature of the supposed second edition of *Celebrated American Caverns*, but Hovey's first two published articles and many later ones remain unlocated, and the whereabouts of his personal files and library are unknown; they may be in crates at the American Museum of Natural History. Much rewarding research remains to be done on this fascinating speleopersonality.

Schoharie County - 200 Years of Cave Exploration

Kevin R. Downey

Early records show little interest in the caves of the Upstate New York area, except where they could serve as sources for ice or water. No early maps or descriptions of the caves are known, but several legends and superstitious beliefs were recorded. Not until the early 1800's were any more detailed descriptions or explorations published, and these were still rare.

As the growing interest in romantic naturalism spread, the interest became a flood, and such caves as Mitchells', Balls', and Knox were visited and widely described. The attention paid to the caves of Schoharie County, New York made it one of the best known of American cave areas, despite the relatively small number of caves known or explored at that time.

As the 1800's progressed, the deaths of at least three individuals were associated with these caves and one commercial cave (and one attempt) was operated. Local maps contained many caves as landmarks and visitation seemed to be high. Unfortunately, most of the known caves of the time were stripped of formations. As the century drew to a close, the interest seemed to fade out.

The 1900's brought a new, and less romantic, form of scientific research to the caves and with it, the beginnings of organized recreational caving. Several generations successively rediscovered the 'lost' caves of the Schoharie hills.

Despite two less productive periods in the century, the 1900's have seen dynamic changes as the area has become a major recreational caving site and the subject of many specialized scientific studies. At present, there are well over 50,000 feet of mapped passages and much more to be explored. Despite the relative lack of world class cave here, there is much interest for several reasons. One is the close proximity of several metropolitan areas. Still others include the accessibility of caves, and the persistent rumors and legends.

A History of Adirondack and New England Talus Caving

Robert W. Carroll, Jr.

Nonsolution caves have been known for centuries in the Northeast. The Indians and early white settlers used these cavities as temporary shelters and storage sites. This area has generated many odd stories about wolves, bears, counterfeiters, outlaws, "The Leatherman," and 'bottomless' pits, but few people have made serious inquiries into them.

Most people do not consider these boulder piles and rifts to be true caves. They believe them to be dangerously unstable and of only trivial consequence to the speleological statistics of the region. Changes in these lowly opinions were slow in coming, but once the potential of these caves finally became apparent, a veritable revolution began.

Clay Perry was perhaps the earliest speleologist to take a careful look into these mountains. His efforts were reported in his well-known editions of 1939, 1940 and 1948 under the titles: *Underground New England*, *New England's Buried Treasure*, and *Underground Empire*. However, his efforts in the Northeast were confined to the better-known landmarks.

PART II: Introduction to Modern American Caving and the N.S.S.

This session of the Symposium is devoted to looking at the more modern era of caving history in the United States. In general, it will cover subjects of significance which have occurred since the founding on the N.S.S., in 1940; the period of truly organized caving in the United States

Two papers will discuss aspects of cave-science history. These will be followed by stories of the development of caving in two states. The remainder of the papers include one on the history of one of the N.S.S.'s Regions, the story of an N.S.S.-owned cave, a new look at the founding of the N.S.S., and a tribute to Bill Stephenson, our Society's founder.

A Biased History of Cave Geology in North America, 1879-1979

William B. White

Cave Geology in the United States began in 1878-1879 with the descriptive writings of H.C. Hovey. Although some of the founding fathers of American geology (e.g. Benjamin Silliman) had examined caves, their writings are casual, superficial, and generally unenlightening. The descriptive trend continued through the turn of the century with the cave surveys of Blatchley in Indiana, and later Baily in Tennessee, White in Ohio, Stone in Pennsylvania, McGill in Virginia, and Mallott in Indiana. Cave science (as distinguished from descriptive speleology) dates from the early 1900's and reached a crescendo in the 1930's with the publication of Davis' classic work and that of his critics, Gardner, Swinnerton and Mallott. These, however, are only highlights on a large body of professional work in the 1920's and 1930's dealing with cave origin hydrology, and karst engineering problems (e.g. the leaky Tennessee River dams). Bretz's 1942 classic, in fact, marks the end of an era. There followed a hiatus of 15 years during which few new ideas were introduced.

The modern era of cave geology dates from 1957, the year in which the first process-oriented paper on cave origin was published. Organized caving groups, notably the N.S.S. and C.R.F., played an important role in developing a new, more integrated, approach to cave science. Also important was the *N.S.S. Bulletin* which, under the editorship of William E. Davies, took on the role of a scientific journal. Acceptance of cave geology papers in the mainstream geological journals followed in the middle 1960's. The shift of cave science from isolated investigators to university-based programs in the 1970's paralleled an increasing stream of M.S. and Ph.D. theses on cave-related topics. The scope of research broadened to include geomorphology, geochemistry, hydrology, sedimentation, mineralogy, and climatology as related to caves. High quality

research has been accomplished by recognizing the essential interdisciplinary of cave-related sciences rather than by trying to establish "speleology" as a compartmentalized, rather exotic, specialty by itself.

Cavers and Bone Caves - 1949 To 1978

R. E. Wittemore

In the last 30 years, the caving community has made a significant contribution to the study of the Pleistocene history of eastern North America. This contribution has been largely through the discovery and excavation of several dozen important deposits of vertebrate animal fossils. Caves form one of the few types of environments in the Appalachians in which fossil animal remains may be accumulated, preserved, and protected from erosion. Since cavers frequent this environment, accidental discovery of some deposits is inevitable; however, the role of the caving community has been a far more active one:

- (1) Descriptions and location data on caves accumulated by cavers has been used extensively by paleontologists in prospecting for new sites.
- (2) The caving community has provided open channels of communication between cavers and caving paleontologists through publications, seminars and informal gatherings.
- (3) At times, paleontologists have drawn heavily upon the caving community for assistance in locating caves in the field, removing bone-bearing deposits, site mapping, and nearly every other aspect of their field operations.
- (4) Cavers have developed many of the techniques used by paleontologists in getting around safely in caves.

A brief history of the discovery and excavation of several important fossil bone deposits will be outlined, and ongoing efforts will be discussed.

A History of Alabama Caves and Caving

William W. Varnedoe, Jr.

The history of Alabama caving can be traced back to the files of the Niter Mining Bureau of the Confederate Army when the valuable cavern soil was used to produce gun powder. Earlier records could possibly extend back to 1540 when Hernando

DeSoto traveled through the state. The first written record is dated 1796 but real efforts to study systematically the speleological aspects of the state did not begin until 1930 when Doctor Walter B. Jones studied the ground waters in northern Alabama. Since then, the Alabama Cave Survey has flourished with the efforts of men like Bill Torode and William Varnedoe. These efforts have produced many publications and will soon contain 2,000 caves.

Organized Caving in California: An Overview

Dell G. Quick

Thirty-two years of organized caving in California has greatly increased caving activity. This increase began mainly because eastern U.S. N.S.S. cavers moved to California and established grottos that spread caving interest further, throughout the state. Due to association in the N.S.S., grottos and individual members have shared a great deal of information over the years through publications and personal contact. Due to organization, the California cave experience in terms of completeness of knowledge, variety of activities, number of clubs, and possibility of exploration is much higher now than ever before.

A History of Caving in the Virginia Region of the N.S.S.

Anne B. Whittemore

The Virginia Region (VAR) holds a unique position in the Society's history. Not only is it the first regional organization to be formed, but the encompassing area served as the cradle of organized caving and the N.S.S. In addition, the VAR features two of the oldest grottos still in existence, the first student grotto, and within its underground labyrinths are the caves where many, many cavers had their first caving experience. The history of the VAR as presented here begins with caving trips published in a Steubenville, Ohio newspaper in 1938-1939 and goes on to describe some of the early, major discoveries in several West Virginia and Virginia caves as presented to this author by Roy Charlton, Bill Cuddington, Bob Handley, John Holsinger, Jean Lowry, Ackie Loyd, Earl Thierry, Tommy Watts and others.

The History of McFail's Cave, Schoharie County New York

Kevin R. Downey

N.S.S.-owned McFail's Cave is currently the longest cave in the Northeast. It has two usable entrances and a long history. The first descriptions of the cave date back to 1854, although earlier references are known. The first explorers seemed not to have pushed the cave for any long distances. The cave is named after a Professor McFail, who died in a fall at one of the cave's entrances and who is often erroneously credited with the cave's discovery. Previously, it was known as Ira Young's Cave. Several years of exploration have uncovered over five miles of passages and have resulted in one additional fatality; this due to the challenging nature of exploration in MCFail's. Several decades of search for this cave have been documented but many unanswered questions remain.

Nurturing the N.S.S. - A Story of the Initial Struggles to Start a National Caving Organization in the United States

Paul Damon

Four people were most instrumental in establishing the course and shape that the N.S.S. would take during its most formative period: Bill Stephenson, Clay Perry, Jack Preble and Ned Anderson. As such, these men should be credited, to a large degree, with the current shape of the Society. This paper discusses how these men developed and nurtured the Society during the period from four months prior to its founding, to a major turning point six months after its founding, at which point the N.S.S. had become a full and established reality, enveloping much of the American caving scene within its protective umbrella.

An Early History of the N.S.S., Through Photography

John Meenehan

Cave photography was in its infancy when the N.S.S. was founded in 1941. Photographers in the group found that they had to develop their own techniques. A photographer who has been in the N.S.S. since its founding illustrates the early history of the Society through the eye of the camera.

Tribute to Bill Stephenson

Paul Damon

Bill Stephenson, N.S.S. founder, first President, and currently Honorary President, has devoted his whole life to the cause of the N.S.S., from before its inception in 1941 to today. Here, his friends, old and new, pay him tribute.

1980 Spelean History Session Abstracts (White Bear Lake, Minnesota)

Rock Art - Another Perspective in Cave Exploration

Richard Jay Wright, DDS

Rock carvings and paintings attributed to the earliest Americans have been observed in many areas of Minnesota and adjoining states. Many are located in caves and rock shelters. This presentation will deal with the many forms of rock art in Minnesota and Wisconsin with the intent of aiding in the identification, recording and preservation of rock art sites.

Mammoth Cave of Illinois - A Brief History of the States Only Commercial Cave

Larry Cohen

Since prior to the 1904 St. Louis World's Fair, Mammoth Cave of Illinois (aka. Illinois Caverns, Little Mammoth, Burkesville Cave, Egyptian Caverns) near Waterloo, Illinois has operated on and commercial cave venture. Today the cave remains in a semi-commercial state under the caretaking of Armin Krueger, a farmer and long-time "spelunker" of the area. Born in 1914 and raised just a few hundred yards from the cave entrance, Armin Krueger personifies a fascinating 60 year coexistence of man and cave. Total exploration and surveying of the cave has been in progress since early 1979.

Why is there a Ballad for Floyd Collins but None for Lindsay B. Hicks?

Richard L. Breisch

It took a day before rescuers found the man who had been trapped underground. It was not hard to

get food to him but extracting him presented difficult problems. The initial estimate of 4 days to perform the rescue was overly optimistic. Newspaper coverage made the incident a national event, and promoters would later set up tours to exploit the public's interest in the rescue. 15 1/2 days after being trapped Lindsay B. Hicks was rescued from a tunnel near Bakersfield, California. This incident is very similar to the entrapment of Floyd Collins which would occur 18 years later. So why is Collins famous, and Hicks forgotten? This paper compares and contrasts the stories.

Carver's Cave: An Enduring Landmark on the Upper Mississippi River

Alan R. Woolworth and Nancy L. Woolworth

Carver's Cave has the distinction of being one of the earliest caves to be investigated and described in the United States. The explorer and trader, Jonathan Carver, voyaged to the Upper Mississippi River in the fall of 1766 and made reasonably detailed observations on this natural wonder. His popular volume of 'Travels' was first published in London in 1778 and has been reprinted in more than fifty editions. Thus, Carver's Cave became well known and was long considered the most prominent natural landmark on the Upper Mississippi. It was visited by most military, literary, and scientific visitors to the area between 1806 and about 1870. Shortly before the Civil War it became a popular tourist attraction. From about 1869 onwards, the cave suffered from the development of industry in the region and was damaged and vandalized. Long a local topic of extreme interest, it is owned by the City of St. Paul, Minnesota. The present paper is the first reasonably detailed account of the physical nature and history of the cave to be published. Currently, the site is under scientific investigation. Illustrations and a sketch of the interior layout are also presented.

Saint Paul's Caves: A Historic Perspective

Gary Brueggermann

I plan to discuss via a slide presentation the importance of caves in the development of Saint Paul will specifically focus in on interesting histories of all the major caves in the Saint Paul area.

1. Geological Background
2. Carver and Fountain Caves

3. Saint Paul was born in a cave
4. Brewery Caves
5. Mushroom Caves
6. Nightclub Caves
7. The caves today and tomorrow

Carvers Cave

John L. Ricci

I will explain how I became interested in Carver Cave; how I proceeded to secure funds for exploration; how we actually progressed with leases, funds, and exploration techniques. I will tell what agencies assisted us, such as the Bicentennial Committee, Burlington Northern Railroad, Minnesota Historical Society, City Council, other city departments, and news media, Native Americans, and, of course, members of the Archeological and Speleological Society.

I also have a documentary film that was compiled by Steve Doyle when he was with Channel 9, KMSP T.V.

1981 Spelean History Session Abstracts (Bowling Green, Kentucky) (Eighth International Congress of Speleology)

Early American Speleological Writings

Jack H. Speece

Prior to 1750, the only mention of caves in America was contained in the journals of the early explorers and specific names and locations were omitted. Later, caves were mentioned as landmarks and curiosities. Thomas Jefferson was one of the first to recognize and write about the scientific aspects of caves in this country.

Although America is in its youth, little has been done to organize its early speleological writings. Caves have played an important role in the country's history and progress and have been the subject of great legends and folklore, but little has been written about them and the few writings which do exist are widely scattered.

History and Contributions of the Western Speleological Survey

William R. Halliday

The Western Speleological Survey is a small, informal organization whose operations deliberately are low profile except in the field of conservation in which it is vigorously outspoken. It was chartered in the state of California in 1955 and now is incorporated in the state of Washington. Currently it has units in several western states, and has initiated or assisted in speleological studies in Vancouver Island (Canada), Belize, and Okinawa. It has had an especially active role in preservation of caves and karst and their features, such as inclusion of the Mineral King caves in Sequoia National Park, protection of underground wilderness in Mammoth Cave national park and the Guadalupe Mountains, opposition to the use of certain caves as fallout shelters, protection of the Karst from overindustrialization, and assurance of safety in siting of nuclear plants in karstic terrains. Most recently, it has been very active in attempts to protect the caves of Mount St. Helens from post-eruptive mudflows. To date, more than 60 WSS bulletins have been published, and two monographs. On July 31, a fundamental change will occur in the WSS.

Pioneers of North American Cave and Karst Science Prior to 1930

Ernst H. Kastning

Fifty years ago William Morris Davis published his celebrated study, "Origin of Limestone Caverns." Within twelve years, no less than four other benchmark papers on speleogenesis appeared in prominent American geological journals; some of these embellished Davis' ideas while others proposed alternative theories. This flourish of conceptualism provided impetus for subsequent regional cave studies in many states, including Pennsylvania, Virginia, Tennessee, Alabama, Indiana, Kentucky, and Missouri. Ultimately, many of these simplistic theories were refined and synthesized into modern views that now treat caves as products of multiple or complex interactions among diverse factors such as bedrock lithology, geologic structure, chemical kinetics, hydrodynamics, and topographic evolution.

Physical speleology in North America did not have its beginnings in the deductive works of Davis and

his contemporaries, but was founded instead in a host of descriptive studies concerning selected cave areas in the eastern United States and Canada. Many of these works are well known today because they address the classic karst regions of the United States, notably central Kentucky, Indiana, and Tennessee. However, some of the earliest literature, published during the interval 1820 to 1930, is relatively obscure and rarely cited because it concerns less spectacular karst regions, such as those of New York and New England. Among the unsung pioneers of American speleology are Amos Eaton, Ebenezer Emmons, Charles U. Shepard, Edward Hitchcock, William W. Mather, Lewis C. Beck, James Eights, Amadeus W. Grabau, John H. Cook, George B. Shattuck, George H. Hudson, and Herdman F. Cleland.

Un pionnier de la speleologie: le peintre suisse Caspar Wolf (1935 - 1783)

Pierre Strinati

Rather famous when he was alive, Caspar Wolf has been rediscovered very recently. Willi Raeber published in 1979 a complete book about him and the Kunstmuseum of Basel (Switzerland) exhibited a great number of his paintings during the summer of 1980.

Caspar Wolf painted mostly landscapes; he travelled extensively in Switzerland and visited and painted caves in the Jura mountains and the Alps. Caspar Wolf is considered like a forerunner of romantic painting; he must be considered too like a pioneer in speleology.

1982 Spelean History Session Abstracts (Bend, Oregon)

The Founding of the Cave Conservancy of the Virginias

John M. Wilson

After discussing several alternatives, the members of the Virginia Cave Commission founded the Conservancy on April 13, 1980 at a meeting in Richmond, Virginia. The Conservancy plans to make the cave ownership and control approach one of its top priorities. There is clearly a need to face the fact that many past attempts to save the caves

were inadequate, both in the effort and resources applied to the task. Most fund-raising efforts did not raise anywhere near enough money to significantly attack the problem of cave conservation. The Conservancy is an organized attempt to deal with these and many other problems. Some of the projects the Conservancy has undertaken to date are:

- 1) The establishment of a \$500 reward fund for information leading to the conviction of cave vandals under the Virginia Cave Protection Acts or equivalent laws in West Virginia and Maryland.
- 2) Establishment of plans with the Richmond Area Speleological Society (RASS) for fund-raising through Bingo.
- 3) Support gating projects in cooperation with other groups such as that recently carried out for Unthanks Cave in Lee County, Virginia and jointly manage that cave with the Cave Conservancy Institute (CCI).
- 4) Work with the West Virginia Chapter of the Nature Conservancy in managing General Davis Cave.
- 5) Establishment of a management plan for Madison and Fountain Caves.
- 6) The Conservancy was in the forefront of efforts to obtain conservation easement legislation in Virginia.
- 7) Advice to Town of Grottoes on the hazards of the construction of a water tower above Grand Caverns.
- 8) Work to obtain a stronger Cave Protection Act in Virginia.

1983 Spelean History Session Abstracts (Elkins, West Virginia)

William Henry Harrison – Cave Owner, Explorer and President

John M. Benton

William Henry Harrison was sworn in as our 9th President in 1841. Harrison moved to Indiana via Ohio and Virginia in 1801. What follows are some observations on William Henry Harrison and caves he encountered and possibly explored while in Indiana. Evidence is piecemeal and theoretical, but it is clear that Harrison seemed attracted to caves and springs, and history records his visit to

Wyandotte Cave in 1806. Was Harrison just a casual observer to Wyandotte and other caves, or was he one of America's first spelean explorers?

Civil War Writings from the Walls of Lookout Mountain Caverns

Larry O. Blair

For years it had been rumored that many old Civil War era signatures were to be found on the walls of the Lookout Mountain Caverns, Tennessee. This is a lower level of the famous Ruby Falls, a nationally-known show cave. Although over the years many guides and tourists may have seen some of these writings, little, if any, research was ever conducted. This paper deals with the results of the as-of-yet uncompleted research on many of these signatures and other bits of writings that do in fact still exist in this closed and controlled lower level.

Two points of special interest were to be proven, if possible: first, to try to prove the story that a military field hospital or aid station was established in the cavern, and second, to establish if signalmen did in fact visit the cave, and thus authenticate the drawings of the signal flags in the "Signal Flag Room."

Bransfords Show Mammoth Cave

Harold Meloy

Four generations of the Bransford family led visitors through Mammoth Cave for over 100 years. In 1838, the brothers Mat and Nick Bransford were brought to the cave as slaves. After their emancipation a quarter of a century later, they continued as paid employees, and Mat's son, Henry, joined their ranks. His sons, Matt and Louis, followed in the family footsteps. Elzie and Clifford, sons of Louis, and Arthur, Eddie, and George, his nephews, carried on the family tradition until they took other employment. By 1939 Louis was the last remaining Bransford guide at Mammoth Cave.

Ephemera: Its Limits and Importance to Spelean History

Emily Davis Mobley

Ephemera collecting seems, at first sight, to be a contradiction in terms since ephemera is interpreted to mean any printed or written items intended for

use and then normally discarded. In the last few years, an attempt has been made to classify such items. This has become a focal point for many scholars and historians as they present social history heretowith ignored. These scraps of history fill in important spaces in all fields including speleology. Posters, tickets, stock certificates, trade or business cards, brochures, broadsides, newspaper articles, letters and postcards can inform us of changes in ownership, guides, or other evolutionary changes in show caves.

Ownership History of the John Guilday Cave Preserve Property 1787-1983

Edward Ricketts

The tract which comprises the John Guilday Cave Preserve was first "surveyed" in 1787. Since that time there have been 12 changes in ownership. This paper traces the tract and the surrounding properties that belonged to its owners, and the changes in boundaries. The paper also comments on the aspects of early surveying and problems in using the data from early deed books.

Cave Usage during The American Civil War

Marion O. Smith

Caves were utilized for a variety of purposes during the American Civil War of 1861-1865. Besides the mining of saltpeter, caves were used as places of hiding, places of recreation, focal points in military operations, burial sites, and prisons. All of these uses can be accredited from contemporary sources.

The Sinks of Gandy and Jack Preble

Jack H. Speece

West Virginia is rich in cave history and has played an important role during the Civil War in supplying saltpeter. However, the legendary and scenic Sinks of Gandy Creek is perhaps its most noted historic cave, thanks to such authors as Porte Crayon and Jack Preble. Jack also played an important role in the early days of the NSS.

***1984 Spelean History Session Abstracts
(Sheridan, Wyoming)***

There were no spelean history presentations at the 1984 NSS Convention)

***1985 Spelean History Session Abstracts
(Frankfort, Kentucky)***

**Geographic Distribution of Kentucky
Saltpeter Sites**

Angelo L. George,

This paper records the geographical distribution of saltpeter and gunpowder sites in Kentucky. There are 172 saltpeter and 31 gunpowder installations inventoried in this state. Cultural influences exercised by pioneer explorers and later the settlers is an over-riding criteria for selecting saltpeter and gunpowder sites. This is visible as a direct relationship to site selection adjacent to early wagon roads. This produced a cluster phenomena related to road position, hydrogeologic considerations, and to the presence of forest. Absence of forest cover insured the or rockshelter would not be a profitable venture. There are no saltpeter sites known from the Inner Blue Grass section nor from the Sinkhole Plain in the Mississippian Plateau region between Brandenburg and Bowling Green. Powder factories were built closer to wagon roads and nearer to population centers.

Eastern Kentucky is the real heart of the saltpeter Industry where rockshelters under production probably out numbered the cave saltpeter sites by about 100 to 1.

Based upon on-site visitation and the review of 59 available saltpeter cave maps, I found the saltpeter miners had a site preference for certain kinds of caves. In that 66% of the population occurs in caves with maze-like features, and 34% are found in dendritic type caves. The excavations are concentrated in the maze features of the cave. Also, 62% of the population has one entrance, and 38% has multiple entrances. Maze features probably maximized soil-rock contact needed for saltpeter generation/regeneration within a limited horizontal area. Of the more than 3700 caves inventoried in Kentucky, the saltpeter caves account for less than 4% of the total cave population. This is a very small percentage which helps to strengthen the idea that

the saltpeter entrepreneurs were even more site selective when singling out representative caves for mining ventures.

**Samuel Brown and His 1806 Memoir on
Saltpeter and Gunpowder**

Angelo L. George

Dr. Samuel Brown, M. D., between 1802 and 1806 became the leading authority on the manufacture of saltpeter and gunpowder from caves and rockshelters in Kentucky. His Investigations into the manufacture of these commodities differs from his predecessors in that he went to the saltpeter sites and talked with the operators and observed refining methods. By 1804 he became part owner with Thomas Hart Jr. into the saltpeter-gunpowder venture at Great Saltpetre Cave in present day Rockcastle County, Kentucky.

Through his life long association with President Thomas Jefferson, a monograph on the manufacture of saltpeter and gunpowder was finished on November 10, 1805, and sent to the President with instructions to send it to the Secretary of the Navy, Robert Smith, and to bring it to the attention of the American Philosophical Society. There is enough circumstantial evidence to suggest that Brown orally delivered his paper on February 7, 1806 to the American Philosophical Society in Philadelphia. His paper was published to a less than enthusiastic audience in 1809.

From 1806 to 1819, Samuel Brown seems to have gone into a kind of self-imposed exile in Natchez, Louisiana, and Huntsville, Alabama. The reason seems to be his involvement in the Arron Burr conspiracy to invade Mexico, Florida, and secede the Louisiana Purchase and New York State from the Union. Samuel Brown was indicted as a co-conspirator, but was never brought to trial.

**Monk Estill: Kentucky's First Experienced
Powder Maker**

Angelo L. George

Lewis Collins (1847) in his History of Kentucky credits Monk Estill as the first gunpowder maker in Kentucky. Monk was a slave to Captain James Estill, who learned the art of saltpeter-gunpowder manufacture in an exposed settlement in the Greenbrier Valley of Virginia. In 1775, James Estill

built a fortified station about 15 miles south of Fort Boonesborough, Kentucky. One year later Monk moved to Kentucky and took up residence with his master at the station.

Monk set about the task of saltpeter mining from Adams (Payton) Saltpeter Cave in present day Madison County, and probably made the gunpowder at Estill Station. He manufactured emergency gunpowder supplies at Boonesborough in the spring of 1780. Monk figures prominently in the March 1782 defense of Estill Station, and at the Battle of Little Mountain near Mt. Sterling, Kentucky. He was made a hero and given his freedom by his new master, Wallace Estill (Smith, 1886).

Linville Saltpeter Cave

Cato Holler, Jr.

The first documented saltpeter cave in North Carolina has recently been discovered in northern McDowell County. Unlike many of the large, better known saltpeter caves around the country, which were mined for military nitrate supplies, evidence suggests that this small cave was the secret source of domestic saltpeter for one of the early settlers of the area. Using the cave deposits, he would manufacture his own high grade of gunpowder and sell it along with homemade bullets to other residents of the community.

A recent analysis of the cave soil shows an unusually high yield of nitrate, far surpassing that of thirty other saltpeter caves sampled in the southeast.

The Lost Caves of Maribel

Norbert H. Kox, George Zachariasen

The history of the area near Maribel in east central Wisconsin has been studied because of old reports and photos of several large, extensive caves in the area. While no extensive caves have yet been found, many small caves and much information on the area have been discovered.

A property referred to as "Cooperstown Caves" in early plat books was sold to the Steinbrecker family in 1892. With the purpose of exploiting the caves and mineral springs on the property, Charles Steinbrecker designed a health spa and resort. A stone hotel with spring water piped to each room

was opened in 1900. This was known as the Maribel Caves Hotel, perhaps named for Charles' wife Mary. The resort attracted many customers in the early 1900's. Advertising in a 1903 brochure included mention of "... four wonderful caves ... open for anyone to go as far as he will, for no one has yet sounded their depths."

Up until the mid-1920's the caves were open and at one time admission was charged and a refreshment stand was set up near the caves. By 1930 the caves were closed by rockfall, perhaps natural, perhaps dynamited shut. A search in 1930 turned up no entrance to the main cave. In early 1984 Norbert Kox initiated a search for the lost caves. A few days of rldgewalking turned up 33 unknown caves, plus 5 previously known ones on the 450 acres formerly all part of the resort. All caves are small and several digging projects have been started, in an attempt to find the main caves.

Shelah Waters

Larry E. Matthews

Shelah Waters was an 1869 explorer of Cumberland Caverns.

Captain Symmes and Mammoth Cave

Harold Meloy

Mammoth Cave has a rich heritage of history, legend and folklore. It has been described as a "repository of slowly accumulating historic and biographic fact, of wit and humor and imaginative interpretation, handed down in the form of place names and more or less apt remarks flowing from the lips of jovial guides." Some features were named to honor the memory of notable people, such as Rafinesque, Silliman and Cleaveland. Others were named perhaps with tongue-in cheek, such as Tribble's Trouble and Symmes Pit. Long before the days of Stephen Bishop, the guides knew of the deep pit far from the entrance in a remote avenue of the cave beyond Chief City. This pit was to receive a colorful name.

Captain John Cleves Symmes (1780-1829) lived in southwest Ohio. After he turned 21, he enlisted in the army and rose through the ranks to become a Captain during the War of 1812. After the war he retired from the army to Newport, Kentucky, and devoted his time to scientific and geographic

subjects. He lectured throughout the country, and wrote on the theory that the world was a hollow sphere open at the poles, and that within were races of men and animals different from those on the surface. At a public meeting held in Frankfort, a resolution was adopted that the United States Congress should fit out an expedition to the Arctic Circle under his command, in order to find if possible such a polar pit.

Symmes died in 1829. Within two years the people at the cave were showing "Symmes Hole," and since 1835 it has been known as Symmes Pit.

Durham Cave, Pennsylvania

Jack H. Speece

Although Durham Cave is not a significant speleological feature, its recorded history dates back to 1770. The cave was partially destroyed in the mid-1800's, but became the site of an archaeological study by Henry Mercer in 1893. It has been a local attraction from the time of the first settlers. This natural curiosity has been described by numerous historians throughout the years.

1986 Spelean History Session Abstracts (Tularosa, New Mexico)

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Edward Drinker Cope's Contributions to Speleology

Fred Grady

Edward Drinker Cope (1840-1897) while better known as a vertebrate zoologist and paleontologist, also made considerable contributions to speleology. From 1867 to 1871 Cope explored a number of caves in Eastern United States and described both modern and fossil faunas. After 1871 Cope concentrated on other studies but continued to write occasional papers on cave faunas, especially on fossil bones found in caves.

The Cave Papers of Edward McCrady, Henry T. Kirby-Smith, and Harvey M. Templeton

Larry E. Matthews

McCrady, Kirby-Smith, and Templeton did extensive cave exploration in the southern half of middle Tennessee during the late 1930's, the 1940's, and the early 1950's. During that time period they published several scientific papers on cave biology and vertebrate paleontology. Supposedly, they had discovered the McCrady Canyon Waterfall Room area of Cumberland Caverns, Warren County, Tennessee during this time period, but documentation is lacking.

While researching the history of Cumberland Caverns it was discovered that all three men had

kept journals of their cave explorations. These journals document many important cave discoveries. Because of their historical and scientific value, these journals are being prepared for publication. The Kirby-Smith papers have already been published in the *Journal of Spelean History*.

1987 Spelean History Session Abstracts (Sault Ste Marie, Michigan)

The Saltpeter Caves of West Virginia: Progress Report

E. Ray Garton

Saltpeter, potassium nitrate (KNO₃), was the principal ingredient of gunpowder until the close of the Civil War. Evidence of mining for saltpeter has been reported from 44 natural limestone caves in nine West Virginia counties. Many of these caves were mined during the Revolutionary War, War of 1812, and the Civil War. The importance of West Virginia's saltpeter caves to these war efforts is largely unknown and unreported in the historical accounts of these conflicts. During the 18th and 19th centuries, saltpeter and the mining of saltpeter was central to the politics and economics of this young country. However, for all the importance of saltpeter, the exact nature of its origins and exactly how it was used in the manufacture of gunpowder is still largely unknown. Sometime during or soon after the end of the Civil War the saltpeter industry died as nitrates became more readily available from foreign sources or nitrogen fixation technology.

Saltpeter Activity of John James DuFour

Angelo I. George

John James DuFour (1763-1827), a Swiss immigrant to America in 1796, is considered the father of American viniculture. By January, 1805, Dr. Samuel Brown and Thomas Hart, Jr., of Lexington, Kentucky, commissioned him to make saltpeter at Great Saltpeter Cave in present Rockcastle County, Kentucky.

DuFour introduced a two stage method of saltpeter manufacturing. I suspect he also implemented the pipe line and pumping system in the cave. He increased saltpeter production from 1,000 pounds per week to 1,000 pounds per day. By late 1811,

Charles Wilkins had copied the DuFour engineered constructions in his own Mammoth Cave.

While at Great Saltpeter Cave, DuFour produced the first known compass and chain survey of a cave in America. This is the second oldest cave map in America and predates the F. Peck map of Madisons Cave by several months and the Frederick Ridgely map of Mammoth Cave by six years.

Another Cave Found on the 1770 Scull Map of Pennsylvania

Dale Ibberson and Robert Keintz

The earliest known American map showing caves is William Scull's "Map of the Province of Pennsylvania," which was printed by James Nevin on April 4, 1770. Scull noted at least three caves on this map which he simply labeled as "CAVE". Researchers have identified two of these as Durham Cave in Bucks County and Dragon Cave in Berks County.

In 1985, while doing research on the history of Indian Echo Caverns, near Hummelstown, Robert Keintz found a third "CAVE" at the exact location of Indian Echo Caverns while searching an enlarged University section of the Scull map. That Scull noted this cave on his map is not surprising since the cave was well known to settlers and travelers in the late 1700s, having a large natural entrance on the banks of a navigable stream.

Cave locations may have been missed on this map because the map is crowded and printed at a small scale, making reading difficult.

1988 Spelean History Session Abstracts (Hot Springs, South Dakota)

Endless Caverns, Virginia, and the Explorers Club

Russ Gurnee

Zirkle Cave, New Market, Virginia, was discovered and developed one year after the discovery of Luray Caverns. It was closer to the railroad, but lacked good management. It was not until the 1920s that the cave attracted the interest and investment of one Col. E. T. Brown. He was an enterprising business man, promoter; and his son, Major Edward M.

Brown, was a member of The Explorers Club in New York. One of the Colonel's promotions was to have members of The Explorers Club search for the "end" of what is now called ENDLESS CAVERNS. The expedition was to attract national attention and focus interest on all of the many caves in the Shenandoah Valley of Virginia.

Legend of the Boojum, North Carolina's Cave Dwelling "Bigfoot"

Cato Holler, Jr., and Oliver Holler

Several American caves are associated with stories of Sasquatch or Bigfoot creatures. Ape Cave and Bigfoot are two of the better known. Not as many cavers are familiar with the Peter Bottom Cave monster of the Ozarks and fewer still with North Carolina's legendary Boojum.

The Boojum's Cave is reportedly located atop one of the rocky crags of the Plott Balsam Mountains. The creature is said to be related to the Abominable Snow Man of the Himalayas but is different in that it has developed an unusual fondness for certain precious stones of the Carolina mountains.

The History of Cold Air Cave, Pennsylvania

Dean H. Snyder

Cold Air Cave is a talus cave located just south of Delaware Water Gap in eastern Pennsylvania. Long known as a local curiosity because of the strong air flow emerging from its entrance, the tiny cave was commercialized by the turn of the twentieth century.

Visitors could escape oppressive summer heat by enjoying the coolness of the cave air, a light lunch, and a pleasant stroll along the shaded walkways to the cave. Old postcards of those early days show a building constructed over the entrance, although only part of a foundation remains today. A general decline in tourism to the Poconos after World War II led to the closing of the cave. Cold Air Cave is in the property of the Delaware Water Gap National Recreation Area

A Brief History of Linville Caverns

Nancy Holler

The cavern's presence was probably known by the native Americans whose artifacts have been found in rock shelters near the cave mouth. It is likely that soldiers of the American Revolution visited the cave on their way to the Battle of Kings Mountain. Probably the first written reference to the cave was that of Charles Lanman in his Letters from the Alleghany Mountains in 1849. In 1858 Henry Colton in writing for the North Carolina Presbyterian gave what is perhaps the best and most vivid description of the cave. Several years later Civil War deserters used the caverns as a hideout.

Other prominent explorers over the years included Heriot Clarkson, who was later to become senior justice of the North Carolina Supreme Court, and geologist W. E. Hidden.

Following two expeditions led by Bill Neal in 1925, the caverns received considerable publicity in the *Raleigh News and Observer*. In 1937 commercial development was begun by J. Q. Gilkey and several others who formed a local corporation. Unfortunately, a devastating flood hit the area in 1940, closing the cave. It was then sold to the Collins family who spent considerable effort in cleaning up from the flood, and have turned the cave into one of the top tourist attractions in North Carolina.

Temple Caves of Thailand

William R. Halliday

Unlike the well-publicized temple caves of India, and some of those of China, which are manmade excavations, the temple caves of Thailand are natural karstic features. A visit to some of these caves in December 1987, revealed an impressive interface of story, religion, art, cave management and conservation, biology, and much more, with an extraordinary potential for research interrelated with Buddhist art, Thai history, and similar topics.

Gage Cavern: A Brief History

Emily Davis Mobley and Thorn Engel

Recently, James Gage donated Gage Cavern and forty acres of land to the National Speleological Foundation. This land will be managed by the

Society. This is the most recent event in its long chain which started around 1831.

Gage Cavern was reportedly first discovered by Peter Ball. Since that time it was rapped of its formations by John Gebhard, Sr., John Gebhard, Jr., and John S. Bonny. It was visited heavily in the mid-nineteenth century. William H. Knopfel even planned to commercialize it in the 1850s.

Within the twentieth century, Gage Cavern has become a very popular sport cave. A ladder was placed in the entrance in the mid-1950s by James Gage and a crew from the Schoharie County jail. Since then the cave has been visited by thousands of scout and outing groups. Although most of the formations were removed in the nineteenth century, the cave still has challenge and beauty.

Show Cave Signs: A Passing Art

Susan Holler

Public Law 89-285, known as the "Highway Beautification Act of 1965", along with the other influences of time, education, and sophistication are continuing to press into history many of the colorful and interesting signs, billboards, and barn paintings advertising show caves.

Photographing these advertising media is one way to preserve such passing cave art forms.

Demise of the Domestic Saltpeter Industry

Angelo I. George

With the close of the War of 1812 during the early months of 1815, the saltpeter industry died out in Kentucky (Bidermann, 1815a; and Faust, 1967). Saltpeter mines either closed or scaled back to pre-war levels of production. Was the end of the war, duty free imports (Meriam, 1844), cave closure and or scaled back production really the reason for the end of the domestic saltpeter industry? .

To help answer this question; digested saltpeter purchase records of the E. I. du Pont de Nemours Powder Works gives insight into first quarter 19th Century saltpeter mining in Kentucky, Missouri, Tennessee and Virginia (du Pont, 1829). Important observations are the fluctuations in purchase price of saltpeter in response to national and international political climates. And that promoted widespread investment, speculation and growth in the short

lived domestic saltpeter industry. Development of the domestic powder industry relied upon the importation of cheap saltpeter from India. Increase in price occurred when that international source was cut from the American market in 1808. Price increases are related to Embargo Act (December 1807), Nonintercourse Act (1809), and the War of 1812 (declared June 18, 1812). All of the saltpeter was then domestically produced from caves and rockshelters in Kentucky, Missouri, Virginia and Tennessee. There were caves commercially mined prior to 1808, yet the great bulk of hundreds of smaller sites employed from 1808 to early 1815 is the result of these embargos and war with England.

E. I. du Pont (1829) said "the caves of Kentucky, which had furnished the principal supply until 1814 were then generally exhausted, the richest had been worked and could produce no more; the Saltpetre manufacturers had to work caves of an inferior quality and at a greater expense." This would explain why there are so many small saltpeter caves mined. Poor cave management of this renewable resource exhausted the largest saltpeter sites and prompted the expansion of the mining industry in 1814, to more of the caves in Tennessee and Missouri. The height of active investment speculative saltpeter mining in Kentucky is bracketed from 1808 thru 1813. With peace restored, du Pont and his competition could again receive cheap saltpeter from India. The last domestic produced saltpeter purchased by du Pont was in 1817.

Harold Anthony's Expeditions to the Greater Antilles

Fred Grady

Between 1916 and 1920 Herold Anthony, a mammalogist at the American Museum of Natural History, led three expeditions to the Greater Antilles: one each to Puerto Rico, Cuba and Jamaica. Dr. Anthony was in search of caves containing living and fossil mammals and was quite successful in finding both. From June through July of 1916 he explored some 54 caves in Puerto Rico, covering virtually all parts of that island. A trip to Cuba in early 1917 was curtailed due to a revolution, and only a few caves were examined. Anthony's Jamaican expedition from November 1919 to March 1920, was the most ambitious, with more than 70 caves visited.

Saltpetre in Four European Caves: Chemical, Historical, and Mineralogical Aspects

(Presented in the Geology-Geography Session)

David A. Hubbard, Jr., Janet S. Herman, Richard S. Mitchell, and Elmar Hammerschmidt

Known saltpetre caves in Spain, France, and West Germany were visited to study the nature of saltpetre occurrences. Evidence of mining activity was found in Sophienhohle (West Germany), which has a saltpetre history dating to 1490. Fourteen efflorescent wall and floorcrust samples and nine sediment samples were collected from the four caves. Nitrate minerals, which are deliquescent, were not found in any of the crust or sediment samples. The nitrate minerals niter [KNO_3] and nitromagnesite [$\text{Mg}(\text{NO}_3)_2 \cdot 6\text{H}_2\text{O}$] did form by the evaporation of leachates from the cave sediments of Sophienhohle. Leachates from six of the sediment samples, including representatives from each of the caves, never fully evaporated even in relative humidities ranging from 33 to 43 percent. Data from chemical analysis of the unconcentrated leachates indicate the five specimens have nitrate (NO_3) concentrations greater than 500 parts per million (ppm). From cation and anion compositions it can be inferred that with lower humidity five sediment leachates would yield the highly deliquescent mineral nitrocalcite [$\text{Ca}(\text{NO}_3)_2 \cdot 4\text{H}_2\text{O}$]. Chemical evidence confirms that Cova del Salnitre (Spain), Grotte d'Enfer (France), Grotte Salpetriere (France), and Sophienhohle (West Germany) contain saltpetre.

1989 Spelean History Session Abstracts (Sewanee, Tennessee)

Cave Spring Farm: A Kentucky Pioneer Settlement

Gary A. O'Dell and Samuel M. Cassidy

Cave Spring Farm, in Fayette County, Kentucky, contains the Boggs Cave, a classic example of karst processes in the Bluegrass region, and historically significant for a number of reasons. The cave was explored and surveyed by Gary O'Dell in 1970 and 1978 and consists of a single bedding plane passage nearly 1,000 feet long. Early pioneer Robert Boggs in 1775 chose the cave spring location to claim and

settle, of all those Kentucky lands he had helped survey with John Floyd's party. The buildings surrounding the entrance date from before 1800 and are excellently maintained. The Boggs family and descendants have occupied Cave Spring farm for 167 years of the 214 since its settlement. The co-author of this paper, Samuel M. Cassidy, is a descendant of Robert Boggs and repurchased the homeplace from outsiders in 1964. In February of 1970 he gave shelter to two cold and wet cave explorers emerging from his cave and began a lasting friendship. Mr. Cassidy, at age 88, still has an avid interest in caves and his previous description of Boggs Cave was reprinted in the 1970 edition of *Speleo Digest*. This is perhaps cave owner relations at its finest.

Cave Maps as a Spatial History of the NSS

John H. Ganter

Mapping is an essential part of cave exploration. Cave maps have been used since the earliest periods of systemic exploration both as analytical tools and stores of knowledge. As such, they are artifacts which shed light on the genesis (unavoidable change) and evolution (motivated change) of caving techniques, groups, regions and individuals. As caves grow scarce, cavers extend their ranges, abilities, and expectations. Maps are here used to illustrate three major phases in NSS cavers' activities, motivations, and beliefs: The Weekend Reconnaissance (1940s-50s); The Cave System (1960s); The Cave Project (1970s to present). These phases have each imposed needs for spatial information, and have forced cavers to re-evaluate the limits of endurance and work quality which they set for themselves and others. Throughout, the cave map has served both as tool and trophy.

Saltpetre Artifacts from the Caves at Trout Rock, West Virginia

Fred V. Grady

There is now considerable evidence of saltpetre mining in two caves at Trout Rock, Pendleton County, West Virginia. The mining started before 1800 and continued intermittently through the Civil War in the 1860s. Burton Faust and William Davies recorded some artifacts from Trout Cave, most of which seem to have been lost. More recently, many small tools and other artifacts have been found in

both Trout and New Trout Caves, especially the latter. While most are wooden, including faggots, paddles, bag spreaders, and keg parts, a hammer made from a file was found outside Trout Cave in the 1960s and likely dates from the mining period.

Jose Storek, Pioneer Speleologist in Guatemala, Central America

Russell Gurnee

Born Josef Storek, he was driven from his native Czechoslovakia by World War II, emigrated to Guatemala and passionately adopted the new country and culture. He learned Spanish, changed his name to Jose Storek Fingerhut, and pursued his profession as a geologist.

He had been an ardent caver in his student days in Prague, and he continued his interest in the limestone regions of Guatemala. To learn about the country, he wrote to all of the mayors of the towns in the limestone mountains and asked about (and visited) their caves. He became the most knowledgeable man regarding the caves and natural features of the back country.

In 1951 he began a correspondence with Burton Faust about the caves he had visited, urging U.S. cavers to visit Guatemala. In 1957 a small group from the NSS accepted his invitation, and this visit began a ten-year study and a friendship with a most remarkable man.

His contributions to the knowledge of caves in Guatemala has been the basis for search, study, and survey by teams from Europe and the United States. Mercurial, energetic, enthusiastic, and sincere, he influenced people he met and left remembrances in anecdotes, stories, and tales that are now part of the legends of the region.

Little-Known Tourist Caves of North Carolina

Nancy Holler

Linville Caverns is the Tar Heel State's best known commercially developed cave. However, there are a number of lesser-known caves on private and state lands which are of interest to the general public as well as the speleologist.

Cave History in Newsome Sinks

Charles A. Lundquist

Newsome Sinks in Morgan County, Alabama, is a landlocked valley some four miles long and up to a mile wide. All water runoff is through underground drainage and caves. The traceable history of the caves of the Sinks seems to begin with saltpeter mining in the 1860s. Two caves, Wolf and Hughes, had significant operations, and extensive evidence remains in them. Two others, Newsome Saltpeter and Bullfrog Caves, have lesser evidence.

Up to roughly the middle of the 1900s, the flat land on the floor of Newsome Sinks Valley was cleared and farmed. A few farmsteads existed, and a family cemetery is present. A knowledge of at least the major caves surely existed in this community. By 1955, when the Huntsville Grotto formed, only one uninhabited home remained in the valley, and a barn stood at another place. Most fields were abandoned or soon became so.

Because Wolf Cave and Hughes Cave were well known, and were only a few minutes drive south of Huntsville, they were visited early by the Grotto membership. The members quickly recognized that the Newsome Sinks contained many caves, and they initiated an organized effort to locate and explore them. Progress on this effort was reported by the author at the 1957 NSS Convention at Natural Bridge, Virginia.

Activity in Newsome Sinks waned after 1961 when the Huntsville Grotto attention shifted to Fern Cave and after 1969 to New Fern Cave in Jackson County. In Morgan County, the Decatur Grotto (no longer extant) continued their interest. In 1974 Newsome Sinks was designated a national landmark. This stimulated the Decatur Grotto to produce a special issue of the Decatur Caver devoted to Newsome Sinks. This excellent document contains a section on history, including a land ownership map for 1890. It notes that earlier land records were destroyed.

About 1981, the author and William W. Varnedoe began more scientific investigations in the area, which generated several papers. In 1987, a group of residents of the area near Newsome Sinks formed the Newsome Sinks Grotto. They have renewed intensive exploration, have found additional caves, and have made major extensions in several others. Thus, Newsome Sinks caves have seen human

attention for at least 120 years, but much yet remains to be learned.

An Introduction to the History of Cave Exploration in Tennessee

Larry E. Matthews

Archeological investigations show that Indians used cave entrances and rock shelters in Tennessee as temporary and permanent dwelling sites for thousands of years. Recent studies in Big Bone Cave in Van Buren County and Mud Glyph Cave in East Tennessee prove that some Indians explored deep into caves. The Big Bone Cave artifacts indicate a mining operation for either gypsum and/or salts, similar to those in the nearby Mammoth Cave area of Kentucky. The Mud Glyph Cave site contains numerous drawings which appear to be of religious significance. Clearly, Indians were the first cave explorers in Tennessee.

The first widespread exploration and use of caves by white men in Tennessee occurred during the War of 1812. Big Bone Cave in Van Buren County was the site of large-scale mining and many other smaller operations are believed to have existed. Further exploration and exploitation occurred during the Civil War when saltpeter was again mined on a large scale.

Some caves, such as Higginbotham in Warren County, Big Bone in Van Buren County, and Lookout Mountain in Hamilton County were explored for recreational purposes during the nineteenth century as indicated by names and dates left on the walls and ceilings, and by old newspaper accounts. The first systematic, scientific study of Tennessee caves, however, was not conducted until 1917 when Thomas L. Bailey explored 109 caves and rock shelters for the State Geological Survey. His book, *Report on the Caves of the Eastern Highland Rim and Cumberland Mountains* (1918), was used as a base to build upon by the early National Speleological Society members in Tennessee.

Organized, modern cave exploration began in Tennessee in 1953 when the Nashville Grotto was chartered. Since that time several other grottos have been established across the state, and the Tennessee Cave Survey was formed in 1971. The TCS annual report for 1988 listed 4,879 recorded caves, and a few months later the 5,000 cave mark was broken.

The history of cave exploration in Tennessee is still actively being written.

The Mining of Lead from Caves in Southwestern Wisconsin: A Historical and Geological Perspective

Philip P. Reeder and Michael J. Day

During the Wisconsin stage of the Pleistocene in North America, the Driftless Area of the Upper Midwest probably was not glaciated, hence preserving pre-existing geology, including the Middle Ordovician Galena Dolomite, which was the host rock for paragenesis of lead deposits. From hydrothermal solutions mixing with groundwater, crevice lead sulfide ores were deposited along lines of weakness resulting from bedding, collapse of breccias, and preferential dissolution of joints. Organized mining of these deposits began around 1815, with the greatest mining activity occurring in the 1840's. The earliest gathering of surface deposits progressed to shallow diggings and removal of ore from caves that were uncovered during excavation or had natural entrances. Caves of note that were mined in Southwestern Wisconsin include Atkinson Mine Cave, from which over 900 metric tonnes of ore was removed between 1862 and 1877, and Snake Cave (St. John Mine). Remnant evidence of mining in caves includes drill holes, discarded mining tools, spoil piles and modified passages. The mining of lead in Southwestern Wisconsin was more than a sequence of discovery, exploitation and abandonment; it led to the opening of the territory, settlement of a frontier, and growth of the region.

A History of Recorded Alabama Caves

William W. Varnedoe, Jr.

A chronological list is given of references to Alabama caves, from Indian legend to the current Alabama Cave Survey. From this list some conclusions are drawn on how the caves were viewed by the population of a given time.

The Phelps Cave of Lexington, Kentucky

Gary A. O'Dell

Phelps Cave, scenically sited in the pastures of a thoroughbred horse farm in the environs of Lexington, Kentucky, is one of the best-known and

most historically significant caverns of the Bluegrass region. Literary references to this cave date back nearly two hundred years, and it has been investigated and described by such researchers as Constantine S. Rafinesque, circa 1820, and Doctor William D. Funkhouser, a century later. There are a number of legends and traditions concerning the cave. Some seem improbable, but others have been partially vindicated by current research. The main entrance, prior to the twentieth century, opened in the rear lawn of the Cave Hill mansion but has long been covered. This house has been occupied in recent years by former Kentucky governor John Y. Brown and Phyllis George Brown. The cave was surveyed by the Bluegrass Grotto in the 1960s, but had been closed from about that time until 1980 when the writer unexpectedly received permission to make a visit within. Less than a month after this trip, the actions of a group of unknown trespassers who entered the cave led the owner to permanently seal the sole remaining entrance.

Joint Caves, Dent Pits, Cup Holes, and Rill Channels: Speleological Studies of George Henry Hudson at Valcour Island and Lake Champlain, New York

Ernst H. Kastning

George Henry Hudson (1855-1934), a teacher of science at the New York State Normal School at Plattsburgh, was an early, yet largely unknown contributor to American physical speleology. Although his studies were not as global in scope as the speleogenetic theories of William Morris Davis, J. Harlan Bretz, A. C. Swinnerton, and others of the first half of the twentieth century, Hudson must gain recognition as a pioneer in the understanding of some lesser karstic phenomena such as littoral caves developed along joints, dissolution scallops, and rillenkarren.

Hudson spent most of his professional life studying the geology of Lake Champlain in northeastern New York and northwestern Vermont. His studies included the stratigraphy, paleontology, and structural geology of the region, and in particular that of Valcour Island, just southeast of Plattsburgh. He is best recognized for his work on cystid echinoderms of the Chazy limestone formation and for detailed mapping of igneous dikes of the region.

As part of a dedicated and prolific twenty-year study of Valcour Island, Hudson wrote three papers that address karstic phenomena. The earliest (published by the New York State Museum in 1909) concerned the ancient coastline of Lake Champlain. Hudson documented extensive and numerous solutional and erosional pothole-like excavations occurring on beveled bedrock shorelines. He coined the term “cup holes” for these small pits. His second paper, “Joint Caves of Valcour Island” (published by the Museum in 1910), is a speleologic classic, although not well known outside of the northeast. In it Hudson discusses the origin of many littoral caves and associated sinkholes along the southern margin of the island. Moreover, he addresses the origin of cup holes and “dent pits” found in association with the caves. Dent pits (his term) are dissolution scallops. This is the first known scientific study of scallops and is a forerunner of additional work by Bretz in 1942 and quantitative laboratory studies by Rane Curl, Derek Ford, and their graduate students in the 1950’s through 1970’s. Although some of Hudson’s ideas concerning scallops are not viable today, his work is historically significant as a landmark paper on the subject. Hudson’s third paper, “Rill Channels and Their Cause” (published in 1912 by the Vermont Geological Survey), is a study of rills and solutional rillenkarren developed on glaciated bedrock surfaces along the Lake Champlain coast. It is one of the earliest American studies of rillenkarren.

The Naming of the Town of Cave Creek, Arizona

William R. Halliday

Some delightful tall tales of relatively modern origin enliven the history of Cave Creek, a suburb of Phoenix, Arizona. The sober truth is dull indeed: the creek for which the town is named was because of sizeable shelter caves not far from the present city center.

Early Photographic Images of the “Tag” Caving Region

Marion O. Smith

Slides of different aspects of the Tennessee, Alabama, and Georgia cave area, spanning from historical to contemporary, will be shown. Included will be nineteenth and early twentieth century

sketches and photographs of various entrances, emphasizing different cave uses, and early NSS explorers. The conclusion will be a personalized view of TAG caving, 1961-1973.

1990 Spelean History Session Abstracts (Yreka, California)

The Cave Artist's Artist

Russell Gurnee

Cave Rock Art paintings, drawn by early unknown artists, were copied in situ by artists before the invention of photography. These drawings were sometimes reproduced by other artists for presentation in books and reports. The final representations of the original work appeared in engravings, woodcuts, and aquatints. Cave scenery was often included in the art work (with artistic license) to show the location of the paintings within the cave.

Each artist modified the original in accordance with his skill and sometimes prejudice. Students and researchers used these representations to make conclusions and opinions regarding the original creators of the work.

This paper will show examples of well known cave illustrations of the last century and some present photographs showing the paintings as they exist today. The importance of field observation of sites and conditions is essential in understanding the work of these early artists.

The Secret Burial Cave of Hawaii's King Kamehameha I

William R. Halliday

Hawaii's King Kamehameha I unified the islands, in large part, by bloody warfare. But not all of his bitter enemies died in the warfare or were put to death later. For any Hawaiian to desecrate the bones of an enemy was triumph. In the case of Kamehameha the Great, such desecration would have been the epitome of triumph or despair, depending on one's viewpoint. Thus, Kamehameha's burial rites were conducted with the utmost secrecy, and the site of his burial remains unknown today. Many burial caves are known close to the location of his death, and many have speculated that his bones lie in one

of these. Another theory is that his bones were given to the sea. This paper raises the possibility that an underwater lava tube may have been the site of his burial.

The White Lady of La Jolla

Richard L. Breisch

The title refers to a California sea cave, a bride, and a book. The book by Rose Hartwick Thorpe was published in 1902. It told the story of honeymooners who were trapped by the tide while exploring sea caves. Supposedly their bodies were never found. Possibly there were no bodies to be found, since the story may have been the creation of Mrs. Thorpe's fantasy.

The Pacific Basin Speleological Survey: A Five Year Retrospective

Bruce W. Rogers

Chartered in 1985, the Pacific Basin Speleological Survey (PBSS) has embarked upon a project to compile a preliminary listing of the known caves in the island nations of the Pacific Basin. Australian, French, and British work in Melanesia and portions of Polynesia was a matter of record so Micronesia was selected as the focus of the PBSS' working area. Pohn Pei, Kosrae, Truk, and Yap States of the Federated States of Micronesia, Saipan, Tinian, and Rota in the Commonwealth of Mariana Islands, the Territory of Guam, and the Republic of Belau have been visited. Extended expeditions to these areas in 1984, 1986, and 1989 have found a wealth of speleological features to be investigated. Extremely old lava tubes; literally hundreds of limestone solution caves, some horizontal, some vertical, some filled with sea or fresh water, and some with near lethal atmospheres; actively forming reef caves; and volcanic rock shelters are present. The caves harbor a large and varied biota, largely uninvestigated; prehistoric deposits upwards of 3,000 years old; rock art of varying types; and historic deposits from Spanish, German, Japanese, and American periods. Manuscripts for the islands of Pohn Pei, Truk, Yap, and Palau have been completed. Saipan, Rota, and Guam manuscripts are in final compilation.

In addition, the PBSS has taken over the publications in press and preparation of the Golden

Gate Grotto, completing a manuscript on sea caves in the San Mateo Coast district in central California. Surveys of sea caves in Golden Gate National Recreation Area and Point Reyes National Seashore, as well as Angel Island State Park, are nearing completion

Henry C. Mercer's Efforts to Discover Ice Age Man in North American Caves

Fred Grady and Dean H. Snyder

Henry C. Mercer's period of cave study lasted 5 years. 1892-1897. His goal was to discover proof that humans had lived in North America along with now extinct mammals. Mercer was perhaps inspired by discoveries in Europe and in 1892 started a systematic study of caves in the Eastern United States. Some of the caves he visited had been disturbed by previous activities. Others contained bones of extinct animals but no definite association with human remains or artifacts. Mercer published detailed notes on his excavations in caves in Pennsylvania, Virginia, and Tennessee.

Mercer's most ambitious project was an expedition to the Yucatan Peninsula of Mexico in 1895, where in a period of two months, he visited 29 caves and made excavations in 13. He failed, however, to find anything that indicated significant age for the deposits. In 1897, after a dispute with the University of Pennsylvania over the disposition of his collections, Mercer gave up archaeology and caves to concentrate on other interests. In decades that followed other workers found the evidence that Mercer looked for, but mostly in the Western United States.

1991 Spelean History Session Abstracts (Cobleskill, New York)

Myths and Traditions of Wyandotte Cave

Angelo I. George

Wyandotte Cave of southern Indiana has been known since 1798. Since that time period the true history of the cave has been shrouded in myths and traditions. Myths on the discovery, exploration, and commercial development found a niche when historic fact failed to be preserved. Central to this study is an analysis of the discovery of the cave by

F.I. Bentley and the wounded Indian story. Benjamin Adams, M.D., owned the cave during the War of 1812, and mined epsom salt and saltpeter for the war. An account will be made of the 1850 New Cave discovery and the people involved, and the pervasive story of the counterfeiter in the cave will be examined.

Many of these questions were resolved by placing the traditions in context with a known chronology of historic events. This was achieved through the collecting, cataloging, and evaluation of over 870 published and unpublished references spanning 1810 to the present. Much remains to be collected.

This study shows actual benchmark historic events occurring several years earlier than previously known to spelean historians.

A History of the Excavations at Cumberland Cave, Maryland

Fred Grady

A cave containing fossil bones was discovered near Cumberland, Maryland during excavations for the Western Maryland Railroad in 1912. Raymond Armbruster informed the Smithsonian Institution of the discoveries and assisted J.W. Gidley of the Smithsonian in collecting several hundred specimens over a period of 3 years. In 1950 Brother Nicholas Sullivan discovered additional fossil bones in a portion of the cave on the opposite side of the tracks from where the Smithsonian parties worked. Brother Nick's excavations continued through the early part of 1953 and resulted in the destruction of much of what was left of the cave. In 1968 a Carnegie Museum of Natural History party led by Allen McCrady and Harold Hamilton collected a considerable amount of material at Cumberland Cave, much of it from the Smithsonian dump piles. Finally in the late 1980s a few additional specimens from Cumberland Cave were donated to the Smithsonian Institution by Trent Spielman. An investigation of the site determined there was still more fossil material in what is left of Cumberland Cave.

The Lost Park Reservoir Project. Park County, Colorado: an Ill-fated, Turn-Of-The-Century Attempt to Use a Granite Cave as a “Natural Dam”

Louise D. Hose

One hundred years ago, on January 1, 1891, Stephen R. Pratt and William A. Powers staked a claim and began working on an attempt to plug a natural granite cave, now called Goose Creek Cave, and form a reservoir in the alpine valley through which Lost Creek flows. The project continued for approximately 24 years and more than \$75,000 was spent in building roads and cabins, opening a 180-foot shaft to the middle part of the cave, lining the shaft, clearing timber from the proposed reservoir site, excavating the bedrock stream bed, installing a foundation for the dam, and installing two valves weighing 3,000 pounds each. Despite these efforts, stream flow was never blocked.

Lost Creek flows into the approximately 3,900 foot long cave under a ridge up to about 180 feet high. The ridge through which the stream flows is so distinct that the stream is called Goose Creek below the resurgence. The subterranean dam is about 1,200 feet from the resurgence. The dam is 25 feet thick at its base, 20 feet thick at the top, and 80 feet high. It spans cave passage that is 50 feet wide at the base and 15 feet wide at its top. The flow of the stream seasonally varies but is approximately 25 cubic feet per second in mid-summer. The dam and some support structures remain today.

Early Visitors to Wolf Cave, Alabama

Charles A. Lundquist

Wolf Cave in the Newsome Sinks of Morgan County, is one of the historic caves of Alabama. It is a large cave with an impressive entrance, and it has long been popular with casual visitors. The cave walls have inscriptions of names and dates that reach back to the early 1800s. The earliest notations typically are scratched in cursive script. Several visitors who made pre-Civil War inscriptions have been identified in census records, land transactions and other documents. The earliest clearly associated name and date are Wm Moore. July 18, 1835. Signatures by S. Newsom and R.W. Newsom dated November 10, 1839, are of interest because these individuals presumably are members of the Newsom(e) family for whom the Newsome Sinks

are named. Richard W. Newsom in 1841 received title from the U.S. Government for land in S 31 Township 6S Range 1E, which is just northeast of Newsome Sinks. In 1843 he obtained title to land in the Oleander community nearby. Sowell Newsom, a candidate for the S. Newsom inscription, got land in Oleander in 1846. In 1831 William Newsom was the first recorded land owner within Newsome sinks valley, although his name was not found in Wolf Cave. The use of cursive script by early visitors sometimes allows a comparison of cave signatures with those on preserved documents. For example, Richard J. Rivers left two cave signatures in the 1850s that are remarkably like the signature on his marriage record in Morgan County. Success in associating cave inscriptions with individuals in historical records shows that the pre-Civil War visitors to Wolf Cave typically were local settlers of the area. The first recorded visits were contemporary with the earliest land acquisitions.

The Discovery and Early History of Crystal Cave, Pennsylvania

Dean H. Snyder

While quarrying for limestone, William Merkel and John Gehret discovered a large cave on November 12, 1871. One of its early explorers was Samuel D.F. Kohler, a local farmer who became so captivated by his adventures that he purchased the property for \$5,000 the next year. He made improvements and opened Crystal Cave for tourists with a Grand Illumination on May 25, 1872. This attraction became so popular that Kohler discontinued farming and built a hotel near the entrance. Kohler encouraged writers and scientific parties to tour the cave, and their flowing reports were used in advertising materials for many years.

After S.D.F. Kohler's death in 1908, his son David managed the property. He made many improvements, including the installation of a generator so the cave could be electrically lighted. David Kohler sold Crystal Cave in 1923, but established the “Kohler Museum” where he exhibited memorabilia and speleothems from the cave. Since his death in 1949, his family has preserved the museum exactly as he left it. Due to the efforts of S.D.F. and David Kohler, more than a million visitors have been able to view the underground wonders of Crystal Cave, Pennsylvania.

McFail's Hole: History of Exploration, Purchase, and Early NSS Ownership

Fred D. Stone

McFail's Hole, the longest cave in the Northeast, is also the first cave owned by the NSS. This talk is a personal account of the exploration and purchase of McFail's based on detailed files I kept during the 1960s. I will cover the following topics: 1) Discovery and exploration of McFail's major extension by Cornell Outing Club cavers in the early 1960s. 2) Events leading to the purchase of McFail's Hole on August 2, 1965. 3) Acceptance of McFail's ownership by the NSS Board of Governors at the 1965 Indiana Convention, setting the precedent for subsequent NSS cave ownership. 4) Origin of the McFail's Cave Management Committee, and how it successfully dealt with problems of visitation and liability.

1992 Spelean History Session Abstracts (Salem, IN)

Harry Fox's Lost Cave on Mauna Loa Volcano

William R Halliday, M.D.

The July 1950 issue of Popular Mechanics included a well-illustrated article on a notable lava tube cave on Mauna Loa Volcano, Hawaii, discovered by a Harry Fox in 1935. Nothing was known of Mr. Fox nor his cave until 1991 when Mr. Fox appeared at Hawaii Volcanoes National Park, asking for assistance in locating his cave. It was quickly determined that the cave is on private property east of the national park but a search by local landowners and Mr. Fox was unsuccessful. In 1992 Mr. Fox again returned and one of the landowners believes that he has located the cave. Enlargements of 1949 photos of the cave will be displayed. It is in an area closed to all caving, hiking, and similar activities.

Cherokee Cave is Still There

Joseph E. Walsh

Cherokee Cave was discovered in 1841. In 1842, Adam Lemp purchased the cave and began building his brewing empire. This enterprise prospered until

the advent of prohibition in 1920. At one time, as many as three breweries simultaneously used different, unconnected portions of the same cave. After prohibition, refrigeration made the use of caves obsolete in the brewing industry. Cherokee Cave lay deserted and forgotten. It became a trash dump and a target for vandals.

In 1946, Lee Hess purchased the cave, cleaned it up, and excavated a tunnel to connect two known (but separated) portions of it.

During the course of excavation, a large deposit of Pleistocene peccary bones was found. At the invitation of Mr. Hess, the American Museum of Natural History investigated this very important paleontological site in 1946. Mr. Hess successfully operated Cherokee Cave as a show cave from 1950 to 1961.

The Missouri Highway Department purchased part of the cave in 1961 and collapsed the commercial entrance prior to the construction of I-55 above that section of the cave.

Today, much of the cave still remains hidden beneath the modern city. The old tourist trails and a portion of the Peccary cemetery remain intact. Artifacts from the days of the breweries can still be seen. The cave literally abounds in history.

1993 Spelean History Session Abstracts (Pendleton, Oregon)

Ninetieth Century Paleontological Investigations of the Carlisle Pennsylvania Bone Caves

Dean Snyder and Fred Grady

The first scientific investigation of a cave near Carlisle, PA., was by Constantine Rafinesque in 1832 after he was set several teeth found in Conodoquinet Cave. Rafinesque found nothing in his search of the cave and described the teeth as a new species of ungulate *Odocoileus speleus* though they were in fact those of a deer.

In 1848 Spencer Baird and some of his students at Dickenson College visited several caves and dug in Conodoguinet Cave and Conodoguinet Rock house. Baird also apparently got a few bones from a cave Harrisburg believed to be Leymone Cave. Other caves visited by Baird and others have not yet been

identified. Baird believed that 5% of the bones he found were from extinct animals. A 1940 description of the collection presented by Baird to the Smithsonian Institution revealed only bones of recent age.

The third effort to find bones in the Carlisle Bone caves was by Henry C Mercer who employed William Whitte to investigate the caves in 1897. Whitte also went to Conodoguinet cave and quite a few bones all apparently of recent age and no evidence of early man that Mercer has been searching for several years.

The Discovery of a Sandstone Cave by Custer's Black Hills Expedition

Fred Grady and Timothy H. Heaton

In the summer of 1874 George Armstrong Custer led an expedition to explore and survey the Black Hills of South Dakota. In the northwestern corner of South Dakota an Indian scout named Goose led the expedition to a cave held in much regard, religiously by local Indians. Custer named it Ludlow Cave after his topographical engineer, Captain William Ludlow. The cave extended 200-400 feet into the hill side and was said to be decorated with drawings of animals and human hands and feet. Ludlow Cave is located on a recent topographic map and one of us has recently observed the entrance.

The History of Michigan's Fiborn Quarry

Michael Warner

A man-made pocket in an outcropping lens of Silurian age limestone sits in the eastern end of Michigan's remote upper peninsula. Surrounding karst features attracted the Michigan Interlakes Grotto in the mid 1970's, following leads to the area of Fiborn Quarry (now a Michigan Karst Conservancy preserve). Accounts, documents and photographs have been gathered for archiving and publishing. The record dates from the mid 1800's to the present. Known are visitations to rare northern, post-glacial caves since quarried and many facets of development and life at Fiborn Quarry (abandoned in 1935).

1994 Spelean History Session Abstracts (Brackettville, Texas)

The Wind Cave Feud

Nancy E. Holler

Turn back the clock for an action-packed ride through the 1890s and 1900s at Wind Cave, South Dakota. Possession of the cave focused on two families—the Stablers and the McDonalds, and their common interest in gaining wealth quickly transformed into a raging feud between them. Numerous accounts of gunfights, publicity stunts, house torching, bitter verbal exchanges, cave specimen collecting, and lots of newspaper publicity are just a few events that contributed in the battle for Wind Cave gaining nationwide attention and having such a rich and colorful history.

History of the Exploration of Sistema Huautla

Bill Steele

The caves of the Huautla plateau, Mexico, were suspected from aerial photographs in the mid-60s. Association for Mexican Cave Studies cavers began exploration in 1966 and it continues today.

There have been three phases of exploration. The initial exploration was in 1966-71 by AMCS and McMasters University, Canada, cavers. In 1967, the distinction of deepest cave in the Western Hemisphere came to Huautla and has remained most of the time since.

The second phase began in 1976 with discovery of deeper passages in Sotano de San Agustin. In 1977 the Huautla Project was formed to organize annual expeditions and conduct "full speleology".

The third phase began in 1982 with the split of the Huautla Project into two parallel efforts. One continued the exploration of the vertical caves of the upper end of the cave system. This resulted in the March 26, 1987 connection of Nita Nanta with Sistema Huautla, establishing the cave as the world's third deepest. The other concentrated on the lower end of Sistema Huautla through cave diving.

Sistema Huautla has an abundance of deep routes. There are 15 entrances and deep routes with depths over 600 meters, 700 meters, 800 meters, two over 900 meters, and two over 1,000 meters. Not

integrated into the system are caves of 400 meters, two over 500, one over 600, and two over 700 meters in depth.

Published studies on cave science have included archaeology, geology, biology, paleontology and hydrology.

Historical Study and Perspective View of Tourist Caving in Cuba

Ana Nidia Abraham Alonso and Jose Luis Gerhartz Muro
(paper not presented)

The history and development of the tourist caves of Cuba will be discussed, and a diagnosis will be given of the actual situation of these resources through a critical evaluation of the errors committed during the work of adapting the caves and their surroundings, presenting a series of recommendations to better organize trails, lighting, handrails and so on, in order to make the caves more attractive. Also described will be some established tourist areas in Cuba that have exploitable speleological potential. Examples of how, in several cases, these caves can be used will be presented. Finally, recommendations will be offered for the development of tourism in Cuban caves. [Translated from Spanish.]

1995 Spelean History Session Abstracts (Blacksburg, Virginia)

Shelter from the Storm: The Use of Caves as Fallout Shelters in the Cold War

Joseph C. Douglas

This paper examines the use of caves as fallout shelters in the Cold War, from the genesis of the idea in World War II and its immediate aftermath, to the implementation of a major program in the early 1960s. The author examines how the idea evolved over a twenty-year period and how it was implemented as a poorly designed program, affecting about 450 natural caves. The author also studies how the NSS' position towards the idea changed and what effect NSS opposition to the program in the early 1960s had, using specific examples.

An Informative Pigeon River, NC Nitre Department Envelope

William R. Halliday

In 1993 I acquired a stampless envelope addressed to Charlie W. Slagle, Franklin, NC, with a handwritten "manuscript" postal cancellation stating "Pigeon River NC Paid 10". In the corner appropriate for a return address is the hand-written statement:

Nitre Department
Official Business.

No caves are known near Pigeon River, NC. I am unaware of Confederate manufacture of saltpetre from droppings of passenger pigeons. The existence of this cover caused me to research the possibility of investigation or production of saltpetre from this source in this remote area. The results will be presented in this paper.

The History of Durham Cave, Pennsylvania

Bert Ashbrook

"The Cave, called the DEVIL'S HOLE, lying in Durham township, Bucks County, Pennsylvania... certainly ranks among the natural curiosities of this country, and deserves publicity whilst it has been but barely noticed by historians."
A VISITANT, 1802

Now known as Durham Cave, this cavern was open during the last ice age and was occupied by several species now extinct or locally extirpated.

Archaeological and historical evidence suggests Indian occupation until 1728. Eighteenth-century publications manifest that the cave was widely known. During the Revolutionary War, the Continental Congress attainted the cave's owner of treason, confiscated the property (which had an iron furnace), and leased it to George Taylor, a signer of the Declaration of Independence. In 1802, the cave was the subject of a detailed description and temperature study.

In the nineteenth century, Durham Cave was literally surrounded by new iron furnaces, forges, quarries, lime kilns, railroad tracks, a canal, wharves and roads. Quarrying began destroying the cave c. 1850. By the 1870s, half the original 300 feet of passages were destroyed, and quarrying under the drip line widened the remaining passage to 70 feet in places. The huge room, now opened to daylight,

only increased the cave's renown. Meetings and church services were held inside the ever more popular cave.

Several paleontological and archaeological excavations were made at Durham Cave from the 1840s until the 1980s, with work being done by the likes of Henry Rogers (Pennsylvania's first state geologist), Henry Mercer (early archaeologist and speleologist), Joseph Leidy (famous vertebrate paleontologist) and Frederick Grady (Smithsonian paleontologist and NSS member). During the last 100 years, several pseudo-scientists have also made well-publicized, specious claims.

In this century, the industrial center at the cave first collapsed figuratively and later literally. In the last 25 years, cavers have connected Durham Cave with another cave, resulting in a system with three entrances and over 1,000 feet of passages. Today, the remains of Durham Cave rest peacefully in the overgrown quarry, belying the history of the cave.

The Cave of New York City's Central Park: A Forgotten Marvel

Cato and Susan Holler

Caves have been known to occur in the strangest of places. A once popular but now almost forgotten cave in New York City's Central Park is a good example. Part natural and part artificial, the little cave at one time provided a much-appreciated source of adventure for park visitors. One could visit the cave from the lakefront by either rowing up to the entrance in a boat or by descending a series of steps hewn out of the rock along the shore. At the far end of the narrow passage was another entrance to the north.

Unfortunately, it was necessary to close the cave somewhere around 1930 due to its misuse by tramps. Both the waterfront and landward entrances remain sealed. Today, homeless individuals can be seen occupying the shallow shelter of the lakeside entrance.

There are no immediate plans of reopening the little cave due to safety considerations. We can still enjoy a 19th century visit to the site thanks to some historic photographs and documentation.

The Mason/Dixon Cave and the Significance of Its Documentation

Patricia A. Richard Rosevear and Richard E. Rosevear

During the survey of the boundary between Pennsylvania and Maryland, Charles Mason and Jeremiah Dixon took an excursion to visit a cave. Mason described the cave in his journal entry of the 22nd of September, 1765.

The late Russ Gurnee thought that this may have been the earliest documentation of a cave in the United States. Mr. Gurnee suggested that we locate the "Mason/Dixon Cave" and try to determine its standing as the oldest documented cave in the United States.

William Davies stated in 1966 that Jonathan Carver's 1778 account of his 1766 exploration in Carver Cave, Minnesota was the oldest mention of a large cave in the United States. Durham Cave in Bucks County, Pennsylvania has also been suggested as the earliest documented United States cave because of its inclusion on Schull's map of the Province of Pennsylvania in 1770.

The location of the "Mason/Dixon Cave" was determined and the documentation was found to predate even Mason's account. Joseph Spangenberg gave a general location and description of the cave in 1748.

The cave has a rich history beyond Mason and Dixon, having been both a saltpeter and a commercial cave. Native American artifacts and the bones of prehistoric animals have been excavated from the cave.

The Bones of the Megalonyx

Fred Grady

In 1796 Thomas Jefferson was sent some bones from a cave in Greenbrier County, Virginia. Jefferson described these bones - a femur fragment, ulna, radius, and some foot bones - as a new genus of mammal, *Megalonyx*. Jefferson reported the bones were found by saltpetre workers and gave the cave owner's name as Frederic Crower, an apparent misspelling of Frederic Gromer. Correspondence between Jefferson and John Stuart, who sent him the bones, indicates the cave was about five miles from Stuart's home and contained saltpetre vats.

While Organ Cave has been previously cited as the location of this discovery, it can be eliminated as it was never owned by Gromer. The discovery of two letters written by Tristram Patton, the next owner of the cave, indicates the cave was in Monroe County near Second Creek. Monroe County was separated from Greenbrier County shortly after the discovery of the bones. Patton described the cave and indicated that more bones were there. This information and other material accumulated over several years leads me to suggest that Haynes Cave was the actual discovery site. The discovery two years ago of two fragments of a *Megalonyx* scapula in Haynes Cave tends to support this suggestion.

Catacombs of Yucatan: A Brief Blink in American Spelean History

George N. Huppert

The Catacombs of Yucatan (also called Black Hammer Cave) is located in southeastern Minnesota in Black Hammer Township of Houston County. The cave was discovered in the late 1870s or early 1880s by local landowners. There were reports of burials and of artifacts found in the cave but if they ever existed there is no evidence of it now.

For a short time in the early-to-mid 1930s the cave was the scene of a thriving commercial enterprise. This short-lived business included not only the show cave (small and of minimal quality) but also tourist cabins and a restaurant/night club. The cave was electrically lit which was unusual for a show cave in a very rural setting in the 1930s. The power source was an on-site generator in its own powerhouse. Barely a trace of the cave improvements remain today. The buildings have been moved to other locations, the road and parking area have been plowed over and, sadly, the cave has suffered great damage by vandals. The business lasted only a few years, a victim of its isolated setting and the "Great Depression".

Karst, Cannon and Captain Marshall

Hal Joerin

A review of the literature detailing events of the Battle of Stones River during the American Civil War allude to the landforms aiding Confederate forces in the capture of Union artillery. These features have been described variously as rocks,

boulders, limestone ledges and even mud. An examination of the ground itself reveals features of interest to an observer aware of karst terrain.

1996 Spelean History Session Abstracts (Salida, Colorado)

The Truth About The Gold of Spanish Cave

Donald G. Davis

For more than 60 years, newspapers, magazines, books, and television have promulgated tales about a lost Spanish gold mine, with skeletons and ancient relics, concealed in the mysterious depths of Spanish Cave in Colorado's mountains. My research from 1960 to 1995, however, has failed to produce sound confirmation that the Spanish ever saw or entered the cave. The "Spanish" cross and artifacts are more probably attributable to an 1870s colony of German settlers below the mountain.

Music in the Mammoth Cave: An Inquiry into an Important Aspect of 19th Century Cave Tourism

Joseph C. Douglas

Music was a significant component of most tourist trips into Mammoth Cave, Kentucky, during the 19th Century. Visitors to the cave often perceive natural and man-made sounds in the cave as musical. Tourists also frequently made their own music while visiting the cave, using voices and instruments. In addition, the guides to the cave typically sang for the tourists during their excursions. Finally, professional musicians, whether members of the Mammoth Cave Hotel band or travelers like Ole Bull, visited the cave and sometimes performed. Although not usually thought of as an important part of caving in the 20th Century, music was an integral part of the cave experience in the 19th Century.

South Carolina's Historic Rockhouse and the Great Flat Rock Revisited

Cato Holler and Nancy Holler Aulenbach

Two historic South Carolina caves in granitic rock were first described by John Drayton, governor of

the Palmetto State, in 1802. In his monumental book entitled *A View of South Carolina as Respects Her Natural and Civil Concerns*, Drayton paints a romantic description of a large talus cave on Flat Creek, which he refers to as the Rock House. In addition, he refers to “two caverns” located at the base of the Great Rat Rock, now known as Forty Acre Rock. Additional 19th Century literature re-emphasized the significance of these sites.

The latter caves are now part of a Nature Conservancy Preserve and frequently visited, but the location of Rock House Cave has, until recently, been lost with time. While engaged in field work for the Carolina Cave Survey, we mentioned our search for the Rock House to a local hunter, Kenny Henson. After he had read a copy of Drayton’s description, he felt that he had come across that very site a short time before. With his excellent directions, we were able to relocate the cave the following day. Indeed, the 19th Century descriptions of the area were not exaggerated: “Upon the whole, the cascade of Juan Fernandez, celebrated by circumnavigators, may be more beautiful; as that of Niagara is more grand and sublime; but still this Rockhouse and Cascade would rank high in ornamental gardening with all those . . .”

Preserving NSS Guidebooks on CD-ROM

Garry Petrie

Every year more originals of limited publication guidebooks are lost. The conventional process is to preserve books on microfilm. Today, it is possible to more than preserve the image of the printed page. Using the Help system of Microsoft’s Windows, a guidebook’s text, maps, and photographs can be saved and made accessible. The text can be indexed, searched, and linked. The photographs can be digitized in full color and resolution. A guidebook on a CD-ROM can give an old document new life and preserve it for hundreds of years.

1997 Spelean History Session Abstracts (Sullivan, Missouri)

Illinois Caverns, Pride of the Illinois Underground

Joe Walsh

Previously known as Eckert Cave, Egyptian Caverns, Burksville Cave, Little Mammoth, and Mammoth Cave of Illinois, this cave remains the best known and most historic of all the caves in Illinois.

The cave has probably been known since at least 1795. In 1901, the cave was proclaimed one of the “great wonders of the world” in an article that appeared in the St. Louis Post Dispatch. It was featured as part of the St. Louis World’s Fair.

Following the World’s Fair, Charles White launched an unsuccessful attempt to commercialize the cave, and it was soon forgotten. Armin Krueger was one of the locals who actively explored the cave during the next thirty years. In the early 1940s, William Hayden attempted to commercialize the cave once more, installing electric lighting and a concrete stairway down into the cave. World War II intervened, and gasoline rationing soon speeded the end of this venture as well.

Illinois Caverns once again became a “wild” cave, and was operated by Armin as caretaker until his death in August, 1996. The cave now belongs to the Illinois Department of Conservation. It continues to be open to caving as of this writing.

Few caves in this writer’s experience are as well-known and beloved as this beautiful cavern beneath the picturesque agricultural landscape of Southern Illinois.

Identification of Kenneth Emory’s Mysterious “Herbert C. Shipman Cave”, Puna District, Hawaii County, Hawaii

Kevin Allred, Stephan Kempe, and William R. Halliday

In 1945, the great Bishop Museum staff archaeologist Kenneth Emory prepared a typescript report on what he called “Herbert C. Shipman Cave”, located about 12 miles from Hilo, HI. With increasing urbanization, repeated reference to this cave appears in archaeological sections of

Environmental Impact Statements, but all are based solely on Emory's typescript. Until recently, no archaeologist or speleologist is known to have located Emory's cave. Recent studies by Hawaii Speleological Survey teams have shown that Emory was in two different caves in two different lava flows. Use of the name "Herbert C. Shipman Cave" or the abbreviated form "Shipman Cave" should be terminated, and the names of the individual caves should be used instead.

Early Midwestern Show Caves in Minnesota

Greg Brick

Until recently, it was assumed that no Minnesota show caves predated the 20th century. Research indicates, however, that Minnesota had two of the earliest show caves in the Midwest, Fountain Cave and Chute's Cave. Both were located in an urban area, thus explaining how they were able to exist so much earlier than the state's rural show caves, which had to wait for development of the automobile, and also why their existence was short: loss of scenic values due to encroaching urbanization.

Fountain Cave (1852-1857), often claimed to be the birthplace of St. Paul, MN, is featured in old travel guides. Near the cave there was a shanty, where, for a consideration, the visitor could obtain a guide and a tallow candle. The highlight of the tour was a room called Cascade Parlor, which contained a waterfall, but there were no speleothems in this sandstone cave. The cave is no longer accessible, having been buried during highway construction in 1960.

Chute's Cave (1875-1883), in Minneapolis, was discovered in 1864 during the excavation of a power tunnel. Advertised in newspapers, ten cents purchased a ride in a boat with a flaming torch at the bow, floating more than 500 feet through the abandoned tunnel and into the natural cave. It remains the most profusely decorated cave in this part of the state, containing a flowstone-coated breakdown pile called the "Tower of St. Anthony."

The Mysterious Miss Ruth Hoppin

Jo Schaper

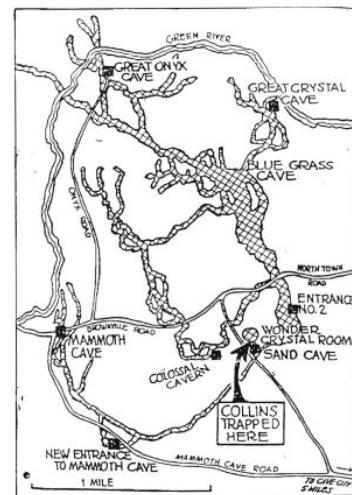
Ruth Hoppin is credited with the discovery of the Ozark cavefish (*Amblyopsis rosae*), the bristly cave

crayfish (*Cambarus setosus Faxon*) and an isopod, the only one of the three to be given her name - *Asellus hoppinae*. The woman herself has been quite a mystery, however, with much of what we know of her being derived from an 1889 article in the Bulletin of Comparative Zoology, "Cave Animals from Southwestern Missouri" by Samuel Garman of Harvard. This spring, in connection with the purchase of Sarcoxie Cave (aka Day's Cave) in Jasper County, Missouri, Jan Hinsey of the Ozark Regional Land Trust unearthed a treasure trove of biographical information on Miss Hoppin, Preceptress of botany at Michigan State Normal School, Ypsilanti, Michigan. Although how she arrived in Jasper County is still a mystery, much light has been shed on the life of this botanist and cave biologist by these accounts.

An Intriguing 1925 Sketch Map of Flint Ridge

William R. Halliday

In 1925 the Chicago Tribune published a sketch map of "the great cave system underlying the entire region in the vicinity of Mammoth Cave, in Kentucky" in its coverage of the tragedy of Sand Cave. Some parts of it are ludicrous but other parts may have been based on actual exploration. Identity of the artist is unknown, but some deductions can be drawn from its contents. Location of an "Entrance #2" to Sand Cave suggests a focus for



ridgewalking.

The above map shows the location of Sand Cave in which Floyd Collins is imprisoned by a boulder

trapping his crushed foot. The narrow gallery is part of the great cave system underlying the entire region in the vicinity of Mammoth Cave, in Kentucky.

Onondaga Cave State Park

Eugene Vale

One hundred years ago, in 1897, was the first recorded tour of Onondaga Cave. Discovered in 1886, this cave has a rich history. Although there are some gaps, many of the families involved with the cave still live in the area. Additional information was gleaned through the lens of one of the cave's discoverers, who was an accomplished amateur photographer. Some of his original photographs still remain. This presentation will be an overall view of Onondaga Cave State Park as it exists today, and will focus on the fascinating features of the park's History and Natural History.

A Gazetteer and Bibliography of Mammoth Cave

Susan Hagan and Michael Sutton

A gazetteer and bibliography of Mammoth Cave has been in preparation for a number of years. Multiple fields makes the data bases flexible and useful for a variety of research purposes. Working copies of the gazetteer and bibliography have been selectively distributed for review and for reference use. The complete gazetteer and bibliography should be available for public distribution (in printed format and computer disc) within two years.

The gazetteer database presently totals 2,100 current and past names of cave passages, formations, entrances, and other features. This information was gathered from books, diaries, maps, interviews, and by fieldwork in the cave. The history of place names is in essence an oral tradition; many names in the database have become disused, reapplied to different sites over the years, or in other ways modern usage has become ambiguous and inconsistent with past references. The gazetteer does not purport to provide authoritative definitions of acceptable use, but rather attempts to record all current and past uses. It is cross-referenced to the bibliography.

The bibliography now contains 3,900 entries. Most of the major references are included, as well as a significant number of minor sources (no attempt has

been made to judge the value of any reference), but many more obscure sources remain to be consulted. The current bibliographic database, though preliminary, is complete enough to be of general use.

1998 Spelean History Session Abstracts (Sewanee, Tennessee)

Historic Caves of the Matterhorn Revisited

Dr. Cato Holler, Jr.

Following the 1997 International Congress of Speleology in Switzerland, the author had the opportunity to spend some time in Zermatt climbing and investigating some historic caves of the region.

During an ascent of the Matterhorn, a shallow cave was visited on the east face near the Hornli Ridge at an elevation of 12,500 feet. I was informed that due to its strategic location, this grotto had been used as a bivouac on numerous occasions by climbers overtaken by nightfall or inclement weather. Later research showed that in 1868, three years after the first ascent of the Matterhorn, a small wooden hut, protected by dry stone walls, was constructed out from the cave mouth to increase the shelter's capacity to accommodate seven or eight stranded climbers. Over time the hut fell into a progressive stage of disrepair. In 1884, several desperate mountaineers burned the door of the cabin for warmth. Later, the roof was destroyed by wind. The ledge in front of the cave developed a split and the few remains of the hut were ultimately tossed over the side of the mountain. The only sign of the old hut today is a couple of wooden timbers back in the shelter. A new structure known as the Solvay Hut was established in 1915 above the site of the old hut at an elevation of 13,130 feet. It stands today as the highest emergency shelter on the mountain. With its sturdy bunks, pit toilet, and solar powered emergency radio, it is a far cry from the primitive cave hut. However, those early mountaineers-who had been forced to seek refuge in the remote cave, had undoubtedly been more than thankful for its presence on the mountain.

The second historic cave visited lies a few miles south of the mountain across the Italian border between the villages of Val Tourmanche and Breuil.

Known as the Gouffre Des Busserailes, it consists of an impressive glacial gorge, quite narrow and sinuous in nature, so as to prevent one from seeing much daylight after entering. The cave is approximately 320 feet long, and the depth from the top of the walls to the river below is 110 feet. It was first entered by the noted Alpine guide Jean-Antoine Carrell, in November of 1865, just four months after he had successfully led the second ascent of the Matterhorn, the first from the Italian side. Carrell had himself lowered into the chasm by two other guides, and the group was so thrilled at what they had discovered, they decided to construct a plank walkway, so that everyone would be able to explore its depths. Edward Whymper, the first person to conquer the Matterhorn, was equally impressed upon visiting the cave and referred to the water sculptured caverns as "marmites" in his classic treatise *Scrambles Amongst the Alps in the Years 1860-69*. For a small fee, one may still visit this Alpine marvel and enjoy its waterfall and caverns.

Spelunking Socialists and Students

Annette McCoy Oeser and James Kenneth Oeser

Ruskin Cave, Dickson County, Tennessee, has been noted at least since 1808 and 1810, when deeds listed a "great cave" as a landmark of the property. Ruskin was home to a socialist commune in the late 1890s and to Ruskin Cave College (RCC from 1904 to 1918, closing after many of the student body went to war. Graffiti in the cave shows that it has been visited by numerous people, including some adventurous individuals who belly crawled over 200 feet to reach the back portion of the cave. One hundred students and two faculty members from RCC have been identified as traversing the crawlway, since their names and or initials are found past that point. Ten identifiable trips are noted which contain names or initials and a date. Two trips were led by faculty members: R. J. Kelly and Virgil B. Hatley. Kelly's group (one faculty member, six students) contained at least four females while Hatley's group (one faculty member, seven students) contained at least five females. The socialist commune found its home at Ruskin from 1896-1899. The cave was named after the noted British socialist John Ruskin, who never visited the colony. The socialists used the cave extensively for canning, food storage, and dances. Several socialist names appear before and after the crawlway. C. W. Broeg,

the stonecutter for the commune, chiseled his name before the start of the crawlway. Other socialists entered the back of the cave on September 9, 1899, before the colony dissolved and the cave property sold.

Caves and Civil War Armies in the Chattanooga Region

Marion O. Smith

Slides will be shown emphasizing saltpeter and other caves in southern Tennessee, northeast Alabama, and northwest Georgia, and their relationship with movements of Civil War armies. On or near the routes the armies traveled were caves worked by the Confederates for saltpeter or springs with associated caves. Some of these caves were visited by Union troops during the Chickamauga-Chattanooga campaign of 1863, while others were entered by railroad guards or transient soldiers later in the war. Two of the caves, Lookout and Nickajack, were heavily visited by men from both sides.

Ralph Waldo Emerson and Mammoth Cave

Joseph C. Douglas

Although historians of American caves have long known that Ralph Waldo Emerson visited Mammoth Cave sometime in the 1850s, recent research in his journals and letters has yielded additional information about his trip to Kentucky and the cave. Of particular interest is Emerson's lengthy letter to his wife Lydian which details his two tours into Mammoth Cave in June of 1850. Emerson was impressed by the natural features of the cave as well as the theatrics and other elements of the tour. The Mammoth Cave experience made a lasting impression upon Emerson and provided the seeds of ideas which later emerged in his essay "Illusions."

Lost Caves of Harrison and Crawford Counties

John Benton

Harrison and Crawford Counties, bordering the Ohio River in southern Indiana, have long been known to cavers. Some 800 plus caves for the side by side counties are listed in the ICS (Indiana Cave

Survey) database. Famous show caves, such as Wyandotte and Marengo Caves are here, as well as the 20-mile plus Binkley Cave System. At least 18 caves in the two counties have been physically closed or sealed so that present entry by cavers is not possible, due to natural cave in, sealed during highway construction, bull-dozed shut by the owners, flooding, quarrying or just not being able to locate the entrance. I will document the existence of these once open caves, with newspaper articles, photos, word of mouth and hand me down stories; these caves await being rediscovered by cavers who may find a way in. From the clues we know about, some of the lost caves may prove to be quite extensive and/or very beautiful.

The Saltpetre Mining History of Virginia Caves: An Inventory and Compendium in Progress

David A. Hubbard, Jr.

There is a rich history of the use of Virginia caves for the extraction of saltpetre. A history preserved not only in documents, but also as physical evidence in many caves of the Commonwealth of Virginia. Historic documents, oral local lore, and physical evidence and artifacts have collectively and individually led to the rediscovery of historically mined saltpetre caves. Much of the evidence of saltpetre mining in caves is readily observable with minimal impact to a cave and its resources, an impact limited to one's careful passage through the cave. Artifacts and mining evidence reveal a wide array and variation in tools used, sediment types exploited, where mining occurred, if and where cave waters were collected for leaching, where leaching was conducted in-cave, types of leaching vats, and even who worked these sites and when. Ongoing research indicates no less than 94 caves were historically mined for saltpetre within the present geographic bounds of Virginia. Historic mining generally occurred over three periods: immediately prior to and during the American Revolution, prior to and during the War of 1812, and during the Civil War. The inventory of Virginia's saltpetre caves also entails the compilation of a compendium of previous documentation. Older photographs and slides of saltpetre mining evidence and artifacts in Virginia caves are sought for duplication and inclusion in the compendium. The physical mining

evidence and artifacts of Virginia's saltpetre caves are protected by the Code of Virginia.

Charles Darwin's Interest in Caves

Frederick Grady

The well known naturalist Charles Darwin noted only a few small sea caves in South America during his nearly five year trip around the world in the early 1830s. His correspondence and published writings indicate a knowledge of and interest in various aspects of speleology. Prior to publication of *The Origin of Species*, Darwin requested information about cave adapted species and in *The Origin of Species*, he devoted two pages to this subject. He was also interested in paleontological and archaeological cave sites as evidenced by correspondence and publications. Unfortunately poor health prevented possible field work in caves by Darwin after his return from his voyage.

1999 Spelean History Session Abstracts (Filer, Idaho)

The Rediscovery of Heiskell Cave: a Confederate Nitre Bureau Works

David A. Hubbard, Jr. and Marion O. Smith

Heiskell Cave is the Civil War era name of a cave located in the Rose Hill area of Lee County, Virginia, within the Confederate Nitre Bureau's District No. 1. Payroll records for a saltpeter mining operation in this cave are known from October, 1862, through August, 1863. The exact location and modern name of this cave remained a mystery to saltpeter history researchers for some fifteen years until November 1994, when the names of three Civil War miners were matched between payroll records and cave wall inscriptions. The inscriptions "John R. Fitts 1863," "A.P. Waterman Mar 7 1863," "A.P. Waterman March 10 1863," and "1863 Andrew J. Milbourn CSA March 24 1863" were found on the walls of Jones Saltpeter cave and correlate with the Heiskell Cave payroll records of John R. Fitts (laborer) January-August 1863, Alfred P. Waterman (laborer) February-August 1863, and Andrew J. Milbourn (laborer) January-April 1863. Other mining evidence observed includes piles of rocks culled from sediment, old sediment levels on walls, mattock

marks, torchperch sooting, talley marks, and old leach vat cast piles.

Jones Saltpeter Cave is once again closed to visitation by cavers and researchers alike.

Beyond the Sump: The Burnley Map of Carver's Cave

Greg Brick

Carver's Cave is a sandstone cave approximately 35 meters long located at the foot of Dayton's Bluff near downtown St. Paul, Minnesota. Containing a spring-fed lake, it became the "baptismal font" of Minnesota caving when explorer Jonathan Carver visited it in 1766-67 and subsequently published his account, one of the first descriptions of a cave in the Upper Mississippi Valley. Since then, the cave has gone through the cycle of talusing-shut and being dug open again several times per century.

Carver's Cave was most recently reopened with a front end loader in 1977 by city officials and was thereafter secured with a steel door. Since then, a two-meter thick deposit has accumulated below the bluff, burying the door and deepening the lake. Although still accessible today through a small opening, the cave will again be lost to view early in the next millennium.

The 1913 reopening of Carver's Cave by Colwell, however, generated the most publicity. At that time, a journalist named Burnley drafted a conjectural map showing large rooms beyond the sump at the rear of the cave. Probing the sump with poles today, there is good reason to believe that Burnley's room existed. After failed scuba and pumping efforts to crack the sump in the 1990s, local cavers have resorted to trenching the talus in the hope of draining the lake that fills the cave, and exposing the rooms.

The Historical Importance of the Baumannshohle/Harz illustrated by the Report of Zuckert (1763)

Stephan Kempe

The Baumannshohle, in Rubeland, Harz, Germany, is one of the most important caves in early scientific literature. First mentioned 1546, it was the first natural cavern from which a picture of its interior (1654) and a map (1665) was made. It also was the

first cave to be protected by decree and for which a guide was appointed (1668). In the 18th and 19th century it was the focus of investigations by numerous scientists, and appeared in many publications and in most of the natural science overviews. Here I report about a description published in 1763 by Johann Friedrich Zuckert (1731-1778), a physician and author, so far unknown to speleological literature. Zuckert appears to have been a critical observer. He not only described the individual flowstone figures, taking account of previous reports, but he also discussed the question of their formation, showing a thorough knowledge of the chemistry of his time. Furthermore, he deals with the bone deposits in the cave, however, without identifying them as bear bones, even though Horst (1656) and Bruckmann (1734) had already stated that the bones from the Einhornhohle were bear. Walch (1769) was the first to acknowledge Baumannshohlen bones as bear bones. In 1774, Epser suggested that they belonged to the ice bear, and in 1794, Rosenmuller finally realized that they represent an extinct species: *Ursus spelacus*, the cave bear. Using the most recent survey of the Baumannshohle (Fricke, 1998), we were able to identify many of the historical flowstone figures discussed by Zuckert.

2000 Spelean History Session Abstracts (Elkins, West Virginia, June, 2000)

Cattle Cave: Historic Archive

David A. Hubbard, Jr., Marion O. Smith

Cattle Cave in Lee County, Virginia was mined for saltpetre. Civil War era writings on mattock marks in sediment contain more detailed inscriptions than just the names of miners. The most stirring sentiments were the following: "Nathan S. Cox Was born January 2nd 1842 This the 6th day of March 1862. Age 20 years 2 months & 4 days War is upon us But we will not be subjugated We will fight them as Long as there is a woman or little boy large Enough to raise a gun to fire Huzza Huzza Jeff Davis & the southern confederacy Nathan S. Cox Thursday Eve 1862." He served in the 50th Virginia Infantry and survived the Battle of the Wilderness and the war. A younger brother, Mitchel C. Cox, age 17 years 9 months and 6 days, recorded his thoughts during that March 6th evening. He served

in the 64th Virginia Infantry and was captured at Cumberland Gap, exchanged as a prisoner, and served again before he was “Murdered and robbed in Russell Co., VA on 8/4/64.” A sister, Mary A. F. Cox, and her friend Cynthia Ann Pruett also inscribed the sediment bank that March evening. Cynthia married another Cox brother in February, 1865. A partially obliterated name dated 1860, may be that of General Creech. He enlisted the same day as Mitchel Cox and was captured at Cumberland Gap. Sent to Camp Douglas, he was held until he died of endocarditis on December 19, 1864.

The Cavefish Calendar: Establishing the Precise Chronology of Early Discoveries of Cave Fishes

Aldemaro Romero, Zeia Lomax

The history of the discovery of the first true cave, troglobitic (blind, depigmented) fish has been unclear. Different claims have been made at different times about the primacy of discoveries in this area. There are at least three references for European cave fishes for pre-Linnean times: Besson (1569), Kircher (1665), and Montalembert (1748). All these citations are unsupported by scientific evidence and may have been based on uncritical observations. Even if they were true, they would all be preceded by a description of a cave fish in China in 1541 that seems to refer to a true cavernicole.

The Caves Of Mushroom Valley, St. Paul, Minnesota

Greg Brick

A three kilometer reach of the Mississippi River gorge near downtown St. Paul, Minnesota, is known locally as “Mushroom Valley” because of the abundance of man-made mushroom caves in the sandstone bluffs. Mushroom growing lasted a century, from its introduction by Parisian immigrants in the 1880s until the last cave ceased production in the 1980s during the creation of Lilydale Regional Park. Notable examples are Altendorfer, Bisciglia, Lehmann, and Peltier caves.

Some of the approximately fifty caves originated as sand mines, and not all were used for mushroom growing. Examination of city directories and Sanborn insurance atlases revealed that other common uses were aging of cheese (Land O’ Lakes),

lagering of beer (Yoerg’s Brewery), and storage (Villaume Box & Lumber). The University of Minnesota rented caves in the 1930s for experimental ripening of blue cheese. A cave used by the St. Paul Brick Company later was gated as a bat hibernaculum by the Minnesota Department of Natural Resources. Mystic Caverns and Castle Royal were underground nightclubs in the 1930s, the latter hosting the Howdy Party for the 1980 National Speleological Society Convention.

The caves were surveyed during a civil defense study in the early 1960s. The typical cave is a straight, horizontal passage fifty meters long, but often connected by cross-cuts to similar caves on either side, creating network mazes with multiple entrances. A cave operated by the Becker Sand & Mushroom Company is the largest of all, with ten-meter ceilings and more than a kilometer of passages.

Disproving a Negative: The Alleged Blind Cave Fish from Pennsylvania Never Existed

Aldemaro Romero

In 1864 Edward Drinker Cope published a report on what he thought to be a new species and genus of troglobitic (blind, depigmented) cave fish, from Pennsylvania. As late as 1986 some authors, based on Cope’s article, have continued to assume that there are troglobitic fishes in that state. An analysis of those reports as well as of studies on the fish and cave fauna for Pennsylvania from the historical, biological, and speleological viewpoint is presented. The results of this study fail to provide any evidence that such fish exist or ever existed. The original unsubstantiated reports seem to be based on the assumption that you cannot prove a negative, i.e., that we cannot prove that something does not exist just because we have not found it.

Edmund Ruffin And The Cymbee Of Woodboo

Dr. Cato Holler, Jr.

Edmund Ruffin was a noted nineteenth century agricultural reformer from Virginia as well as a staunch supporter of slavery. Civil War enthusiasts may remember him best as the individual who was selected to fire the first shot on Fort Sumter, South

Carolina, thus beginning the War Between the States. Less known, perhaps, are Ruffin's antebellum speleological endeavors. In 1843 at the request of Palmetto State governor, James Hammond, Ruffin spent eight months conducting an intense agricultural and geological survey of South Carolina. Much of his time was spent in locating limestone and marl deposits which he felt could be used wisely for agricultural purposes. During his field work, Ruffin turned up a number of interesting caves and karst features within the state. He described these in detail in his private diary. While visiting and talking with some of the locals, he was also introduced to a bit of folklore concerning the legendary inhabitant of a particular karst spring. This was a peculiar supernatural being or water sprite which the local Negroes called "the Cymbee of Woodboo".

The History of Windeler Cave

Ernie Coffman

During mining operations in 1946, Windeler Cave was discovered, and in 1952, the cave was filled in under unexplained circumstances. After twenty years, the Diablo Grotto reopened the cave and they since have managed it.

Prior to 1946, Windeler Cave did not have a natural entrance. The cave was discovered by Charlie Windeler and other miners, and they permitted the now defunct Stanford Grotto to explore the cave in the years 1950-1952. The entrance gate has been broken into several times, which will be explained during the History Session. Windeler Cave has been surveyed to 3000 feet and is unique to the Mother Lode area because of its many speleothems and pristine condition.

During the management of Windeler Cave, the Diablo Grotto has had to patrol, use electronic surveillance equipment, redesign gates, go to court to prosecute two vandals, who were charged under the 1977 California Cave Protection Law, and fill in the entrance. Much of the problem has been traced to a person who wrote a fantasy of words and sold to many that were interested in seeking out their fortune in the era of high gold prices.

Scientific exploration was attempted, with Dr. William Elliott labeling one small water creature after Windeler. One of the limits in exploring Windeler was the requirement of electric lights,

which studies were to be coordinated on, but this only led to vandalism by some of those who broke in during the 70s.

Identification and Analysis of a Civil War Soldier's Name in South Carthage Cave, Tennessee

Joseph C. Douglas, Marion O. Smith, Jan F. Simek

In May 1999, a possible Civil War inscription was found in South Carthage Cave. On a return trip, an intensive visual inspection was inconclusive, so photographs of the inscription were made. These were later examined electronically using exploratory data analysis, which revealed additional information and resulted in a positive identification. The inscription was made by John C. Reed of the 11th Ohio Infantry. Subsequent research indicates that Reed had a spotty military record and that he visited the cave between March 20 and June 4, 1863 while encamped near South Carthage. Reed's cave trip confirms that Union soldiers visited more caves, including relatively unknown caves, than previously suspected, and that American patterns of interactions with the cave environment persisted in the Civil War, despite the dislocations of the period.

Minnesota Show Caves

Greg Brick

The following is a list of the known show caves of Minnesota in chronological order, together with years of operation. All are either natural caves or artificially enlarged natural caves. The assistance of Gary K. Soule is gratefully acknowledged.

1. Fountain Cave, also known as New Cave and Spring Cave (St. Paul, MN, 1852-1857?).
2. Chute's Cave, also known as Nesmith Cave (Minneapolis, MN, 1875-1883).
3. Jesse James Caves, also known as Seven Caves (St. Peter, MN, 1929-1954).
4. Catacombs of Yucatan, also known as Black Hammer Cave (Spring Grove, MN, early 1930s).
5. Niagara Cave (Harmony, MN, 1934-present).
6. Old Mystery Cave (Spring Valley, MN, late 1930s-1942).
7. Wolfe Brewery Caves (Stillwater, MN, 1945-present).
8. Mystery Cave (Spring Valley, MN, 1947-present).

9. Minnesota Caverns, now the Mystery II entrance to Mystery Cave (Spring Valley, MN, 1960-present).
10. Hiawatha Caverns (Witoka, MN, 1964-1966).
11. Spring Valley Caverns, formerly Latcham's Cave and International Caverns (Spring Valley, MN, 1968).

Over 30 Years Under the Sinkhole Plain

John Benton, Richard Newton

Binkleys Cave, under the sinkhole plain (part of Mitchell Plain) south of Corydon in cave rich Harrison County, is Indiana's longest surveyed cave, currently at 21.7 miles. Some of the water has been dye traced to Harrison Spring, the largest in the State. The cave was discovered around 1940, when a sinkhole pond opened up. From 1958 to 1962, the B.I.G. (Bloomington Indiana Grotto) surveyed 6.47 miles of passage. A few cavers, inconsiderate of the property owner, caused the cave to be closed for a few years. On Thanksgiving weekend 1967, a core of local cavers, calling themselves the Indiana Speleological Survey (ISS), resumed surveying where the B.I.G. had stopped. The ISS charted new areas almost immediately, and soon pushed the survey to over 16 miles by the early 1970's. Discovery and surveying has continued on and off since then, with the core of cavers being several of the original ISS (although the ISS is not maintained as an official group) cavers that started in 1967, having been involved in the project for over 30 years! In December 1999, a major upstream cave river was found, netting over a mile of virgin cave. This was the culmination of a digging project that started in 1996. Many going leads remain, and the ISS cavers potentially have more miles of cave to survey. Water and biological studies show that the cave is threatened by urban development on the sinkhole plain.

2001 Spelean History Session Abstracts (Mount Vernon, Kentucky)

Cave Rescue Postcards

Dean H. Snyder

Disasters have been a frequent topic seen on postcards during the first few decades of the twentieth century. Despite being one of the most

sensationalized news stories between the two world wars, and covered by dozens of photographers, relatively few postcards of the Floyd Collins tragedy were published. These cards can be divided into three categories: those published by Wade H. Highbaugh, a series of two cards published by the Auburn Post Card Manufacturing Company, and a small group of miscellaneous cards. All of them are difficult to find today and are highly prized by cave postcard collectors.

The Role of Malcolm Black in the Floyd Collins Saga

William R. Halliday

Malcolm H. Black was born less than five miles from Glasgow, KY. As a boy, he knew many of the participants in the Floyd Collins rescue attempt. In January 1925 he was working nights in the Sports Department of the Louisville Herald-Post while attending high school. Ultimately he spent 25 years as a journalist, four years in the U.S. Army during which he covered the invasion of Normandy, and 23 years in Kentucky state government, mostly as administrator of a state tuberculosis hospital in Glasgow. At the Herald-Post he knew and worked briefly alongside Skeets Miller. Because of his local connections, that newspaper sent him to Sand Cave for five days when the story broke. Noted Chicago Tribune reporter Tom Killian befriended him and young Black accompanied Killian during the controversial Alma Clark interview and Killian's creation of the hoax about Floyd's dog. Black's reminiscences and his correspondence with Skeets Miller contributed significantly to my account of the Floyd Collins saga in "Depths of the Earth".

Vernon Dalhart and "The Death of Floyd Collins"

Dale Ibberson

Many who have listened to this record probably regard Vernon Dalhart as a nasal hillbilly singer, but this is far from the truth. Born Marion Try Slaughter II in 1893, he received professional voice lessons at a young age and worked as a singer on Broadway before he ever made any records. Fame came quickly after he started recording and many of his records sold a million or more copies. During his career he was credited with over 3,000 records on over 150 labels. His fame diminished in the 1930s

and he was largely forgotten until he was posthumously elected to the Country Music Hall of Fame in 1991. This paper will provide further details of his life.

Uncovering the Truth about Floyd Collins

Roger W. Brucker

Between 1925 and 1979 no comprehensive investigation of the Floyd Collins entrapment story had been undertaken. Newspaper accounts, magazine articles, chapters in books, and reminiscences provided sometimes conflicting and fragmentary information about what really happened. This paper describes some of the tools and methods used to investigate, resolve the conflicts, and fill in the details by Robert K. Murray and Roger W. Brucker in writing the book *Trapped! The Story of Floyd Collins*. An examination of original source material - Sand Cave itself - was the primary key to resolving ambiguities and assessing the relevance of interviews with participants. Original source material remains the key to discovering additional details of the story.

The Early Floyd Collins Ballads

David N. Brison

The tragic death of Floyd Collins touched the emotions of many people throughout the country, among them several ballad singers in the South. Shortly after the event, Andrew Jenkins was commissioned to write a ballad about the tragedy. Later he wrote at least one more and probably a third ballad commemorating Floyd. Three other ballad writers, George Hunt, Al Eggers, and O. W. Blevens were moved to compose their own tributes.

The background and content of the six known early ballads, all written before 1929, will be discussed accompanied by slides and a taped selection of one stanza from each ballad.

The Presence of Floyd Collins in the Mammoth Cave Area Today

John Benton

It has been over 75 years since the tragedy at Sand Cave that eventually claimed the life of Floyd Collins, in what is now part of Mammoth Cave National Park in south-central Kentucky. Present

day and recent times seem to have Floyd Collins embellished in the history and culture of the Mammoth Cave area. Probably the area's most "famous son", Floyd Collins' presence is still apparent in the area today. Web sites about Floyd on the Internet, a recent reenactment video about the ordeal targeted for sale and for cable TV markets, a Floyd Collins museum, and historical signs about Sand Cave marked by the National Park Service are all visible. The story of Floyd Collins is often mentioned for tourists throughout the Mammoth Cave region, and historical exhibits are displayed at the American Cave Conservation Association Museum in Horse Cave, Kentucky. Modern books about Floyd Collins by noted cavers such as Brucker and Halliday have added much insight into the story. A play about Collins has made the national rounds. The town of Cave City even sponsors "Floyd Collins Good Ole Day" annually as a community wide event. Some remnants of the Floyd Collins saga are slowly disappearing and need to be documented for future use and study.

The Edward Post Floyd Collins Newsreels

Dean H. Snyder

In January, 1964, an article by Clarence Woodbury titled "The Death of Floyd Collins" appeared in the American Legion Magazine. Members of the Collins family objected to the article and sued. Louisville attorney Edward Post, who represented the plaintiffs, prepared a 16 mm film containing segments of 1925 newsreels and won a settlement against the magazine. This eight minute black and white film will be shown to cavers for the first time.

Scientists Prefer Them Blind: A Historiography of Hypogean Fish Research

Aldemaro Romero

The history of hypogean fish research has been strongly influenced by neo-Lamarckism (including orthogenesis) and typological thinking. Only in the last few decades neo-Darwinism has made any inroads in the research approach to this subject. The majority of the most distinguished and productive hypogean fish researchers have used their research subjects to confirm their own views on evolution rather than to use those subjects as a spring of knowledge to enrich mainstream biological thought.

Of these views, I found that the most pervasive of all is the notion of evolutionary 'progress' that has led many researchers to envision hypogean fishes as prime examples of 'regressive' evolution. I propose that the utilization of hypogean fish for the study of convergent evolution should catapult these subjects of research into prime objects of evolutionary studies.

Nuclear Fallout Shelters in Mammoth Cave National Park

Colleen O'Connor Olson

Between 1963 and 1978 Mammoth Cave National Park had four Civil Defense nuclear fallout shelters in the Mammoth Cave System and Great Onyx Cave. Supplies included food, water, a medical kit, sanitary supplies and devices to check radiation.

Though Mammoth and Great Onyx Caves probably would have been as accessible and safe as other fallout shelters, usually basements in homes or public buildings, caves in general would not be as suitable for fallout shelters. Most caves are not in highly populated areas, do not have roads leading to them and lack easy access entrances. A well-ventilated cave could let fallout in, while a cave with little ventilation could be unsafe for large groups over long periods of time, and the cool temperature of most American caves would be uncomfortable for inactive people. After 15 years in the cave, the shelter supplies were removed, not always with care. The water was poured out of the barrels before removing them from the caves, washing away sediment and leaving gullies in the floor in Mammoth Cave's Audubon Avenue. Workers destroyed gypsum flowers in Crystal Cave. Most of the supplies were disposed of, but the carbohydrate supplement candy, 15 years old and "hard as rocks", was given to National Park Service employees to eat. The Office of Civil Defense no longer exists and fallout shelters are no longer common. The Mammoth Cave fallout shelters are no longer a survival strategy, but an interesting chapter in Mammoth Cave history.

Caves as Curiosities: The Location of Cultural Values within American Caves in the Nineteenth Century

Joseph C. Douglas

During the nineteenth century, one way Americans conceived of caves was as natural curiosities, interesting spaces that were expressions of the sublime. Americans located spiritual, religious, romantic, and patriotic cultural values within caves, giving them an importance beyond their utilitarian and commercial worth. By attaching these values to caves, Americans created ambiguous and contradictory interactions with the cave environment, reflecting differing impulses towards the natural world. The tension between commercial and utilitarian exploitation of caves and the cultural values of caves was an important factor in the nascent efforts to conserve the cave environment in the period.

Norway's Torghatten: The Cave and the Legend

Dr. Cato Holler, Jr.

The natural history of Norway, including its caves, is steeped in fascinating tradition and folklore. Off the rugged northwest coast of Norway lies the island of Torghet, the Omarket hat. Rising from the center of the island is the granite peak of Torghatten, pierced completely through with a huge paleo-sea cave of the same name. This historic natural tunnel measures 160 meters in length, 20 meters wide, and over 35 meters in height. The author had the opportunity to explore this along with three additional caves on the same island. According to local folklore, the peak of Torghatten was pierced through by an arrow shot by the Horse Man, Hestmannen. The arrow was being aimed directly at the woman Lekamoya, but was blocked whenever King Somnafjellan intervened by throwing down his hat to distract the jealous archer. The woman was spared, the king's pierced hat fell upon the island just as the sun rose, and everything around was immediately turned to stone!

2002 Spelean History Session Abstracts (Camden, Maine)

Cave of the Winds' Pedro's Cave: Who Was Pedro?

Robert N. Cronk

Pedro's Cave is in Williams Canyon near Manitou Springs, Colorado, USA, on property owned by Cave of the Winds. Now part of the Manitou Cave System, it was used by the Cave of the Winds for their wild tours. Discovered in 1910, Pedro's was opened to tourists as Centipede Cave. As a result of a naming contest, it became known as Manitou Cave. The electrically-lighted attraction opened as a rival to Cave of the Winds, but it failed financially in 1913, and was sold to Cave of the Winds. Permission was given for an indian, Pedro Cagete, to live in the old entrance building to sell trinkets to tourists on their way to Cave of the Winds. That building was washed away in a flood in 1921, but from that time onward the cave became known as Pedro's Cave. Until now, attempts to discover much more about Pedro met with little success. However, digitization projects of the Denver and Omaha libraries and of the National Archives have uncovered details of Pedro's life and personality, and have also provided remarkable photos of Pedro when he lived on the Santa Clara Pueblo in New Mexico. This talk presents some of those photos and brings new information about Pedro of Pedro's Cave.

Dancing in the Cool of a Cave: Historic Social Use of the American Underground

Joseph C. Douglas

One of the most important social uses of caves in the 19th and 20th centuries was for underground dancing. This began early in the 19th century, and increased in the middle and latter decades of the century. The usage was widespread across the landscape though particularly popular in the South. Dances were held in both commercial and noncommercial caves. The type of dancing changed over time, and the practice persisted throughout the 20th century. The social uses of caves, including dancing, were important in shaping how Americans regarded and interacted with caves,

counterbalancing usages which were primarily commercial or utilitarian.

Boston Grotto 50th Anniversary

John C. Evans, Steven J. Stokowski, Jr., Morrie Gasser, George Ehrenfriedl, Alan Budreau

The Boston Grotto, chartered January 26, 1952, is the 18th oldest grotto in the NSS.

Nationally prominent Grotto members included:

- Two NSS Presidents (Barr, Curl)
- Four Honorary NSS Members (Barr, Curl, PalmerPalmer);
- Numerous NSS award winners
- Cave photographers (Bosted, Downey)
- Cave researchers: biology (Barr), diving (Fisher), history (Hauer), hypothermia (Kreider), karst geodynamics (Curl), LED lights (Schneiker), radio (Pease)
- Adventure computer game creator (Crowther - also one of the originators of the Internet)
- Caver's Digest creator (Sutter)
- National Cave Rescue Commission Regional Coordinator (Evans)
- Speleology for Cavers course organizer (Stokowski)
- Speleobooks proprietor (Davis)

Grotto members were victims in two cave fatalities:

- The grotto vice-chair in Schroeders Pants Cave, New York in 1965, for whom the NSS James G. Mitchell award was named
- Eric Tsakle in Fullers Cave, West Virginia in 1985

These led to increased safety and rescue training that resulted in happier outcomes for subsequent incidents.

Grotto members contributed significantly to mapping and exploration: the map of Mitchells Cave, New York graced the first NRO Bulletin, and members first mapped of the longest caves in New Hampshire (MDBTHS) and Maine (Enchanted Lake). Grotto members authored or contributed heavily to the publications *Vermont Caves*, *Caves of Massachusetts*, and publications for the Pittsfield, Schoharie, and Camden NSS Conventions. Grotto members also made important contributions in the exploration of Ellisons, Fisher Ridge, Lechuguilla, Mammoth-Flint Ridge, McFails, Mystery, Pena Colorada, Rio Camuy, San Agustin, and Scott Hollow caves.

Between the First Blind Cave Fish and the Last of the Mohicans: The Scientific Romanticism of James E. DeKay

Aldemaro Romero

James DeKay (b. Lisbon, Portugal, 12 October 1792; d. Oyster Bay, Long Island, New York, 21 November 1851) was the first to describe a species of blind cave fish for science. He was an unlikely hero in the history of biospeleology because:

- He was a physician by training, not a natural historian.
- He was closer to the romantic literary writers of his time than to any group of scientists.
- There is no evidence that he ever visited any cave.
- The cave fish he described was collected by someone else in Kentucky, far away from New York State, his area of research.

Yet his name is indelibly tied to the beginning of biospeleology in the United States. To understand why and how he described the Mammoth Cave blind cave fish, we need to look not only at his scientific career, but also at the literary environment he frequented.

Fisher Cave, Franklin County, Missouri, USA

Joseph E. Walsh

Now the centerpiece of a very popular state park, Fisher Cave has a long and special history. Developed in Ordovician Gasconade Dolomite, the cavern is geologically one of the oldest in Missouri. Mined for saltpeter as early as 1720, it was one of the few in the state to have been used for that purpose. In 1867 Missouri Governor Thomas Fletcher held an inaugural ball in the Ballroom of the cave. His guests were soon driven out of the cave by smoke from the lanterns used for light. Thomas Dill and later, his son Lester, were two of the first “boy guides” who later operated the cave commercially from the mid-1890s through the early 1900s, until it became part of Meramec State Park in 1928. Park personnel continue to offer guided lantern tours and interpretation. J. Harlen Bretz visited the cave and meticulously studied its features. Some of his observations there were the basis for his famous phreatic theory of cavern genesis. Exploration continues, and has revealed new

extensions of the cave, including the Hugh Dill Room, and the Spelunker’s Paradise. Volunteers are currently attempting to restore the cave to its natural state, while preserving its history for study and interpretation.

2003 Spelean History Session Abstracts (Porterville, California)

70 Years Under the Earth

William R. Halliday

Seventy years ago this month, my father led me down a pole ladder into Devil’s Kitchen, a spacious travertine cave in Yellowstone National Park. At that time it was a popular tourist attraction. Half a lifetime later, I found readily recognizable 19th Century stereo views of this cave including two by Jay Haynes, celebrated photographer of the park. Originally called “The Mammoth Cave of Wyoming”, this cave long has been closed administratively because of supposedly lethal levels of carbon dioxide. Also closed without adequate study is nearby McCartney’s Cave which may be even larger. With new knowledge of safe exploration techniques in warm, hypercarbic caves and a need for fuller understanding of the depositional speleogenesis of various types of travertine caves, these and other travertine caves of Yellowstone National Park should be reopened to appropriate scientific study.

Charles Darwin’s Interest in Caves

Frederick Grady

The well know naturalist Charles Darwin noted only a few small sea caves in South America during his nearly five year trip around the world in the early 1830’s. His correspondence and published writings indicate a knowledge of and interest in various aspects of speleology. Prior to publication of *The Origin of Species*, Darwin requested information about cave adapted species and in *The Origin of Species*, he devoted two pages to this subject. He was also interested in paleontological and archeological cave sites as evidenced by correspondence and publications. Unfortunately poor health prevented possible field work in caves by Darwin after his return from his voyage.

The Romantic and the Caves: John Muir and the Underground Environment

Joseph C. Douglas

Although not the primary focus of his interests, John Muir was aware that caves were an integral part of the natural and human landscape in many regions. From his first ventures into Kentucky caves in 1867, in his visits to major California caves in 1869 and 1876, to his 1904 tour of the Jenolan Caves in Australia, he was fascinated by the underground environment and its features. He was well aware of the variety of cave types, as he noted limestone caves, lava tubes and trenches, potholes or pits, and ice caves at the bases of glaciers. He was also a careful observer of how cultures and people utilized caves; as living shelters, and hiding places, for American Indians, as social and commercial spaces, and as places of wonder and beauty, for Euro-Americans. Muir's own attitude towards caves mirrored his larger attitudes towards nature. In contrast to the growing utilitarian conception of nature as usable resources in the late 19th and early 20th centuries, Muir was essentially a romantic who sought beauty, self-discovery, and the presence of God in caves. Implicit in his view of caves was the idea that they were important spaces to be conserved, much like the big trees and high mountains he so valued.

2004 Spelean History Session Abstracts (Marquette, Michigan)

Quick Robin... To The Bat Cave! A Visit To Hollywood's Bronson Caverns

Dr. Cato Holler

Nestled on the western border of Hollywood's Griffith Park is an abandoned quarry. It contains a massive, forked tunnel which has been cut through a small hillside of basaltic rock. Located within a few minutes drive of most of the major film studios, this man-made California cave, known as Bronson Caverns, is perhaps the most heavily used film location in the world. Countless numbers of westerns and science-fiction features have been filmed there over the years. Even the infrequent TV watcher and movie-goer has undoubtedly seen some feature or commercial which has been filmed on this site. If you've ever witnessed the Batmobile lurching

from the BatCave, or marveled at the Klingon prison camp in Star Trek VI, you've actually been viewing a bit of Hollywood magic, filmed in Bronson Caverns.

Cave Hoaxes and Nineteenth Century Archeological Theory

Greg A. Brick

American archeology in the nineteenth century was dominated by the Mound Builder myth, which held that the tens of thousands of earthen mounds seen around North America were constructed by a superior vanished race unrelated to the Indians. Several distinctive Mound Builder motifs appear in the nationally propagated Nesmith Cave hoax of 1866-67, which was based on an actual cave, Chute's Cave, in Minneapolis, Minnesota. Specifically, there are close parallels between details in the cave hoax and Ancient Monuments of the Mississippi Valley, a classic of American archeology and the first publication (1848) of the newly founded Smithsonian Institution. The authors, Ephraim Squier and Edwin Davis, were squarely in the Mound Builder tradition. In excavating mounds they found stone coffins, skeletons that crumbled to powder, and sacrificial altars with calcined bones—all of which were also supposedly found in the hoax cave by the fictitious Mr. Nesmith. The latter concludes, as Squier and Davis had earlier, that "the relics found are not at all aboriginal in character, and may have been the work of a people existing long before even these prairies were the hunting grounds of the Indians."

The Application of Back's Principle to Cave History

Greg A. Brick

William Back, in his 1981 article, "Hydromythology and Ethnohydrology in the New World," wrote "If used with caution, mythology can sometimes extend historical and archeological interpretation further back in time." This principle was applied to Minnesota cave history. According to early missionaries, the indigenous Dakota people believed that the junction of the Minnesota and Mississippi rivers was the center of the Earth, positioned directly under the center of the heavens. Nearby was the dwelling place of Unktahe, Dakota god of waters and of the underworld, who was often

depicted as a serpent. Mary Eastman, in her 1849 book, *Dahcotah, or Life and Legends of the Sioux around Fort Snelling*, wrote that “Unktahe, the god of the waters, is much revered by the Dahcotahs. Morgan’s Bluff, near Fort Snelling, is called ‘God’s House’ by the Dahcotahs; they say it is the residence of Unktahe, and under the hill is a subterranean passage, through which they say the water-god passes when he enters the St. Peter’s [Minnesota River]. He is said to be as large as a white man’s house.” Taken at face value, the subterranean god Unktahe constitutes the oldest cave reference for Minnesota, antedating the accounts of explorers such as LeSueur (1700) and Carver (1778).

History of the George Washington University Student Grotto

Steven J. Stokowski, Jr.

NSS grotto #134, the George Washington Student Grotto (GWU Grotto), existed from 1966 to 1974.

The first grotto Constitution had 5 elected officers, including a “Publicity Director.” The second Constitution (1969) changed elections to April so that the now 3 officers could plan the upcoming school year. The GWU Grotto primarily caved in Virginia and West Virginia. From 1966-68, the club mapped caves for “Descriptions of Virginia Caves.” The first Chairman, Hugh H. Howard, was the most dynamic. He tried to start the GWU grotto in 1965, but had to first overcome a rule that any on-campus club could not be affiliated with a national organization. The grotto had 54 members in its first year and published *The Colonial Caver*. In the fall of 1967, Warren Broughton was elected Chairman. The club published professional-looking issues of *The Colonial Caver*. Charles Pfuntner was elected Chairman for the 1969-70 school year and Leonard LeRoy was elected grotto Chairman for the 1970-71 school year. The Vietnam War affected grotto membership. Paul Stevens was elected Chairman for the 1971-72 and 1972-73 school years. Paul took the grotto and later the NSS by storm. “The Foggy Bottom Caver” was started. Grotto membership expanded to 35. Steve Stokowski was elected Chairman for the 1973-74 school year. In 1974, the staff advisor left GWU and all the GWU student members either graduated or left the university. After considering that advertising for new cavers without guidance may result in a cave conservation disaster, Stokowski dissolved the grotto.

The Roquefort Caves of St. Paul, Minnesota

Greg A. Brick

The Roquefort caves of France have a history dating back to Classical Antiquity. In 1933, Professor Willis Barnes Combs of the University of Minnesota began experimental ripening of a domestic Roquefort cheese in artificial sandstone caves at St Paul, Minnesota, which he determined had the proper combination of low temperature and high humidity. He stated that there was no commercial production of Roquefort in the United States at this time. After spectacular success at the University Cave, he boasted that St. Paul’s caves could supply the entire world demand for Roquefort. Made from the more plentiful cow’s milk, rather than from sheep’s milk as in France, the Minnesota cheese was initially called Roquefort but after complaints by the French Foreign Trade Commission was relabeled Blue Cheese. The production of Minnesota Blue did not really take off until 1940, however, when World War II cut off Roquefort imports from France. Kraft Cheese and Land O’Lakes then rented caves in St. Paul and ripened millions of pounds of blue cheese. For a brief moment, St. Paul was acclaimed the Blue Cheese Capital of the World. The University Cave, which ceased operations in the 1950s, was recently dug open by the author. Filled with debris that was pushed into it with a bulldozer years ago, the cave contains no obvious artifacts from the cheese-making era.

2005 Spelean History Session Abstracts (Huntsville, Alabama)

Charles A. Muehlbronner & John Nelson: Heroes of Mammoth Cave’s “Echo River Club”

Dean H. Snyder, Dale R. Ibberson

In January, 1904, the annual convention of the League of Commission Merchants was held in Louisville, Kentucky. As part of their activities, a trip was organized to visit Mammoth Cave. During the Echo River tour inside the cave, seventeen passengers on guide John Nelson’s boat were dumped into the icy water due to the horseplay of one of the men. Only the quick thinking and heroic action of Nelson and Charles A. Muehlbronner,

former Pennsylvania state senator from Pittsburgh, saved the group from drowning. Back at the Mammoth Cave Hotel, the grateful passengers formed the “Echo River Club” with membership limited to those people on the trip. Muehlbronner was elected as President for life. The group held annual reunions in different cities for several years.

Dunbar Cave - Home of the Willapus Wallapus

Larry E. Matthews

Dunbar Cave was one of the first caves to be developed into a viable commercial underground attraction in Tennessee. J. M. Rice, C. P. Warfield, and J. P. Gracey purchased the Dunbar Cave property in 1882 and developed Dunbar Cave into a tourist attraction. Only four years later, Goodspeed’s History Of Tennessee (1886) describes the cave in glowing terms. Many of the chambers and formations had already been given their current names. Interestingly, one of the formations in Independence Hall was named the “Willapus Wallapus.”

Many of the other rooms and formations in the cave have names that are easily recognizable from typical commercial operations. However, extensive research has failed to reveal the origin of the name “Willapus Wallapus.” It is believed that this may be some mythical beast described in literature, mythology, or even children’s stories. One person located a comic strip from the 1930’s that ran under the name of the “Willapus Wallapus.” A Google Search turns up a record with that name recorded by a Canadian singing group. Despite these leads, no actual description of what a “Willapus Wallapus” is or was has been located!

Old post cards exist that show some of the named features of Dunbar Cave. Unfortunately, no postcard of the Willapus Wallapus has yet been located. If you go to Dunbar Cave.....keep your eyes open for the “Willapus Wallapus.” He is somewhere in Independence Hall.

On White Fish And Black Men: Did Stephen Bishop Really Discover The Blind Cave Fish Of Mammoth Cave?

Aldemaro Romero, Jonathan S. Woodward

Some of the chronology of discoveries at Mammoth Cave, Kentucky., is marred by contradictory reports and legends. The first published reference to a blind cave fish (“white fish”) in Mammoth Cave appears to be by Robert Davidson in 1840; however the chronology given in his book is contradictory. We did archival and field research aimed at identifying the first person to have seen (and probably collected) this blind cave fishes at Mammoth Cave. We also researched all the known specimens of the two species of blind cave fishes ever found at Mammoth Cave to see if that information could provide evidence of which of the two species was seen first. We conclude that: (1) Davidson’s chronology in his book is probably wrong and that he did not visit the cave until 1838 or 1839; (2) it is possible that Bishop was the first person sighting the fish, but others cannot be definitely excluded from having been involved in this discovery; and, (3) that although there are two species of blind cave fish that inhabit the waters of Mammoth Cave, the first one sighted was likely *Amblyopsis spelaea*, also the first one to be recognized in the scientific literature. We finally conclude that the facts surrounding Stephen Bishop’s fame need to be further investigated under the perspective of the romantic movement of the mid-nineteenth century that gave rise to the “noble savage” mythology as well as on the perspective of race in the United States prior to the Civil War.

The Start of the Kentucky Cavewars

John M. Benton

Followers of spelean history are acquainted with the Kentucky cavewars, and its many and varied feuds among the show caves of the region competing for the tourist dollars. Previously hidden in obscurity is the start of the cavewars. In 1871, David L. Graves, formerly of near Lebanon Kentucky, leased the Mammoth Cave hotel and grounds from the Croghan heirs. He was also the proprietor of the Cave City Hotel, and ran a stage line in opposition to Andy McCoy, an established stage line operator. Rival drivers were faced with assault and battery, that went to court in 1873. A monetary judgment

failed to solve the feuds and a few month later, shots were fired by both parties, mortally wounding David L. Graves himself, or did it? The stage had been set for factions of the Mammoth Cave area to defend their turf and individual caves for years to come.

Diamond Caverns: Jewel of Kentucky's Underground

Stanley D. Sides, M.D.

Saltpeter was being mined in Short Cave and Long Cave on the west side of a karst valley near Three Forks, Kentucky during the War of 1812. Beneath this valley was a beautiful cave discovered when landowner Jessie Coats' slave was lowered down a 35 foot pit on July 14, 1859. He saw sparkling calcite that resembled diamonds.

The Kennedy Bridal Party was the first to enter the new show cave a month later. Joseph Rogers Underwood, a renowned Bowling Green lawyer, senator, and managing trustee of the Mammoth Cave Estate bought Diamond Cave and 156 acres from Jesse Coats. A close relationship existed between Mammoth Cave and Diamond Cave with cave literature describing both caves. Mammoth Cave Railroad opened in 1886 with Diamond a stop.

Amos Fudge of Toledo, Ohio, and his son-in-law, Presbyterian minister Elwood A. Rowsey purchased Diamond in 1924. The fledgling National Speleological Society organized an expedition to Diamond in October, 1942. Dr. Rowsey and his son, Elwood, and Rowsey's niece, Jan Alexander McDaniel and her husband, Vernon, ran the cave and campground adjacent to Mammoth Cave National Park until 1982. NSS cavers Gary and Susan Berdeaux, Larry and Mayo McCarty, Roger and Carol McClure, Stanley and Kay Sides, and Gordon and Judy Smith purchased the cave on July 7, 1999 to promote the cave as a historic attraction and develop a national show cave museum. Virgin passages have since been discovered and a new cave found on the property.

Preserving the History of Timpanogos Cave National Monument

Cami Pulham

Tour caves are often managed for their geological and biological values, historical significances can

often be overlooked. The history of Timpanogos Cave National Monument is one of the park's unique resources and is in need of protection. In the mission statement of the monument, it states the need to preserve the cave as well as its historic value. We are preserving human history by using photography to document current and historical changes, inventorying historic signatures, writing an Administrative History, and maintaining a museum collection and archives.

The Rediscovery of Le Sueur's Saltpeter Caves in Minnesota

Greg A. Brick, E. Calvin Alexander, Jr.

A 300-year old mystery in spelean history may recently have been solved. In September 1700, the French fur-trader Pierre-Charles Le Sueur reported saltpeter caves along the shores of Lake Pepin, a widening of the Mississippi River, in what is now Minnesota. This is the earliest record of cave saltpeter in the United States. Although these caves have been a topic of discussion at major saltpeter symposia, no one has actually searched for them, to the best of our knowledge. In 2004, small, narrow, crevice caves were identified in Ordovician-age Oneota dolomite outcrops along the river bluffs in Goodhue County, Minnesota. The caves match Le Sueur's description as well as could be expected given several centuries of slope-wasting processes. While Le Sueur's journal suggests that he found actual saltpeter, rather than "petre dirt," no efflorescent salts were seen in the caves. But analyses of floor sediments from these caves and others along the bluffs on both sides of the Mississippi River reveal nitrate concentrations up to over one weight percent—comparable to those of Mammoth Cave.

History of Early Ownership and Passage Naming in Grand Caverns, Virginia

Craig Hindman

Grand Caverns, in Virginia's Shenandoah Valley, was known as Amonds Cave when it was discovered by Bernet Weyer on Mathias Amond's property in 1804. The cave was commercialized in 1806 and has been operating ever since under a variety of names, including Weyers Cave and Grottoes of the Shenandoah. The cave was modified for trail improvements over the years, but most of the

current commercial trail was in place by 1808. The cave's formations and rooms have had a variety of names over the years. Early names were based on parts of a house (the Ballroom and Balcony) and some features were named for political figures (Washington and Jefferson Halls) or religious figures (Solomon's Hall). The names of the features have varied over time based on the cave owner's whim and, perhaps, political correctness.

2006 Spelean History Session Abstracts (Bellingham, Washington)

History of the Cascade Grotto - the first 35 years

William R. Halliday

The Cascade Grotto's application was signed 21 May 1951 by 10 NSS members, mostly in the Seattle area. In those days of two-lane highways, no limestone cave was known in western Washington. Oregon Cave was a 14-hour drive from Seattle. The lava tube caves of Mount St. Helens and Mount Adams were believed to be few and hidden deep in wilderness forests. And the closest cave in Canada was believed to be Nakimu Cave in Glacier National Park. Diligent searches began to unearth limestone caves south of Mount Baker and high above Snoqualmie Pass, but the obstacles were too great for the remaining founders and the grotto became inactive around 1955 after publishing just six issues of Cascade Cave Report. Almost at once, however, new cavers and new access produced a spectacular rejuvenation with a strong international orientation. A new publication - The Cascade Caver - appeared in 1961. The grotto subsequently emphasized international vulcanospeleology. It also pioneered American glaciospeleology but its studies of the summit geothermal caves of Mount Baker were cut short by the 1980 eruptions of Mount St. Helens. There it undertook 20 follow-up study trips to caves and pseudokarsts in the "Red Zone". My own close involvement with the grotto ended after 35 years, in 1986. The grotto got along just fine without me.

Schroeder's Pants Cave

Christian Lyon

In the fall of 1947, brothers George and Lyndon Lyon along with Herb Schroeder discovered a

beautifully decorated cave that they would explore and lead school groups into for the next 18 years. On one of those explorations, Herb wound up "pantless" due to his size and the tightness of some of the squeezes. The cave would become known the world over as "Schroeder's Pants Cave". It was featured in numerous NSS News articles in the late 40's and early 50's and talked about throughout the Northeastern Grottos.

Twenty-three year old James Gentry Mitchell of Waterville, Ohio, who was living and working in the Boston area, came to Dolgeville, New York on February 13th, 1965, with two inexperienced cavers from the Boston Grotto. The 3 began exploring the cave to the point where James is lowered into a 70 foot bell shaped room. Freezing water was pouring on him at this point and eventually led to his death.

The National Capital Rescue Team was called to the scene but ultimately, and not without controversy, determined that it was not possible to get the body out. The cave was dynamited shut. In June of 2006, a group of experts, along with James Gentry Mitchell's brother, made a return trip to the cave to finally retrieve the remains of James, for burial at Mitchell Lake, Ohio.

Two 1851 Accounts of Grotta del Cane and bibliographic followup

William R. Halliday, Arrigo A. Cigna

Located in the Phlegrean Fields volcanic area near Naples, Italy's Grotta del Cane contains a concentration of CO₂ sufficient to anesthetize unfortunate dogs (hence the name "Cave of Dogs"). As such it has long been touted as a touristic attraction, perhaps even since Roman times. Innumerable accounts in the travel literature of many languages cause popular and scientific misunderstandings about caves and about gases in caves even today.

Recently one of us (WRH) encountered two English-language observations which occurred a few days apart in 1851. One description of Grotto del Cane suggested that the site was and is an artificial excavation. This stimulated library research, including accounts back to Pliny who was said to have mentioned the "grotta" in his Roman-era writings about this volcanic area. We could not confirm this. But it was discussed at length in Athanasius Kircher's famous 17th Century "Mundus

Subterraneus". In addition to youthful personal observations, Kircher quoted at length from an account by Bishop John Caramuel. He included a diagram which strongly suggests to one of us (WRH) that the "grotto" then was recognizable as an open-air travertine basin, not a cave as the term is used today in cave science.

Caramuel used the phrase "crypta manu fossa", meaning artificial excavation or enlargement. He did not use the word "spelunca" but Kircher chose to use it. Additional bibliographic research is indicated.

Additional Facts about the Shroeders Pants Cave Incident

Timothy Downey

This is going to be a slideshow presentation on the story of the Shroeders Pants Cave Incident. Tim Downey is a member of the NSS and son of the late Clark R. Downey who was a renowned NSS Caver. He will be speaking about his father's findings on the tragedy from 1969-1990's. He will be presenting photographs and factual documentation on the tragedy based on Clark Downey's interviews with residents of Dolgeville who were there in 1965, and from Tim's personal experience. Tim will discuss what the story means for us today and how it affects us as a national caving society in the future. In 1965 it had been reported that Shroeders Pants Cave had collapsed as a result of drilling efforts in the pit room, that Jim Mitchell's body had been lowered to the floor and that there was no way of getting Jim's body out of the cave - thus the cave was permanently sealed by the State of New York. Tim will show that the cave had not collapsed, that Mitchell's body had not been lowered to the floor in the manner that had been reported, and that the rope had been cut causing a controversy which still rages today. He will also explain how his father was the one who erected the Memorial Stone above the Cave, and started the Jim Mitchell Award for the NSS. In closing, Tim is planning to bring a piece of Jim Mitchell's equipment which has never been seen before.

2007 Spelean History Session Abstracts (Marengo, Indiana)

Using Historical Archives to Discover Forgotten Caves

Gary A. O'Dell

Cave entrances - and even entire caves - can be "lost" when knowledge of their location or existence fades from collective popular knowledge. Caves disappear as a result of natural processes or human activity that may disguise, cover, or even destroy these features. Frequently, however, significant karst features have been documented in some manner, and the task of the researcher interested in locating such features becomes that of discovering obscure references within the vast array of archival materials. In the past, human society has generally attached more significance to springs, as invaluable sources of water and power, than to caves, most often considered as curiosities with little use value other than a few folk usages. Accordingly, archival material tends to refer more to springs than to caves per se; but in karst terranes springs are often indicators for cave systems. This paper describes and evaluates some of the primary archival sources for locating information about forgotten caves, and provides illustrative case studies from the Inner Bluegrass karst region of Kentucky.

The Cave Cure - Old and New Ideas on the Healing Properties of Caves

Colleen O'Connor Olson

Caves have long been associated with mystery, fear, and...good health. Crushed stalactites were used in ancient China and 17th century Europe as sedatives, cough medicine, and to heal broken bones. In the 19th century, visitors at Mammoth Cave thought the cave air enabled people to walk much farther without fatigue than they could above ground. Tuberculosis patients were even housed in Mammoth Cave to take advantage of the healing properties in the 1840s. Even today, caves and mines in eastern Europe and Montana are visited by sick and injured people hoping to be cured by the radon or salt ions. Are we, as cavers, healthier because of the radon and ions we soak up? The exercise we get caving is a health benefit, but don't

expect to be cure of tuberculosis or any other illnesses on your cave trips.

Cave Art in Cave History - A Global Consideration

William R. Halliday

New interpretations of European cave art and new recognition of its North American counterparts open windows into the role of cave art in cave history worldwide. In my cave-oriented viewpoint, interfaces exist between cave art and rock art, and between cave art, historical inscriptions, political assertions, and graffiti, but artificial religious grottoes, recreational (“garden”) grottoes, meditation grottoes and burial grottoes are architectural features, not caves. On a global basis, cave art may be classified as cave paintings (including pictographs), cave sculpture (including petroglyphs and mud glyphs) and manuport art (including religious statues, ornate chandeliers, etc.). Age and motivations reflected in existing cave art vary widely but each type contributes to the history of individual caves and their regions. Examples are presented from the eastern and western United States, eastern and western Europe, mesoAmerica, Venezuela and the Caribbean, Africa, India and Ceylon, China and southeast Asia, Australia and Hawaii.

Springhouses in Kentucky: Form and function in an evolving cultural landscape

Gary A. O’Dell

Natural springs are characteristic features of karst landscapes, and have been highly valued as water supply sources from prehistory to the present day. Springs are frequently modified to improve accessibility, increase flow, and to protect the discharge point. Spring modifications constructed in an earlier era are often maintained, renovated, or improved by future generations. Kentucky provides an exceptional study area in which to investigate the significance of springs upon the cultural landscape. The importance and use of springs from the earliest days of settlement and exploration are amply documented in the historical record, and springs in both highly modified and undisturbed states may be found. The author has documented and photographed nearly 1,000 springs within the state, focusing primarily upon the Inner Bluegrass karst

region. The purpose of this study was to investigate the nature and variety of spring modifications in this region, their origins and distributions, their relation to settlement patterns, and their changing significance in relation to changes in land use and cultural context. A classification hierarchy for spring modifications was developed for this purpose.

The Historical Geography of Show Cave Development

Kevin Patrick

Show cave histories tend to focus on the sequencing of events that occurred at specific caves, researched and written independent of other caves. Historical geography, with its emphasis on spatial patterns through time, provides a perspective on cave commercialization for an entire region. Emphasizing commercial caves in the eastern United States, a set of periodic stages are presented as a national model for the historical development of show caves. Beginning in the 19th century and continuing to the present, the pattern of tourist cave development is related to the evolution of transportation systems and the changing interpretation of how entrepreneurs should present caves to the paying public.

History of Allens Cave, Warren County, Virginia

Tom Tucker

Allens Cave is located near Front Royal, Virginia. The cave may have been known as early as 1774. It is shown on Charles Varley’s Map of Frederick, Berkeley & Jefferson Counties in the state of Virginia, published in 1809. In 1835, Joseph Martin published A New and Comprehensive Gazetteer of Virginia, in which there is an extensive detailed and surprisingly accurate description of the entire cave.

In the mid - 1930’s there was apparently an attempt made to commercially develop the cave. This endeavor moved to the adjacent Skyline Caverns when they were discovered in 1937. Allens Cave was described in NSS Bulletin Number 2, in 1941, and was a frequent destination of cavers from the Washington area during the 1950’s and 1960’s. Due to vandalism and possible liability, the cave was sealed in the early 1970’s, and remained so until the

late 1990's, when it was re-opened to investigate its proximity to a potential highway widening project.

The cave is known for its large Ballroom, said to have been the site of social gatherings over the years. The walls of the room, and of many other of the passages, are covered with names. Recent examination of the walls has yielded the names and unit identifications of Confederate soldiers, apparently placed there following the Battle of Cedar Creek, in October 1864.

The walls of the cave also exhibit the names of some of us, which is a measure of how our understanding of cave conservation has evolved over the years.

Some Little Known Facts on Wyandotte Cave Indiana

John Benton

Wyandotte Cave has had a long and storied history, becoming a show cave in 1850 and visits by prehistoric Indians thousands of years prior. There are many facts that are either little known or just coming to light the last few years such as the study as a major Indiana bat hibernacula. Throughout the years, the cave has been the site of suicide, windstorms, early billboard advertising, of which little is known or written. Some of the stories exist as hand me down tales, such as lost passages, hidden underground rivers, and a purchase that never was by P.T. Barnum. Monument Mountain was featured by Ripley's Believe It or Not in 1932, gaining national prominence for the cave. Famous people such as presidents, governors, geologists, filmmakers, astronomers, have visited the cave from time to time. The cave is also the site of a working seismograph. And one of the more curious incidents occurred in 1941 when a team of mules was led several thousand feet into the cave to excavate a newly found passage for tours. Oddly, the Indian group for whom the cave is named, probably never set foot far inside!

2008 Spelean History Session Abstracts (Lake City, Florida)

Speleological Clues: Following in the Footsteps of John and William Bartram, Eighteenth Century Botanists Extraordinaire

Dr. Cato Holler

The early naturalists of our country, no matter what their specific disciplines, were often quite descriptive of their geological surroundings. For example, well known Quaker botanist, William Bartram referenced in his Travels numerous caves, springs, and other karst features of interest to the speleologist.

While perusing an excerpt from John Bartram's diary of 1765 describing his travels through the Carolinas, Georgia, and Florida, the author of this paper found a vague reference to what sounded like a talus cave in Bladen County, North Carolina: "August, 8, Walked out to Donahoos Creek to search for fossils with Billy (son William)... Sometimes ye creek would plunge down between vast rocks and not appear on ye surface for many perches unless in great cavities between ye rocks."

Although Bartram's talus caves were not located, a real bonus for the search occurred in the discovery of a new limestone solution cave at the base of a hill along the same creek. Were it not for John Bartram's early description, chances are pretty slim that a ridge walk would have even been considered here.

A Note on the History and Material Culture of Bellamy Cave, Tennessee

Joseph C. Douglas

Bellamy Cave is a large and well-known cave located in Montgomery County, Tennessee and currently managed as a biological preserve for the endangered Gray Bat. An examination of historical sources, and limited, initial investigations of the material culture on-site, allows the outlines of the history of Bellamy Cave to emerge. In the mid-to-late Mississippian period, Native Americans explored much of the cave. They also utilized it for mortuary and ceremonial purposes, as a clay mine, and perhaps as a habitation site. After Euro-American settlement, the cave was also utilized in a number of ways. The

cave was an industrial space, serving as a moderate-to-large saltpeter mine in the war of 1812 era. Guano was also extracted for sale later in the nineteenth century. The cave was a cultural curiosity and social space, portrayed in the local press as a natural wonder and utilized as a place of public resort, including picnics and cave exploration. Bellamy Cave was also a hidden space, where the body of a murder victim was deposited in 1882, which upon discovery led to a sensational and significant murder trial. Finally, Bellamy Cave was part of the household or domestic economy, used for storing food and possibly liquids, and also as a water source. Thus all five categories of use in the history of American caves are represented at the site. The current study suggests that the cave will reveal even more with additional research.

History in Grotto Newsletters

Charles A. Lundquist

By shelf-length, the grotto newsletters comprise the largest collection in the NSS Library. This collection contains a vital historical record of the chapters of the Society, and indirectly of the Society itself. However, the maintenance of this collection is at a turning point. Many of the grottos are now publishing their newsletters online, and in some cases the Library is not receiving a paper copy to put on the shelf. An open question is whether it is desirable or practical to make a transition from shelved paper copies of the newsletters to an online collection on the Library webpage. The grottos must have a role in answering this question because copyright and public access policies differ from grotto to grotto. There is also the question whether back issues should be scanned and added to an online collection. A solution could be for the Library webpage to provide publicly assessable sites where each grotto, using a specific password, could load its newsletter. Each grotto could also scan back issues and put them online. This potential solution leaves to each grotto the policy decisions of online publishing and access. The payoff could be a rich, online, historical resource for Society members and other scholars. When back issues for any grotto are scanned, another payoff would be the assurance that their content could not be lost due to deterioration of old paper copies or due to a catastrophe at the NSS Library.

Rest in Pieces: A Cave Inside the Old Man of the Mountain, Franconia Notch, New Hampshire

Ernst H. Kastning, Ph.D.

Sometime during the darkness of the very early morning hours on 3 May 2003, the venerable Old Man of the Mountain of New Hampshire collapsed from natural causes. The Old Man, a profile of a human face, was first noted in 1805 and was adopted as the official symbol of the State of New Hampshire by its legislature in 1945. It was one of the most recognized rock formations in North America and the likeness has appeared in books, posters, postcards, souvenirs, stamps, and the statehood quarter of New Hampshire. Although the demise of the Old Man was a sad event for the people of the Granite State, the memory of this icon lives on.

One of the most unusual, and barely known caves in New England existed within the rock mass comprising the Old Man's face. Like the profile, the cave has vanished, as the granitic blocks that defined its walls, floor, and roof now rest on the talus slope at base of Cannon Mountain in Franconia Notch State Park in the White Mountains. Although not visible from a distance, this small opening was noticed and sketched during a structural stability study of the Old Man formation in 1976 by Bryan K. Fowler, a New Hampshire engineering geologist. Based on this study, it is likely that the cave contributed to an overall weakness of the rock mass that eventually led to the collapse. It may even have had a pivotal role.

William Karras and the Speleological Society of America

Jack Speece

During the 1960's the NSS as well as well most organizations were challenged by the "free thinkers" of society who rebelled against controls, laws and regulations. The caving community had consisted of unique sophisticated individuals who supported a scientific structure. However, it was rapidly changing to one with a majority of sport cavers. The younger generation just wanted to have fun and wasn't interested in attending seminars at major hotels in Washington, DC. Most were content with doing their own thing but others desired to be leaders with many followers. The story of William

G. Karras is a classic example of the internal struggles that occurred both within the NSS and the grotto. The formation of the Speleological Society of America (SSA) was of great concern to the “bureaucrats” of the NSS due to the potential loss of revenue as well as national recognition. The effects of the publicity was changing the manner of many procedures. Although William Karras attracted the headlines of this time, his tactics served as guidelines for others to follow.

*15th International Congress of Speleology
Spelean History Session Abstracts (2009)
(Kerrville, Texas)*

**African Americans and the Use of Caves
As Hidden Spaces in the Antebellum and
Civil War South**

Joseph C. Douglas

The author undertook an examination of historical sources to ascertain how African Americans in the American South conceived of, and utilized, caves during the Antebellum (1815-1860) and Civil War (1861-1865) periods, including literature on the Mammoth Cave, saltpeter mining, and scattered 19th century cave references. Another important source for this study, now on-line and searchable using keywords, is the Library of Congress’s Born into Slavery: Slave Narratives of the Federal Writers Project, 1936-1938. Combined, these sources give a broad view of the ways African Americans interacted with the underground environment, elucidating an important part of the history of American caves.

The results of this study reveal that African Americans used caves in ways similar to Euro-Americans at the time, but that their emphasis was different; caves were adjuncts to domestic economies, providing shelter, water, and cold storage of foodstuffs; caves were industrial spaces where African Americans worked as enslaved miners extracting saltpeter, and African Americans played an important role in cave tourism, a non-extractive industrial use of the environment. American blacks also occasionally used caves as social spaces, and some saw caves as cultural curiosities worthy of exploration and admiration, though these latter two uses appear to be less

common in the black population than in society as a whole. On the other hand, the most important (and common) use of caves for enslaved persons was as hidden spaces, which was not true of American culture overall.

Because of slavery, and their degraded legal and social status, African Americans frequently turned to caves, both natural and man-made, as hidden spaces both before and during the Civil War. Runaway slaves used caves as they tried to hide from slave patrols, both as they were trying to escape to the North and also in the more frequent cases where they remained in the South, near family and friends. Enslaved persons also hid their own property in caves, as did all Southerners, with the breakdown of civil authority during the Civil War. Blacks were also hidden by whites in caves (as a form of property), especially when the Union Army approached. African Americans sometimes spent many years in caves, some staying hidden until after emancipation in 1865. The use of caves as hidden shelter was the most significant environmental interaction by the black population in the South, spawning folktales, such as the repeated story of African American children, born and raised in a cave and hidden from daylight, who later became blind after they left the cave’s darkness.

**The Presence of Floyd Collins in the
Mammoth Cave (KY) Area Today**

John M. Benton

It has been over 80 years since the tragedy at Sand Cave Kentucky, now inside Mammoth Cave National Park, that eventually claimed the life of Floyd Collins. Recent happenings seem to have Floyd Collins embedded in the history and culture of the Mammoth Cave area. Probably the area’s most “famous son”, Collins’ presence is still apparent today. Web sites about Collins on the internet, a recent reenactment video about his ordeal targeted for sale and for the cable TV market, a Floyd Collins museum, a possible Hollywood movie directed by Billy-Bob Thornton, and historical signs around Sand Cave erected by the National Park Service are all visible. The Floyd Collins story is often told to tourists throughout the Mammoth Cave region, and historical exhibits are displayed at the American Cave Conservation Museum in Horse Cave, Kentucky. Modern books about Floyd Collins by noted cavers such as Roger Brucker and Wm.

Halliday have added many insights to the story. A play about Collins has made the national rounds. The town of nearby Cave City has even sponsored “Floyd Collins Good Ole Days” as a community wide event. Some remnants of the Collins saga are slowly disappearing and need to be documented for future use and study. Many historians say that Mammoth Cave would never have been designated a National Park if not for the publicity about Collins in 1925.

Early Cave Visits by Women and the Travel Accounts of Lady Elisabeth Craven to the Grotto of Antiparos (1786) and Johanna Schopenhauer to Peaks Cavern (1803)

Stephan Kempe, Christhild Ketz-Kempe, Erika Kempe

Even though men wrote the earliest caving reports, women were also among early cave visitors. Two sisters-in-law, both a Mrs. Meyer, were the first female cave visitors known by name to the authors; they visited the Baumann’s Cave, Harz, on July 28, 1692. A few cave inscriptions of the 18th century also document early female visitors. Education in classical history and mythology -where caves and grottos played a prominent role- was the rule in the 18th century. Wilhelmine of Bayreuth (1709–1758), inspired by the novel “*the Adventures of Telemach*” by Fenelon, created the first baroque landscape garden in Sanspareil/Frankonia (completed in 1749) that included numerous grottoes named after places in the novel. Wilhelmine also had her portrait painted sitting in a grotto. The lack of academic education for women in the 18th century is the reason why there are no early scientifically oriented cave reports written by women. Nevertheless, the first woman who ever obtained a PhD degree from a university, Dorothea von Schlozer (August 25, 1787, University of Göttingen), studied natural sciences and visited even the deepest mines in the Harz. The first reports of cave visits by woman appeared in travel literature in the late 18th and early 19th century. The oldest of these accounts are those of Elisabeth Craven (1750-1828), who visited the Grotto of Antiparos, Greece, in May 1786, and of Johanna Schopenhauer (1766–1838), who visited Peaks Cavern, Yorkshire, in the summer of 1803. Both women belonged to the intellectual elite of their time and have very interesting biographies.

The Myth of the American Cave Man

Greg Brick

The cave man has long been a staple of Western cultural history. In the Middle Ages, for example, there were stories of “wild men” who shunned society, living in rocky retreats (FRIEDMAN, 1981; CHAZAN, 1995). Beginning in the nineteenth century, however, the idea of a cave man took on a new meaning in Europe, referring to human ancestors who supposedly lived in caves in prehistoric times. In America, meanwhile, the legendary Mound Builders made shift as an illusory sort of cave man until the newer idea established itself.

In 1812, the French paleontologist Georges Cuvier famously declared *l’homme fossile n’existe pas* (fossil man does not exist) (CHARLESWORTH, 1957; LYON, 1970). By 1823, human fossils were being found in the caves of Europe, as by William Buckland at Paviland Cave in Wales (NORTH, 1942). It was eventually concluded that there were cave men among several species of hominids, including our own (*Homo sapiens sapiens*), and the American paleontologist OSBORN (1930) went so far as to refer to “the Cave Period of Europe.” DUNBAR (1949) presented three species of what he called cave men in his widely-used textbook of historical geology. The underlying idea was that hominids became cave dwellers as a result of climatic deterioration during the last Ice Age (WHITNALL, 1926), a theory that was applied widely in biospeleology (e.g., VANDEL, 1965). Among other primates, the cave-dwelling trait apparently extended to Australopithecus, in South Africa (KEMPE, 1988).

Artists, working to the conception of French archeologist Marcellin Boule, provided a widely-influential caricature of what a cave man supposedly looked like (MOSER, 1992). WHITNALL (1926), however, elevated the status of the cave man almost to sainthood, making him responsible for the development of family life and other social virtues, creating a scientific version of the Noble Savage concept.

In recent times, a more skeptical attitude has entered. The naturalist Ivan SANDERSON (1965) argued that “Hominids never as a whole passed through a cavedwelling stage. For one thing, there are not enough caves to go around, and those that

are available are primarily in areas where the surface rocks are limestones. These are comparatively limited in extent, and the very nature of limestone itself constitutes a second-rate botanical environment for the support of animal life. The notion that men did 'pass through' such a stage is probably due to the fact that the best and often the only places where the remains of early man have been preserved are in caves."

Likewise, the geologist Derek AGER (1992) directly attacked what he called "the myth of the cave man," reiterating Sanderson's critique, adding that "I saw no caves in the Olduvai Gorge in Tanzania, where early men lived for so long, and there could be no caves along the shore of Lake Turkana in Kenya, with its famous hominoid fossils."

Nonetheless, the cave man concept still thrives in popular culture worldwide, appearing in cartoons, fiction, and movies (e.g., GAMBLE, 1992; BERMAN, 1999; McCABE, 1999).

In nineteenth century America, before the idea of a cave man in the European sense became widely known, there was a parallel American cave man myth, involving a supposed lost prehistoric race of Mound Builder Indians. According to archeologist R. Clark MALLAM (1976), "The Mound Builder myth occupies a prominent position in American cultural history. Its central thesis, that the earthen mounds of North America were constructed by a superior vanished race unrelated to the Indians touched off a major academic controversy that lasted throughout the nineteenth century." Ultimately, the Mound Builders turned out to be simply ancestors of the aboriginal peoples (SILVERBERG, 1968).

When human mummies were found in the Mammoth Cave region of Kentucky, USA, in the early nineteenth century, they were attributed to this vanished race, as documented by speleohistorian Angelo GEORGE (1994). The Mound Builders filled the vacuum until cave men in a modern, scientific, European sense, were written into the landscape (e.g., as in summary by MacCURDY, 1937).

The state of Minnesota, USA, where the present author resides, provides another example. The most widely publicized Minnesota cave hoax involved Chute's Cave, under what is now the city of Minneapolis, in the years 1866-67. While the cave

actually exists, the elaborate hoax story involved elements borrowed directly from Squier and Davis's *Ancient Monuments of the Mississippi Valley*, a classic work on the supposed Mound Builders, published by the Smithsonian Institution in 1848. The authors of this anonymous hoax described the cave as having been both constructed and inhabited by this vanished race (BRICK and PETERSEN, 2004).

Human Use of Caves in Martinique and Guadeloupe Islands, West Indies

Claude Mouret

Martinique is made up mainly of volcanic and andesitic rocks, including lavas and tephras, significant quantities of volcano-sediments and some sedimentary rocks including limestone. Caves are neither very numerous nor extensive. A number of them have been used by man, for a variety of purposes. Caves here are: (1) mainly marine, either fossil or still active (in a variety of rock formations, including those in limestone with extensive maze caves), (2) gravity-related cracks, (3) empty fossil tree trunks, vertical in the surrounding volcano-sedimentary deposits, (4) nearly horizontal channels resulting from water flow in empty fossil tree branches, (5) erosional caves along narrow valleys with sub-vertical walls, (6) submarine caves in volcanic and volcano-sedimentary deposits and in barrier reefs, (7) caves in limestone and (8) small caves dug by fauna.

There are many uses of these caves: (1) Guano was mined to be used as fertilizer despite the presence of histoplasmosis. (2) Some small caves and rock shelters were used for housing (Carrib people, lonely artist, and present-day fishermen). (3) Larger caves were used for military purposes, as in the early part of 19th Century, (4) Places for praying, often to Saint-Mary the Virgin (both in natural and man-built caves). (5) Caves were rarely a cause of alarm, but there was a case of guano burning in a cave that generated a panic with heavy smoke filling the sky. (6) Caves are a place for tourist visits (bat caves) and speleology. (7) Submarine caves are explored by sea-divers. (8) Cave protection and conservation, are overall, well implemented.

Guadeloupe consists of two, geologically very different, adjacent, islands: one is a plateau of mostly porous limestone, with characteristic karst landscapes. The second is mountainous and largely

volcanic and andesitic. On the limestone island, the waste of a sugar factory is discharged into a cave. The temperature in this cave is around 50° C. In the active andesitic dome of Soufriere volcano, a cave was regularly visited during the 18th Century. A large chamber was discovered in the dome of this cave in 1984. Shafts on the top of the volcano have been explored.

On arid Marie-Galante, covered mainly with porous limestone, water was collected in a natural shaft. Another cave, Grand Trou a Diable, might owe its name to histoplasmosis or simply as being an entrance to the, supposedly evil, underground realm.

Josef Anton Nagel and His 1748 Manuscript About His Cave Expedition to Carniola (Slovenia) and Moravia (Czech Republic)

Stephan Kempe, Klaus Suckstorff

Joseph Anton Nagel, a native German born February 3rd, 1717, in Rietberg/Rittberg, Westphalia, was educated as a mathematician at the “Hohe Schule von Paderborn.” Possibly on recommendation by his country lord, Wenzel Anton Graf Kaunitz, Nagel was able to continue his studies at the University of Vienna. He found employment at the imperial-royal court where he worked in the administration, a position that did not challenge his profound mathematical talent.

Franz I, the Emperor of the Holy Roman Empire of German Nation (reigned 1745–65), ordered Nagel to study natural curiosities. This task took Nagel traveling throughout the Empire, first within Austria in 1747 and then for several week in the summer of 1748 to Slovenia and Moravia. Nagel reported about his findings in a 1748 manuscript kept at the National Library in Vienna entitled: “*Beschreibung deren auf allerhochsten Befehl Ihro Röm: Kayl: und Königl: Maytt: FRANCI SCI I untersuchten, in dem Herzogthum Crain befindlichen Seltenheiten der Natur.*” It has 98 double pages and was written in Current, the German office handwriting, now out of use. In 17 chapters, Nagel describes such important caves as the Adelsberger Grotte (Postojnska jama), the caves near Planina, the Cave of Corniale (Vilenica), the cave at Lueg (Predjama) in Slovenia, and the cave at Sloup and the Machocha abyss in Moravia. It also contained 25 sketches on 22 plates. So far it has been transcribed only once (in 1914) and has never

been published in total (see Shaw, 1992). We are now working on a complete transcription of this manuscript, a High- German interpretation and an English translation. Slovene and Czech translations are to follow. A book is planned with the Slovenian Academy of Sciences. This manuscript was written in the spirit of the Period of Enlightenment and is entirely devoted to reasoning. As the last course of things Nature instead of God is assumed. In spite of a long preface devoting the manuscript to Franz I, Nagel also dares to advise about the style of government by stating “*God may preserve Your Majesty throughout many years in the most highest delighted well-being: so that those who love art and science can venerate a most gracious father in Your holy person for a long time and that the community may continuously experience the truth of the platonic sentence under your Majesty’s glorious government: Since he (Plato) is calling such a republic the most fortunate that has a world-wise for king.*” It is the first manuscript devoted to a systematic cave oriented expedition and is singular in speleological history. It is also an example of the rise of scientific thinking. In addition to the manuscript Nagel left inscriptions in Latin in the investigated caves.

At around 1760 Nagel became mathematician of the Habsburgian court and teacher of Erzherzog Karl Joseph and traveled abroad to France, England, the Netherlands, Hungary and Tyrol. On initiation by Maria Theresia he began to work on a map of the city of Vienna (1770 and 1779) and its suburbs (published 1780/81). He served as the director of the physical cabinet from 1770 until after 1790. In 1775 he was appointed director of the Philosophical Faculty of the University of Vienna, a position he held until his retirement at around 1790. Nagel died in Vienna either in 1800 or in 1804.

The Map of Ancient Underground Aqueducts: A Nationwide Project by the Italian Speleological Society

Mario Parise, Roberto Bixio, Ezio Burri, Vittoria Caloi, Sossio Del Prete, Carla Galeazzi, Carlo Germani, Paolo Guglia, Marco Meneghini, Mariangela Sammarco

The project “The Map of Ancient Underground Aqueducts of Italy”, started in 2003 by the Italian Speleological Society (SSI), and entirely dedicated to the study and exploration of ancient underground aqueducts, has allowed so far to collect a database of 125 ancient underground aqueducts, distributed in

all the Italian regions. Historically, ancient aqueducts have been explored and studied by cavers. Their importance derives from a number of historical, engineering, and environmental reasons. These aqueducts represent a valuable documentation of the skill and engineering techniques of the ancient communities, and due to the mostly underground development, they have often been preserved intact for millennia. Main objectives of the project are: (i) implementation of a detailed inventory of the ancient aqueducts of the Italian territory; (ii) updating of the state of the art on the matter; (iii) encouraging new studies and explorations, in particular by cavers, regarding the ancient aqueducts; (iv) safeguarding and exploitation of these unique works of historical and engineering hydraulic importance.

Arch Spring and Cave

Jack H. Speece

Arch Spring has been a landmark in Blair County, Pennsylvania since before Europeans first discovered the area around 1750. The spring is located between a sharp cutback of Brush (Bald Eagle) Mountain, in one of William Penn's Manors known as Sinking Valley. Although the spring was not shown on William Scull's 1770 map of Pennsylvania, it was featured in a 1788 article in "Columbia Magazine." The cave is next to Fort Roberdreau, which was built during the Revolutionary War to provide protection for the mining of lead. Early settler Jacob Isett, built a stone house and a mill next to the Arch prior to 1805. The Pennsylvania Railroad described the site as an attraction shortly after it built its line to Pittsburgh in 1847.

The site has been reported in numerous historical and geological articles throughout the 1800's. Two attempts were made to commercialize the cave in 1947 and 1972. Each time, floods destroyed the efforts. The Western Pennsylvania Conservancy finally purchased this popular attraction in 1985. In 1988, Roberta Swicegood, an experienced cave diver, died in an attempt to connect the spring with the cave. Today the cave is open to the public under the supervision of the Huntingdon County Cave Hunters of the National Speleological Society.

The National Speleological Society Museum: History, Progress, and Future Directions

Amber J. Yuellig, Craig Hindman

The National Speleological Society (NSS) Speleo-Museum developed out of the necessity to preserve the history of the NSS and caving in the United States. The Speleo-Museum collection contains objects, archives, and photographs that highlight the history and ingenuity of the NSS. It began in 1972 as an exhibit for the annual National Speleological Society Convention. Since its inception, the curators of the Speleo-Museum have sought out relevant collections that exemplify the NSS' rich history. With no formal facility, the Speleo-Museum has been housed in various locations by NSS Members. In 2008, the Board of Governors of the NSS passed three motions to promote the development of the Speleo-Museum. These motions resulted in the Speleo-Museum's relocation to a climate-controlled facility and funding to document and archive the collection. The archival process involves developing a formal collection management policy for the Speleo-Museum, digitizing archival records utilizing Past Perfect Museum Software, and cleaning and rehousing objects using standard archival procedures. This presentation will highlight the history of the NSS Speleo-Museum and report on the progress made archiving the collection in the Spring of 2009. Emphasis is placed on the development of a collections management policy, items in the Speleo-Museum, and future directions.

Visitor Inscriptions in the Old Passage of Postojnska jama (Adelsberger Grotte) Slovenia

Stephan Kempe, Hans-Peter Hubrich

Postojnska jama, Slovenia, was known for centuries as "Adelsberger Grotte". Until 1818, when the access to the present day tourist cave was discovered, only a small part was known, including Imenski rov, the "Name Cave". There we documented ca. 400 inscriptions and another ca. 250 in the historic part of Predjama (Lueger Höhle); twenty of them are correlated with independently historically known persons. Johann Melchior Ott(o) left his name in 1642, the oldest signature of a historic person as yet documented in a cave. He was a painter in the service of Johann Anton zu

Eggenberg (1610-1649) the owner of the Castle of Adelsberg. The second oldest is that of Josef Anton Nagel 1748, a German mathematician in service of Emperor Franz I. who also left also an elaborate signature in Latin in Predjama and in Sloup Cavern, Moravia. All other inscriptions of historic persons date after 1800. Among them are those of three personalities that shaped the history of the first decades of Postojnska jama as a show cave: Franz Graf von Hohenwart, Joseph Petsch Ritter von Lowengreif and Alois Schaffenrath (who also signed in Predjama). They signed several times in Imenski rov and elsewhere in the cave. The historically known and “noteworthy persons” represent people of the nobility and/or were state employed. Overall, the signatures shed light on the section of society that was able to travel and interested in natural sciences.

The Oldest Printed Cave Maps in the World

Massimo Mancini, Paolo Forti

For ages men were impressed by cavern environment that is frequently represented in or is the background of various art crafts made during Centuries, such as petroglyphs within caves, a bronze plate of an Assyrian King throne, Roman mosaic floorings, Maia manuscripts, a Tibetan ivory sculpture, etc. Only a few centuries ago, men became interested in the true form of the underground cavities. Therefore the first cave maps were printed only in the XVI-XVII centuries. Until now, it was generally accepted that the first map of an artificial cave was printed in 1546 by Georg Agricola in his “*De natura eorum quae effluent e terra. De ortu e causis subterraneorum*”, while the first map of a natural cave was edited more than hundred years later by Robert Southwell in his “*A description and draught of Pen Park Hole in Gloucestershire*” (1683). Two years ago, while cataloguing the engravings owned by to the “Franco Anelli” Spelological Documentation Centre in Bologna, Italy, two small cave maps were found. They were clearly cut off from a book, but they completely lacked captions. As a consequence, it was impossible to define both name and location of the caves as well as the year in which the maps were made. Later, by comparing these maps with several other engravings of the same collection, it was possible to attribute one of the two maps to the cave of St Rosalia on Mt

Pellegrino (Palermo, Sicily). In the XVII century, this small natural cave was transformed into a church dedicated to the worship of the young lady, Rosalia Sinibaldi (St Rosalia), who spent most of her life therein. In order to identify the second cave, the book from which the two engravings had been removed, and to date the maps, a further and challenging bibliographical search was carried out. This search was very complex and difficult because all the bibliographic material regarding the caves was contained in holy books, which were printed in few copies scattered in small libraries often lacking any kind of catalogue. The search was successful and enabled us to establish that the two maps had been removed from a book printed in 1627 by the biographer of St Rosalia Giordano Cascini, while the engravings were made by the Belgian artist Odon Van Maelcote. It was also possible to ascertain that the second engraving represents the map of the first cave in which Rosalia Sinibaldi started her “troglodytic” life: the St Rosalia cave at Quisquinia, Sicily. These findings represent the proof that the most ancient print maps of natural cavities were made in Italy, and date 56 years earlier than known insofar.

2010 Spelean History Session Abstracts (Essex Junction, Vermont)

Please Take Me Caving: Russell Trall Neville Meets Floyd Collins

Dean H. Snyder

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 continues 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

Charles A. Lundquist, William W. Varnedoe

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 United States, 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

Doug McCarty

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

Charles A. Lundquist, William W. Torode

The caver community abounds with individuals having diverse interests. Indeed, the multifaceted character of the average caver is a cultural topic worthy of notice and study. Sometimes an ardent caver becomes a notable figure in a field other than speleology. Many examples of this circumstance can be cited. Bill Garrison is such an example. Bill 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 Ehrenfried and the Boston Grotto

Kevin Harris

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

Jack H. Speece

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

Jim McConkey

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 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 Shendun News shine a little light on this mystery, and even open up a few more.

Stephen Bishop at Mammoth Cave

Roger W. Brucker

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 autograph far beyond tourist routes.

2011 Spelean History Session Abstracts (Glenwood Springs, Colorado)

Sulfur Galleries: The Historic Caves of Wyoming's Shoshone Canyon

Richard Rhinehart

In early 1937, miners with the Utah Construction Company, contracted with the Bureau of Reclamation to complete a lengthy irrigation tunnel along Shoshone Canyon east of Yellowstone National Park, opened a natural cavern of unknown extent. Located less than half a mile from the multi-level Shoshone Cavern, protected by the federal government as a national monument since 1909, this new cavern posed unusual technical problems for

the Bureau's engineers and dangerous for the miners. Building a 120-foot-long flume across the large natural cavern, miners discovered the cave's high sulfur content and fluctuating carbon dioxide atmosphere was dangerous. The cave twice caught on fire during operations, resulting in work stoppages. In addition, two miners perished on April 1, 1937, being run over by the mine train after high levels of carbon dioxide dropped the workers in their tracks. For decades, this cave was closed to the public.

Only recently have skilled scientists and cavers been permitted to tentatively explore and document this forgotten cavern, discovering extraordinary crystalline gypsum and sulfur speleothems. Speleologists believe this incompletely explored cavern may include lower levels where ascending hot spring water and carbon dioxide gas fill the cave and extremeophile life flourishes in an acidic environment. Explorations have found evidence of past visitation, including a 1930s-era wooden ladder and decaying trash. With its proximity to Shoshone Cavern, dropped as a national monument in 1954 and managed by the Bureau of Land Management as Spirit Mountain Caverns, Shoshone Canyon Conduit Cave may contain astonishing and fascinating curiosities.

Sauta Cave, Carlisle and Henderson, and the U. S. Supreme Court

Charles A. Lundquist, Elinor H. Kates

During the Civil War, Hugh Carlisle and George Henderson managed extensive mining operations in Sauta Cave. Events related to these operations resulted in their saltpeter production being described in records of the U. S. Supreme Court. Carlisle and Henderson both immigrated from Scotland to the U. S., where they formed a general contracting company. In 1859, they won a contract to build a railroad between the Coosa and Tennessee Rivers. They were preparing the right-of-way when the Civil War began and federal support disappeared for railroad building in the South. They then sought other enterprises, including the saltpeter operation and a venture that resulted in ownership of a considerable amount of bailed cotton. When Union forces occupied northern Alabama for several months in 1862, the Sauta operations were stopped and the cotton seized and sold. The proceeds went into the U. S. Treasury. During

reconstruction, President Andrew Johnson signed a pardon for all Confederate war participants. Under this pardon, Carlisle and Henderson applied in the U. S. Court of Claims for the money from the sale of their cotton. The U. S. attorneys noted that the claimants were not citizens and documented their saltpeter operations as evidences of support of the rebellion. The Court of Claims denied the Carlisle and Henderson application. The case was appealed to the Supreme Court, which ruled that although Carlisle and Henderson were not citizens, they were included in the Johnson pardon and entitled to their money. Carlisle later finished the railroad.

**Which end is up?
Mysteries of Weasts/Fountain Cave,
Augusta County, Virginia**

Jim McConkey

The third of the three most famous caves discovered in Cave Hill, Augusta County, Virginia, Fountain Cave (formerly Weasts Cave) remains somewhat of an enigma even after 50 years of commercial visitation. Discovered, celebrated, and promptly forgotten for a quarter century before being “rediscovered,” the cave has been slow to give up her secrets. Although hundreds of articles were written on the neighboring Weyer’s Cave (now Grand Caverns), only a few tidbits were ever published on Fountain. The discovery of a complete description of the cave from the year of its discovery in 1835 turned conventional thinking on end. While trying to follow the original route, none of it made any sense. One day, while in a passage at the very “back” of the cave, I realized that I was standing next to the pools, or fountains, from which the cave derives its current name, which were supposed to be next to the entrance! After a mental 180, feature after feature fell into place. Another cave, currently known as TI-59 Cave, turns out to have been the original entrance. A voice connection has since been established, even though the entrance passage was blasted shut many years ago.

**The “Lost” Third Reel to Russell T.
Neville’s *In the Cellars of the World***

Dean H. Snyder

In the late 1920s, Russell Trall Neville of Kewanee, Illinois, took some of the first cave movies in the United States. Neville showed these segments with

his lecture which he called *In the Cellars of the World*. After Neville’s sudden death in 1950, the original 35mm nitrate films were acquired by Burton Faust for the NSS. They were later transferred to 16mm film and shown at the NSS Convention in 1970. However, a third film, containing original, duplicate, and damaged footage was not used to produce the film that is seen today. This third reel was located in 2010 and will be added to the *In the Cellars of the World* DVD in the NSS AV Library. Some of the caves seen include Mammoth, Wyandotte, Salts, and Carlsbad.

**Photographer Ben Hains at Cave Hill,
Augusta County, Virginia**

Jim McConkey

By the time New Albany, Indiana photographer Ben Hains came to visit the boom town of Shendun (now Grottoes), Virginia, he was already recognized as the premier cave photographer in the United States. Familiar with his work at Mammoth Cave, Marengo Cave, and Wyandotte Cave, “Major” Jedediah Hotchkiss, founder and chief promoter of Shendun, had recruited Hains to visit Shendun in hopes of stirring up tourism through photography. Hains accepted and spent five days in town in May, 1891, taking a series of stereo photographs by magnesium lights, and delighting the town with his geniality while not underground. After he returned home, he sent 27 proofs to be named by Major Hotchkiss and Rev. Dr. Hovey, and eventually produced a series of 25 stereoviews, 21 from Weyers Cave and four from the Cave of the Fountains. Hovey debuted these images to the American Geographic Society on the stereopticon. Although Hains’ stereoviews from Kentucky and Indiana are still readily available, almost none are known to survive from Virginia. A few of the available images will be shown.

**Investigations at Cheeks Stand Cave,
Tennessee: History, Folklore, and
Archaeology**

Joseph C. Douglas

The current study examines the history, folklore, and archaeology of Cheeks Stand Cave, a modest spring cave near the Red River in Robertson County, Tennessee. Located on an early road and stagecoach line halfway between Nashville and

Bowling Green, Kentucky, the cave was utilized as a water source and for cold storage by Elijah Cheek, a tavern owner whose inn (or stand) was located a few yards away. According to folklore Cheek murdered a traveler and disposed of the body in a nearby sinkhole that supposedly communicated with the back of the cave. When confronted with this rumor by naturalist Alexander Wilson in 1810, Cheek denied the accusations in a remarkable confrontation. An examination of the cave and surface sinkholes sheds doubt on the story, while some of the other folklore associated with Cheek is also dubious. A deeper look at Cheek suggests a more complex man than the popular caricature of evil. Material culture extant in the cave sheds light on other aspects of the cave's history, including occasional social outings in the 19th and 20th centuries and its possible use to hide and shelter livestock during the Civil War. Finally, there is evidence of prehistoric Native American exploration in the form of charcoal and stoke marks from river cane torches which date to Cal BC 1010 (Cal BP 2960) and are contemporaneous with other Early Woodland Period deep cave explorations in the Mid-South.

*2012 Spelean History Session Abstracts
(Lewisburg, West Virginia)*

Cold Air Cave

Jack H. Speece

Cold Air Cave is located in the scenic Delaware Water Gap in Northampton County, Pennsylvania. It was discovered by Mr. Frear in 1872. During the early 1900s it was a tourist attraction for the thousands who visited the resorts in the area. A large cold blast of air continues to emerge from this small 70 foot cavity among the boulder scree along the flank of Mount Minsi, located across the river from the famous "Indian Head" on Mount Tammany. Today it has become a part of the Delaware Water Gap National Recreation Area and has all but been erased from the area's attractions.

The History of Clarksville Cave, Albany County, New York

Thom Engel

Clarksville Cave in the Town of New Scotland in Albany County, New York, has a long and varied history. It was discovered at least by 1811. By 1820, it was the first commercial cave in the state of New York. Many famous and not-so famous people visited the cave and left their mark both literally and figuratively. Except Howe Caverns, it is the only other cave in eastern New York for which we have a mid-19th century pictorial record.

**The Newsom Family, Early Karst Residents
In Greenbrier County, West Virginia, and
Morgan County, Alabama**

Charles A. Lundquist

In 1797 and 1798, William Newsom bought 606 acres of land in Greenbrier County, WV from Thomas Tinsley and William Frogg, who had been granted the land some eleven years earlier. As described in both deeds, the boundary of the tract crossed Muddy Creek and a branch of Sinking Creek. The water from Sinking Creek resurges in one of the headwater branches of Muddy Creek. Thus in 1798 William, his wife Margaret, five sons and two daughters were living on typical Karst terrain. Here, subsequently, William and Margaret had two more sons and two daughters. William Newsom died on December 27, 1812. The third oldest Newsom son, William Jr., born Dec 20, 1787, left home in the early 1800s and eventually settled in Morgan County, AL. County records show that he was a road overseer in 1819. When land became available from the U.S. government, William Newsom Jr. in 1831 was the first settler to get a grant of land in the bottom of a landlocked valley some four miles long and one mile wide. It is another classic Karst feature which became known as the Newsome Sinks. It has more than fifty caves, and Newsome signatures have been found in Wolf Cave. Later, Nathan Newsom, born July 25, 1891, a brother of William Jr., joined him in Alabama. The Newsom family was unusual because at least three of the sons wrote lengthy accounts of their experiences that have been published.

The History and Paleontology of Haynes Cave, Monroe County, West Virginia

Fred Grady, Bob Hoke

Haynes Cave in Monroe County, West Virginia, is less than a mile long, but it is rich in paleontological and human history. It was mined for saltpeter in the early 1800s and during the Civil War, and it contains several artifacts from the digging. The cave is also the likely location where the famous Pleistocene sloth bones, *Megalonyx jeffersonii* were found in the late 18th century. The bones were found in a cave and sent to Thomas Jefferson, who presented a paper on "Certain Bones" to the American Philosophical Society in Philadelphia. The source of the bones was attributed to nearby Organ Cave, but research by Fred Grady has documented the likelihood that the bones were actually from Haynes Cave. He has also found additional *Megalonyx* bones in the cave to support this theory.

Haynes Cave is currently owned by Fred Grady and he is in the process of transferring ownership to the West Virginia Cave Conservancy. Following the presentation about the cave there will be a brief symbolic transfer ceremony.

Reminiscences of Herb Conn (1920–2012), Jewel Caver

Dwight Deal, Mike Wiles, Art Palmer

Herb Conn, with his wife and best friend Jan, became fond of rock climbing in the 1940s. They settled in the Black Hills, where they pioneered most of the local climbs. Theirs was a Spartan life. They lived in a modified rock shelter (the Conn Cave), traveled in a van heated by a wood stove, and took odd jobs such as cleaning the Rushmore faces.

In 1959, caver Dwight Deal began a thesis project at Jewel Cave. Meeting Herb and Jan through climbing, he invited them to help map the cave. After Dwight completed his studies, Herb and Jan continued exploring and mapping the cave – a passion that lasted the rest of their lives. Herb calculated all the station coordinates by hand, and later with a small calculator. By 1980 they had mapped more than 50 miles, as told in their book, *The Jewel Cave Adventure*. Stamina reached its limit, while the leads got more remote, so they passed the torch to NPS employee Mike Wiles, whose group pushed to well over 100 miles.

But life remained full. Herb's hobbies included number theory, on which he sustained a worldwide correspondence. He was apparently the first to estimate cave volume from barometric winds. He was also (privately) a prolific writer of fiction. He and Jan were inducted into the South Dakota Hall of Fame in 2011. Soon afterward his health failed and he spent his last weeks with Jan in the Conn Cave, passing away in his sleep as gently as he had lived.

Hipple Cave

Jack H. Speece

Hipple Cave, Bedford County, PA, has a long history dating back to John Hipple who fought in the Revolutionary war. The cave was noted on Beers' 1877 map of the county. In 1928 the cave was commercialized and due to economical reasons, was closed about 1940. The stream that flows through the cave emerges at the base of a ridge and gently flows into Hickory Bottom Creek. Today the cave remains closed but is still frequented by a few local bats.

Myth-Conceptions about the History of Howe Caverns

Thom Engel

Over the years a number of stories, with no or little basis in fact, have grown up about Howe Caverns. Some of the tales like that of Schmul, the peddler, and Resig, the forest parson, were simply made up, though tracking their origin is not as easy as debunking the entire tale. Other tales like the discovery and naming of the cave by Native Indians are based on a single fact that grew way out of proportion.

Besides these, the following will be discussed: the real first marriage in the cave, the tale of the Garden of Eden, and, finally, the ridiculous tale of Millicent the Cow.

*2013 Spelean History Session Abstracts
(Shippensburg, Pennsylvania)*

**A History of Baker Caverns; Williamson,
Pennsylvania**

Charles E. Miller, Jr.

Baker Caverns is a former commercial cave at Williamson, Pennsylvania. Operated from 1932 to 1954, it was the only commercial cave within 50 miles of Chambersburg. This cavern has 3000 feet (914.4 m) of surveyed passages, is the longest cave in Franklin County, and the twenty-first longest in Pennsylvania.

Discovered in 1830, it became known as the John Coffey, Coffey, or Williamson Cave. Earliest documented explorations date to 1836. In 1941, M.L. Burgan and O.G. Edwards leased the cave. A small, two-story building was erected over the original opening. Exploring and preparing the caverns began in 1932 and the formal opening was in July of that year. From 1952 until 1959 Bethlehem Steel anonymously purchased 3185 acres in the Williamson area. Speculation about the purchases included: underground storage, limestone quarrying, cobalt mining, magnetite mining, and construction of an underground Pentagon. In 1954 Bethlehem's purchases included land in which Baker Caverns was located. From then until 1988, the Caverns were largely off limits. In 1988 the company sold all acreage to a consortium of farmers and Valley Quarries, Inc. From then to the present, Baker Caverns has been privately owned.

Unpublished images include the discovery cave opening, gift shop prior to additions, picnic grounds, and cave features. When Baker Caverns closed in 1954, unsold merchandise (now collector's items) was thrown into the limestone quarry across the road.

The history of Baker Caverns also includes a brief discussion of the cave's geology, with special attention to the Conococheague Creek's role.

**The History of Peiper Cave, Carnegie
Cave, and Cleversburg Sink; Cumberland
Valley, Pennsylvania**

Charles E. Miller, Jr.

Peiper Cave, Carnegie Cave, and Cleversburg Sink have been popular for about 60 years. These are among the Commonwealth's longest. Peiper Cave is a maze cave along Interstate 81. In 1949, a "hidden passage" with one of the most remarkable speleothem displays found in a Pennsylvania cave was discovered. The speleothems were vandalized in 1955. Pre- and post-vandalism images are presented. Interesting cave formations still exist there, including helictites. Peiper Cave also provides excellent examples of dome pits, breakdown, and vertically developed passages. Carnegie Cave is partly located under Interstate 81. Of these three caves, only Carnegie experienced a major caving accident. Despite decades of exploration, some well-developed speleothems exist, including rimpools. They are unknown in most local caves. Cleversburg Sink is unique in that: except during droughts, the cave is flooded; fish have been found in the cave; the largest cave column in Franklin or Cumberland Counties is found here, measuring 15-25 feet in length; and of local caves, this one has the greatest vertical development, ranging 70-80 feet. Prolific drapery and stalactites 2-3 feet in length were seen on the ceiling in Giant Hall. Normally, these features are too high above the cave bottom to be seen if explorations occur when the cave is dry. Inflatable rafts offered opportunities to photograph a 30-foot drop in the water table over a two-week period. This observation complements more recent pressure transducer readings of water-level measurements in the cave.

**Saltpeter Mining and Gunpowder
Manufacturing in Greenbrier and Monroe
Counties, West Virginia**

Kyle D. Mills

Historic documents from the 18th and 19th centuries have been discovered in the archives of the Greenbrier Historical Society in Lewisburg, West Virginia. These documents range from property records that reference saltpeter caves, court cases that involve transactions in which saltpeter was used as payments, frontier trading post ledgers, county records, and information from family

genealogies which reference saltpeter mining and miners. More information has been found about the history of well-known sites like Organ Cave and Greenville Saltpeter Cave, but also in-depth research has uncovered information about lesser known caves which played a crucial part in the history of the region. The history of Haynes Cave is also discussed at length. This project documents the caves and people involved with saltpeter mining and domestic gunpowder manufacturing in Greenbrier and Monroe Counties, from the settlement of the region, through the American Civil War.

Robert Paine Hudson (1857 – 1923) Adventurer, Caver, Poet, and Stereoptician

Larry E. Matthews

Robert Paine Hudson was born November 11, 1857 in White County, Tennessee. He was familiar with the major caves in this area, including Higgenbotham Cave (Cumberland Caverns) and Big Bone Cave. His epic poem, *The Fairy Caverns*, was signed:

Robert Paine Hudson
Cardwell Mountain
December, 1880

His name has been found written on the wall of the Grand Canyon Passage and smoked on the ceiling of the Ten Acre Room in Cumberland Caverns, which is located under Cardwell Mountain.

Hudson became an adventurer, poet, and stereoptician of some renown. In 2010, I was contacted by the owners of the White County Heritage Museum, who had located an old, hand-written notebook of Hudson's with a fictional story about Big Bone Cave.

In 1907 Hudson published *Southern Lyrics*, a collection of poems 854 pages long. At the time of its publication, he lived in Nashville, Tennessee. According to *Who's Who*, he studied medicine, particularly diseases of the eye. He traveled widely and was on the lecture circuit, using "stereopticon illustrations." Today we would consider this a "Slide Show."

Both addresses that have been discovered for Hudson in Nashville would place him within a few blocks of Shelah Waters, another prominent nineteenth century Cumberland Caverns explorer.

Although Waters was nineteen years older than Hudson, it seems likely that they knew each other.

Hudson died on June 1, 1923 and was buried at Mt. Pisgah Cemetery in White County, Tennessee.

Philipp W. Zettler-Seidel, An Historic Caver and Cave Owner

Charles A. Lundquist

The culture of Huntsville, Alabama, was dramatically transformed after 1950 when the U.S. Army selected the city as the permanent site for Army rocket development. This action involved relocation to Huntsville of more than one-hundred cultured engineers and scientists who had formerly worked on rocket development at Peenemunde in Germany. Many additional sophisticated U.S. citizens came to Huntsville to join this high-technology operation. One of the new, non-governmental, organizations formed in Huntsville by the newcomers was a chapter of the National Speleological Society. Philipp W. Zettler-Seidel, who was born August 1, 1914 in Leipzig, Germany and graduated from the University of Leipzig, became a charter member of the Huntsville Grotto in 1955. He was the third Grotto chairperson. Philipp was the only member of the former German rocket team who became an ardent caver. His dog, Electra, accompanied him on his explorations. He particularly became devoted to the exploration of Cathedral Caverns, which is now a major Alabama State Park. He purchased land over the rear reaches of the cave and was involved in the contentious commercial development of the cave. In 1959 Philipp left Huntsville to become a physics professor at a sequence of universities in Pennsylvania. He was also a concert pianist. In 1962, he married Ilse Zoll while in Pennsylvania. On March 19, 2002, he died in Du Bois, Pennsylvania.

The History of Conodoguinet Cave

Jack Speece

A list of the first caves recorded in America, prior to 1800 would include Durham, Dragon and Indian Echo (Swarta), all located on William Scull's 1770 map of Pennsylvania. The next most celebrated cave in Pennsylvania would be Conodoguinet which was noted by geologist Johann D. Schöf in 1787 and drawn by the Cornpte de Colbert de Maulevrier

in 1794. In 1897 Henry C. Mercer hired William H. Witte to excavate the cave in search of the remains of ancient man. Today this natural wonder is a part of The Cave Hill Nature Center of Carlisle.

A Jules Verne Odyssey: The Journey

Cato Holler

Like many cavers my age, a primary stimulus to my yearning to get underground was the 1959 movie of Jules Verne's classic adventure "Journey to the Center of the earth." Although more current versions abound, this 50's film starring Pat Boone, James Mason, and Arlene Dahl still rates as one of my all-time favorite movies.

Besides introducing me to the underworld, it also sparked my interest in collecting movie ephemera related to the film, including black and white stills, lobby cards, posters, etc. It also introduced me to the genius of Jules Verne, and I began collecting and enjoying his other novels as well as collecting volumes of Journey in foreign languages, including the original French, as well as Greek and Japanese editions.

By this time, I admitted I was totally obsessed with the film and decided it would be fun to visit some of the actual locations used in the movie. I learned that the crew had spent considerable time filming in Carlsbad Caverns, shooting at night to avoid disrupting the tour groups. Of course, I had visited Carlsbad numerous times. While in Scotland a couple of years ago, I visited what is now the School of Law in Edinburgh. The building there was the backdrop for several scenes.

Most recently, in April of this year, my daughter Nancy and I spent 3 weeks in Iceland where the story began. We had one up on the movie crew, as they did not actually film there. We explored 30 caves around the island, and the highlight of the trip was an ascent of Snaefellsjokull, the legendary entrance to the center of the earth

Woodson-Adair Cave: The First Commercial Entrance to Colossal Cave, Kentucky

Stanley D. Sides, MD

In 1871 members of the Lee family were exploring an obscure cave under Flint Ridge, today within

Mammoth Cave National Park. Bedquilt Cave led to endless canyons and crawls as well as an area to mine gypsum for the tourist trade. One day in June 1895 Flint Ridge resident Henry Lee was crossing Houchins Valley on the road between Mammoth Cave Ridge and Flint Ridge. He rested near a small sinkhole on the property of Billie Adair and his daughter, Mary Isenberg. He found cool air coming from a small crevice. He and his brother, Lute Lee, descended a 50-foot shaft that intersected a horizontal passage. The cave was quickly opened for tourists. A Hopkinsville, Kentucky newspaper article in November 1895 described the lengthy tour from the Woodson-Adair entrance across and to the bottom of Colossal Dome and out the Pearly Pool route. In 1896 Horace C. Hovey described the cave in his article, "The Colossal Cavern of Kentucky."

Louisville and Nashville Railroad purchased the Woodson-Adair entrance and surrounding land. In 1896 railroad surveyors, W. L. Marshall and Edgar Vaughn, made an underground survey from Bedquilt Cave through Colossal Cave to find a new entrance into Grand Avenue. The Woodson-Adair entrance was closed after being used less than a year and its tourist trail was forgotten. Recent Cave Research Foundation trips entering the Woodson-Adair entrance allow us to understand what visitors experienced in these rarely visited passages, abandoned 117 years ago.

Was it Really in the Civil War? Examining the Chronology of Saltpeter Mining in Select Tennessee Caves

Joseph C. Douglas

In the literature on Tennessee caves, there is a strong presumption that most saltpeter mining took place during the Civil War. The author recently investigated several saltpeter caves in Tennessee hoping to establish a finer grained temporal analysis. The results of this archival and field research challenge the dominant chronological assumptions. This paper looks at the history of Old Squires Saltpeter Cave in Smith County, Whiteoak Saltpeter Cave in Macon County, and recently re-discovered Cave Point Cave, also in Macon County. Document analysis reveals that Whiteoak Saltpeter Cave, previously thought to date from the Civil War, was mined by 1801. Old Squires Saltpeter Cave, located by the author in the 1990s, was previously suspected to be an early 19th Century site, but a recently

located letter precisely dates the mining to 1814 and states that 500 pounds of saltpeter were produced. Cave Point Cave, unknown to researchers until early 2013, also dates to 1814. According to recorded family lore, Ansil Gregory, age 16, was killed near the cave that year while cutting timber for the saltpeter operation. This research, along with new information on other known saltpeter caves like Tobaccoport Saltpeter Cave, suggests that a wider reexamination of the chronology of saltpeter mining in Tennessee is needed, and that the common presumption of a Civil War context may be incorrect.

The Caves of Pennsylvania in the Eighteenth Century

Bert Ashbrook

Written references to Pennsylvania caves in the eighteenth century include first-hand accounts of cave trips, maps showing cave locations, and cave descriptions in geographies. Although eleven different Pennsylvania caves are mentioned in about 75 different references, three of them -- Indian Echo Caverns, Conodoguinet Cave, and Durham Cave -- were the best-known caves of the century.

The authors of these references were frequently historical figures: the man who saved George Washington's life, the second President of the United States, the governor of both Massachusetts and South Carolina under King George, the United States Secretary of War, the "father of American Geography," William Penn's successor as Proprietor of Pennsylvania, the leader of a famous sect of religious ascetics, foreigners who fought on both sides of the Revolutionary War, and more.

The circumstances surrounding their writing about Pennsylvania caves are also remarkable. They include a presentation to Benjamin Franklin's American Philosophical Society, name-calling between best-selling authors, plagiarism and the nation's first copyright infringement lawsuit, a seminal geology text that was "lost" for more than a century, the teenager who lost 24 million acres of land, the map that indirectly led to the death of its cartographer, political prisoners who wrote and published books from prison, and the pursuit of the love of a young woman.

Finally, several notable "firsts" (as far as is currently known) are described: the first written reference to

a Pennsylvania cave (1751), the first publication referring to a Pennsylvania cave (1752), the first paid tour of a Pennsylvania cave (1797), and the first drawing of a Pennsylvania cave (1798).

Schofer Cave, Pennsylvania - Roost of the Purple Bats

Dean H. Snyder

Schofer Cave is named for John Gottlieb Schofer, who operated a grist mill near the cave for 22 years in the late 1800s. Found during limestone quarrying, the exact discovery year is unknown. Some of the earliest work in banding bats occurred at Schofer Cave, when future NSS President Charles E. Mohr caught and banded bats in 1931. In one experiment, Mohr painted the wings of 50 bats a bright purple color and then released them miles from the cave to determine their homing instincts. In 1952, archeologists from the University of Pennsylvania dug at the cave entrance, but found nothing of interest. Bob Kerper used SCUBA equipment in 1956 to dive into a twin set of pools in the cave named Jacob's Wells. He found an underwater connection back to dry passage. In the following years Schofer Cave became a popular spot for beginner cavers, often attracting dozens of novices on any weekend. Keith Williams studied radon levels in the cave in 1988, finding levels five to ten times higher than the EPS minimum safety levels. In 1994, the Pennsylvania Game Commission gated Schofer Cave and has not allowed entry to even the most responsible explorers.

See It By Car: The Automobile and Pennsylvania's Golden Age of Show Cave Development

Kevin Patrick

The number of commercial caves operating in Pennsylvania expanded from 2 to 14 between 1923 and 1933, constituting a golden age of show cave development that no other ten year span can beat. Although the increased availability of electric lights helps to explain the expansion, the most important factor was the popular adoption of reliable automobiles, and widespread building of all-weather highways. With nature rather than economics dictating the location of caves, transportation -- whether trails, rails, or roads-- has always been critical to their commercial development. More than

any other mode, the automobile brought an unprecedented number of potential customers into cave country, fundamentally altering how show caves were interpreted, marketed, and presented to the paying public. Pennsylvania is representative of what was happening in karst regions throughout the country.

2014 Spelean History Session Abstracts (Huntsville, Alabama)

Cave Rescues and Incidents in Indiana Caves, a Historical Look

John M. Benton

Down through the years, Indiana has seen its share of cave rescues and incidents. This talk reviews some of those rescues/incidents that appeared in the media, mostly in print, but also on TV, radio, and a few on the national scope. Most have ended with the cavers or spelunkers in good shape, but there have been at least 8 fatalities, 3 suicides and some broken bones and medical attention required. There seemed to be a spike from the early 1980's until about 2000 when over half the recorded incidents occurred. Besides humans, numerous animals have been rescued including horses, deer, buffalo, goats, dogs, but so far no Corvettes (as in KY!).

Castle Rock, Pennsylvania: The Cave, the Myth, and the Legend

Bert Ashbrook

Castle Rock is a rocky pinnacle in Delaware County, Pennsylvania, about 15 miles west of Philadelphia. It is the site of several small talus caves, although a larger talus cave seems to have been quarried away in 1904. Legend has it that Castle Rock Cave was the hideout of James Fitzpatrick, a Tory highwayman and kidnapper who terrorized the area during the Revolutionary War. Fitzpatrick, who was eventually apprehended and hanged for his crimes in 1778, has since been mythologized into a romantic outlaw hero. The story that Fitzpatrick used Castle Rock Cave did not emerge until 1895; however, it quickly gained widespread acceptance and persists to this day. Early on, the story was perhaps spread to entice visitors to ride a trolley from Philadelphia to Castle Rock Park, an

amusement park that the Philadelphia and West Chester Traction Co. opened at the site in 1899. The history of Castle Rock Cave involves not only the Fitzpatrick legend, the amusement park, and the quarry, but also historical fiction novels, a religious retreat, and the boom-and-bust real estate market of the 1920s and the Great Depression.

Dungeon Rock, Lynn, Essex County, Massachusetts

Jack Speece

Dungeon Rock in Lynn, Massachusetts, has been well known landmark for centuries. Pirates were reported to have buried their booty there in 1658. Several attempts have been made to uncover this treasure but none more notable than that of Hiram and Edwin Marble beginning in 1852. Today the cave remains locked within the Lynn Woods Reserve for all to view.

Postponing Death in Mammoth Cave

Stanley D. Sides

Mammoth Cave owner John Croghan, M.D. placed invalids suffering from tuberculosis in his cave for therapeutic benefit in 1842-1843. This experiment in speleotherapy failed to improve survival of those who braved living in the cave, but was initially hailed as a sensible approach to treating the disease. A recently discovered newspaper article from the Boston Massachusetts Evening Transcript, July 10, 1843, gives us, for the first time, a complete listing of the consumptives who resided in the cave. In addition, Oliver Anderson's measurements of distances while a resident in the cave have been found. This allows us to pinpoint the location of his cabin in Pensacola Avenue. This report will summarize new information on the experiment and provide deeper insight into Dr. Croghan's famed medical experiment.

Natural Bridge of Virginia: A Touchstone of American History, Culture, and Tourism

Ernst H. Kastning

The Natural Bridge, a massive karst feature located in the historic Shenandoah Valley of Virginia, is one of the most recognized and visited geologic landmarks in the country. The towering 90-foot-

wide arch that spans Cedar Creek 200 feet below is an iconic symbol of the Commonwealth of Virginia.

In 1774, Thomas Jefferson became the first owner of the bridge and surrounding land. In the succeeding 240 years, Natural Bridge has been in private hands. On February 6, 2014 Angelo Puglisi, the last private owner, sold or donated much of the land to the Virginia Conservation Legacy Fund, a non-profit holding company that will manage the property. Within a few years the arch and its karstic landscape will become Natural Bridge State Park, a jewel in the system.

The history and culture of American tourism over the last 200 years is encapsulated at Natural Bridge. Before the age of photography, painters and illustrators captured the iconic arch on canvas and paper. Appearing in books and journals throughout America and Europe, images and descriptions of the early nineteenth century inspired many to visit, in much the same way as happened at Niagara Falls, in the mountains of New York and New England, and at Mammoth Cave. Natural Bridge became a destination resort, first in the horse-drawn carriage days and later with the advent of autotourism. In microcosm, the evolution of hotels and other amenities at the site is representative of the development of tourism at natural attractions nationwide.

Israel Putnam, a Wolf, a Cave, and a Bronze Tablet

Ernst H. Kastning

Putnam's Wolf Den is a small 28-foot-long cave in the Town of Pomfret, Windham County, in northeastern Connecticut. Locally it is a well-known landmark within Mashamoquet Brook State Park.

Israel Putnam is regarded as a notable hero of the American Revolution, specifically at the Battle of Bunker Hill. In his twenties, Putnam and local farmers followed a female wolf to its lair, a small talus cave. The wolf, supposedly the last she-wolf in Connecticut had been killing sheep and other farm animals, so it became 'necessary' to do away with it. In this much-ballyhooed tale, Putnam crawled into the cave in the winter of 1742 and shot the animal with his musket. His cohorts pulled him from the cave with a rope attached to his feet. He emerged pulling the dead wolf by its ears and was proclaimed

a local hero. This event followed Putnam admirably during his later life and it has become legendary folklore.

In 1920, an embossed bronze tablet had been affixed to the rock just to the right of the cave entrance, in honor of the local chapter of the Daughters of the American Revolution and to commemorate the wolf incident. It was stolen around 1967 and considered gone forever. Then serendipitously in late November 2013, the tablet came up for sale on eBay. The recovery of the tablet by cavers and authorities was swift and the event made national news - another victory associated with the legacy of Putnam and the little Wolf Den.

History of the NSS Headquarters Property Before 1900

Charles A. Lundquist, William W. Varnedoe

The NS Headquarters property is located west of the intersection of Pulaski Pike and Winchester Road in Huntsville, Alabama, on the eastern slope of Drake (King) Mountain. The history of the Ownership of the property falls conveniently into five pre-NSS periods of significant length. The first three periods, discussed in this part of a two-part history, ended in 1899. During Period One, the Cherokee Period that embraces the time immediately before 1806, the land that is now NSS property belonged to the Cherokee Nation. After the United States acquired the land in northern Alabama by the Treaty of 1806 with the Cherokees, the land was for sale by the U.S. government. Period Two, the Smith Period, began in 1817 when Anthony Smith, an early settler in the region, obtained the first patent for land, which is now owned by the NSS. Pulaski Pike was already one of a few major roads into Huntsville. Anthony Smith lived on the east side of Pulaski Pike across from the NSS land. His son, James S. Smith, acquired the land and eventually sold it in 1835. After some brief ownerships, Period Three, the Wharton Period, began in 1839 when George R. Wharton bought his first parcel of land. He later bought several adjacent parcels. The Wharton Period continued until 1899 when the Wharton heirs sold the land. This long period encompassed many events in the War Between the States and Reconstruction thereafter.

History of the NSS Headquarters Property After 1900

William W. Varnedoe and Charles A. Lundquist

In 1900 after the Wharton heirs sold their land, Part II of the history of the National Speleological Society (NSS) property, located west of the intersection of Pulaski Pike and Winchester Road, begins. This land then passed briefly through several owners until 1909, beginning Period Four, when Cynthia A. Davis obtained it. This began the Davis Period. Shortly in 1909, Cynthia gave the land to her two daughters, Annie Buell Davis and Nellie Davis. These unmarried sisters, who lived some distance south of this land, held it until 1972. They owned it when, in 1950, Wernher von Braun and his rocket team arrived in Huntsville initiating a remarkable growth of Huntsville. Land, previously rural, including the NSS property, rapidly became incorporated into the City. In 1972, the Davis sisters sold this land to the Ancient Order Nobles of the Mystic Shrine, for their Temple, beginning Period Five, the Cahaba Temple Period. During this period, from 1972 to 2012, the Shriners built and extended major structures and ground improvements to accommodate both their many activities and those of other organizations to whom they rented or loaned the facilities. Also, during this period, two caves were discovered and mapped by NSS members in the heavily wooded mountainside. When the scope of the Shriners' activity and their membership waned, in 2012 the NSS bought the property. In the short time since NSS ownership, a rough trail has been blazed and cleared from the building to the two caves. Other caves have been found recently on the property.

2015 Spelean History Session Abstracts (Huntsville, Alabama)

The History of Roubidioux Cave

Jack Speece

Roubidioux Cave, Pulaski County, Missouri, has quite a history beginning long before its written record in 1816. It was the home of Native Americans, outlaws, bushwhackers and tavern owners. It was mined for saltpetre during the early settlement of the region. Several commercialization

attempts were made. The current survey reports the system at over 8500 feet.

Cavers and Conjurers: A Kindred Breed

Dr. Cato Holler, Jr.

After many years of pursuing my two favorite hobbies, caving and magic, it suddenly dawned on me that even though they may appear totally unrelated, in reality they do have much in common. As far back as the Ice Age, magicians and Shaman decorated the walls of their caves with their mystical artwork. To the laymen, caves often represent a world of mystery, as is the world of the conjurer, filled with amazement and secret wonders. Many of the props, scenery, and posters used by magicians over the years have utilized strong elements of the mysterious underground, including bats, dragons, satanic figures, and actual representations of caves themselves. I also discovered that numerous other cavers have taken up the conjuring arts including the well-known cave photographer and lecturer Russell T. Neville. In expanding the idea of lovers of adventure being attracted to magic, I found that the old Rough Rider himself, Teddy Roosevelt was a big fan of the magical arts and even a personal friend of Harry Houdini as was adventure author Sir Arthur Conan Doyle. Several of our astronauts including Buzz Aldrin, and even sports figures like Muhammad Ali have a keen interest in conjuring. Just as cavers enjoy that rush of adrenalin as they push that virgin lead, so too do magicians as they step out on the stage to perform their latest miracles to the applause and admiration of their appreciative audiences.

Searching for the Spelean History of Missouri

H. Dwight Weaver

Missouri caves are a vast resource for spelean history research, but a topic for study that has been largely ignored by professional historians of Missouri as well as cavers. The presentation reviews the author's recent book *Missouri Caves in History and Legend* published by the University of Missouri Press. The book details the social and cultural history of Missouri caves from the Ice Age to modern times covering such topics as saltpeter, onyx and guano mining. Chapters are devoted to such intriguing subjects as early bear hunting; the

use of caves for water supply and cool storage; for the making of beer and moonshine; as repositories for Pleistocene animal bones as well as human burials; the foolishness of buried treasure seekers; the vandalism that occurred in the caves before the coming of electricity and air conditioning when people used caves for parties and picnics and caused great damage to speleothems; the coming of the show cave industry, organized caving and today's efforts to protect and preserve the cave resources of Missouri. The author explains how he became a caver with an interest in writing about Missouri caves and the methods and difficulties he faced over the past five decades in his effort to unlock the spelean history Missouri.

Karl Gordon Henize and His Life of Adventure

Charles A. Lundquist

Karl Henize was born on October 17, 1926 in Ohio. While a university student in Virginia, he was recruited into caving by Bill Stephenson. Bill picked up Karl, who was hitchhiking, and took him on a caving trip. Karl, with NSS # 535, was one of the founders of the University of Virginia Grotto. Karl also developed an interest in astronomy at the U of VA. After receiving BA and MS degrees, in 1948 he accepted employment by the University of Michigan to make observations of the southern sky at an observatory in South Africa. In 1951, he returned to the U of MI and completed a PhD in astronomy in 1954. There, he met and married Caroline Weber, who became an NSS member in 1955, # 3331. When artificial satellites became imminent, Karl moved to Massachusetts where he was employed by the Smithsonian Astrophysical Observatory. He was in charge of deploying a global network of cameras to observe satellites. Karl and Caroline maintained their NSS membership through 1957. In 1959 Karl accepted a professorship at Northwestern University, where he stayed until 1967. He then joined the NASA Astronaut Corps. In 1985, he flew on the Space Shuttle Mission 51-F. After retiring as an astronaut, he continued to work for NASA. In 1993, he took a leave to join a scientific mission climbing Mount Everest. He became a victim of altitude sickness and died at an advanced base camp on October 5, 1993. He was buried on Mount Everest.

Preserving the Story of the NSS through the Eye of the Camera

Paul Damon

In 2016, the NSS officially celebrates the 75th Anniversary of its founding in 1941. In 1991, a publication was issued commemorating the 50th year of the NSS through a combination of text and some historical photography. For 2016, the NSS plans to update this previously recorded story through a new publication presenting a primarily photographic view of the past 75 years, rather than just updating the 1991 text.

These efforts have been ongoing for several years, and various NSS resources have been reviewed. However, several important areas of the NSS history have not been covered as yet. At this point it is hoped that by publicizing these needs in a group setting, suggestions can be made as to where to find additional photographic history. Suggestions from members of ASHA or other Society members, at this session, will be quite welcome. We particularly need help in the area of exploration technology, that is, advancements due to the members of the Society. But, we could also use rarely-seen photos from some of the early conventions, or from the C-3 Expedition, etc. Let the eye of the camera tell us the story.

The Caves of Thomas Jefferson's Notes on the State of Virginia

Bert Ashbrook

In 1785, Thomas Jefferson self-published his only book, *Notes on the State of Virginia*. The book grew out of Jefferson's response to queries about each State's natural history and economy posed in 1780 by François de Marbois, secretary of the French delegation to the new nation. Governor Jefferson of Virginia received those queries, but the British invasion of Virginia delayed his response until December 1781. The future President then spent more than three years gathering information and revising and expanding his responses to create the famous treatise about the Commonwealth's natural history, economy, anthropology, and governance.

In his *Notes*, Jefferson commented about "many caverns of very considerable extent" in Virginia, but he discussed five in particular: Madison's Cave (Augusta Co.), Zane's Cave (Frederick Co.), Blowing

Cave (Bath Co.), Gap (Cudjo's) Cave (Lee Co.), and the Natural Bridge (Rockingham Co.). Jefferson visited Madison's Cave at least twice, once to explore its water-filled passages by canoe, and a second time in October 1783 to prepare the earliest known American cave map. He enlisted his friend Isaac Zane to measure the temperature in Zane's cave. Jefferson apparently learned about Gap Cave personally from Thomas Walker, the family friend who first described the cave on his famous 1750 expedition through the Cumberland Gap. Jefferson had long admired the Natural Bridge, which was on land he had patented in 1774. Jefferson included three of these—Madison's Cave, Zane's Cave, and the Natural Bridge—on his 1786 map accompanying later editions of his *Notes*.

A Short Video Look at Flint Ridge KY, 90 Years after the Floyd Collins Tragedy

John Benton, Nick Benton

This year of 2015 is the 90th anniversary of the entrapment, ordeal, and attempted rescue and death of caver Floyd Collins in what is now part of Mammoth Cave National Park in central Kentucky. In January of 1925, Collins became trapped in Sand Cave while searching for a potential show cave that would be on the main flow of tourists to nearby Mammoth Cave. The rescue attempts endured for over two weeks, and captured the nations headlines and radio coverage at the time.

Not a lot has changed on or under Flint Ridge over the years. The Sand Cave site is mostly undeveloped and owned by the National Park Service (NPS). Farther back, Floyd's family home is still there along with the old visitor center for Floyd Collins Crystal Cave. Floyd and most of his family are buried on Flint Ridge, either in Mammoth Cave Baptist Church Cemetery or the nearly forgotten Daniel's Cemetery. Crystal Cave itself, discovered by Floyd, is seldom visited having been closed as a show cave soon after purchase by the NPS in the early 1960s. The authors have edited together some segments of Flint Ridge and Floyd Collins from both a historical look back and as seen today from a video standpoint.

Recent Investigations in Tennessee Saltpeter Caves

Joseph Douglas

This paper summarizes recent field work in Tennessee caves conducted from 2011 to 2015 by the author, Marion Smith, Kristen Bobo, and others as part of a larger project to collect information about saltpeter mining and processing in the state. The author uses examples from a dozen saltpeter caves to discuss the types of physical evidence for mining or processing extant in saltpeter caves in the Twenty-first Century. These include waste rocks, sediment removal areas, tally marks, vat and vat remains, and mining tools, which are diagnostic for the activity. There is also evidence which is suggestive but not definitive, such as trail-building and evidence of historic lighting technologies, which can be helpful in assessing a cave's cultural resources. Several of the caves are new sites, either previously entirely unknown, such as Anderson Saltpeter Cave, or caves that were previously known but not as saltpeter sources, such as Blowing Hole. The problem of chronology can sometimes be solved through solid archaeological field work. Because the cave saltpeter mining industry was fragmented and pre-dates the revolution in business record-keeping of the late 19th century, the industry is poorly documented, making field identification of saltpeter cave sites especially important.

Did He Really See?: How an Irish Cave Participated in Medieval "Science"

Cordelia Ross

In the 12th century, Henry of Saltrey wrote the *Tractatus de Purgatorio Sancti Patricii*—or *St. Patrick's Purgatory*. This medieval text describes an Irish knight's pilgrimage into a cave called St. Patrick's Purgatory on Station Island, Ireland. Though other similar texts talk about dreams and deathbed visions, only the *Tractatus* describes a corporeal man who goes to a real cave. The *Tractatus's* attention to topography and the natural world indicates its participation in the "new philosophy" Neo-Platonic naturalists were promoting.

Specifically, the *Tractatus* concerns itself with matters of sight and the acquisition of knowledge. The Catholic Church at the time was advocating for a less empirical approach to knowledge, asking that people read the "old books" to answer their

questions about the world. The naturalists condemned this approach and claimed that God created the natural world and it was their Christian duty to observe and obtain knowledge about the world as a way to understand God's objective.

The *Tractatus* is one monk's solution to the problem. He presents a real cave and describes how it leads to a Christian space. But he also points out that it's hard to see in the cave, while still advocating for the connection between sight and knowledge. The text's attention to the problems inherent in relying on vision exclusively argues for a more comprehensive approach to knowledge that includes sight, but prioritizes faith.

2016 Spelean History Session Abstracts (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 Saltwater 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 Cave 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.

2017 Spelean History Session Abstracts (Rio Rancho, New Mexico)

Sandia Cave, New Mexico

Sam Bono, Jack Speece

Sandia Cave is a Placitas archaeological site and historic landmark near Albuquerque, New Mexico, within the Cibola National Forest. It is located high

on the east side of Las Huertas Canyon in the northern Sandia Mountains. The cave was visited during the 1930s when an archaeology project based at the University of New Mexico began excavations in the dry, very dusty cave. Excavations here have yielded information on three distinct prehistoric groups. The site represents one of the earliest known occupations of the Americas.

Gilbert S. Bailey and *The Great Caverns of Kentucky* (1863)

Joseph C. Douglas, Marion O. Smith

In early 1860, Reverend Gilbert Stephen Bailey (1822-1891), a prominent Baptist clergyman living in Illinois, visited Mammoth Cave, Kentucky and two recently opened show caves in the vicinity, Diamond Cave and Hundred Dome Cave. In 1863 he published a book, *The Great Caverns of Kentucky*, with three chapters of text, one for each cave, with accompanying maps. Bailey was a prolific writer but this was his only book on caves; most of his writings are religious in nature. We located one additional article he wrote on Hundred Dome Cave in the *Louisville Daily Journal* on March 24, 1860. This article is similar to the subsequent book chapter, although it uses more place names and the order of passages described is slightly different. Bailey’s name from early 1860 is in Hundred Dome Cave. He also registered at the Mammoth Cave Hotel. He appears to have written about the three Kentucky caves because his daughter Alice Eulalia Bailey (1849-1940) requested it. Bailey’s maps have been recognized as innovative in their use of symbols, if not especially accurate. His map of Hundred Dome Cave is the first of that cave to appear, while his Diamond Cave map is one of the two earliest. Bailey’s use of numerous place names provides a window into naming patterns and American culture in the mid-19th century. The most novel are the names in Hundred Dome Cave derived from Mrs. E. D. E. N. Southworth’s 1859 story “The Hidden Hand,” featuring the character Capitola Black.

On the Trail of Lawson’s Lost Cave

Cato Holler

The year was 1700. A young English naturalist and writer by the name of John Lawson, having being told of the many attributes of Carolina from a friend, decided to make the long journey to America

and see for himself. After enduring rough seas for nearly 3 months, Lawson's ship finally arrived in New York. He re-supplied the ship, and reached Charleston two weeks later. While in Charleston, he was appointed by the Lord's Proprietor to make a reconnaissance survey of the little-known interior of Carolina. Thus began Lawson's 57 day, 600-mile exploration of the wilds of what is now North and South Carolina, led by Indian guides and living with numerous different tribes along the way. His detailed daily journals describing the flora, fauna, and the various Indian tribes and their customs eventually resulted in his 1909 classic treatise *A New Voyage to Carolina*.

Of particular interest to speleologists was his stay at Keyauwee Town, a few miles northwest of the current town of Asheboro, North Carolina. After visiting and talking with the Indians there, he wrote the following "At the top of one of these mountains is a cave that 100 men may fit very conveniently to dine in; whether natural or artificial, I could not learn." For many years, Ridge's Mountain was assumed to be, without doubt, the location of Lawson's Cave, the entrance of which has long been lost. Recent exploration, however, has turned up a cave on Flat Shoals Mountain which matches Lawson's description.

Schroeder's Pants Cave

Jack Speece

Herkimer and Schoharie Counties, New York are rich in caves and spelean history. One of the most tragic stories occurred in 1965 at Schroeder's Pants Cave. James G. Mitchell died of hyperthermia while exploring this small cave. The remains were retrieved 42 years later resulting in many controversies. A film is being proposed to document the story. The results of this tragedy started the formation of trained cave rescue teams throughout the country.

Large Waterfall-Shelter Caves in East-Central New York and an 1872 Woodcut by Winslow Homer

Ernst H. Kastning

There are countless shelter caves that have formed behind waterfalls, where cliffs and ledges have been undercut by back spray, dampness, and erosion

produced by the cataracts. Majestic examples have been popular destinations for tourists and outdoor enthusiasts. A few large waterfall shelters in the northeastern U.S. are found in the Catskill and Helderberg mountain regions of east-central New York. Two remarkable localities are within Catskill Forest Preserve in Catskill Park (Greene County) and John Boyd Thacher State Park (Albany County). Here recesses behind waterfalls can be up to 60 feet deep and over 150 feet high. Foot paths behind the falling water offer an awe-inspiring experience.

Winslow Homer (1836 – 1910), one of the most celebrated and important artists of America visited the Catskill Mountains in the early 1870s. As a painter, Homer is best known for his seascapes and coastal scenes, produced in his later life. However, he was an accomplished illustrator in his earlier career, producing woodcuts during the Civil War and in later years that were widely published in several illustrated magazines of the period. His woodcut engraving of the large amphitheater-like shelter behind and beneath Kaaterskill Falls in the Catskill region, was published as a full-page illustration in *Harper's Weekly* in 1872. It is remarkably detailed, showing the layered strata of the bedrock, the waterfall plunging over the overhanging cliff from above, and visitors in Victorian Era attire enjoying the scene inside the cave.

Antebellum Women Tourists at Mammoth Cave

Del Marie Vaccaro

There were historically significant women who visited Mammoth Cave during the antebellum years with opinions and impressions reflective of their convictions and backgrounds. Using extant personal narratives during that period as evidence, we tend to assume that the typical tourists were curious middle to upper crust males. While the volume of travel narratives appears to substantiate this assumption, there were notable female visitors deserving attention. Their observations and insights about the cave and surrounds are woven throughout rich travel accounts. The nine women travelers chosen for this presentation arrived with expectations and personal perspectives that run the gamut of those from an aristocratic English lady in Queen Victoria's court traveling alone to a young Tennessean who visited in the company of her large southern family.

Among those selected are also an abolitionist, botanist, astronomy professor, suffragette, famous songstress, sociologist and a poet. In an era when women and African Americans were both struggling for equal rights, these women traveled to slaveholding Kentucky, enduring countless obstacles to comfortable travel conditions, in order to see a cave. During this time period slaves were introduced into the cave's guide force and Stephen Bishop gained fame as a mixed-race cave guide and explorer. Reactions to Stephen as a guide and to women's rights, including travel customs in the antebellum south, are examined as well as the travellers' observations and reactions to the "great hole in the ground" all were excited to experience.

Early Maps of Weyer's Cave (Grand Caverns), Virginia, and the Mystery of the Map Copied by Henry D. Gilpin in 1827

Bert Ashbrook, Jim McConkey, William R. Halliday, in cooperation with the Virginia Region of the NSS

Henry D. Gilpin, a future Attorney General of the United States, visited Weyer's Cave (now Grand Caverns), Virginia, on September 10, 1827. Five days later, he sent a letter home that included a map of the cave copied from memory from one that Gilpin later saw hanging at an inn in the nearby town of Staunton. This paper examines early maps of the cave, along with their authors and owners, and tries to determine if any might be the one copied by Gilpin. The maps include an undated map by F. Peck later acquired by one of the authors (the "Peck-Halliday" map) and now on display at Grand Caverns, an undated map commissioned from F. Peck by local doctor William Boys and presented to President Thomas Jefferson in 1807, a widely-distributed map first published in 1815 by prominent North Carolina physician and soldier Calvin Jones, another Peck map in the possession of Massachusetts evangelist Rev. Elias Cornelius in 1818, a map that Cornelius said he would draft from an 1816 survey (but which has never been found), and a map published by local educator Robert L. Cooke in 1834. The authors conclude that, among the known early maps of the cave, the Peck-Halliday map is most likely to have been the one Gilpin copied.

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