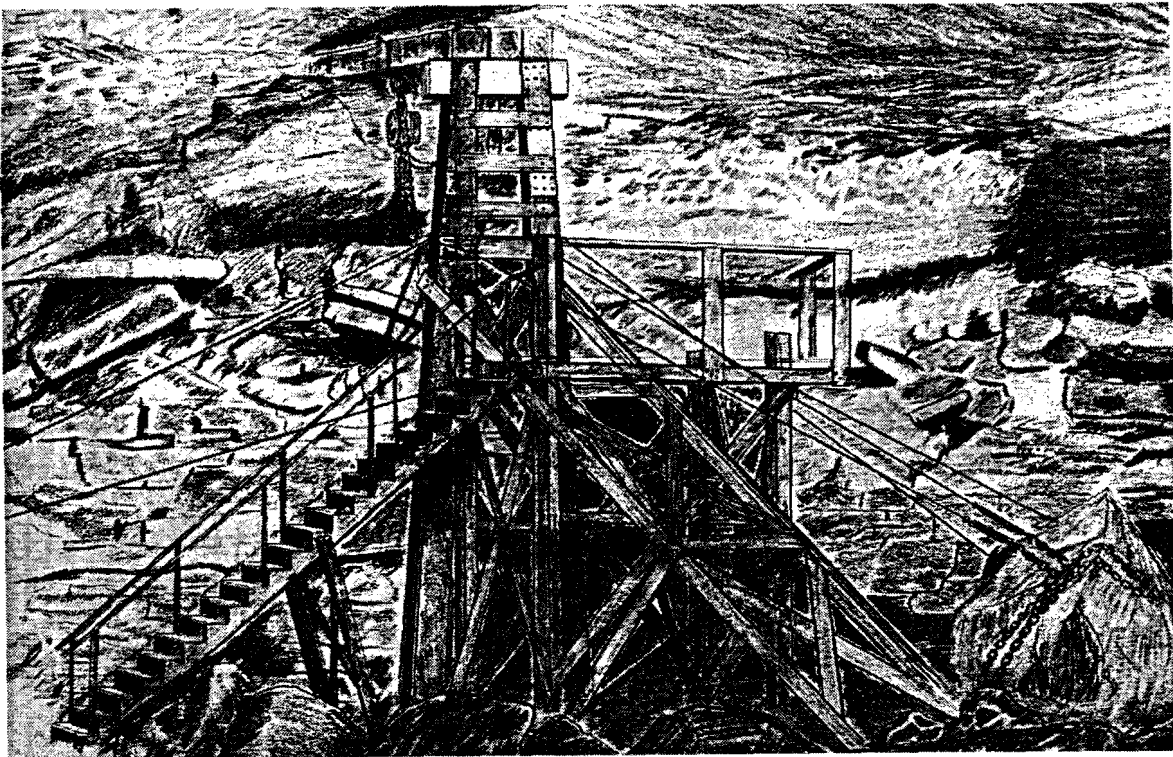


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185

ABOUT THE ASSOCIATION

The American Spelean History Association is chartered as a non-profit corporation for the study, dissemination and interpretation of spelean history and related purposes. It is an institutional member of the National Speleological Society. All persons of high ethical and moral character who are interested in these goals are cordially invited to become members. Annual memberships are \$5.00; family membership is \$6.00. Library subscriptions are \$4.00.

ABOUT THE JOURNAL

The Association publishes The Journal of Spelean History on a quarterly basis. Pertinent original articles or copies of material to be reprinted are welcomed. Because the process used varies from photo-offset to offset, the editor should be queried in advance as to whether a camera-ready single-spaced manuscript is desired. Submission of rough drafts for preliminary editing is encouraged. Line drawings are welcome; photographs require special handling and the editor should be contacted. Dark, clear xerox copies of books, etc. can often be utilized.

ABOUT THE COVER ILLUSTRATION

Through the courtesy of Alonzo Pond, whose article appears in this issue, the cover bears an unfinished drawing of the timber tower and scaffold erected in Mammoth Cave to raise the tomb rock from "Lost John", the trapped Indian miner of centuries ago. The artist was D.W. Higgenbotham, C.C.C. enrollee at a nearby camp; the drawing was interrupted by his untimely death. The chain hoists were suspended from the cross members of the Timber Tower. Seen also are the bracing for the tower and platform, the tomb rock, the rugged nature of Mummy Ledge and the cave floor. Particularly interesting is the huge rock which served as an anchor for the chain and cable braces. The drawing gives a better conception of the engineering problem than contemporary photographs and it was doubly tragic that the artist died before his work was completed.

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Volume 4, no. 1

January-March 1971

TABLE OF CONTENTS

4. Special announcement
5. Early gunpowder making and saltpetre mining in Missouri caves.
- Dwight Weaver
12. Raising the tomb rock from Lost John of Mummy Ledge.
- Alonzo W. Pond
15. Alonzo W. Pond, ~~an~~. -- a short biography.
15. What cave is this?
16. A trip to the Josephine Caves in 1878 -- excerpts from the journal of
Robert A. Miller, transcribed by Frank K. Walsh
17. Colloquy and book notes.
19. Speleomemorabilia exchange.

ANNOUNCEMENT

The Spelean History Session of the 1971 Convention of the National Speleological Society will be held Saturday June 19, beginning at 1 PM. The chairman will be Ernst Kastning; titles and abstracts should be submitted to him as soon as possible.

The date for the annual meeting of the American Spelean History Association has not yet been set. It may be a luncheon meeting preceding the above session, or possibly may be held the previous ^{evening} meeting. Details will be announced at the N.S.S. Convention if not sooner.

EARLY GUNPOWDER MAKING
and
SALTPETRE MINING IN MISSOURI CAVES

by Dwight Weaver

References to gunpowder making and saltpetre mining in Missouri caves are few and widely scattered. The only comprehensive study of the subject that has come to the attention of this writer was prepared by William Clark Breckenridge in 1925¹. He will be quoted extensively in this article.

Bretz (1956)² locates ten Missouri caves called Saltpeter. The name is not always indicative of mining. More recent studies³ show 17 Missouri caves named Saltpeter while other caves known to have been mined do not now use the title Saltpeter. This includes Meramec, Ashley, Fisher, Friede, Bear Den and Firey Forks.

Breckenridge dates saltpetre mining in Missouri from 1720 when Philip Renault and La Motte opened Missouri's lead mines⁴.

The opening of Missouri was the work of the French and began in 1673. Spanish influence came in 1770. Noted explorers such as Joliet, Marquette, Gravier and La Salle did not linger in the territory long enough to exploit its natural resources. Development did not begin until the founding of Kaskaskia, Illinois on the east bank of the Mississippi River. By 1752 Ste. Genevieve had been born just opposite Kaskaskia, Ill., on the west bank of the Mississippi. Ste. Genevieve is Missouri's oldest settlement.

Having settled in hostile territory and unable to depend upon the resources of home, the pioneering French and Spanish became self-sufficient and made their own gunpowder and ammunition.

Philip Renault, an early mineralogist and lead miner of fame, arrived in Kaskaskia in 1720 with 200 mechanics, miners and laborers and proceeded to open Missouri's first lead and copper mines. It is reasonable to assume that he also established the first saltpetre mines and gunpowder factories west of the Mississippi River.

Because of Renault, saltpetre mining in Missouri may pre-date that which occurred in the Appalachian Mountains and along the tributaries of the Ohio River at an early date. Faust (1964)⁵ states that Clark's Saltpetre Cave in Virginia was worked as early as 1740.

It is assumed that Renault and others of Kaskaskia and Ste. Genevieve turned to those caves nearest them for their first supplies of saltpetre. Nothing is known as yet about saltpetre mining in and around caves near Ste. Genevieve. Only recently has speleological work begun in the vast karst areas south of Ste. Genevieve. Work now going on in southeast Missouri may soon turn up clues helpful to this study.⁶

Renault is credited with the discovery of Meramec Caverns, a well-known commercial cave in Franklin County. Here, he and his men are said to have mined saltpetre and made gunpowder. The cave was known locally as Saltpeter Cave prior to commercialization in 1935. Goodspeed (1888) says "Saltpeter Cave is a large opening below Fisher's Cave. It is entered from near the river...Gunpowder was made in this cave at an early date."

In assessing the saltpetre mining activity between 1720 and 1820 Breckenridge says "Sulphur for gunpowder making was, in Missouri, in the early days, obtained from sulphide of lead (Galena which yielded almost 25% of crude sulphur) or from sulphide of iron. (Iron pyrites yielding as high as 53.4% of crude sulphur) by fusion and sublimation. The lead ore of Missouri is principally pure galena and it is probable that from the year 1720 when Renault and La Motte opened and worked the lead mines in this region on a large scale and roasted the ores therefrom to eliminate the sulphur that they, as well as those who came after them, during the hundred years or more succeeding, made their own gunpowder, using the waste product sulphur in its manufacture..."⁸

More is known about saltpetre mining in Missouri during the early 1800s than in either the Post-Revolutionary Period or the Civil War Period. These early records begin with a gunpowder factory that was established in Boone's Lick Country (Boone and Cooper Counties) by Joseph Jolly in the winter of 1811 and the spring of 1812.

Quoting a History of Cooper County by Levens and Drake, Breckenridge writes "The next day (after the attack by the Indians on Cole's Fort in 1812) the settlers captured a French boat which came up the river loaded with powder and balls to trade with the Indians at Council Bluffs.

"Previous to the capture of this boat and the ammunition with which it was loaded, which was sufficient to last the settlers a long time, Joseph Jolly had supplied them with powder, manufacturing it himself, saltpetre being formed in a cave near Rocheport."⁹

The War of 1812 had begun at this time. The Indians were restless because of the war and during this time, Indian raids by the Sauk, Fox, Osage and Miamis tribes occurred in the Boone's Lick region.

All of Missouri's rivers and streams were used as inland roads by pioneers. Some of the best known saltpetre caves are found along the Meramec and Gasconade rivers and their tributaries. Schultz (1937)¹⁰ reports "In the spring of 1810 James McDonald of Bonhomme and his two sons went to some caves on the Gasconade River to make saltpetre and in a few weeks brought 3,000 pounds...to St. Louis. However, John Bradbury, who ascended the Missouri River in 1811, makes a statement which indicates that saltpetre had been manufactured in considerable quantities before this time. He says, "It is no uncommon thing for three men to make 100 pounds of saltpetre in one day. As these caves may probably have been the resort of wild animals in former times, the accumulation of nitre, in the first instance, is not surprising; but that the earth, on being spread on the bottom of the cave, should be re-impregnated in the space of four or five years, is not so easily accounted for: that it is a fact, many, who have been employed in making salt-petre have assured me."

Faust (1964), Schultz (1937) and Breckenridge (1925) all attribute the sudden upsurge in gunpowder making after 1812 to the War of 1812. The price of saltpetre hit an all time high. The Missouri Gazette published in St. Louis in 1816 reported the retail price of gunpowder at \$1.00 per pound.¹¹

At this time the Indians were making life difficult for many settlers. To venture into remote areas to mine saltpetre was a very risky enterprise. "We are informed that a man who was making saltpeter some distance up the Missouri was lately killed by the Indians" was a news item of the day.¹² The same newspaper said in January of 1815 "...a communication made to the Secretary of War by the Delegates in Congress from the Missouri and Illinois Territories, dated Washington City, December 17, 1814, suggesting that an expedition consisting of 3,000 mounted men would be sufficient for the purpose of a campaign against these hostile bands of Indians, to be ready to march by the 20th day of April next. Powder and lead can be procured in that country, and transportation in the fortified boats at St. Louis would be safe and easy."

Missouri's most prominent saltpetre miner made his entry at this time - General William H. Ashley.

Ashley was a noted figure in Missouri history during the early 1800s. As the founder of the Rocky Mountain Fur Company, he led several famous expeditions to the upper Missouri between 1822 and 1827, exploiting beaver meadows. He finally retired to St. Louis in 1827 and managed his fur company for another decade.

Before winning his fame and fortune as a fur trader, Ashley tried his hand at gunpowder making. "A knowledge of surveying and a slight familiarity with geology furnished his (Ashley's) opportunities for visiting the remoter portions of Missouri. It was on one of his expeditions of this sort that he discovered Ashley's Cave in a lonely valley on Cave Creek, Texas County, 80 miles southwest of Potosi..." quotes Breckenridge from Harrison Clifford Dale's edition of The Ashley-Smith Explorations and the Discovery of a Central Route to the Pacific, 1822-1829. The quote continues "Within the mouth of the cave, Ashley erected a complete plant for the extraction of commercial saltpetre from the potassium nitrate with which the cave abounded. The prepared saltpetre he hauled to a gunpowder factory which he built at Potosi, the only one in that part of the country. Here Ashley resided for a time, conducted his business in partnership with one Brown. The total production of their factory in the 18 months from Dec. 31, 1816 to June 1818, amounted to 60,000 pounds, valued at \$30,000."

Breckenridge says that "The year in which Ashley began his undertaking is uncertain, but his factory must have been built in the latter part of 1813 and started operations early in 1814."¹³ This he inferred from an advertisement in The Missouri Gazette which was placed by Ashley in 1814. The ad read "A man well acquainted with the business of gunpowder making may meet with employment by immediate application to the subscriber living near mine Shibboleth, Washington county."

Breckenridge says "Apparently these works did not continue in operation for very many years, for Schoolcraft, who visited Ashley's Cave in Nov. 1818, thus writes of them in his Journal of a Tour into the Interior of Missouri, London

(1821): "No person is, however, here (at Ashley's Cave) at the present to attend to his business, and the works appear to have lain idle for some time."

Schoolcraft and his party reached Ashley's Cave on Nov. 12, 1818 and as the weather was very bad at the time, stayed on under the protection of the cave until Sunday morning of November 15.¹⁴

Schultz describes the Ashley saltpetre making process in this fashion: "The saltpetre was obtained by mixing the earth strongly impregnated with potassium nitrate with wood ashes and lixivating the whole by means of a tub and faucet. It was concentrated by boiling in a kettle and was then set aside to cool and crystallize..."

Henry Row Schoolcraft in his travels across the Ozarks in 1818 mentions several saltpetre caves. He wrote "Three saltpetre caves are worked in Washington County, Missouri territory. They are situated on the Merri-mack (sic). Several caves are also worked on the Gasconade River."¹⁵

"In 1816 Messrs. Johnson, Dulle and Cullen with their families embarked from Mississippi and settled in the Valley of the Gasconade near... Saltpeter Cave, 5 miles west of Waynesville. They engaged in the manufacture of gunpowder...(finding) a market for it among the trappers and traders who frequented the region. About a year after their arrival Mr. Cullen started out with his usual load of powder to supply some neighboring customers and was never heard from again... Cullen's disappearance ended the existence of this factory."¹⁶

In Phelps County one William Coppedge, "a powder manufacturer of Kentucky, mined saltpeter from Saltpeter Cave 10 miles northwest of Rolla."¹⁷ He settled in Phelps County in 1823 and "came with his family of 4 sons and 2 daughters, and located near the site of Newburg. They engaged in powder making and afterwards undertook agriculture."¹⁸ Apparently the financial rewards of powder making were not sufficient to feed and clothe his family.

After the War of 1812 the impetus for saltpetre mining was considerably diminished and not notably revived until the beginning days of the Civil War. Reports of gunpowder making between 1820 and 1860 are meager.

Breckenridge attributes this to (1) the hazards of manufacturing gunpowder, (2) the competition of the eastern gunpowder factories, and (3) the cutting of prices which added to the panic that came upon the United States in the latter 1830's.

The hazards associated with gunpowder manufacture can well be understood. In the Missouri records we find that "Jack Maupin had a powder plant on the Meramec River in a cave and supplied trappers with most of their munitions. Fisher's Cave, Saltpeter Cave (Meramec Caverns), and Copper Hollow Cave, all... near Sullivan were famous powder making plants from 1810 to 1820."¹⁹ Maupin, however, became a tragedy of the industry. Goodspeed (1888) reports that "John Maupin, son of Mosias, was killed by the explosion of a powder mill... about Newport, now Dundee, 61 miles west of St. Louis... Bucklick of that neighborhood contributed part of the material for the manufacture of gunpowder... later powder mills were located at Molino, Youngs Mill and "Spring Creek Mills" north of Stanton."²⁰

The most startling powder factory explosion, however, occurred in April of 1836 at the Eagle Powder Mills at St. Louis.

"The Eagle Powder Mills were erected this year (1833) by Major Phillips and Dr. Lane, in the southern part of the city, and their powder became justly celebrated."²¹

The destruction of the plant came at 9 PM on the night of April 11, 1836 and the entire establishment, with the exception of the drying house, was destroyed. "The fire commenced in the engine room... three explosions... the last which was tremendous, shaking the houses with great violence in the city and producing much alarm. No lives were lost..."

This plant was owned by Dr. William Carr Lane and managed by one Major Phillips. It is reported that the explosion was heard as far away as 27 miles. This explosion ended the existence of this powder plant.

Prior to the Eagle Powder Mills, Col. Augustus Choteau maintained a powder magazine on the "grounds of the Fort on the Hill" in St. Louis.²² The Fort was the remains of a structure built by the Spanish in 1794. Choteau erected his powder magazine in 1812 and purchased gunpowder from both eastern and western manufacturers.²³

St. Louis was the clearing house for nearly all the gunpowder and saltpetre used west of the Mississippi in the early 1800's. Competition from factories in Virginia and Kentucky was inhibiting to Missouri manufacturers. Between 1812 and 1816 gunpowder was shipped to St. Louis from New Orleans. It also came from Pittsburgh and Louisville by way of the Ohio and Mississippi Rivers. There were four brands then on sale, Dupont, Kentucky, Delaware and Trotter.²⁴

Between 1830 and 1860 saltpetre mining occurred in Friede's Cave, 9 miles northwest of Rolla,²⁵ at Meramec Caverns in Franklin County,²⁶ in Firey Forks Cave area in Camden County,²⁷ and in Bear Den Cave in Stone County.²⁸

NOTES AND REFERENCES

1. William Clark Breckenridge: Early gunpowder making in Missouri. The Missouri Historical Review, Oct. 1925-July 1926, Vol. 20, p. 85-95.
2. J Harlen Bretz: Caves of Missouri. Missouri Geol. Surv. & Water Resources., 1956, 2nd ser., vol. 39.
3. Jerry Vineyard and Langford Brod Jr.: Catalogue of the caves of Missouri: Missouri Speleological Survey., Dec. 1968.
4. Richard F. Myers: Bats and biologists: Missouri Speleology, Oct., 1964, Vol. 6, No. 4, p. 93 quotes Carl O. Sauer, 1920. The geology of the Ozark Highland of Missouri, Geographical Society of Chicago Bulletin 7:1-245 as saying "The saltpeter caves of the cavernous limestone formations were perhaps the best-known resources of the interior districts (of Missouri) in earlier days" (1800 to 1840). He quotes Bradbury

writing in the year 1819 as saying that the saltpeter industry had been established for some time by 1810... Sauer (1920) also indicates that the large caves along the Gasconade River in the Waynesville area and Ashley's Cave, Dent County, near the Current River were the best sources of nitre-dirt. He reports that some of the last records of the manufacture of gunpowder from cave material are from Friedes Cave (better known as Saltpeter Cave) in Phelps County during the Civil War."

5. Burton Faust: Saltpetre Caves and Virginia History. 1964. Reprint from Caves of Virginia by Henry H. Douglas.

6. A cave called "Saltpeter" does exist near Ste. Genevieve in the vicinity of Little Saline Creek. A description and map of the cave appear in Missouri Speleology, Vol. 7, No. 3, July, 1965.

7. Goodspeed's History of Franklin, Jefferson, Washington, Crawford and Gasconade Counties, Missouri: Goodspeed Publ. Co., Chicago, 1888.

8. Breckenridge (1925) describes their means of obtaining sulphur. Gerard Schultz in The Early History of the Northern Ozarks gives their source of charcoal. Schultz writes: "The charcoal most suitable for gunpowder was the variety which most readily ignited and yielded the least quantity of ash. Such charcoal was produced from dogwood, willow, alder, hazel, maple and poplar."

9. Rocheport Cave was commercialized in 1964 by Pete Christus of Booneville, Missouri, and renamed Boone Cave. It was a prominent cavern in the early history of Missouri.

10. Gerard Schultz: The Early History of the Northern Ozarks, Midland Printing Company, Jefferson City, Mo., 1937.

11. Breckenridge quote: The Missouri Gazette and Illinois Advertiser, St. Louis, Oct. 14, 1814 and Nov. 30, 1816.

12. Ibid, April 1, 1815: Walter B. Stevens in his Centennial History of Missouri, 1820-1921, S.J. Clarke Publ. Co., 1921, records a Montgomery County tragedy that occurred in the spring of 1814. A Daniel Dougherty was killed by Sauk Indians at the Big Spring while on his way to Saltpeter Cave on Clear Creek to procure saltpetre.

13. Henry Rowe Schoolcraft: View of the Lead Mines of Missouri, New York, 1819.

14. Gerard Schultz: reference 10 cited above.

15. Schoolcraft: reference 13 cited above.

16. Goodspeed: History of Laclede, Camden, Dallas, Webster, Wright, Texas, Pulaski, Phelps and Dent Counties, Missouri. Chicago (1889). Referenced also in Breckenridge (1925) and Schultz (1937).

Breckenridge records this Indian legend: "An Indian legend says that the well known Saltpeter Cave 5 miles west of Waynesville was the scene of an Indian tragedy between the Osages, Shawnees and Delawares. This cave had been

had been used to manufacture gunpowder and after its evacuation, about 1817 or 1818, some friendly Indians -- 5 Shawnee and 2 Delaware -- took possession...were attacked by 100 Osages...defended themselves until nightfall...loss of but one of their number...Osage loss great. During the night the inmates of the cave blocked its entrance and escaped through a passageway unknown to the Osages.!"

17. Gerard Schultz: reference 10 cited above.

18. Breckenridge: reference 1 cited above.

19. Missouri Historical Review: Missouri Historical Society, Vol. 24, p. 608.

20. Goodspeed: reference 7 cited above.

21. Breckenridge quote: Edwards Great West, p. 35 and The Missouri Republican, St. Louis, April 12, 1836.

22. In modern St. Louis this would be located west of 4th Street and south of Walnut Street.

23. Breckenridge quotes a letter to Col. Augustus Chouteau which was written in Lexington, Kentucky, Dec. 27th, 1812. This letter is in the Pierre Chouteau collection of the Missouri Historical Society, Columbia, Mo.

24. Ibid, reference 1, taken from the Missouri Gazette.

25. Ibid, reference 1.

26. Historical Review of Franklin County, Mo: Sesquicentennial 1818-1968, Union, Mo.

27. The Reveille newspaper, Camden, Mo., Sept. 3, 1896: also Dwight Weaver: History of the caves of Camden County, Missouri, Missouri Speleology, Vol. 11, No: 1-2, Jan. - April 1970: "a gunpowder factory was situated at the mouth of Firey Forks" around 1838 and may have utilized nitrous earth deposits from several caves including Firey Forks Cave, Loby Cave and Bar-numton Cave."

28. Rayburn in Ozark County gives an account of this powder mill. It was established by John B. Williams in 1835 on Flat Creek. Considerable detail is given about the plant's facilities and product.

RAISING THE TOMB ROCK
FROM
LOST JOHN OF MUMMY LEDGE

by

Alonzo W. Pond

Late one afternoon when I was returning from the depths of Mammoth Cave I passed by the guides' house.

"How soon are you going to get Lost John out of the cave?" someone called.

"Lost John?" I asked. "Who in the world is Lost John?"

"Don't you know Lost John?" a guide answered. "That's what everyone around here calls him. He's the old Indian you've been working on, up there at Mummy Ledge."

Such is the way of Mammoth Cave guides. Everything in the cave must have a name and they just naturally dubbed this famous discovery after their own homely fashion.

Who first used the phrase? Who knows? Possibly one of the Negro boys working on the trail from Violet City through Waldack's Dome. At any rate the prehistoric Indian is very definitely remembered as Lost John of Mummy Ledge.

Late one Friday afternoon orders came from Washington giving us authority to raise the tomb rock and to free the body of the prehistoric miner for scientific study. All of us connected with the work in the cave were excited at the prospect. Our oft-discussed plans for lifting the six- or seven-ton rock from the back of the mummy were to be put to the test. Our speculations about what lay below the body were to be compared with the facts. We were about to learn the final details of the tragedy of Mummy Ledge.

The surveyors brought their instruments into the cavern. By flashlight they read their angles and chained off the distances. Plumb bobs dangled from the ledge to make straight lines for the mathematicians.

Mr. R. W. Martin, burly, good natured Project Superintendent of Camp I rushed to Louisville Saturday in search for huge timbers and chain hoists. It was his job to raise the tomb rock "as carefully as a mother lifting her babe from the crib". As the archeologist in charge, I was responsible that no damage occurred to the mummy and I had often explained to Bob Martin the limitations of the project. It was he, however, who had to work out the details. This he did with scientific thoroughness. I think he knew before anything was carried into the cave, just where every bolt and nail was to be placed. He realized the importance of the discovery as well as any archeologist and I think he held it in a sort of reverence. Whenever his work took him near the rock and the body of the prehistoric miner he seemed to proceed with an almost tender care, like an artist creating a masterpiece. Knowing that any slip

might cause injury or loss of life as well as loss of scientific data he provided a margin of safety which left nothing to chance.

Monday morning men from Martin's Camp - C.C.C. Company 510 - began stringing wires from the Violet City entrance for the electric lights at Mummy Ledge a half mile into the cave. Others of the company carried huge timbers from the road into the cavern. Down long flights of stairs they slid the timbers, then carried them by hand along the winding trails recently built by their own company. Up the zig-zag route over Tribble's Trouble they logged those squared logs, then down the other side to Mummy Ledge. Eight big ten-by-twelves, each eighteen feet long, were carried by hand to the scene of operations. Every board, every nail, every bolt and nut, coils of heavy cable, innumerable tools were carried by hand by lantern light.

Carpenters sawed and hammered. CCC boys drilled holes into the limestone walls of the cave to anchor guy cables. As the work progressed, the old cavern echoed to many strange sounds.

The timbers were spliced into two thirty foot columns. Then they were hoisted upright with block and tackle manned by CCC enrollees. Bolted and braced in place, guyed to the walls of the cave or to giant rocks on the cavern floor, this timber tower was made ready. Three other timbers were hoisted close to the ceiling of the cavern. One end of each rested over the top of the timber tower. The opposite end extended far back on the high ledge ten feet above Lost John. From each of these cross timbers a chain hoist was hung, each hoist capable of lifting five to ten tons.

After the tower was completed with its observation platform and the chain hoists swung, we were ready to attach the tomb rock. Three steel cables, one for each hoist, were looped, slipped beneath the stone and hung over the hooks. Great care was necessary so that the cables did not touch the body of the miner. When they were in place a wide steel band was bent and shaped to the form of the rock. The strands of cable were securely bolted to that band. In this way we had a steel basket in which the fatal stone was attached to the hoists.

The work of "weaving" the basket was done by Martin and me. Since I am only a third as big as he, it was up to me to work in under the rock and catch the steel bands as he pushed them through. Many were the jokes that the boys made about the possibility of the rock slipping again and "making a new mummy". There seemed to be a consensus that the new world could best spare an archeologist if a new mummy was needed but eventually we had the rock ready.

The chains were shortened until the cables of the basket were stretched taut. Martin inspected every bolt and nut, tested every guy and brace. Just eight working days from the moment permission was granted to lift the rock, he turned to me and said:

"She's all set. We can raise her any time you say."

On the morning of August 29 there was quite a witness gallery on the ledge south of the rock. The Mammoth Cave officials, National Park Service representatives and employees, army officers from the CCC camps, members of the press and newsreel cameramen and personal friends were at hand.

The "Cavemen Quartet" of CCC boys who had contributed to our enjoyment as the work in the cave progressed entertained our visitors and relieved the strain for those of us who were responsible for the job.

Men were stationed with their hands on each chain of the hoists. Among them, nearest the body of Lost John, were the guides Lyman Cutliff and Grover Campbell, the discoverers of the gypsum miner's body. At twelve o'clock I asked:

"Mr. Charlet, may we go ahead?"

"Yes."

"Mr. Holland, are you ready?"

"Yes."

"Mr. Miller?"

"Yes."

"Go ahead, Mr. Martin. Raise the block."

The chains rattled through the blocks. We watched the rock.

I raised my hand. Martin called "Stop!"

He and I got down on the ledge to examine the mummy. A faint hair-line crack appeared between the rock and the body.

Again the chains rattled. Again we studied the contact between the tomb rock and body. This time we were able to insert a metal probe one thousandth of an inch thick.

"Hoist again," said Martin. Almost imperceptably the crack widened.

A third time we halted and found that the metal feeler could be passed freely between the stone and the body. Dr. Pohl, geologist, corroborated our observation that there was no contact. There was no mineral deposit holding the body to the rock. I crawled in under accessible parts of the rock to be certain that no damage was being done at any point on the body. A nod to Martin and "Take it away, boys! Take it up."

Furiously the chains rattled as they flew through the blocks and breathlessly we watched the tomb rock. How slowly it moved. Or did it?

It was like watching the hand on a clock. At last the rock swung free. Civilized men and women looked down at the crumpled body of a primitive miner. After long centuries the story of that tragic tableau was ready for interpretation, ready to add a page to the history of man's long climb to civilization.

Alonzo W. Pond, ~~Dr.~~ -- a short biography

The preceding is the first JSH contribution by a noted individual who has played a significant role in American speleology yet is little known to the current generation of speleologists. He was born in Janesville, Wisconsin June 18, 1894 and graduated from Beloit College with a B.S. degree after field ambulance service with the French and American armies during 1917-1919. He then attended the American School in Europe for Prehistory and the University of Paris and subsequently the University of Chicago where he received a M.A. in anthropology in 1928; even in 1951 he was attending such schools as the American University of Beirut.

Mr. Pond's first postgraduate job was as associate curator of the Logan Museum of Beloit College, a job interrupted by leading archeological expeditions to North Africa and the Sahara on five occasions, and accompanying Roy Chapman Andrews' Central Asiatic Expedition in 1928. Later he led a Rainbow Bridge-Monument Valley expedition in 1933. He became a NPS archeologist in 1934, just in time for the major undertaking referred to in the preceding article. Subsequently he served as CCC camp superintendent, as manager of Cave of the Mounds, Wisconsin and Wisconsin Gardens. During World War II he held responsible positions in the field of arctic, desert and tropical survival, fields about which he has subsequently written.

In addition to numerous popular and scientific articles on travel, archeology, ethnology and geography in such publications as Natural History, Life Magazine, the New York Times and Wisconsin Tales and Travels, he has written the script for Limestone Caverns, an educational movie produced by Coronet Productions, the Guidebook to Cave of the Mounds, still in use after 30 years, several books on survival and most recently CAVERNS OF THE WORLD, a juvenile non-fiction work widely praised for his accounts of personal spelean experiences. A non-resident Fellow of the Explorers Club (like yr editor), Mr. Pond and his wife reside at Rt. 1, Box 108, Minocqua, Wisconsin.

-- W.R.H.

WHAT CAVE IS THIS? DEPARTMENT

"Opposite (Black Rock Station, west of Salt Lake City), away up in the side of the mountain, is the 'GIANT'S CAVE' - an opening extending several hundred feet into the mountainside, with a ceiling ranging in height from ten to 75 feet, from which hangs stalactites of great beauty and brilliance. Remains of some of the ancient tribes of Indians, it is said, are still to be found scattered around the floor of the cave. The presence of these remains is explained by a tradition among the Indians that "many hundreds of years ago, two tribes of Indians were at war with each other, and that the weaker party was forced to take refuge in the cave, but were followed by the enemy, who closed the entrance with huge boulders, forming an impenetrable barrier to their escape"- and thus their place of refuge became their grave.

-- Crofutt, George A. 1880. Crofutt's new Overland tourist and Pacific Coast Guide. Omaha, Overland Publishing Company, p. 122

A TRIP TO THE JOSEPHINE CAVES IN 1878
EXCERPTS FROM THE JOURNAL OF ROBERT A. MILLER

Transcribed by Frank K. Walsh

Robert A. Miller was a Jacksonville, Oregon, attorney who explored the "Josephine Caves" (later the Oregon Caves) August 14-16, 1878, four years after the discovery of the then-remote cave. His journal is part of the Robert A. Miller Papers at the University of Oregon Library. That institution has given this Journal permission to publish the following excerpts from the Miller journal. --- F.K.W.

August 14, 1878: We went into the cave by the upper entrance. The opening is just large enough for a person to enter, but after going twenty feet, the apartment of the cave assumes larger proportions... The sides are quite soft from contact with the air (moonmilk- W.R.H.). The cavities are quite narrow in places and require considerable exertion.. and that, too, by crawling on all fours.

After getting in some fifty feet, the grottoes assume fantastic appearances and the stalactites and stalagmites present a varied and strangely beautiful picture as hanging from some chamber grotesquely calcimined, eight to ten feet in height and the same distance wide with a length of twenty to thirty feet. Transparent stalactites depending from the arch overhead are much like glass tubes, are hollow, and a sixteenth of an inch in diameter. Others possess many strange forms like animals' ears and tusks and grape like clusters...

The stalagmites are more massive and resemble posts and pillars and have the appearance of women and children. The ceiling is slick at times, having a white and glittering aspect. Several of the grottoes have been named: The Egyptian Catacomb, The Bridal Chamber, and Fairy Grotto.

The subterranean passages, which are numerous, have no particular direction, but wind around in all directions making it difficult to keep one's reckoning.

Some of the chambers have a dull appearance and are very noticeable for their lofty and rugged form. We did not go down into the lower cave. After winding around for about one half an hour, we came out. During the exploration, I injured myself on a sharp rock making me quite lame.

August 15: We proceeded with a good supply of candles to explore the great cave of Oregon... The openings to the cave are... about a hundred feet apart. One is at the head of a little creek which is the entrance to the lower one. The other is up the hill the distance mentioned to the South East...

We took the lower passage and followed the creek in for about 150 or 200 yards through devious and intricate windings. Many places we had to crawl on our hands and knees while other places the passages opened out into large apartments. The color of the rock was dingy, dirty (in) hue as we followed the creek. But at times the chambers were white and glistened as the flame of our candles lit up the rooms. The reflected light from the stalagmites and stalactites rendered the scene one of rare enchantment. The Bridal Chamber was particularly

beautiful. Many subterranean passages were found leading off in every direction. We followed many to where they ran out. Others we did not explore nor had they ever been explored...

After following the creek as far as we could, we retraced our steps until we struck the passage leading up to the caves and caverns above. Then we followed through a rather dangerous orifice until we struck the chord left by Mr. Fiddler on his previous visit (Editor's note: William W. Fiddler, Miller's guide on that day, explored the caves in July of 1877) ... I soon arrived where I had been the evening before...

(Exploring the cave once more on August 16, Miller discovered a new room which he named "Miller's Grotto". He and his partner took "numerous specimens.")

Editor's note: Special thanks are due Martin Schmitt, Curator of Special Collections, University of Oregon Library, for permission to include the above. -- W.R.H.

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COLLOQUY

Yr editor cannot help commenting on the very nice Missouri saltpeter article in this issue, by Dwight Weaver. At present, as is indicated in this article, the use of Meramec and other Missouri caverns for mining saltpeter in the French and Spanish period is unsupported by anything more solid than tradition. The same, incidentally, is true of Clark's Cave, Va. unless someone has turned up more definitive sources than did Burton Faust. Dwight's article is particularly important because it points up the existence of separate mainstreams for the cavern saltpeter industry in British America, French America and Spanish America. (Or have we merely not investigated DuPont history sufficiently?) The names of several caves in France translate as "Saltpeter Cave". As recounted in the first issue of this Journal, French explorers recorded the apparent presence of saltpeter in 1700 in at least one cave, and yr editor wonders if the French might have been the first Caucasians to see and enter Mammoth Cave. An entire new field of research in French archives certainly appears essential to the fast-unrolling history of American saltpeter caves.

Tom Meador (Box 3216, San Angelo, Texas, 76901) is seeking information on guano caves, guano mining and all related topics. Tom has an initial impression that in Texas, all cavern saltpeter production was in guano caves, and would particularly appreciate information confirming or rejecting this possibility.

S.R. Publishers, Ltd. (East Ardsley, Wakefield, Yorkshire, England) have reprinted the 1781 edition of John Hutton's A tour to the caves in the environs of Ingleborough and Settle. Included is a short introduction by ASHA member Don Mellor of the Craven Pothole Club. Price is \$3.60 and well worth it. Baker's Caving is being reprinted also; no information yet. Presumably all ASHA members now know that the four Johnson Reprint Company volumes are now available. Very nice jobs: Celebrated American Caverns & Glaciers or Freezing Caverns are \$9; Cave regions of the Ozarks & Black Hills is \$7.50 and The Sucker's visit to the Mammoth Cave is \$5.50. 111 5th Avenue, NY, 10003.

Pete Hauer has bought Lobelia Saltpeter Cave, W. Va. and writes that he turned up a couple of virgin caves on the property in addition.

Pete also has turned up a 1887 Manitou Grand Caverns booklet by George Snyder, previously unknown to yr editor. For the story on the cave war in Colorado involving Cave of the Winds and Manitou Grand, see Adventure is Underground. He writes that he is going to reprint this and also an antique guidebook on Crystal Cave, Penna. in the near future.

Pete is also studying the life and activities of Henry Mercer, and would appreciate references that are not widely known.

Ray V. Davis had a recent article on early photography in New Mexico Magazine - and a pithier version in the local Carlsbad newspaper. Tom Meador has some spares of the former for trade.

Harold Meloy (PO Box 454, Shelbyville, Indiana, 46176) is seeking the identity of the engraver of the picture of Stephen Bishop in Hovey's 1880 Celebrated American Caverns, and any pre-1880 history of this engraving. And he wonders if it is an actual likeness of Stephen or merely a re-creation based on the written descriptions of Willis, Taylor and others.

Frank K. Walsh and yr editor have been working on a booklet on the history of Oregon Cave. With luck, it will appear this summer. Tentative price: \$1.25 and well worth it. Frank and I had been working independently on the history of Oregon Cave, both turning up previously unknown material like that included in this issue, and only recently learned of each other's work.

Does anyone have any influence with Essex County Newspapers, Inc. of Gloucester, Mass.? I sent them an article on Hovey "on spec" with a stamped self-addressed envelope in case of the usual. This was August 8, 1970. On December 28, 1970, I queried them because of lack of acknowledgment. No response to date at all. I'd at least like to get the 8 x 10 of Hovey back. I've had more articles returned than I care to count and this is the first time one has not even been acknowledged, when sent with a return envelope.

From a recent bookseller's catalog: Anon. 1829. Life and adventures of Robert, the hermit of Massachusetts, who has lived 14 years in a Cave, secluded from human society... Taken from his own mouth, and published for his benefit. 36 pp. Providence, H. Trumbull. "Rare chapbook account of a Negro who escaped to freedom in the North, spent several years in ships to Europe and India, and then - spurned by his wife - retired to an isolated spot on Fox Point, with the permission of Tristram Burgis. \$35.00. Anybody know anything about this?

Can't remember who sent it now, but I have a xerox of a different title page of Thompson's The sucker's visit to the Mammoth Cave. This one is Volume 1 no. 4 of The Economist Library: a magazine of standard literature/ published quarterly. Price \$3.00 per year. R.S. Thompson Publisher. September, 1886. Price, 25¢. Entered at the Post Office at Springfield, Ohio as second-class matter. If the proper person will remind me, he'll receive proper credit.

While on the subject of British publications (and others), The Wessex Cave Club has issued a notable Occasional Paper Series 1, No. 1: Pioneer under the Mendips - Herbert Ernest Balch of Wells: a short biography by W.I. Stanton. 123 pp. with numerous illustrations. Address: c/o T.E. Reynolds, Yew Court, Pangbourne, Berks, England. Price: slightly under \$2.50.

Jack H. Speece (R.D. 4, Box 352, Lewistown, Penna, 17044) still has available at \$1.00 each his last four reprints: Stelle on Wyandotte Cave, Martin's Pictorial Guide to the Mammoth Cave, Wright's Guide manual to the Mammoth Cave and Gibb On Canadian Caverns.

Tom Meador, yr editor and Claude Smith surveyed Nicholson's Lost Pit in Carlsbad Cavern in January. Results just about as predicted in my paper at the 1970 N.S.S. Convention. Hope to have a full report in the next issue.

A new edition of Lonnie Pond's Cave of the Mounds guidebook is available for 60¢ from that cave; address Blue Mounds, Wisc. The author was pleased to autograph a copy for me - address Route 1, Box 108, Minocqua, Wisc. 54548.

At last report, the probable 1809 newspaper reference to Mammoth Cave still had eluded all searchers. Good hunting!

SPELEOMEMORABILIA EXCHANGE

Gordon Smith (5110 Crafty Drive, Apt., 2, Louisville, Ky.) has a spare of Thompson's Sucker's visit to the Mammoth Cave - NOT the reprint. He's interested in trading, but I hear from Harold Meloy that he has a remarkably complete library on Mammoth Cave.

Jerome Frahm, 12732 27th NE, Seattle, Wash. will consider offers for his copy of Caves of California. A few spots on the upper right corner of the front cover, otherwise virtually mint.

Tony Oldham (17 Freemantle Road, Eastville, Bristol BS5 6SY, England) continues to have frequent lists of much-wanted historic British cave books. His January 1971 list, for example, includes Balch's Mendip- the great cave of Wookey Hole, & Wookey Hole: its cave and cave dwellers, a Badin and many others. He also has a recent list of holdings/wants on American grotto and regional publications. Is very interested in trading all sorts of cave items.

By the time this reaches print, I will have a new list of more than 100 items including Adventure is Underground, McGill's Caverns of Virginia, Baker's Moors, crags & Caves of the High Peak, Horner's Days & deeds in the Oregon country (see JSH 3-3), considerable Hoveyana. Send stamped envelope. I still want numerous items, including Hendrix, Morrison on Mammoth Cave, Nicholson on Carlsbad and others. Also want Ray V. Davis Carlsbad cards.

Peter Hauer writes that Dave Brison has commissioned him to sell part of the latter's collection in mid-1971. No details yet; if interested, write Pete.

Pete himself is in the process of rearranging his library to specialize in Pennsylvania and Virginia. He has for trade such items as 1870 Cave Men of Devonshire.