

ALL POINTS BULLETIN



Make friends with... ..the past, through the....

Colorado Archaeological Society - Denver Chapter

“...in the future, as in the past, the gathering of information will depend to a great extent on cooperation between avocational and professional archaeologists.” (H.M. Wormington, 1978)

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“ILLUMINATING THE PAST: EXPLORING THE FUNCTION OF ANCIENT LAMPS”, by Ameera Elrasheedy and Daniel Schindler, *Near Eastern Archaeology* 78:1 (2015), pp 36-42 Reported by Bob Rushforth

Experimental archaeology can be used to answer questions surrounding archaeological artifacts, when historical documents don't explain certain details. One such question was the performance differences between two different types of ancient lamps. The experimental archaeological effort covered by this article used replicas of two shapes of ancient pottery lamps, open vs. closed, to answer two questions. (1) How did ancient pottery lamps work? (2) How well did the lamps perform?

The experiment was inspired by a 2008 excavation at Tel Kedesh in the Northern Galilee. Numerous lamp sherds were discovered in the Hellenistic administrative building on top with a Persian Period structure underneath. The number of sherds in the eastern residential sector of the excavation was over twice as many as in the western administrative sector. Why?

Two common wheel-made pottery lamp types were selected for the experiment. (1) Open type was a small bowl, about 10 cm in diameter, with an outturned rim that was pinched to form a nozzle for the wick. The style dates to the Persian Period (5th to 4th Centuries BCE). (2) Closed type has a small globular body with flat shoulders. It was about 4 cm in height and about 9 cm in diameter. The style is a Levantine version of a type made in Athens.

Replicas of the two types were manufactured by a local potter, Jan Kochendorfer. Both types were made from a number 2 red, mid-range firing stoneware clay, which was similar to the Phoenician Semi-Fine material used in the originals. A non-viscous liquid clay slip was used on the inside of the replicas to make the pottery less porous. Sizes of the replicas matched the average sizes of the Tel Kedesh originals. Open = 10 cm diameter, 16 oz capacity. Closed = 9 cm diameter, 5 oz capacity. The closed type was more difficult to manufacture and took more time. (Open = 1 hour and 20 minutes, Closed = 2 hours and 20 minutes to 3 hours and 20 minutes) The potter noted that a more experienced potter would be needed to make the closed type than the open type.

Olive oil mixed with animal fat was used as the fuel. Wicks were made from inferior flax (oakum). Wool was tried, but was found to give off a foul, intense odor and did not remain lit. Therefore, wool was rejected. Only flax was used in the experiment. Another question was whether the flax was first spun into thread or was unspun before being braided into a wick. In the experiment, 3 wick diameters were used (5 mm, 8 mm, and 10 mm). The best performing wicks were 8 mm and 10 mm. Wicks were tested to determine 4 properties: (1) ease of ignition; (2) flame type; (3) burn time; and (4) light emitted. In the experiment, both lamp types used 1 oz of fuel.

Ease of Ignition – Wool wicks did not stay lit. Flax wicks performed well.

Flame Type – Flax did not produce heavy smoke or offensive odor. Wool did. 10 mm wick gave largest flame. 5 mm wick gave a low flame and was carbonized quickly.

Burn Time – Open = 50 minutes unspun, 65 minutes spun, Closed = 60 minutes unspun, 70 minutes spun
Results: Spun wicks gave longer burn time and closed lamps were more efficient.

Light Emitted – (Only 10 mm diameter wick was used.) Open = 2 lumens/sq ft, Closed = 4 lumens/sq ft
Results: Closed lamps were brighter. By comparison, a modern 8-inch taper candle yielded 2 lumens/sq ft.

Observations

- (1) The open lamp required more attention than the closed type. A small gap needed to be created between the wick and the nozzle floor to improve airflow. The closed lamp did not need to be so adjusted.
- (2) Closed lamp used wick more efficiently. Wick needed to be adjusted only once during the experiments.
- (3) Closed nozzle of closed lamp prevented the flame from advancing down the wick and using more fuel, as in the open lamp.
- (4) Neither lamp became too hot to handle.

Closed lamps were a significant improvement in performance over open lamps. The down side of the closed lamp was greater difficulty in manufacture. Both lamp types didn't yield much light. They couldn't illuminate a large space. Lamps were used in small spaces for things such as dining and rituals. This explained the finding of more lamps in the residential sector of the excavation than in the administrative sector.

This looks as if it was a fun experiment. (Experimental archaeology is fun.) The article could've been enhanced, though, by determining whether or not the differences were statistically significant.

May General Meeting: Monday, May 11th at DMNS in Ricketson Auditorium at 7 PM. Enter through the Security entrance. The West entrance is closed.

Kathleen Corbett, Architectural Historian

Title: "Left to God's Mercy:" Exploring Southeastern Colorado's Landscapes of Abandonment

Abstract: The vernacular architecture of the Purgatoire Canyon is part of a process of cultural distinction and convergence that is still etched into the historic landscapes of southeastern Colorado. A century and more ago, this region was a borderland: Hispanic settlers migrated into the area from northern New Mexico, and Anglo-American and European immigrant settlers came from the east and north to the high plains desert and plunging canyons carved by the Purgatoire River and its tributaries. These settlers, Hispano and Anglo alike, very often built with the best material they had available, the colorful sandstone found in the outcrops and broken bedrock all around them. Today, the abandoned rock houses and outbuildings that dot the ranchlands of the Purgatoire region stand in silent testimony to homesteaders and settlers who built once-vibrant late 19th and early 20th century communities. Besides the livestock ranch complexes and farmsteads one would expect to find, these often amazingly innovative communities included schools and businesses, in locations that are now frequently inaccessible by recognized roads. By connecting the sites with their creators through the use of archives and artifacts, these landscapes can be understood in terms of the relationships the inhabitants had with

one another at a time when almost all the neighbors were new neighbors.

Bio: Kathleen Corbett, Ph.D., has worked in Colorado as a professional architectural historian since 2004. She specializes in the study of vernacular architecture and cultural landscapes of the American West, as well as the impacts of European modernism on 20th century domestic architecture in the US. Kathleen is well versed in the settlement history of Colorado, with residential, commercial, and industrial projects in settings across the state's rural, suburban, and urban landscapes. She has studied homestead settlement in southeastern Colorado since the start of her graduate studies in 2000, with a Master's thesis focusing on ethnicity in vernacular architecture in the Purgatoire River region. She has served as architectural historian for Cuartelejo HP Associates' county-wide survey of rural agriculture in Bent County, and also served as a member of Colorado Preservation Inc's team documenting ranching sites in the Purgatoire River region. As an architectural historian for SWCA Environmental Consultants, she has worked on projects throughout Colorado and the West, including in New Mexico, South Dakota, Wyoming, Nebraska, and Texas, and was the consultant architectural historian on the pilot phase of History Colorado's Discover Denver project. She serves on the City of Denver's Landmark Preservation Commission and on the Colorado Historic Preservation Review Board. When she's not geeking out about historic homesteads, she can be found writing fiction or playing the ukulele.

June General Meeting: Monday, June 8, 2015 at DMNS in Ricketson Auditorium at 7 PM.
Lawrence Todd, PhD, RPA

Title: Post-Fire Archaeology in the Washakie Wilderness: Recording Unknown Landscapes in NW Wyoming

The Original Performance Piece: The Shaft Tomb Figures of Western Mexico

Dr. Chris Beekman, University of Colorado, Denver Sunday, May 17, 2015, 2:00 PM, Room 453, Sturm Hall, University of Denver, 2000 East Asbury, Denver, CO. Meeting of the Denver Chapter, Archaeological Institute of America. AIA lectures are free and open to the public. (Visitor parking west across S. Race Street, \$0.75 per half hour.)

Anthropomorphic ceramic figures have been looted from shaft and chamber tombs in western Mexico for well over a century, and literally thousands of them exist today in museum collections, not to mention those in the hands of private collectors. The very small number of examples excavated by archaeologists remains a problem for any serious understanding of their significance. Recently however, there has been increasing evidence that the figures had a use-life before being placed in the tombs. This has major implications for our understanding of their uses, their meaning, and their interpretation as visual culture.

Dr. Beekman received his B.A. in Anthropology from California State University San Bernardino in 1985, during which time he pursued archaeological fieldwork in California, Ecuador, and Egypt. He pursued graduate studies at Vanderbilt University, working in El Salvador, Guatemala, Tennessee, West Virginia, and Mexico. He received his Ph.D. in 1996 based on fieldwork in the state of Jalisco, western Mexico, where he continues his research into ancient Mesoamerican society. He taught at Indiana University - Purdue University Fort Wayne, University of Louisville, and the University of Michigan before joining the University of Colorado in 2001.

Minutes – CAS Denver Chapter Board Meeting, 7 April 2015

Members Attending: Sand, Warner, Griffin, McGloin, Farmer, Kent, Niesen, Theis, Bannister
Linda Sand called meeting to order.

Guest Speakers-Catherine Griffin reported the following upcoming speakers:
April – Ben Perlmutter – research at 5LR144

May – Kathy Corbett – historic homesteads in Bent County

June – Larry Todd – post forest fire surveys in Wyoming

August – possibly Linda Scott Cummings

September – possibly Steve Dominguez

Jack Warner observed that it would be a good idea to publicize monthly meetings and speakers in the Denver Post. He said that he had had very large turnouts for talks he had given that were publicized in the YourHub section of the paper.

Linda Sand invited everyone to attend the quarterly CAS state meetings. Upcoming meetings:

Salida – April 25

Dolores – July 25

Durango – October 9-11 also state annual meeting

Science Committee-Neal Hauser could not attend but submitted a report. Blackfoot Cave analysis is continuing. Projectile points are almost all typed. The crew is now working on pottery. He will schedule a survey to complete the Jeffco open space work in May. No other field work is scheduled for this summer. Mark Mitchell and CSU field school will be working at Blackfoot Cave June 1-9. Any members wishing to participate should contact Mark.

Membership-Rosalie Hewins could not attend and submitted a report. We have 162 members on 126 memberships. We still have 38 members who have not renewed. Jon Kent requested that dues payment reminders should be placed on the website and Facebook page. Preston Niesen said that it should be made clear to prospective members that there is no longer any pro-rating of dues. He also said there is still some confusion about some dues categories that should be cleared up at the next state board meeting. Linda Sand said it should be clear there is only a membership requirement for doing field work and attending field trips – monthly meetings are open to the public.

Field Trips and Library-Teresa Weedin could not attend and submitted a report. Field trips are still in the planning stage and none have been scheduled yet. She needs to get the library database converted to Excel from Access as she does not have Access on her computer. She asked for Craig's help with this. She has been approached by Pete Laux's daughter about accepting the donation of his library to CAS.

PAAC-Anne Winslow could not attend and sent a report. The Field and Lab Photography course started last week. The Summer Training Survey has not had its schedule finalized but will be sometime in early to mid-June. The Survey will be a partnership with Dominguez Archaeological Research Group on their Ute trails project in Eagle County. People who wish to attend must contact Kevin Black directly not later than May 4.

Anne says she has been given 5 boxes of chapter records by Sharon McGee, the former Chapter Historian. She wanted to know who should take these.

Finance-Preston Niesen submitted his report and observed there are good balances in the Scientific Applications, Swallow Report and Speaker Funds.

All Points Bulletin-Linda Sand praised the good job Cashel McGloin and Craig Bannister have been doing.

Website-Craig Bannister reported that the website is up to date. Jack Warner said he had just paid to renew the domain name rights. Cashel McGloin said that it would be a good idea to covert ownership of the domain name to both Jack Warner and the CAS chapter to aid in future transitions. She said she would investigate how to do this and report back.

Old Business-None.

New Business-Jon Kent said he had been approached by a former chapter member asking if he would please take charge of the "chapter skeleton" that has been stored in her garage. He agreed and she delivered a mounted scientific comparative human skeleton to him on March 13. He inventoried and documented the condition of the skeleton. It has some damage on the face where it appears that skeleton had at one point fallen forward off its stand.

Some paperwork accompanied the skeleton. Included with it was a 1997 letter from Dean Saitta (then chairman of the Anthropology Department at University of Denver) that documents DU's loan of the skeleton to CAS. The Board agreed to have Jon Kent contact Dean Saitta verbally to see if DU would like to have the skeleton returned. If so the board would document the return with a formal letter. If DU wishes CAS to keep the skeleton, Jon Kent agreed that it could be stored in the lab at Metro State.

Reid Farmer announced that the Douglas County Board of County Commissioners would vote on 14 April 2015 on adding Blackfoot Cave and Lorraine Ranch as County Landmarks.

Aaron Theis announced that Jon Kent would be presenting a talk on his research in Peru at the AIA meeting on 19 April 2015.

Linda Sand adjourned the meeting.

Minutes submitted by Reid Farmer

Minutes of the DC-CAS General Meeting, Monday, April 13, 2015

The meeting was called to order by Linda Sand, president. She thanked Cashel for her APB article on Lake City saloon archaeological finds. The CAS quarterly meeting to be held in Salida was mentioned, all are invited. Teresa is working on the library, as are Aaron and Craig, and CAS will get some books from Pete Laux's estate. Neil Hauser's (Scientific Committee) report was read by Linda: Working on Blackfoot Cave Site continues with analysis of ceramics. There will be a survey to complete the work at Jeffco Open Space in May. Mark Mitchell's Paleo Cultural Resource Group will be working with the CSU field school at the Blackfoot site June 1-9, CAS members are welcome, contact Mark. An opportunity for work (experienced people only) with the Dominguez Archaeological Resource Group was also mentioned, contact Kevin Black by May 4.

Rosalie has reported that we have 162 members. However, 38 members have not renewed, renewals were due March 1. PAAC Field and Lab Photography class started last week. AIA: Jon Kent will speak April 19 at DU about his work in Peru.

Bob Tipton announced that he will host an informal field trip to Hicklin Springs near La Junta on May 23. Meet at the La Junta Walmart at 10 AM. Some people may want to visit other nearby areas, also. He has 16 slots available, see the CAS website.

Cathy Griffin, VP, introduced the speaker to an audience of about 40 people. Benjamin Perlmutter (of Centennial Archaeology) spoke on "Residential Occupation at the Kinney Spring Site (5LR144c) & the Early Ceramic Period in Northern Colorado". He gave an overview of the area (which is located north of Ft. Collins east of Hwy 287), stating that it is an unusual site with some rare features. The site had been excavated some 30 years ago by field school students, but nothing was done with the data. The

site has access to resources from mountains and plains (including quartzite), and is near a spring. Occupations were from 5500-1000 BP. Artifacts that were found included 50+ features, 14,000 flakes, and 400 tools, some found at deep levels. These were from the Early Archaic-Late Prehistoric periods, although Mr. Perlmutter's talk focused on the Late Prehistoric/Early Ceramic Period: AD 150-1150, including the South Platte River Basin. The bow & arrow and pottery both show up during this time period. There was also an increase in the regional population. Diagnostics found (with some photos provided) included projectile points, flaked stone tools, bone tools, some shell beads, pottery and groundstone fragments, and debitage. So many diverse tools provided evidence of winter occupation. Mostly corner-notched points were found. A "house" was there, based on large rocks in a pattern (shown in old photos too), dark hearth stains, and diagnostics found at deeper levels. The population and activity appeared to spike around 650 AD, but populations came back later, too.

He explained occupational intensity = total number of people x density. The more flakes found at a site, the longer the time spent at the site and the more diversity. The structure found on the site was well-constructed, so much occupation (seasonal, winters) must have happened there at various times. There were many changes all at once in the South Platte River Basin during this period (Early Ceramic), including population increases. The settlement pattern shifted in response to competition for resources. (Mentioned was Benedict's Seasonal Round Model.) There was a decrease in mobility but increase in logistical mobility. Small groups were used for specific tasks. There was an increase in use of high alpine areas, including the building of game drive structures, with the resources brought back to the main camp. Technological advances, such as bow & arrow hunting and pottery used to cook food, occurred.

There are other similar sites, such as the Valley View site near Loveland--also near a hogback (has fewer artifacts though), Lindsay Ranch site (smaller amount of flakes, short term occupation?), and Magic Mountain site (west of Golden), which is hard to compare due to having had so much disturbance over the years. There are probably other similar sites out there.

Linda then conducted a short business meeting. The minutes were not in the last APB, so could not be approved. CAS quarterly meeting is in Salida on April 25. The annual statewide CAS meeting will be held October 9-11 this year in Durango. Meeting adjourned about 8:35 pm.

Minutes submitted for Kendra Elrod by Linda Trzyna

DC/CAS
March, 2015 Financial Report
Prepared by Preston Niesen, Treasurer

Assets		
	February	March
Key Bank checking	\$5,118.97	\$5,015.57
TD 182 day to 07/03/14 @0.15%	\$5,689.52	\$5,689.52
TD 182 day to 10/23/13 @0.15%	\$4,804.57	\$4,804.57
TD 1 year to 5/14/14 @ 0.15%	\$4,991.03	\$4,991.03
Total checking/savings	\$20,604.09	\$20,500.69
Liabilities & Equity		
Current Liabilities		
AH Scholarship Fund payable	\$220.00	\$220.00
State CAS Dues payable		
Funds		
Scientific Applications	\$4,959.91	\$5,031.66
Swallow Report Project	\$2,666.81	\$2,671.81
D Bucknam Memorial Speaker Fund	\$1,747.10	\$1,747.10
Blackfoot Cave	\$	\$ 70.00
Library	\$ 302.45	\$ 302.45
Education	\$ 182.00	\$ 182.00
Field Trips/Social	\$ 483.01	\$ 483.01
Student Membership	\$ 47.50	\$ 39.50
Speakers Meal Fund	\$ 768.62	\$ 801.62
Total Liabilities & Funds	\$11,377.40	\$11,549.15
General Fund	\$9,226.69	\$8,951.54
Total L E F's	\$20,604.09	\$20,500.69

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