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Next AAHS General Meeting: November 15, 2004
http://www.statemuseum.arizona.edu/aahs/aahs.shtml
PRESIDENT’S MESSAGE

THE AAHS RAFFLE

For several years -- 16, I believe -- the AAHS has offered its members the opportunity to win an impressive array of prizes by buying raffle tickets that the Society mails out with Glyphs. When you receive your tickets, please respond generously.

The income we collect from the sale of the tickets is used exclusively by our Scholarship and Research Committee to award small grants in three important categories: Research, Scholarship, and Travel. Grants are given in the subjects of Southwestern Prehistory, Historical Archaeology, History, Anthropology, Ethnohistory, and American Indian Studies.

Professional, student, and avocational researchers are eligible to apply for up to $500 in Research grants. Students in these fields are eligible to apply for up to $250 in Scholarship grants. Travel grants up to $250 are available to all those listed above to assist with travel expenses to conferences and meetings if a paper is to be given, to participate as a discussant, and similar activities. AAHS Board and committee members and their immediate families are not eligible for these awards. Recommendations for awards are submitted to the Board of Directors for approval.

The dollar amounts available for these awards depend entirely on the money raised by the AAHS raffle.

We all can participate in furthering Society objectives, and we all can assist these deserving researchers and students through the purchase of as many raffle tickets as possible. Remember, we also benefit by hearing and reading about the theories and discoveries of these Grant winners. (See page 5 this issue.)

I want to thank our membership for its continuing generous support of the AAHS raffle in the past. Please keep up the good work. I also want to express our collective gratitude to the many generous businesses, organizations, and individuals that provide the many great prizes our raffle has to offer.

CHANGE OF ADDRESS REMINDER

Just a reminder to please send in timely changes to your address when you move either permanently or temporarily. Every mailing of Glyphs results in the return of 15 to 20 copies, each of which costs the Society 37 cents in additional postage. Under normal circumstances, if you are “temporarily” away from your residence and you have asked the post office to forward your mail, they may not be forwarding your third class mail (i.e., Glyphs). In that case, the Glyphs is returned to us. Please ask to have your third class mail forwarded or notify us so we can hold your Glyphs until you return.

A change of address will ensure that you receive your mailings in a timely manner. Please help us keep our operation as efficient and up to date as possible.

DON’T FORGET! RENEW YOUR AAHS MEMBERSHIP SUBSCRIPTION!

You are important to the Society! We don’t want to lose you, so check your expiration date on your last issue, membership rates, and PLEASE renew now! (If you have already renewed, we thank you for your continued support!)
Recent excavations in the Santa Cruz River floodplain northwest of Tucson, in the median of the Interstate 10 highway, revealed hundreds of unusual holes next to buried prehistoric canals. Multiple lines of evidence, including fossil pollen, macrobotanical remains, ostracode shells, and geomorphological evidence, indicate that these were planting holes in an irrigated maize field. Radiocarbon dating of charred maize places the age of this field near 1100 B.C., an antiquity that increases the significance of this unique discovery. This presentation will describe the archaeological traces of this irrigated field system, its environmental context, and its implications for understanding early agriculture in southwestern North America.

**Speaker Jonathan B. Mabry** is a research archaeologist and project director at Desert Archaeology, Inc., in Tucson, Arizona. In addition to his extensive work in the American Southwest, Dr. Mabry has served as a consultant for the United States Agency for International Development and is the co-author of *Rapid Rural Appraisal of Moroccan Irrigation Systems: Methodological Lessons from the Pre-Sahara*, and editor of *Canals and Communities: Small Scale Irrigation Systems*.

Are you interested in reading more by this speaker? Check out:

**Archaeological Investigations at Early Village Sites in the Middle Santa Cruz Valley: Analyses & Synthesis**
By Jonathan B. Mabry
Paperback / Desert Archaeology Inc / November 1996

**Archaeological Investigations of Early Village Sites in the Middle Santa Cruz Valley**
By Jonathan B. Mabry
Paperback / January 1997

**Tucson at the Turn of the Century**
By Jonathan B. Mabry

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**AAHS MEETING TIME AND PLACE**
The Arizona Archaeological and Historical Society’s monthly meeting will be held on November 15, 2004 at 7:30 p.m. at Duval Auditorium, University Medical Center, 1501 North Campbell Avenue (north of Speedway). Free parking is available south of Mabel Street, across from the College of Nursing. The Front Entrance is on the top level of the parking structure. Duval Auditorium is on the 2nd level of the Hospital.
THE AAHS JULIAN D. HAYDEN
STUDENT PAPER COMPETITION

The Arizona Archaeological and Historical Society is pleased to announce the seventh annual Julian D. Hayden Student Paper Competition, named in honor of long-time AAHS luminary, Julian Dodge Hayden. The winning entry will receive a cash prize of $500 and publication of the paper in Kiva, The Journal of Southwestern Anthropology and History. The competition is open only to bona fide undergraduate and graduate students at any recognized college or university. Co-authored papers will be accepted only if all authors are students. Subject matter may include the anthropology, archaeology, history, linguistics, and ethnology of the American Southwest and northern Mexico, or any other topic appropriate for publication in Kiva.

Papers should be no more than 30 double-spaced, typewritten pages (approximately 8,000 words), including figures, tables, and references, and should conform to Kiva format. If the paper involves living human subjects, author should verify, in the paper or cover letter, that necessary permissions to publish have been obtained. Previous entries will not be considered, and all decisions of the judge are final. If no publishable papers are received, no award will be given. Judging criteria include, but are not limited to, quality of writing, degree of original research and use of original data, appropriateness of subject matter, and length.

Deadline for receipt of submissions is January 15, 2005. Late entries will not be accepted. Send four copies of the paper and proof of student status to: Julian D. Hayden Student Paper Competition, AAHS, Arizona State Museum, University of Arizona, Tucson, AZ 85721-0026.

For more information, contact Homer Thiel at <homer@desert.com> or log on to: <http://www.statemuseum.arizona.edu/aahs/hayden_comp.shtml>.

IN MEMORY OF BOB CONFORTI
by Jeffery Clark

Bob Conforti passed away in July after a long, courageous battle with cancer. Bob was one of those rare individuals who was both humble and gifted. Because he talked little of himself, I knew only two of his interests: archaeology and flamenco guitar. I am sure he had many more. I became acquainted with Bob because of his quiet, intense passion for archaeology. He expressed this passion through active volunteerism, spending weekend after weekend on projects that took him and his wife Valerie in his old silver pick-up to almost every nook and cranny of southern Arizona. For 15 years, Bob was a stalwart figure in Center for Desert Archaeology volunteer projects. In addition to this work, Bob served as treasurer for the Arizona Archaeological and Historical Society, and donated his time to Old Pueblo Archaeology, the Arizona State Museum, and the Arizona Site Steward program. Bob was dedicated, energetic, compassionate, and always a pleasure to work with. When I picture the ideal volunteer, I think of Bob. When I picture the perfect gentleman, I think of Bob. Coming from a contract archaeology background and accustomed to working with highly experienced (and paid) crews, I was initially skeptical of working with volunteers. Bob was one of the people responsible for my “attitude adjustment.” Bob’s truck was donated to the Center, and every day I pass by it, I remember him fondly. Sometimes I swear I see him in the driver’s seat ready to set off on a new adventure....
Recent excavations on the early to mid-seventeenth century industrial terrace at the Pueblo of Paa-ko (LA 162), in Bernalillo County, New Mexico, have recovered data suggesting that the early colonial population of Paa-ko experimented with a range of metallurgy technologies including the reduction of copper oxide and lead sulfide ores to produce copper and lead metals, the manufacture of sheet and cast copper artifacts, and the forging of iron artifacts. As one of the earliest and most intensive engagements in the technology of metallurgy known for the early colonial period in New Mexico, the excavations of the metallurgical facility at Paa-ko offer a unique opportunity to study technology transfer under Spanish colonialism. Research on this facility has sought to combine a program of archaeological excavation, materials analysis, and ethnohistoric research to develop an understanding of the ways in which traditional crafting practices were incorporated within the adoption and transformation of metallurgy technologies in the Spanish colonial frontier.

LA 162 is a large abode and masonry pueblo located on the east side of the Sandia Mountains associated with the historic place names of San Pedro and Paa-ko. The site has been extensively researched over the last century with an emphasis on chronological cross-dating, cultural historical correlations, occupational history and architectural reconstruction for its use as a State Monument in the 1950s. Previous excavations of the Pueblo have identified a continuity of occupation from the late sixteenth to mid seventeenth century. Paa-ko is also mentioned in Spanish documents as one of the pueblos occupied during the early colonial period, having been abandoned for residential purposes by the second half of the seventeenth century. Renewed excavations of the site began in 1996, initially as the Northwestern University Summer Archaeological Field Studies Program and subsequently as the University of Chicago Archaeological Field Studies Program, under the direction of Mark Lycett. This current project has sought to address the relationship between Spanish colonization and the historical transformation of Pueblo societies through the investigation of both intra- and inter-site spatial organization and settlement. One key aspect of this research has focused on the organization and practice of indigenous economic activities and their articulation with Spanish colonial economic and social networks.

Metal products were a key component of the material culture of Spanish colonialism, yet in the expansion of the colonial frontier, colonists often found themselves without the requisite materials or expertise to maintain and produce them. Much of this deficiency was compensated for through the appropriation of Native American skilled labor, metallurgical and mineralogical knowledge. Besides the employment of Native Americans as smiths, laborers, and prospectors, Native American construction and material processing technologies were often incorporated into the mining industry, producing what have been referred to as mestizo technologies, better suited to the environmental constraints imposed on mining activities in northern New Spain than technologies developed in Europe. Many of these technologies are known from the historical record, yet few...
examples of such syncretic practices have been recovered archaeologically. In general, little of the physical evidence for seventeenth century metallurgical practice in the New World has been analyzed archaeometrically despite the fact that the seventeenth century saw an explosion of new technologies and techniques applied to the abundant silver mines of New Spain and Colonial Peru. The analysis of the facility and metallurgical assemblage from LA 162 is providing much needed data towards an understanding of how such practices developed in frontier contexts.

The materials recovered from the facility include copper, iron and lead ores, slag, masses of copper and lead, and caches of copper and iron artifacts. The analysis seeks to determine the range of metallurgical practice present at the site through a program of materials analysis. This has involved the general mineral characterization of metal, slag, and vitrified materials through petrography and the analysis of polished sections utilizing optical microscopy, followed by chemical characterization techniques utilizing scanning electron microscopy, specifically, energy dispersive spectroscopy (EDS). The application of such analytical methods allow for the identification of minerals and element composition of metals and slag samples thereby contributing to an understanding of the raw materials, temperature, and atmospheric conditions involved in their processes of formation.

Insights generated from this analysis are being applied to social questions regarding the way in which knowledge of new materials and techniques were learned and taught in colonial frontier environments. The preliminary analysis of the LA 162 materials, made possible through AAHS funding, suggests a mixture of unsuccessful and successful attempts at the smelting of copper, possibly suggesting an experimental approach to the operation by individuals not expert in metallurgy. The analysis suggests that at least in one case, the employment of a smelting technology involving a high fuel-to-ore ratio and a forced draft system occurred. This may represent the introduction of a practice developed in relation to iron production, misapplied to the reduction of a copper ore. Other misapplications of metallurgical technology have been observed in similar, isolated, Spanish frontier contexts, indicating the incomplete knowledge and improvisational technique of practitioners.

A picture is beginning to emerge of the technology employed at LA 162 as containing components of European metallurgical traditions shaped by frontier economic relationships and Puebloan pyrotechnical knowledge. The high degree of experimentation and the range of products produced suggest both a desire to maintain access to metal goods by Spanish colonists and a malleability of the technology to include both local materials and Puebloan technological and economic practice. The majority of metallurgical materials recovered from the facility are related to copper production. Copper alloys were employed as precious metals in pre-Colonial New Spain, and many European colonial powers in general considered copper goods to be mediums for exchange with indigenous peoples. The metallurgy at LA 162 may be an attempt to establish similar exchange relationships in a region with a deep history of cross-cultural trade with the Plains.

Note: Author Noah Thomas is a Ph.D. candidate in the Department of Anthropology at the University of Arizona. His research was supported by an AAHS research grant in 2003.
AN HISTORIC PERIOD ARROWSHAFT SCRAPER
by Leon H. Lorentzen, M.A., Adjunct Curator of Archaeology
and Sandra L. Lynch, PhD, Curator of Anthropology
Sharlot Hall Museum, Prescott, Arizona

Abstract: While cataloging a buckskin leather arrow quiver, Sharlot Hall Museum researchers discovered a concealed metal object. While appearing to be a spare arrow point, the unusual shape and sharpening suggested it was used to shape arrow shafts to a uniform size.

In October 2002, when curators at the Sharlot Hall Museum, Prescott, Arizona, were inspecting an arrow quiver made of buckskin, a small piece of metal (Figure 1) was observed firmly wedged in an inside seam near the top of the quiver. The quiver was first recorded by the museum in 1973, but the metal artifact was not listed in the museum catalog. Apparently, it had been overlooked during the 1973 recording. Stylistically, the quiver compares favorably with Mason’s (1893:Plate LXXVII) description of an Apache arrow case (see also Ferg 1987:Figure 5.2). The museum did not have any information regarding the donor so the provenience of the quiver is unknown. Museum records indicate that seven arrows were disassociated from the quiver over the years, but that is all that is known about the quiver.

At first glance, the metal object, 53 mm long and 18 mm wide, appeared to be a projectile point (Figure 2). It was thought that it might have been an extra point that the owner had stored in the quiver.

Closer examination disclosed that the artifact did not have a sharp point and that

(Continued on page 8)
there was no tang nor notches for hafting. Because of the “V” shape on one end and the sharp edges of the “V”, it was thought that the object might be useful for shaping wood arrow shafts.

To test this hypothesis, a replica of the artifact was made from the blade of a broken trowel. This tool was used in combination with a piece of deer antler that had holes drilled through the antler to use as a gauge (Hamm 1989:98; Lorentzen 1993:26-28) to size an arrow shaft. The gauge could be moved down the shaft until it reached a point where the shaft was too large. By scraping with the tool, a thin shaving of wood could be removed from both sides of the shaft simultaneously, and, by rotating the shaft after each cutting stroke, the roundness of the shaft could be maintained. Experimental use of the tool to size several arrow shafts showed that a wooden shaft could be worked to a pre-determined size (7 mm) along the entire length very quickly.

**Conclusion:** The metal tool is very efficient for shaping arrow shafts to a uniform size and shape. Because it was stored in the quiver, it appears likely that this was the primary use of the artifact.

**REFERENCES CITED**


BAJA CAVE PAINTINGS - BURRO TREK
March 3 to March 12, 2005

In March of 2005, we are scheduling another visit to the magnificent cave paintings of Baja California. Travel in a group of 10 to 15 people by 15-passenger vans departing from and returning to Tucson. An INAH Custodian, experienced outfitters Cathy and Marshall Giesy of Fiesta Tours, the great archaeologist, Sharon Urban, and our crew of local muleteers and guides will accompany the group. Travel to Guaymas, Sonora, cross the colorful Sea of Cortez on the ferry to Santa Rosalia, drive to the remote San Francisco mountains in the center of the peninsula, and hike or ride mules out to visit distant caves of Cacarizo Canyon that few people have seen. Camp in the beautiful canyons and hike to a variety of spectacular sites that are scattered throughout the area. See some of the finest examples of cave paintings in the world! See Flechas and La Pintada, as well as the other famous caves such as Soledad, Musico, and Boca de San Julio. Visit the oasis town of San Ignacio. You will have an option to spend one day whale watching at Scammon’s Lagoon or to tour the salt mines of Guerrero Negro.

Part of the proceeds of your fee will be donated to the Archaeological Historical Society of Tucson. For more details and for the cost of the tour, please call Sharon Urban at 520/730 0563 or Fiesta Tours International at 520/398 9705.

ARIZONA STATE MUSEUM “BEHIND THE DISPLAYS” TOUR FOR OLD PUEBLO ARCHAEOLOGY CENTER MEMBERS
Thursdays, November 18, 2004, and January 20, 2005
9 to 11 a.m. each date

Old Pueblo Archaeology Center’s Archaeology Opportunities members are invited to attend an exclusive, free guided tour of the Arizona State Museum archaeological research collections areas “behind the displays,” that is, in areas of the Museum that are not normally open to the public. Old Pueblo members going on these tours will get to view rarely seen pottery, stone and shell artifacts, and perishable materials such as textiles, sandals, and wooden objects recovered from archaeological sites of the Hohokam, Puebloan, and earlier southwestern cultures. Each tour focuses on the Museum’s new Navajo textile exhibition and its famous “pot room.”

Attendance is limited to 20 people on each tour so advance reservations are required - call Old Pueblo at 520/798-1201 for reservations.

Becoming a member of OPAC opens up a world of new discoveries. Every membership is entitled to receive the OPAC bulletin (updates on Old Pueblo’s upcoming trips and programs) and a 20% discount on its publications, trips, and course fees.

Old Pueblo also encourages membership with the Arizona State Museum. For details, visit the ASM web site at <www.statemuseum.arizona.edu> or contact Darlene Lizarraga at 520-626-8381 or <darlene@al.arizona.edu>.
ASM Archives Joins AAO

The Arizona State Museum (ASM) Archives has joined Arizona Archives Online (AAO), a web-based index to descriptions of archival materials held at major institutions across the state.

AAO was created as a joint project among the University of Arizona, Arizona State University, and Northern Arizona University. Its goal is to make finding aids for archival collections located around the state accessible and searchable through a single web site. Since its creation, other institutions have joined including the Heard Museum and the UA's Center for Creative Photography. Researchers worldwide can now view and search all these archival collections through a single search engine at <http://aao.lib.asu.edu/index.html>.

The ASM Archives has listed several of its finding aids on the site. Each collection has its contents thoroughly described in biographical, historical, and scope notes. Additional information on what types of materials are in the collection and the access rights and institutional ownership are also noted. Collection detail is provided to the folder level. The ASM Library has also made it possible for researchers searching the library's online catalog (LARC) to link to the collections on AAO. LARC is accessible at <http://larc.asmua.arizona.edu>.

Alan Ferg, ASM archivist, Marly Helm, ASM assistant librarian, and Chrystal Carpenter Burke, library specialist, are working together on the project. Funding was provided by the Arizona State Library, Archives, and Public Records agency through the Library Services and Technology Act (LSTA).

For more information, contact Marly Helm at the ASM Library at 520/621-4695.

Friday, November 12, 2004

NATIVE EYES: An Evening of Film
7-9:30 p.m., Gallagher Theatre, UA Student Union
American Indian filmmakers are becoming a force in today's cinema. See films and meet directors and producers who are portraying the modern Native experience. ($3 ASM and GFR Center members, $6 general, students free)

Saturday, November 13, 2004

WRITING ACROSS GENERATIONS: A Workshop for Seniors and their Families
11:30 a.m. lunch, 12-2 p.m. workshop
Join Navajo writer Sherwin Bitsui for an engaging workshop about writing from personal experience. Be inspired by Native American objects, paintings, and music from ASM's collections. Limited to 24 participants. RSVP to ArtsReach at 520/798-3196 or <artsreach@qwest.net>. Co-sponsored by ArtsReach, ASM, and United Way. (free)

Saturday, November 13, 2004

CULTURE CRAFT SATURDAY: NAVAJO WEAVING!
1-4 p.m. (free!)
Navajo weavers Sierra and Michael Ornelas (Tucson) guide you in understanding how the weaver's surroundings and moods affect the creation of Navajo rugs. Create a collage piece that reflects your emotions. Watch master weaver Barbara Ornelas at work at her loom.

Fri. and Sat., November 19-20, 2004

AUTUMN LAGNIAPPE EVENTS
12-4 p.m. Friday, 10-4 p.m. Saturday – free
UA campus museums celebrate the changing season. This year's two-day series of events link together ASM, the University of Arizona Museum of Art, and the Center for Creative Photography with store sales, an invitational Native American art sale, gallery talks, and much more. A lagniappe (a special gift) awaits the first 200 visitors!
## AAHS MEMBERSHIP/SUBSCRIPTION APPLICATION

(A membership subscription makes a great holiday gift!)

**CATEGORIES OF MEMBERSHIP** – All members receive discounts on Society field trips and classes. Monthly meetings are free and open to the public.

- **$30 Glyphs** membership receives the Society’s monthly newsletter, *Glyphs*
- **$30 Student Kiva** membership receives both *Glyphs* and *Kiva*; **$15** receives *Glyphs*
- **$40 Kiva** membership receives all current benefits, including four issues of *Kiva*, 12 issues of *Glyphs*
- **$75 Contributing, $100 Supporting,** $250 Sponsoring, and **$1,000 Lifetime memberships** all receive *Glyphs* and *Kiva*, and all current benefits.

Outside U.S., add **$10.00**.

For Institutional membership, contact AltaMira Press at <www.altamirapress.com> or 800/273-2223.

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Visitors are welcome at all of the Society’s regular monthly meetings but are encouraged to become members in order to receive the Society’s publications and participate in its activities at discount rates.

Memberships and subscriptions run for one year beginning July 1 and ending June 30. Membership provides one volume (four numbered issues) of *Kiva*, the Journal of Southwestern Anthropology and History; 12 issues of the monthly newsletter *Glyphs*; member rates for Society field trips and other activities.

For a brochure, information or membership/subscription application forms, write to:

Robby Heckman, VP Membership
Arizona Archaeological and Historical Society
Arizona State Museum, University of Arizona
Tucson AZ 85721 USA

Subscriptions to *Kiva* for libraries and other institutions are now being handled by AltaMira Press. To obtain information on an institutional subscription to the journal, contact the publisher at <altamirapress.com> or 800/273-2223.
The objectives of the Arizona Archaeological and Historical Society are to encourage scholarly pursuits in areas of history and anthropology of the southwestern United States and northern Mexico; to encourage the preservation of archaeological and historical sites; to encourage the scientific and legal gathering of cultural information and materials; to publish the results of archaeological, historical, and ethnographic investigations; to aid in the functions and programs of the Arizona State Museum, University of Arizona; and to provide educational opportunities through lectures, field trips, and other activities.

See inside back cover for information about the Society’s programs and membership and subscription requirements.