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Newsletter

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**WHY WERE THE CORONADO EXPEDITIONARIES ENRAGED BY
WHAT THEY FOUND AT CÍBOLA IN 1540?**

Richard Flint and Shirley Cushing Flint

**7:30 PM, Tuesday, July 16, 2019
Albuquerque Museum of Art and History
2000 Mountain Road NW**

The Coronado expeditionaries were indeed so furious when they arrived at Cíbola in July 1540 that they threatened to murder their guide, Fray Marcos de Niza. To save Marcos from that fate, the expedition's young leader quickly sent him back to Mexico City with an armed bodyguard. But that did not assuage the expeditionaries' outrage. The reason was that Cíbola had turned out to be not at all what they expected it to be.

For months before the expedition had launched in late 1539, the talk had been about camels and elephants and yaks; and about silk, porcelain, spices, and dyes. By the time the expeditionaries left the Basin of Mexico heading west and north, they were sure of where they were headed: China or some other nearby land in East Asia. They had, after all, a standing invitation from the Great Khan!

This talk, and the book on which it is based, *A Most Splendid Company: The Coronado Expedition in Global Perspective*, spell out the seemingly compelling evidence upon which the expeditionaries' trust was based. And why almost everyone spent their own money to be a part of the expedition, the first and least risky of three projected routes by which to reach the Far East by an all-Spanish passage. The talk concludes with a brief summary of some of the other major themes from this 15-year book project.

After nearly forty years of research and publication on the Coronado expedition into northwest Mexico and the American Southwest and related subjects, Richard Flint and Shirley Cushing Flint are widely recognized as leading authorities on the expedition and its context and aftermath. Beginning in 1980 from curiosity over an old footnote, the Flints have followed a whole series of resulting questions to dozens of archives in Spain, Mexico, and elsewhere, as well as to archaeological sites in Mexico, Arizona, New Mexico, Texas, and Kansas. They have immersed themselves in the language, culture, and thought of Early Modern Spain and early colonial Mexico. That immersion has recently culminated in the publication of the major new book on the Coronado expedition, *A Most Splendid Company: The Coronado Expedition in Global Perspective*.

The Flints live in Albuquerque and are Research Associates at both the Latin American and Iberian Institute at the University of New Mexico and Archaeology Southwest in Tucson. They are also happy to claim Sevilla, Spain, as their *segunda patria*. Their award-winning publications include *Documents of the Coronado Expedition, 1539-1542*; *Great Cruelties Have Been Reported: The 1544 Investigation of the Coronado Expedition*; *No Settlement, No Conquest: A History of the Coronado Entrada*; and *No Mere Shadows: Faces of Widowhood in Early Colonial Mexico*, as well as dozens of chapters and journal articles.

Reminder: No meeting and no Newsletter in August

MINUTES OF THE ALBUQUERQUE ARCHAEOLOGICAL SOCIETY

June 25, 2019

Vice President Gretchen Obenauf convened the meeting at 7:35 pm. President Evan Kay is in the field and unable to attend. There were two visitors and no new members. Everyone was invited to refreshments brought by Earlene Shroyer and Ann and Cindy Carson following the meeting

Minutes: As there were no corrections or additions to the minutes of the May 21 meeting, they stand approved as published.

REPORTS

Vice Presidents – Gretchen Obenauf has a speaker for the July meeting to replace a previously scheduled speaker who had to cancel because of illness.

Treasurer – Tom Obenauf is looking for a bank with better CD interest rates than those at Bank of the West.

Membership – Mary Raje: Membership is 160. Thatcher Rogers will work with Mary to make the Membership Directory print-ready. Mary is working on a tri-fold brochure for AAS, with assistance from Kym Campbell and looking for high-resolution photos to illustrate the brochure. Please contact her through info@abqarchaeology.org if you have some that might be appropriate.

Laboratory: In the absence of Karen Armstrong, Ginger Foster reported that the laboratory crew will be back working on July 10.

Rock Art – John Richardson: The team went out to record a site near Cuba, where old field notes had not represented the full extent of the rock art on the panels. One of the crew members was affected by the heat, and the team will wait until it's cooler in mid- to late-September to continue their work. Cynthia Herhahn, BLM State Archaeologist, who was a visitor at the meeting, thanked the AAS crew for the care, passion, and accuracy they bring to their work. John asked members who encounter rock art while hiking in New Mexico to take a photo of the art, a photo of the setting, and a GPS reading to report to the crew.

Field Trips – Pat Harris: The ethnobotanical seminar was a big success. There may be the opportunity to take the group on a tour of the Santa Fe Botanical Garden to see some of these species. There's a signup on the table after the meeting to gauge interest. Pat has secured the leader and date for the trip to Sites TA 70 and 71, at Los Alamos National Laboratory.

Pottery Southwest – Gretchen Obenauf: They are working on the summer issue.

Seminars – On August 17, Hayward Franklin will repeat his seminar on Rio Grande glazewares. Sign up tonight following the meeting.

Newsletter – Helen Crotty: AAS has an ongoing arrangement with University of Arizona Press to publish reviews of their new books. The reviewer gets to keep the book. If anyone is interested, let her know.

ANNOUNCEMENTS

Earlene Shroyer: Representatives of the Archaeological Society of New Mexico will be out in the lobby following the meeting with membership applications and copies of the annual volume of collected papers that is a benefit of membership.

SPEAKER

Ann Braswell introduced the evening's speaker, Klinton Burgio-Ericson, who spoke on "Plainly Read, Like a Book: Situating the Hendricks-Hodge Archaeological Expedition to Hawikku Pueblo, 1915-1923." A synopsis was not available at press time but is promised for the next issue of the Newsletter.

Respectfully submitted by Susan King, Secretary.

CERAMICS SEMINAR AUGUST 17 TO THE HIBBEN CENTER

Hayward Franklin will repeat the half-day (9 to noon) pottery seminar first offered nearly two years ago. It is designed as a brief overview of the prehistoric pottery of the Albuquerque area. Major ceramic types in the Middle Rio Grande district between about Isleta to Santa Fe will be discussed and illustrated. Specimens of the most common of these types will be available for hands-on examination. The presentation is geared to the needs of members of SiteWatch and members of the Albuquerque Archaeological Society. Given the non-collection policies in effect today, reasonably accurate identification of ceramic types in the field is essential to site recording and to general appreciation of the cultural resources of our past. The seminar is open to current members of AAS. Signup will begin at the July meeting. People who missed it the first time around will be given preference, but repeat attendees are also welcome. Seminars are free and for current AAS members only. Maximum 20.

AUGUST AND SEPTEMBER FIELD TRIPS

Field Trip Chair Pat Harris reports that after a show of interest at the June meeting, an August field trip – date still pending – is planned to the Santa Fe Botanical Garden to view some of the species covered in the ethnobotanical seminar. Those who signed up will be notified of the date. Signup was filled at the June meeting for the September 21 field trip to the Los Alamos National Laboratory sites TA70-71, but a wait list signup will be available at the July meeting.

MEMBERSHIP DIRECTORY NEWS

Membership Chair Mary Raje announces that the 2019-2020 Membership Directory is ready for distribution. It will be emailed to the members who receive Newsletters electronically. AAS members who receive the Newsletter by mail may request a print copy from Mary contacting her at the meeting or through the AAS website info@abqarchaeology.org or by mail at PO Box 4029, Albuquerque, NM 87196.

CORRECTION TO THE MINUTES OF THE AAS MAY BOARD MEETING

The minutes of the AAS Board meeting of May 22 were mistakenly published before they had been approved by the Board. John Guth pointed out that the acronym ARMS stands for the Archaeological Records Management Section [of the New Mexico Historic Preservation Division], not the Archaeological Resource Management System. The error was not Secretary Susan King's, but the Newsletter editor's.

John provided the following explanation of the proposed project: “The Boards of the Albuquerque Archaeological Society and Archaeological Society of New Mexico have recently discussed the desire to create an inventory of New Mexico rock art sites registered at ARMS in Santa Fe. We are interested in creating an overview of New Mexico rock art for use by members of the ASNMM Affiliates, researchers, students and the government agencies and institutions we work with. An initial query of the New Mexico Cultural Resource Information System (NMCRIS) database will be performed by ARMS soon. Then we will review the resultant data to understand the amount of state-wide registered rock art and completeness of the data, which will enable us to plan how to carry out any necessary data improvements. The AAS and ASNMM Boards have approved funding for interns if needed to perform any necessary record examinations and database updates at ARMS. Initial funding will come from ASNMM, which has about \$3600 available from funds remaining in the ASNMM Rock Art Field School account and from donations in memory of Jay Crotty, who directed the field school from 1987 to 1995, when it ended.”

BOOK REVIEW

Seventeenth-Century Metallurgy on the Spanish Colonial Frontier: Pueblo and Spanish Interactions by Noah H. Thomas, 2018. 107 pp., tables, figures, plates. *Anthropological Papers of the University of Arizona* 79. Tucson, \$19.95 (paper 9780816538584) or (Ebook 9780816539123).

Reviewed by Ann F. Ramenofsky

Between 1996 and 2005, Mark Lycett directed The University of Chicago Field Studies at Paa-ko Pueblo, LA 162. A key focus of that work was extensive excavation and documentation of a metallurgical facility first identified by Nels Nelson's field investigations in 1914–1915. Noah Thomas, then a graduate student at University of Arizona, became the archaeometallurgist of the project. Although shorter publications of Thomas's discoveries have appeared, this publication, based on his 2008 dissertation, is the first in-depth description, analysis, and interpretation of the metallurgical results of that research. Given the paucity of archaeological knowledge of early colonial metallurgy in New Mexico as well as the debates surrounding the nature of native labor in Spanish mining, this addition to our knowledge base and to the archaeological corpus of Paa-ko is welcomed.

The book is divided into eight chapters. Chapter 1 is an overview of the research. The workshop dates to the mid-seventeenth century, and copper predominated as metal and slag. Thomas's goals are to reconstruct the metallurgical processes of the facility, to understand the political, social, and economic contexts, and to identify values systems of both Spaniards and Puebloans. Unlike San Marcos or the Palace of the Governors, there are no historical references to smelting at Paa-ko. Instead, Thomas uses Mexican mining history, and for native Mexican input, he relies on historical knowledge of Mexican Indian metallurgists. Puebloan ethnohistory and ethnography come into the equation to describe Puebloan technological choice and agency.

As presented in Chapters 2 and 3, the construction of value is a crucial linchpin in this study. The physical structure of the metallurgical facility is a technological construction of value. But value is also more abstract, in the sense of identity: value accrues to the individual who smelts an ore, who ships it to market, or who acquires metallic material through exchange. And certainly, there were conflicts between the Spanish and Puebloan sets of metal values that Thomas believes were resolved in the process of smelting at Paa-ko. Spaniards wanted profit. To acquire it, they interrupted long-established Puebloan trade networks to gain metallic minerals, and they used Pueblo labor (perhaps as *encomienda*) to process and extract metal. Although Puebloans were not metallurgists prior to Spanish contact, they knew some properties of metal and imbued metallic mineral pigments of particular colors with ritual significance. Exchange was the mechanism by which pigments, not ritual objects, were acquired, and the use of those pigments in ritual production identified the owner's place in individual and collective social hierarchies.

Chapters 4 and 5 cover historical topics. First, Thomas summarizes the history of early colonial Spanish mining structures in Zacatecas and Parral, as some early colonial Spanish miners came from these two centers. He then outlines Spanish mining exploration and establishment in sixteenth- and seventeenth-century New Mexico.

Chapter 5 reviews the history of archaeological research at Paa-ko that began with Bandelier's visitation in the late nineteenth century and continued through Nels Nelson, Marjorie Lambert, and most recently, Mark Lycett. Nelson and Lambert identified two occupations at Paa-ko, the latter of which is considered sixteenth or seventeenth century. The ethnic affiliation of the later immigrants is not known but is thought to have been Puebloan. Thomas accepts this baseline knowledge and ties the temporal use of the metallurgical facility to this occupation. He also describes the locations of the various structures (roomblocks, plazas, etc.), but the included partial site plan fails to flesh out the overall configuration of the site. This is most unfortunate: it not only contrasts to the detailed plan maps of the metallurgical features presented in Chapter 6, but also leaves readers unfamiliar with Paa-ko no understanding of the site geography. The last part of the chapter presents Lycett's 12 radiocarbon dates. In my reading, eight estimates fall in the mid-seventeenth century. Thomas thinks there are nine reliable dates.

Chapters 6 and 7 are the strongest in the book. Chapter 6 summarizes the archaeology of the metallurgical facility with detailed plan maps. This area of approximately 165 m² was divided into two terraces because a disturbance trench had bisected the facility. Reconstructing metal production in the absence of history is difficult. Ores and metal byproducts can be highly variable, complicating identification of mining goals. Additionally, metal production is messy and labor-intensive. It begins with ore acquisition and preparation and ends with the cleaning, refurbishing, and modifying of existing furnaces or building new ones. These processes are well documented at Paa-ko, suggesting that the entire area had a varied and extensive use history. Feature architecture varied by terrace. The east side was characterized by trench furnaces with ventilation systems similar to kivas, and the west side by basin features. Radiocarbon dates suggested that smelting began on the western side: greater debris accumulations and number of surfaces pointed to this area as more intensively used and reused. Slag, vitrified and

burnt adobe, lead glass, sheet copper, copper slag, and a copper-iron alloy were recovered from both terraces. The metallurgists used diverse techniques for extracting metal and assaying ores, including roasting ore, smelting copper and lead ores, and refining metal through cupellation (although no cupules were found), and iron foraging.

Chapter 7 is the materials analysis and source identification of metal. Of 340 prepared thin sections or thick epoxy mounts, Thomas analyzed 24 in reflective light SEM-EDS (Scanning Electron Microscopy with Energy Dispersive X-Ray Spectroscopy) and XRF (micro-X-Ray Fluorescence). Types of samples included copper and lead slag, copper and lead ore, and refractory (furnace) materials. Many of the descriptions match the microphotographic plates. Finally, Alyson Thibodeau analyzed samples using MC-ICP-MS (Multicollector-Inductively Coupled Plasma Mass Spectrometry) to identify geological sources of the ores.

In general, Thomas finds that both oxidizing and reducing atmospheres were employed to smelt copper and lead ores. He argues that Spaniards were attempting to recover gold and silver from these ores. Some gold or silver peaks were identified in slags, but no gold or silver metal was recovered. Instead, the presence of litharge and lead glass suggested that cupellation was used to extract silver from a silver-lead ore. Similarly, sulfur was used in cupellation to extract gold from copper-gold ore. Although no lead metal was recovered, 109 copper pieces that were cold- and hot-irihammered into small decorative objects were recovered. Lead and copper isotope ratios suggested that the two ores were of local origin. Because the sample ratios fell outside the ranges of Cerrillos Hills ores, Thomas infers that the New Placers mining district was the source; it is the geographically closest to Paa-ko. Although this inference is logical, chemical characterization of New Placers ores has not been established.

In Chapter 8, Thomas returns to his concept of value and works to integrate different value sets of Spaniards and Puebloans. Pueblo labor was essential to the metallurgical venture, and, despite the changes ushered in by Spaniards, Puebloans likely found new value in the production and forming of copper sheet metal. It established a local form of value for the Puebloans. Spaniards, on the other hand, found value in the extraction of gold and silver. In essence, in the process of assaying, smelting, and extraction, conflicts between value systems were resolved.

This monograph has much to recommend it. Nonetheless, I have suggestions and concerns. First, for the uninitiated, an appendix with metallurgical definitions would have been helpful. Also, greater effort should have been expended to update recent early colonial metallurgy in New Mexico. Specifically missing is David Vaughan's 2017 publication¹ that, like Thomas's work, considers Pueblo-Spanish interaction in the context of seventeenth-century metallurgy. Vaughan and Thomas were doing dissertation research at the same time. Where Thomas focused on Paa-ko, Vaughan began with evidence of San Marcos metallurgy, but expanded his analysis to a regional perspective, examining history, archaeology, and metallurgical materials from multiple locations. Some facilities were in pueblos, others not. Although both researchers identified the same metal suites in all locations, their conclusions differ. Vaughan thinks the metallurgy served utilitarian purposes in this remote colony. Thomas attributes ritual value of metal to Puebloans and profit for Spaniards. Are both interpretations correct? They could be, of course, but without further excavation and analysis we simply don't know.

I also have concerns regarding the dating of the metallurgical facility. Although I think some part of the facility was used in the seventeenth century, I see no reason why use could not have continued into the eighteenth century. There is abundant evidence of reuse of the metallurgical terraces, and the University of Chicago team found evidence of eighteenth-century use of Paa-ko. Why would smelting cease if Spaniards were recovering gold and silver? And what about Lycett's 12 radiocarbon dates? Are they reliable? Late-period radiocarbon dates are subject to error because of the increased accumulation of atmospheric carbon; the range of the Paa-ko estimates suggests this possibility. Independent age assessments could have improved confidence in the age estimates, and cross-dated glaze-paint ceramics could have served this purpose. Unfortunately, there are no tables that list counts and percentages of any ceramics recovered from the University of Chicago excavations. And finding a few Glaze F fragments in the fill of the facility does not mean that the entire facility is of that age. Lambert's 1954 publication of the South House found that Glaze F pottery predominated but, without more comparative information, we can't know whether this is true for the metallurgical facility.

Archaeological research is changing historical understanding of metallurgy in New Mexico. Spanish-driven metal production in New Mexico began before the Pueblo Revolt, not in the eighteenth century as traditionally assumed. As demonstrated at Paa-ko and other locations, Pueblo peoples became active participants in the Spanish-driven

metal enterprise, but the nature of their labor, whether enslaved, forced, or free, remains ambiguous. Perhaps labor policies changed over time, or varied by location. Although smelting technology varied, the metals extracted, including lead, copper, and iron, were consistent across sites. In the end, then, Thomas' publication is a beginning, pushing us to explore more deeply this significant topic.

¹Vaughan, C. David, 2017. Metallurgy and its Consequences in the New Mexico Colony, In *The Archaeology and History of Pueblo San Marcos*, edited by Ann F. Ramenofsky and Kari L. Schleher, pp. 185-204. University of New Mexico Press, Albuquerque.

CALENDAR CHECK

Conferences

Pecos Conference August 8–11 in Cloudcroft, New Mexico. Online registration and more information available on the conference website <pecosconference.org> and updates will be posted as they are available.

Southwest Kiln Conference October 4-6 at the Gila Pueblo, Besh Ba Gowah, and the Timber Camp Recreation Area of the Tonto National Forest, Globe, Arizona. Further information and registration at the website swkiln.com.

21st Biennial Jornada Mogollon Conference October 11–12 at the El Paso Museum of Archaeology in El Paso, Texas. Abstracts are due by August 31. Contact George Maloof at MaloofGO@elpasotexas.gov.

New Mexico Archeological Council Fall Conference “Collaborative Archaeology, Indigenous Archaeology, and Tribal Historic Preservation in the Southwestern United States” November 9 at the Hibben Center on the UNM campus.

ALBUQUERQUE ARCHAEOLOGICAL SOCIETY

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To contact officers or committee chairs, or to change mailing or email address, email info@abqarchaeology.org or consult Membership Directory. Current members can sign up for field trips at meetings or by emailing trips@abqarchaeology.org.

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