



ALBUQUERQUE ARCHAEOLOGICAL SOCIETY

Post Office Box 4029
Albuquerque, New Mexico 87196

Newsletter

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January, 1992

CHACOAN COSMOLOGY AND THE ROAD SYSTEM

by Michael Marshall

Tuesday, January 21, 1992, at 7:30 p.m.

Albuquerque Museum, 2000 Mountain Rd. N.W., Old Town

Fifteen years of archaeological research in the Chaco area have led to Mike Marshall's current perspectives on interpreting Chaco roads. He attempts to view the archaeological information in conjunction with the physical characteristics of Chaco and with ethnographic information.

Mike is a well-known Southwest archaeologist, professionally known as Cibola Research Consultants. He has recently been studying (when he can take the time) the Spanish colonial road system known as the Camino Real.

COMING EVENTS

LAB Wednesday evenings, 7:30-9:30, and most Saturdays, 9:30-5:00, at the Old Airport Building at the south end of Yale Blvd.

MAXWELL MUSEUM January 25. 11 a.m. - 3 p.m. Plains Indian Arts and Crafts Demonstration, Sharon Zotigh-Howell.

January 28. 7:30 p.m. People of the Southwest Lecture: "The Archaeological Survey of Bandelier National Monument," Robert Powers, Archaeologist, NPS, Southwestern Region, Santa Fe. \$2.00/\$1.00 MMA members.

Have you paid your 1992 dues yet? If not, please send your check pronto to P.O. Box 4029, Albuquerque, NM 87196.

Albuquerque Archaeological Society

Minutes, December 17, 1991

President Ann Carson called the meeting to order; the minutes of the previous meeting were approved as printed. Our guests included volunteers from the Friends of Tijeras Pueblo. Librarian Mari King didn't bring any books, but invited members to visit the AAS library at the lab.

NEW BUSINESS Ann reported that an ad hoc committee of the city/county planning board is working on a plan for archaeological and historic preservation. One possibility is offering incentives for preservation of buildings. Carol Condie, Kit Sargeant, and Ann Carson are serving on the committee.

Joan Mathien said that the year 2000 will be the centennial year for the Archaeological Society of New Mexico, and plans for special recognition of the date are underway. Probably the annual volume will honor the centennial and contain histories of the local societies. The annual meeting will be held in Santa Fe that year. Oral histories of workers in all corners of the state are being recorded through local societies in those areas. Nancy Olson has written up the history of the first 25 years of the Albuquerque Society. Two members of AAS are needed to serve on a committee to evaluate ideas. (Not a crash program -- we have eight years.)

Alan Shalette asked about ads he'd seen for 12% bonds for the acquisition of land for the Petroglyph National Monument being offered by the Atrisco Land Grant/Westland Corp. Jim Carson said that they are supposedly guaranteed by money to

come from the National Park Service.

Helen Crotty asked for help for a friend in San Francisco, a graduate student in biochemistry, who wants to do a DNA study on the Indian population. The DNA in hair clippings would be used for possibly tracing immigration paths. The student needs an entree to Indians. Jean Brody offered to help.

The election tellers announced that the ballots were almost unanimous for the proposed slate. Two people voted to retain Ann Carson as president, but of course our by-laws prevent her from serving any longer. She received expressions of thanks for her fine work as president.

Faith Bouchard asked members of the society to sign a petition to UNM asking that the second half of Dave Stuart's course on Southwestern prehistory be offered in the spring semester. Although 62 students enrolled for the first semester, the university did not want to continue the course.

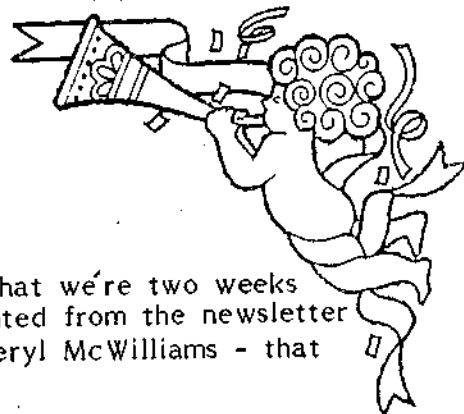
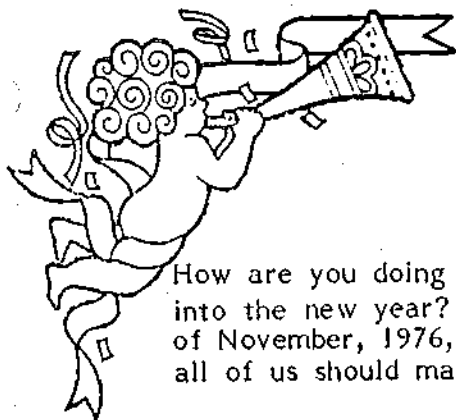
After the program, presented by six of our members, we adjourned for a feast, also provided by our members.

Dolores Sundt, secretary pro tem

CROTTYS HONORED FOR ROCK ART WORK

Jay and Helen Crotty were honored recently by the State of New Mexico for their work recording the rock art at Three Rivers Petroglyph National Recreation site. The New Mexico Cultural Properties Review Committee and the Historic Preservation Division selected Jay and Helen for an annual award given to an outstanding person or persons, whose work contributes highly to New Mexico's cultural heritage.

Further, on April 20, 1991, New Mexico Volunteer Appreciation Day, Jay Crotty was given a Certificate of Appreciation for his valuable contribution to the BLM volunteer program. Congratulations to them both! They deserve the honor.



How are you doing on your New Year's resolutions now that we're two weeks into the new year? Here is a list of resolutions - reprinted from the newsletter of November, 1976, and showing the fine Irish hand of Beryl McWilliams - that all of us should make and keep.

AN AMATEUR ARCHAEOLOGIST'S CREED

Albuquerque Archaeological Society is a non-profit corporation chartered in 1966 under the laws of New Mexico. Its objectives as set out in the Articles of Incorporation are:

- To preserve and protect prehistoric and historic remains.
- To further the education of the public in archaeology and ethnology.
- To conduct archaeological surveys, studies and excavations.
- To publish data and findings obtained from research and excavations.
- To cooperate with public and scientific institutions for these purposes.

As a member of the Albuquerque Archaeological Society

- I agree to be bound by the Articles of Incorporation and the by-laws of the society.
- I will pay my dues timely.
- I will contribute my capabilities and services to the furtherance of the objectives of the society.
- I will study, read and learn.
- I will follow acceptable archaeological procedures in field and laboratory work.
- I will not "pot hunt."
- I will not accept any pecuniary gain for services performed as a member of the Albuquerque Archaeological Society.
- I reserve the right to disagree on any matter I feel is contrary to the objectives of the society and its by-laws.
- I will attend as many meetings as possible, and participate in the activities of the society, field and lab and otherwise.
- I will enjoy my association with the other members of the society and do my part in amicable relationships.
- I will have fun.

ALL IN FAVOR, SAY "AYE"



PROGRAM: EXPERIENCES OF OUR MEMBERS

As usual, our members have traveled far and wide and have gladly shared some of their travel experiences with us. The evening's program started close to home, moved to far continents, and ended close to home again.

TOM MORALES told about his doctoral dissertation survey work at Tonque Pueblo, just north of Albuquerque. There is considerable evidence that a lot of Rio Grande glaze pottery was produced at Tonque and that it was the center for large-scale distribution in proto-historic times. Shepard and Warren found that sherds from the upper Rio Grande valley originated at Tonque. But no firing locations had been noted during the excavations of Tonque; those excavations were all done on room blocks. Tom's objective was to locate work areas and firing areas. Waster sherds, sherd dumps, and ash are evidence of firing areas. His strategy did not include collecting sherds because there are already large collections, he didn't want to have to record and store them, and he would more likely get the approval of the landowner. In his Stratified Random Unaligned Sampling project, he surveyed 1% of an area as large as 24 football fields. A higher percentage would mean greater accuracy, but his limited resources prevented it. Several AAS people helped Tom with his survey.

BARBARA FRAMES showed slides of a one-day San Juan River trip she and Robin took from Bluff to Mexican Hat. The geology and rock art of the cliffs were featured. Kokopelli was there and many kinds of animals. There were some very large human figures, some made even larger by headdresses.

HELEN AND JAY CROTTY showed slides of the Grapevine Springs rock art site near Las Vegas, Nevada, which they had seen last year during the ARARA meeting. The site is close to Las Vegas and has been extensively vandalized. The local archaeological society keeps trying to remove graffiti. Some of the pictures were upside down, and they realized that these had been made by someone leaning over the top of the slope. Several time periods are represented at the site. Desert archaic of the Great Basin account for most, mountain goats for example, but there are more recent representations also, such as a cowboy in hat and boots.

CHERRY BURNS told about her trip to Indonesia, where, she said, she spent her time "going to funerals of strangers." In the islands of Indonesia, there are 300 ethnic groups and all major religions. In Bali, which is Hindu, she witnessed a cremation, accompanied by a festival, peddlers, and tourists by the busload. The coffin was in the shape of a bull, three times lifesize. The cremation tower also was carried to the final site accompanied by music and little temple dancers. At each crossroad the tower was turned around to confuse demons. War buddies of the deceased gave talks honoring him before the fire was lighted.

In Celebes island, the Christian faith is joined with animism. Science says these people came to the Celebes by boat; their myth says they came from the sky. They decorate their houses with water buffalo horns; more horns indicate more wealth. Here people have two funerals, one right after death and another expensive ceremony and feast later. Cherry saw the preparations for the second funeral of a poor man at which several animals were killed for the feast. At one place there are many burial caves all up the side of a tall cliff. In the caves are lifesize wooden effigies, clothed, which seem to represent actual people. Are they perhaps for protection from evil spirits?

WALTER KLEWENO showed slides of mesolithic petroglyphs - 10,000 to 8,000 BC - in the Kubistan area of Azerbaijan. Thirty percent of the oil of the USSR comes from this area, and it has been in the oil business for centuries. Marco Polo described temples of Zoroaster containing perpetual fire in this region, built over gas leaks, no doubt. Some

of the petroglyphs are elongated human forms. The males very strong-bodied, wearing kilts and carrying bow and arrows. The female forms all breast and hips. There were also goats that looked just like the desert archaic goats that Helen and Jay showed, and there were bulls that looked like those in European cave paintings.

JERRY AND JEAN BRODY described their visit to the many Mayan sites in Belize. At the beginning of their tour they were greeted by howler monkeys in a sanctuary. At the Lamanai ruin of the Classic period the pyramid is decorated with stucco, including a head 12 ft. high. The pyramid at Xunantunich, near the Guatemala border, is one of the highest. The site includes a ball court. The government is trying to restore the stucco frieze on the pyramid. Other sites they visited included Santa Rita, once an enormous town but now almost nothing, and Altun Ha, the largest and best known pyramid of Belize.

After the talks, we were treated to displays and demonstrations of pueblo life and crafts by some of the TIJERAS PUEBLO VOLUNTEERS. They had displays of resources and demonstrated flint knapping, pottery making, paint preparation, and preparation of natural fibers.

LOOKING BACK AT 1991

A few kind of bad things happened to the Albuquerque Archaeological Society in 1991, but if nothing worse ever happens, we'll get along just fine. We had to raise our dues 60% to pay rent on the meeting room at the Museum - but our dues are still pretty cheap. A field trip had to be cancelled because of bad weather - but it will be re-scheduled in the spring. One time we were locked out of our meeting room because of a scheduling mix-up - but we were allowed in just in time for the lecture, and anyway, it was a perfectly beautiful night for sitting out on the steps.

Lots more good things happened. Five of our charter members - Dick and Kitty Renwick, Dick Bice, first president Doug Fischer, and Nan Bain - were with us as we started the year by celebrating our 25th anniversary with cake and lots of laughs. We did have field trips, planned by our capable "travel agent," Faith Bouchard. Maxwell docent Jean Brody took us on a guided tour of the Maxwell Museum's new Southwest exhibit. We experienced a hands-on demonstration at Tijeras Pueblo during Heritage Week, under the direction of Karen Castioni. Some others of our members assisted also. Alan Shalette headed the bus trip to the rug auction at Crownpoint in October.

Eleven of our members spent a week-

end at Kwastiyukwa Ruin mapping and doing rock art survey. Half a dozen of our members spoke at various archaeological conferences, and another half a dozen, at least, were leaders at field schools.

Ann Carson and her committee designed an attractive brochure advertising AAS. If you'd like to have one sent to a prospective member, contact our secretary.

Not much except a listing of working hours has been mentioned in the newsletter about work at the lab, but a large number of people have been busy on many projects there this year. So much has been going on that we have a separate article about it.

And, as usual, we had excellent lectures at our meetings. The subjects ranged in area from the history of our own Albuquerque Archaeological Society through North America, South America, Europe, and Asia. Other subjects included repatriation, early agriculture, and disease introduction in the European contact period.

Here's to an even better 1992. If there are activities you'd like the society to do, speak to our new president, Carol Condie. She'll welcome your suggestions.

The AAS Laboratory in 1991

A number of activities have continued in the AAS laboratory during the year just ended. These have covered the spectrum from the curation of collections through computer spread sheets to the issuance of three different periodic publication.

Curation Activities

- The collection of provenienced artifacts excavated at Tunge Pueblo by the Renwicks largely in the 1960's, and given to the Society a few years ago, is being curated under the supervision of Tom Morales and used by him as part of his dissertation at the University of New Mexico. Helping him in this work are Faith Bouchard, Beverly Engelbrecht and Janet Pomey.
- The AS-10 Project of the Society, carried out in the late 1980's, was an emergency salvage project on a developer's land next to the Tijeras Pueblo. Volunteers from the Tijeras Ranger Station, many of whom are also members of the AAS are in the process of washing and marking the artifacts recovered during the excavations. Karen Castioni has led the team composed of Kim Berget, Barbara Bush, Jim Bieberman, M. L. Johnson, Lori Jansen and others.
- The Laboratory has several collections of "orphan sherds" the provenience of which is generally, but no specifically known. These were donated to the AAS in past years, occasionally having been left on the doorstep as true orphans. Their value is that of providing a source of sherds to demonstrate certain pottery types and their variations. Nancy Olsen has been using some of these sherds to develop a "type collection" of Rio Grande Glaze Ware for the Lab's pottery files.
- Society Project AS-7 was the salvage of material from a downtown dump (ca 1880-1890) during construction of the underground parking structure that is now the Albuquerque Civic Center. Portions of the collection have been on display from time-to-time at the Albuquerque Museum, but curation is an on-going project that Phyllis Davis and, in particular, Ann Carson have been carrying out.

Report Preparation

- Society Project AS-6 is a small Pueblo III site, with a earlier pithouse component, excavated by the Society on the Fischer Ranch near Quemado. The processing and analysis work, under way for a number of years, is nearly complete and report writing is underway. Bettie Terry has taken the lead during the lab and study phase of the program, aided by Marie King, Barbara Munzer, and Dick Bice. It is hoped that 1992 will see the completion of a comprehensive report.
- Society Project AS-8 encompassed the excavation of a small PIII pueblo south of San Ysidro. It too has been active in

the Laboratory for several years and its processing is well along. Phyllis Davis and Dick Bice have used it to model the development for computer analysis techniques. Wally Cates has been of much assistance. The report should be ready for publication in 1992.

Other Laboratory Activities

- The Society Library is located in the Lab. Marie King, as the Librarian, has been building the collection of books and papers. The carpentry ability of Dudley King has been demonstrated in the construction of new shelves as needed.

- The AAS monthly Newsletter, edited by Dolores Sundt, is printed, collated and mailed from the Lab. Dick Bice prints it on the old Addressograph-Multigraph machine and Bettie Terry collates it on a small device. It is stapled and folded by Marie King with the help of the lab crew and other volunteers including Jack Terry, Elvira York, Betty and William McConnell. Phyllis Davis provides the mailing labels from the computer, and Dudley King, having acted as the custodian of the overall membership list, mails the newsletter at the post office.

- The Lab is also the publication center for the Archaeological Society of New Mexico AWANYU newsletter, for which Nancy and Karl Olsen are editors and the ASNM President, Dudley King is an advisor. In addition, the AAS sponsored Pottery Southwest quarterly is published in the Lab, for which Wolky Toll, Dick Bice, Phyllis Davis and Dolores Sundt play publication and mailing roles.

- The staff of the annual ASNM Field School at Gallup, NM have used the Lab on occasion for the processing of Vidal Site artifacts and for Crew Chief meetings. Those involved include Betty Kelley, Sheila Brewer, Gordon Page, Bettie Terry, Phyllis Davis, Ralph Thode, Dick Bice and Joan Wilkes.

- The AAS Board of Directors met several times in the Laboratory during the year. Attendees included Ann Carson, Dolores Sundt, Betty Garrett, Joan Mathien, Dick Bice, Karen Castioni and Jean Brody.

by Dick Bice, Chairman of the Lab Committee

The ALBUQUERQUE ARCHAEOLOGICAL SOCIETY is a non-profit corporation organized under the laws of New Mexico. Its purposes are (1) to preserve and protect prehistoric and historic remains in this region; (2) to educate members and the public in archaeological and ethnological fields; (3) to conduct archaeological studies, research, surveys, and excavations; (4) to publish data obtained from research studies and excavations; and (5) to cooperate with other scientific institutions.

OFFICERS AND DIRECTORS

CAROL CONDIE, President
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FAITH BOUCHARD, Secretary
ARLETTE MILLER, Treasurer
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ANN CARSON, Past President

STANDING COMMITTEES

FIELD-AND- LABORATORY	Richard Bice	296-6303
PHOTOGRAPHY	(open)	000-0000
FIELD TRIPS	Faith Bouchard	293-7962
MEMBERSHIP	Dudley King	299-0043

SPECIAL COMMITTEES

PRINTERS	Richard Bice, William Perret
LIBRARIAN	Mari King
PUBLICATION SALES	Phyllis Davis
NEWSLETTER EDITOR	Dolores Sundt, 6207 Mossman Pl. NE, Albuquerque, NM 87110 phone 881-1675
EDITOR EMERITUS	Beryl McWilliams

REGULAR MEETINGS: third Tuesday of each month in the auditorium of the Albuquerque Museum, Mountain Rd. NW, Old Town, Albuquerque, NM.

LABORATORY SESSIONS weekly: Wednesday 7:30 pm, and on scheduled Saturdays, Old Albuquerque Airport building, west basement entrance.

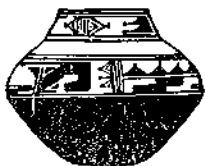
FIELD TRIPS and SEMINARS held during the year. EXCAVATION and SURVEYS as scheduled.

ALBUQUERQUE ARCHAEOLOGICAL SOCIETY is an affiliate of the ARCHAEOLOGICAL SOCIETY OF NEW MEXICO. Membership includes a monthly meeting with a lecture, and opportunities to participate in laboratory projects, field trips and cooperative activities with other archaeological institutions. ANNUAL DUES: Individual \$12.00; Family \$16.00; Sustaining: Single \$20.00, Family \$30.00; Institutional (Newsletter only) \$8.00.

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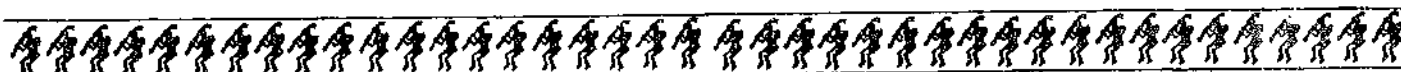


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Newsletter

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VOLUME XXVII, No. 2

February, 1992

AT THE ROOF OF THE CONTINENT:
Not the end of the world, but you can see it from there

by John E. Lodbell

Tuesday, February 18, 1992, at 7:30 p.m.

Albuquerque Museum, 2000 Mountain Rd. N.W., Old Town

Jack Lodbell spoke to the Albuquerque Archaeological Society two years ago about the "People of Utkpiagvik," a household destroyed by an ice flow 500 years ago. A summary of that lecture can be found in the Newsletter of February, 1990. At our next meeting he will talk about recent archaeological research on the north coast of Alaska.

Dr. Lodbell, an archaeologist with 20 years of experience in the Arctic, received his B.A. at UNM and his Ph.D. at Tennessee. He has excavated and studied in Europe, the High Plains, Southwest, Southeast and the Arctic and Subarctic. Recently he retired from the University of Alaska and has returned to the Southwest where he is a consultant in environmental sciences and microcomputers. He continues to excavate in the Arctic and is involved in long-term planning to correct the effects of the Exxon Valdez oil spill of 1989.

COMING EVENTS

LAB Wednesday evenings, 7:30-9:30, and most Saturdays, 9:30-5:00, at the Old Airport Building at the south end of Yale Blvd.

MAXWELL MUSEUM February 25, 7:30 p.m. People of the Southwest Lecture, "Upper Rio Grande Matachines Dance." Sylvia Rodriguez. \$2 (\$1 MMA members)

March 11, 11 a.m. - 3 p.m. Indian bread demonstration and sale. The demonstration is free; the various breads are for sale.

SOCIETY FOR AMERICAN ARCHAEOLOGY, Annual Meeting, April 8-12, 1992, Pittsburgh, PA.

Albuquerque Archaeological Society Minutes, January 21, 1992

A large crowd was present as President Carol Condie opened the meeting. She welcomed visitors and invited them to join the Society. The minutes were approved as printed. Librarian Mari King said she had brought books related to speaker Mike Marshall's topic and books which he had written. Mari asked for volunteers to help with putting together our publications. Nan Bain asked for hosts to serve the refreshments for our meetings. Dick Bice invited members to come to the lab on Wednesday evenings and Saturdays and learn lab work.

Jim Carson announced that Faith Bouchard has scheduled two field trips to the Albuquerque Museum photo archives on January 25 and February 22. Only six people can be accommodated on each tour, but more tours can be arranged if there is interest. The tours will be at 1:30 p.m. on Saturdays.

Helen Crotty announced that the Southwest Institute will focus on the Four Corners area this summer, with four field trips through the region and a lecture series. The Institute deals with the geology, history, art, and archaeology of the region. More information, dates, costs, etc. later.

Dudley King reported that Steve Lekson's father had died recently.

Jean Brody introduced speaker Mike Marshall, saying he would offer a new slant on a subject that has fascinated us for a long time. After the meeting, Nan Bain served refreshments.

Dolores Sundt, secretary pro tem



The Albuquerque Archaeological Society is in need of some specialized help. If any of these jobs catch your interest and match your abilities, we hope you will volunteer.

HISTORIAN Our newsletter tells part of the history of our society, but we also have scrapbooks which contain photo-

graphs, news clippings, etc. about our work as a Society or as individual members, and we need someone to keep the books current.

PHOTOGRAPHER Tracy Green was our official photographer from the first meeting of the Society until his death last year. We need someone to take pictures at our various activities. The Society budgets for photographic expense. Another item: Tracy left hundreds of negatives, mostly black and white, of photos of the Society. Is anyone a darkroom enthusiast?

PUBLISHING HELP Every month we need about four people to give a few hours help in getting out the Newsletter and the other publications we do: collating, stapling, and sticking on those mailing labels.



ROCK ART FIELD SCHOOL, 1992

It's time to make plans to attend the 1992 Rock Art Recording Field School June 20 to July 3 at the Three Rivers Petroglyph Site in southern New Mexico. This will be the last chance at the "world class" Three Rivers site, as the school will work at a new site next year.

There are literally thousands of pet-

roglyphs on the rock outcroppings, waiting to be recorded. The work is not strenuous, but the site is hot and rugged. Therefore the field work is done in the morning, and the afternoons are for paperwork and free time. Lectures and workshops are offered in the evenings.

Fees for individuals are \$50 for one week and \$90 for two weeks; for families \$75 for one week and \$135 for two weeks.

For further information contact Jay or Helen Crotty, Star Route Box 831, Sandia Park, NM 87047 or call 505-281-2136.

HELEN CROTTY TO SPEAK AT SAA MEETING IN APRIL

Helen Crotty will be one of the participants in a symposium at the annual meeting of the Society for American Archaeology in Pittsburgh on April 11. She will speak on "Advancing Science Through Field Schools on New Mexico's Public Lands." Steve Lekson and Chip Wills, good friends of the Albuquerque Archaeological Society, will be the discussants for this symposium.

BOOKS STILL WANTED

It's not too late to donate your unwanted books to the university in Chihuahua, but we do plan to send them about the first of March. Catherine Holtz has talked with the Mexican Consul, who is interested in the project and has suggested that he may be able to take care of shipping the books.

So -- the anthro department there needs any books in anthropology and related fields: archaeology, ethnology, geology, biology, botany, etc. If in doubt, send it. Get an early start on your spring housecleaning and help students at the university at the same time.

Chacoan Cosmology and the Road System Lecture by Michael Marshall

During the last ten years Chacoan research has turned to cosmographic perspectives based on the ethnographic record: What the Pueblos themselves say. In earlier days archaeologists and ethnologists spent lots of time learning from Indians, but lately they have used a more technical/systems approach. Now the two perspectives have come together again.

Mike began with an overview of Puebloan cosmology and mythology. The cosmological model applied to Chaco involves the basic mythic themes that occur all across the pueblos: the origin from the underworld, directional emphasis, the search for mythic place, and the astronomical ceremonial calendar. These beliefs have been there from ancient times, and we have to evaluate these themes in the past.

Mike showed a picture of the Camino Real in Chihuahua. It is part of the general European perspective on the universe, a secular road of colonization and conquest. It leads to New Mexico, an uninhabited country which to DeVargas and the Spanish was "remote beyond compare." The road was 600 miles of emptiness, but they saw the colony in the distance, "otro Mexico de oro."

The puebloan idea of "sacred geography" contrasts with our own world view. Mike showed a picture of Penasco Blanco with roads leading out from it. At first archaeologists thought the roads were transportation corridors, a classic road system leading to and from outliers. This imposes the Western viewpoint on Pueblo civilization, imposes our geography on Puebloan. To understand Pueblo civilization, we need to try to step out of our own limited geographical dimension.

"Sacred geography" is central to Pueblo cosmology and belief: "Our bible is the land." These are holy lands where miraculous and supernatural events took place, where the story of creation and other stories can be read. Therefore it is important to make pilgrimages to shrines, the location of which relate to topography and astronomic cycles.

In the Pueblo world view, the earth

is animate. Since the Pueblos emerged from the underworld womb of Earth Mother, they are earth born. Throughout the Americas is the belief that everything comes from the earth. So to the Pueblos, everything is systematically integrated. Symbols fit together.

Elements of religious ceremonies came with them from the underworld. They emerged up through the four levels, having been taught by supernaturals, and came to the surface of the earth by means of a spruce tree. Pueblos of northern New Mexico locate this place of emergence to the north, perhaps a lake in Colorado. So in this area, north is the primary direction. Other groups believe it was in the Grand Canyon or to the west.

Directional symbolism is important and shows up in drawings and architecture. Besides the cardinal directions that our world view knows, Pueblos consider zenith and nadir and the middle place just as important. When they came to the surface, they journeyed south, looking for the cardinal middle place. Is Chaco this middle place? Many pueblos called themselves "the middle place," and every person is a "middle place."

The various symbols are integrated in ceremony and everyday life. "When we came up, we climbed up a spruce tree." (Navajos say a reed or a ladder.) For that reason the Pueblos use spruce for ladders for the kiva, which symbolizes the underworld. Pine and spruce are used in dances for they symbolize everlasting life. They grow in the mountains, near the clouds which bring rain.

Often Katcinas are associated with clouds and moisture. A story about Katcinas says they used to bring rain and fertility, but then there was a falling out and a battle between the Katcinas and the people. One Katcina was beheaded and another castrated, so they didn't come back and everything dried up and died. Some pueblos re-enact this battle using bladders filled with blood. The dances are the myth and a sacred event.

Katcinas are also associated with death. When a person dies, he is buried right away, but his spirit stays around for four days. A corn cob "soaks up the spirit," and when it is planted, it is a

symbol of resurrection. An avenue of cornmeal is laid toward the north, the home of the dead. It is an avenue, a way to travel, and therefore the person is buried with a bowl and food. The spirit of the dead person returns to the underworld and to the north where it joins Corn Mother, then to the west under a lake where Katcinas dwell.

Springs and lakes are always present in any mythology because they are so important, and especially in an arid land. Compare the sacred geography of the arid Bible lands. In Pueblo mythology, springs and lakes are especially sacred because they lead to the underground chamber where the Katcinas live. The Zuni salt lake is extremely important. The story says that Salt Mother used to live near Zuni till she had a falling out with the people. As she walked away to the lake, she left a salt trail where nothing can grow. This and other roads from Zuni were built about the same time as the Chaco roads.

Mountains and high places are important in the sacred geography, and offerings of cornmeal are placed on the high peaks. The twin war gods live on the mountain peaks. There are four sacred mountains, located directionally. Mt. Taylor is the sacred mountain of the south. On the top there is an excavated hole where Chacoan ceramics are found, which show the use of the mountain for 1000 years. In Texas archaic artifacts have been found on what passes for mountains. Similar holes and kivas are found on many mountains. These form an integration of two poles of the sacred geography: the entrance to the underworld and the association with the firmament. This mountaintop-hole combination is epitomized by the ant, which goes down into the earth and builds pinnacles on top. The snake also is important in mythology because it lives in the ground.

On the summit of San Francisco peak, another sacred mountain, is a Hopi shrine. The Hopis leave cornmeal and other offerings and collect snow for water for their ceremonies. The mountain itself is the shrine, not the offerings nor the crescent-shaped piles of stones placed there. These crescent-shaped rock piles

are found all over Chaco. The opening is always to the east, and offerings are placed inside.

After this introduction to the Pueblo world view, Mike turned to its application in Chaco. He admits that this cosmological model attempt is just a hypothesis.

In Chaco there is a high density of ceremonial places, many outliers, and a concentration of roads which may lead somewhere or not. For this reason, Mike believes that between 900 and 1125, Chaco must have been a sacred center or middle place, an ecclesiastic center, a pilgrimage center for outlying areas. It was the center of the world like Mecca or Delphi or Jerusalem, and over a period of time, the people began to build a complex.

The earliest buildings, like Bonito and Penasco, are crescent shaped. Anna Sofaer determined that they were built along the SW/NE lunar standstill baseline.

It is believed that most of the large buildings were public ceremonial buildings. The same design is replicated throughout the whole province. [Compare Peter McKenna's lecture on the Aztec community, summarized in the Newsletter of August, 1990.] The walls were massive, made with a core and veneer, and the buildings were three to five stories high and terraced down. The mass greatly exceeds the space inside; the walls and timbers are large compared with the interiors. Many of the Chacoan buildings are surrounded by an aureola, a ring-shaped mound, which adds size and helps define the site as the middle place. The buildings are dominant, built on a prominent rise or by a cliff to make them more impressive, the mark of a religious and political center.

Great kivas or society kivas are found underground, above ground, blocked into the wall, or built as a tower. It is speculated that the large kivas had a dome-shaped roof with an entrance hole and ladder. At Kin Ya'a there is a stacked kiva, four kivas one on top of another, symbolizing the four levels of the underworld.

The roads, which were abandoned 800 years ago and are starting to melt, are not just paths, they are constructed. They are not a transportation network, for al-

though some do link buildings or centers, most do not. The roads run straight, and carved stairways and scaffolds go over cliffs.

The orientation of the roads has been the focus of recent study, and it has been found that many have an astronomical bearing. There is also integration with topographic features of the landscape. For example, the destination of the south road is Hosta Butte, near Crownpoint. The butte is still an important shrine, one of the sacred peaks of the south. Roads sometimes tied buildings to a peak, to a cave, to a spring, and thus are channels of spiritual power from the underworld. The road to Hosta Butte runs on a north/south axis, the same directional symbolism of the ceremonial cornmeal avenues which head toward the north, the direction of emergence and the home of the dead. This is the avenue of the spirits, coming away from the underworld with the birth of a new baby and returning with the dead. Compare the north/south orientation of Teotihuacan's ceremonial "Avenue of the Dead"

A fan of roads which go nowhere stretches 35 miles out from Pueblo Alto, another large complex on top of a peak. What is it? Archaeologists tried to link the roads to other buildings with no success. They just go north. The southern terminus is the Cave of the Red Hand. On the roof of the cave is a large painting which includes lines in a north/south axis and many handprints which were put there at different times, as well as two footprints of a small child. Perhaps the roads afford communication with the underworld.



CHACO PUBLICATIONS

Joan Mathien and Tom Windes have written or edited several publications on Chaco which might be of interest to Albuquerque Archaeological Society members.

Excavations at 29SJ 633: The Eleventh Hour Site, Chaco Canyon, New Mexico, edited by F. J. Mathien. Reports of the Chaco Center, No. 10. \$19.95 + S/H.

Investigations at the Pueblo Alto Complex, Chaco Canyon, New Mexico, 1975-1979 --three volumes.

I. Summary of Tests and Excavations at the Pueblo Alto Community, by T. C. Windes. \$18.95 + S/H.

II. Architecture and Stratigraphy, by T. C. Windes. \$21.95 + S/H.

III. Artifactual and Biological Analyses, edited by F. J. Mathien and T. C. Windes. \$21.95 + S/H.

Shipping charges are \$3.00 for first book ordered, \$2.00 each for others included in the same order.

Send to Southwest Parks and Monuments Association, Chaco Culture National Historical Park, Star Route 4 Box 6500, Bloomfield NM 87413.

§ Financial Report §

On page 7 is a copy of a table that combines the year-end 1991 financial statement and the proposed 1992 budget that was acted on by the Board of Trustees in their January 13th meeting. Please review the budget as we will vote on it at the February meeting.

REPORT OF THE AUDIT COMMITTEE

The undersigned members of the 1991 Audit Committee of the Albuquerque Archaeological Society audited the Treasurer's books and find that the financial records of the Society were kept in accordance with sound accounting practices during the calendar year 1991, and that they accurately reflect the Society's financial status.

Richard A. Bice
Richard A. Bice

Phyllis S. Davis
Phyllis S. Davis

Dudley W. King
Dudley W. King

1-15-92
Date

ALBUQUERQUE ARCHAEOLOGICAL SOCIETY FINANCIAL REPORT
DATES 1991 Actual & 1992 Budget

7

ITEM	PREV BAL	INCOME 92	BUDGT	ITEM	BAL FWD	EXPENSE 92	BUDGT
=====							
200 OPERATING FUND							
PREV BAL	0.00		0				
INCOME				EXPENSE			
211 Dues & Subsp	3075.47		2400	251 Prnt,Mail,Off	1436.99		1400
212 ASN&PSW Tfr	422.42		350	252 Fld,Lab,Spec	32.73		600
213 Interest	381.50		375	253 Library	116.09		150
214 Other	80.35		0	254 Photog	0.00		50
				255 Soc Programs	343.81		750
				256 Other & Tfrs	2030.12		175
Income Total	3959.74		3125	Expense Total	3959.74		3125
				BAL FWD	0.00		0
=====							
400 PUBLICATIONS FUND							
PREV BAL	4050.02		4273				
INCOME				EXPENSE			
411 Book Sales	0.00		200	451 Publish & Mail	74.11		2000
412 Other & Tfrs	297.50		0				
Income Total	297.50		200	Expense Total	74.11		2000
				BAL FWD	4273.41		2473
=====							
500 EQUIPMENT ACCOUNT							
PREV BAL	587.32		2567				
INCOME				EXPENSE			
511 Tfrln & Othr	1979.75		175	551 Purch & Maint	0.00		100
Income Total	1979.75		175	Expense Total	0.00		100
				BAL FWD	2567.07		2642
=====							
600 POTTERY SOUTHWEST							
PREV BAL	2351.69		2528				
INCOME				EXPENSE			
611 Dues & Other	644.00		500	651 Prep & Mail	180.65		200
				652 Print & Tfrs	287.42		150
Income Total	644.00		500	Expense Total	468.07		350
				BAL FWD	2527.62		2678
=====							
700 SPECIAL PROJECTS ACCOUNT							
PREV BAL	1001.00		1001				
INCOME				EXPENSE			
711 Tfrln & Othr	0.00		0	751 Auth'ized Exp	0.00		0
Income Total	0.00		0	Expense Total	0.00		0
				BAL FWD	1001.00		1001
=====							
TOTAL	PREV BAL	7990.03	10369	TOTAL	EXPENSE	4501.92	5575
TOTAL	INCOME	6880.99	4000	TOTAL	BAL FWD	10369.10	8794
=====							

DEC 31, 1991 BANK STATEMENTS

SAVINGS 7802.72 + CKACT 2566.38 = CASH BAL 10369.10

- NOTES:
1. Bank Checking Acct statement for '91 was adjusted for checks written but uncashed, and for cash on hand.
 2. 211 & 611 - '91 income contains more than 1 yr's receipts.
 3. 252 & 255 - Est '92 meeting-room guard costs and lab rent.
 4. 256 & 511 - Unspent Operating Funds transferred through 256 to 511 Equipment Acct to provide for replacement needs.
 5. 451 - Expected start of publication of AS-6 &/or AS-8.

The ALBUQUERQUE ARCHAEOLOGICAL SOCIETY is a non-profit corporation organized under the laws of New Mexico. Its purposes are (1) to preserve and protect prehistoric and historic remains in this region; (2) to educate members and the public in archaeological and ethnological fields; (3) to conduct archaeological studies, research, surveys, and excavations; (4) to publish data obtained from research studies and excavations; and (5) to cooperate with other scientific institutions.

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MEMBERSHIP	Dudley King	299-0043

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LIBRARIAN	Mari King
PUBLICATION SALES	Phyllis Davis
NEWSLETTER EDITOR	Dolores Sundt, 6207 Mossman Pl. NE, Albuquerque, NM 87110
EDITOR EMERITUS	Beryl McWilliams

REGULAR MEETINGS: third Tuesday of each month in the auditorium of the Albuquerque Museum, Mountain Rd. NW, Old Town, Albuquerque, NM.

LABORATORY SESSIONS weekly: Wednesday 7:30 pm, and on scheduled Saturdays, Old Albuquerque Airport building, west basement entrance.

FIELD TRIPS and SEMINARS held during the year. EXCAVATION and SURVEYS as scheduled.

ALBUQUERQUE ARCHAEOLOGICAL SOCIETY is an affiliate of the ARCHAEOLOGICAL SOCIETY OF NEW MEXICO. Membership includes a monthly meeting with a lecture, and opportunities to participate in laboratory projects, field trips and cooperative activities with other archaeological institutions. ANNUAL DUES: Individual \$12.00; Family \$16.00; Sustaining: Single \$20.00, Family \$30.00; Institutional (Newsletter only) \$8.00.

ALBUQUERQUE ARCHAEOLOGICAL SOCIETY
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Newsletter

US ISSN 0002 4953



VOLUME XXVII, No. 3

March, 1992

THE CYCLE OF LIFE AND DEATH IN THE PREHISTORIC SOUTHWEST

by Debra L. Martin

Tuesday, March 17, 1992, at 7:30 p.m.

Albuquerque Museum, 2000 Mountain Rd. N.W., Old Town

What was the experience of giving birth like for a woman a thousand years ago? What was it like for babies and kids growing up? What was the relationship between work, life style, and health for adults? What do we know about growing old in prehistoric America?

These questions can be answered through clues in the bio-archaeological record. Diet, health, occupation, population structure, and behavior will be reconstructed for pre-contact Southwest groups in this evening's presentation.

Debra Martin received her Ph.D. from the University of Massachusetts at Amherst. She has recently published, with colleagues, a book entitled Black Mesa Anasazi Health and is currently a Weatherhead Scholar at the School of American Research. She is on sabbatical leave from Hampshire College, where she has been teaching for the last twelve years, and continues her research in pre-Columbian health.

REMINDER: If you forgot last month to bring the books you want to contribute to the Chihuahua university, as your editor did, you have another chance. Bring them to the meeting on March 17.

COMING EVENTS

LAB Wednesday evenings, 7:30-9:30, and most Saturdays, 9:30-5:00, at the Old Airport Building at the south end of Yale Blvd.

MAXWELL MUSEUM March 24, 7:30 p.m. "People of the Southwest" Lecture. "Southwestern Rock Art as a Reflection of Cultural Symbolism and World View." by Jane Young. \$2, MMA members \$1.

AAS FIELD TRIP April 25, to Pottery Mound. More information next month.

ASNM ANNUAL MEETING, May 1-3, 1992, at Farmington.

HISTORIC PRESERVATION WEEK, May 9-17, 1992.

ROCK ART RECORDING FIELD SCHOOL. June 20-July 3, 1992, at the Three Rivers site. Contact Jay Crotty, Star Route Box 831, Sandia Park, NM 87047, phone 505-281-2136.

ASNM EXCAVATION FIELD SCHOOL. July 5-July 31, 1992, at the Vidal site near Gallup. Contact Phyl Davis, 3713 Camino Sacramento, Albuquerque, NM 87111, phone 505-299-7773.

Albuquerque Archaeological Society
Minutes, February 18, 1992

President Carol Condie opened the meeting, welcomed the visitors and invited them to join the society. The minutes were approved as printed.

Librarian Mari King said she brought no books on Alaska because we have none in our library. She also asked for books for the University of Chihuahua. They are looking for any type of books.

Dick Bice reported that the lab is open on Wednesday nights and Saturdays, and anyone is welcome to come and look around and of course volunteer for projects.

Faith Bouchard reminded the members who signed up for the tour of the photo-archives with Bryon Johnson to meet in the lobby at 1:30. She also announced the rescheduling of the field trip to Pottery Mound on April 25. You can sign up at the next meeting.

Phyl Davis announced the upcoming field school in Gallup. They are excavating a great kiva along with unassociated rooms. Anyone interested in going for a week or more, contact her.

Carol Condie announced that ASNM is looking for nominations for the honoree

of the Society's 20th publication. The person nominated must have contributed significantly to Southwest archaeology and should be still living so that he/she can enjoy the honor.

Carol also announced Historic Preservation Week is May 9 through May 17 this year. She wants volunteers from the society to think of ideas and to take part in this year's festivities.

Mari King introduced to the society the new historian, Ann Yeck. We thank Ann for taking this position. We know she'll do a great job, especially if we provide her with materials.

The budget was approved as it appeared in the Newsletter.

Jay Crotty announced the Rock Art Recording Field School, June 20 - July 3, 1992. So far seven people have enrolled, and there are lots of places for more.

Joan Mathien announced that the society received national acclaim by being acknowledged in the book Archaeology of Gender, for their work "History of Women in Archaeology." She also asked for volunteers for the committee for the 100th anniversary of ASNM eight years from now. Anyone interested, please contact Joan.

Faith Bouchard, Secretary

IF THE NUMBER ON THE UPPER RIGHT hand corner of your mailing label is less than 92, it means you haven't yet paid your dues for this year. Please pay promptly so you won't be removed from the mailing list. Disregard if coded "0"

IT PAYS TO ADVERTISE

Your editor was made very happy by the prompt response to the request for workers for the society. Ann Yeck, who is our new historian, says she does scrap-books for herself and family and enjoys the work. All members can help by giving her newspaper or magazine articles about our society or our members involved in archaeological work. If you take pictures at any of our events, give a print to our historian. Be sure to note the event, date, and names of people.

Kathy Donahoe has volunteered to be photographer. Kathy is a new member of the society. She's an anthro student at UNM and has worked at Salmon Ruins with Dabney Ford.

We're very pleased to have these people on our "staff." I haven't heard whether we got volunteers to help with the mailing, but we can always use more. This is for a few hours once a month or even less frequently. After our publications are printed -- Dick Bice usually does that -- they have to be collated, stapled, labeled, and sorted for bulk mailing. Not a big job if there are half a dozen people to do it.

ASNM FIELD SCHOOL, 1992

The ASNM field school will be held from July 5 to July 31 and again will be at the Vidal Site near Gallup. The Great Kiva will be the focus of activities. The roof fall in the west half was removed in 1991, and the floor is ready to be exposed in the coming session. What did the occupants leave there?

Excavation will be done in the cool morning hours, and the afternoons will be for seminars, workshops, and artifact processing.

Dick Bice will return as school director. The staff are Sheila Brewer, Phyl Davis, Betty Kelley, Gordon Page, and Bettie Terry. Crew chief trainees include Karen Castioni and Wally Cates.

Tuition is \$50/week or \$175 for all four weeks. Four credit hours from UNM can be earned by students who attend all four weeks, do satisfactory work, and pay an additional fee to UNM.

The school has reserved a very pleasant camping area at Red Rock State Park. Fees are \$50/week for tents and \$70/week for RVs. Some students rent facilities in Gallup.

For more information, contact Phyl Davis, 3713 Camino Sacramento, Albuquerque, NM 87111, phone 505-299-7773.

WAR HARM TO IRAQI SITES UNKNOWN

Foreign archaeologists have not been allowed to find out how much damage the heavy bombing of Iraq in the Gulf War caused to archaeological sites. It is known that the famous ziggurat at Ur escaped major damage although there are bomb craters nearby and possible bullet holes in the structure.

One archaeologist said damage in Iraq was relatively light, partly because the allied forces targeted military sites with precision. Also, many ancient sites in Iraq are buried and spread out over large areas. "A bomb here and a bomb there just puts a hole in one place." There are as many as half a million archaeological sites in Iraq, including 100 or 200 ancient cities, so there is still plenty to dig.

Before the war, Iraq's antiquities agency had so much clout it could forbid military maneuvers near a site. Now, however, big farming projects have been started on land known to harbor many archaeological sites. Plowed fields and irrigation ditches could destroy a lot of information. The need for food has forced the government to supply land, water, and materials to farmers.

Albuquerque Journal Feb. 10, 1992

THE ASNM CERTIFICATION PROGRAM

by Richard A. Bice

Twenty years ago, in 1972, the Archaeological Society of New Mexico established a Certification Program under which amateur and avocational archaeologist could receive structured training in archaeology, with emphasis on hand-on activities. The program is designed in such a manner that the student can go as far as desired in the courses offered, but at that individual's own pace.

Its curricula includes seminars (lectures and workshops), field work and laboratory work, as well as analysis and report writing. There is a Provisional (introductory) level, followed by a much more rigorous Certified level. The full completion of the program, resulting in obtaining the level of Certified Field Archaeologist, requires some University credit and is considered to be of professional status. Experience has indicated that full completion of the program usually takes from eight to ten years.

The program is tailored to meet New Mexico needs, having been modeled after a program that was first established in Arkansas. It is open to members of the ASNM as well as to all members of affiliated local Societies.

Throughout the years, opportunities to participate have been provided by the various ASNM field schools, occasional special seminars, and the local societies of Albuquerque, El Paso, Gallup, San Juan and Taos.

PROVISIONAL LEVEL

Provisional Surveyor: Complete the specified seminar plus record 5 archaeological sites, with formal report using official LA forms, for deposit in the Museum of New Mexico archives.

Provisional Crew Member: Complete the specified seminar plus 40 hours of varied excavation field work under appropriate supervision.

Provisional Laboratory Technician: Complete specified seminar plus 40 hours of varied laboratory work under appropriate supervision.

Provisional Rock Art Surveyor: Complete the specified seminar plus record 5 rock art sites. Prepare formal report using official LA forms and including photographs, for deposit in the Museum of New Mexico archives. Participation in the ASNM Rock Art School is usually the most practical way of achieving this Provisional level.

CERTIFIED LEVEL

Complete respective Provisional level requirements as well as a number of additional core seminars in such fields as ceramics, lithics, dating, etc.

Certified Field Surveyor: Complete the survey of a large area(s) containing many sites, followed by report(s).

Certified Crew Member: Complete an additional 80 hours of excavation related field work, also covering special techniques and supervisory experience.

Certified Laboratory Technician: Complete an additional 80 hours of Laboratory work including special techniques.

Certified Rock Art Surveyor: Complete the surveys and reports on a number of rock art sites and associated cultural remains, plus complete a number of specified archaeological seminars.

Certified Archaeological Technician: Complete all of the above Certified level requirements except for the reporting of a number of rock art sites.

Certified Field Archaeologist. Must be a Certified Archaeological Technician and have had broad experience in managing and directing one or more complete archaeological projects. Must also have written publishable report(s) on such project(s) and must have received specified University credits.

During the life of the program, about 280 persons have participated.

At the Roof of the Continent

Lecture by John E. Lobdell

In 1979 Jack Lobdell was invited by an oil company to go to the Arctic coast to search for possible archaeological sites ahead of the oil company work. It was thought there wouldn't be any because, as Jack described this area, "it was a bleak, god-forsaken place, near the end of the world."

After nine days they had found thirty-five sites! They found that the area was extremely rich in wildlife. Many birds nested in the area, some of them weighing up to 12 or 15 pounds. Foxes, caribou, sea mammals and whales were all available to the people of the North Slope. Hunters chased these animals year round, and their population seemed to be in control.

The sea mammals provided the necessary fat for the population. A usual caloric intake here in the Lower 48 is 2000 calories per day. On the cold North Slope it's 5800 calories per day. There were only a few whale bones found on these sites. A whale kill was a great bonanza: One whale could feed a village of twenty families of five for a year, three pounds of meat and fat per day.

Some of the sites were on pingos. A pingo is an ice core hill, which can grow to be 200 feet high. The hill is forced up by hydrostatic pressure in an area underlain by permafrost.

The type of artifacts found were waste flakes, notched style points which were not Eskimo but earlier, and end scrapers. Carbon 14 dates were obtained and projected a date of 6000 years ago. The rock type in the area is black chert from the Flaxman formation. A limited number of flakes of moss agate from Fairbanks, 400 miles away, were also found.

They found a historic camp superimposed on a prehistoric site. The historic site was dated at the turn of the century, and the people in it were living identically to the people living 6000 or 4000 years ago.

Along the river they located nineteen sites. Many people asked them how they were able to find these sites. Jack showed a slide of the black chert with red

stones scattered through it. These stones had turned red from being heated in a fire pit, and were easily noticeable in the black sand.

The next site Jack took us to was Pingock Island, where the hunters would follow caribou and coastal hunting. About 2000 years ago the Eskimos invented two devices which afforded them year-round travel. They invented the dogsled, which allowed winter travel, and the skin-covered boat, which allowed summer travel.

About the same time they invented the cold trap door for their houses, which kept out the cold. Houses were framed with whalebone or driftwood and covered with several feet of sod blocks, very well insulated. The door was in the floor and led to an underground tunnel which came up outside. All the cold air was trapped in the tunnel. The temperature in these houses, which were heated by one seal oil lamp and body heat, averaged about 90°.

The last site was a house pit, dated about 500 A.D. It was a large house and probably held an extended family of about 20 people. The roof had collapsed, and the expedition had to remove the roof beams before they could continue the excavation. Once these were removed, the group collected over 6000 artifacts from the house. These artifacts consisted of such items as a toggle harpoon, points, a caribou antler vest for protection, copper hooks, a small whole effigy, fishing lures, and a man's dagger. These items were needed for everyday survival on this island, so the question is, why were they left behind in the house?

Reported by Faith Bouchard

The treasure hunter digs to find; the archaeologist digs to learn -- and he must learn from everything, not just works of art or objects of curiosity.

Oscar Theodore Broneer, classical archaeologist

Book Review by Ann M. Yeck

Lowell, Julie C. 1991. Prehistoric Households at Turkey Creek Pueblo, Arizona. Anthropological Paper No. 54. Foreword by Jeffrey S. Dean. Tucson: The University of Arizona Press. 95 pp. Appendices, References-Bibliography, Index, Abstract. \$21.95 paper. ISBN 0-8165-1238-8.

Ms. Lowell's thesis or purpose as stated in her preface was to study the architecture and use of space by households.

In Chapter 1, "Archaeological Household," archaeologists have found work done in social units of households, suprahouseholds, and villages. Yet, research has not gone beyond identification and functional descriptions of households. Higher level interpretation needs to identify variability in prehistoric households plus economic and other forces that produced the variability.

Chapter 2 "Turkey Creek Pueblo" was a thirteenth century, east-central Arizona ruin, with 335 single story rooms, three small kivas, four pit houses, a Great Kiva, two plazas, several outliers, and eight trash and burial mounds. It was excavated beginning in 1958. The inhabitants both hunted and farmed. The pueblo was dated by both tree rings and ceramics. Western Pueblo ancestors rather than Anasazi people probably lived there.

Chapter 3 "Turkey Creek Pueblo Data Analysis" Over 90% of the rooms were either excavated or trenched. Room variables included hearth types, room size, contiguous room groups, interior or exterior room placement, storage facilities, burials, wall types, postholes, openings, and portable artifacts. Three dimensions that might influence patternings of room attributes are (1) Room function, activities taking place, (2) Temporal change over time in room attributes, and (3) Spatial contrasts in function or time.

Chapter 4 "Toward the Identification of Dwellings" Typical dwellings consisted of one large habitation room, one or two miscellaneous activity rooms, and two or three small storage rooms. Maps showed hearth categories plus doors, vents, and hatches giving access to rooms. Rectangular hearths tended to be in larger habitation rooms, circular hearths in smaller miscellaneous activity rooms and no hearths in storage rooms.

Chapter 5 "Temporal Considerations" The sterile-trash dichotomy concluded that 30% of the rooms sat on sterile soil and 70% on trash. The pueblo, therefore, tripled its size from the time of establishment to abandonment, probably by aggregation instead of through reproduction. Earliest construction began in the northwest and included pit houses and Plaza 2. Later the east and south were added. Tree ring dates place beams at 1240 A.D. Circular hearth rooms were constructed earlier yet tended to be remodeled later in time. Rooms with basalt based walls were built earlier as were storage pits. Circular hearth rooms were activity rooms and intermediate in size. Rectangular hearth rooms were the largest in area in order to enhance habitation; some were remodeled from storage rooms, thus reflecting household expansion. A Sherd Density Index measured relative room abandonment. The rooms built first were also abandoned first. More artifacts were found in early-abandoned rooms, whereas late-abandoned rooms were cleared of artifacts. Perhaps people who moved farther away left artifacts, tools, and pottery while late occupants carried their belongings with them to nearby homes at Point of Pines Pueblo.

Chapter 6 "Variability Across Space at Turkey Creek Pueblo and the Dual Division" This chapter has detailed pueblo maps of long walls to define twenty room groups as well as other common architectural features such as post holes and wall heights. The author states that small rooms did not need posts; however, the map contradicts this with most post holes appearing in smaller rooms rather than larger rooms, perhaps to hold up sagging ceilings. Two kiva rooms appear to have housed rituals. Long walls suggest

suprahouseholds. Lower walled rooms on the exterior may have contributed bricks to later higher walled rooms in the interior. There is a separation between north and south room groups indicating a moiety. Yet, both areas are connected through the Great Kiva itself.

Chapter 7 "The Household at Turkey Creek Pueblo: Synthesis and Conclusion" Four level of social units comprised Turkey Creek Pueblo. Households ranged from four to six rooms of all three types (See Chapter 4) and could house either rich or poor, nuclear or extended families. Human skeletons indicate high infant mortality and death in childbirth for younger women. Fewer male remains indicate male deaths away from home due to hunting, trading, or fighting. Only ten percent of adults lived past age 46 thus limiting three-generation households. Families stored, prepared, and ate food and water, manufactured tools and artifacts, and slept in their home units, and they buried infants under the floors.

Supradwellings may have arisen from aggregation of separate groups and towns into one larger village pueblo. Eight trash burial mounds may also indicate distinct suprahouseholds. Historic pueblos have dual divisions for both ceremonial and leadership functions. "At Turkey Creek Pueblo north-south room analysis suggests subtle temporal contrasts, minor contrasts in construction style, and perhaps contrasts in the organization or domestic space between the two groups...reflecting preaggregation ties." Two room groups of eight rooms each may have been used for both ritual and domestic or food-sharing activities at two hierarchical levels. Yet, the Great Kiva unites both the village level with ceremonies and general male councils.

Why did the village grow? Reasons may be climate shifts, better farming land, improved trade through centralization, or defense from enemies. Exterior walls and ceiling hatch entries plus sealed doors plus an open area location indicate a defensive nature for Turkey Creek. How was the village abandoned? Poorer, smaller, nuclear families abandoned the north area first. Later, families in the south section moved to a nearby pueblo and took household goods with them. The pueblo was then scavenged for wall stones and hatch slabs. Why was the village abandoned? "Heightened defense needs, increasingly important and complex trade patterns, or both made it advantageous to move to Point of Pines Pueblo, a far larger community (about 800 rooms at its peak) than Turkey Creek."

The purpose of this paper was to study factors involving households, their functions and organization. The author's summary and conclusion appear in both the last chapter and in a helpful abstract on the last page. I am not sure that all her research did not duplicate what was already known about human households around the world.

At first I found this paper confusing and redundant for an amateur archaeologist. Although the tables are difficult to understand, there are simpler explanations in the text. The maps are excellent and would make a worthwhile computer program to compare and contrast characteristics leading to conclusions from proposed hypotheses. The data are sometimes too technical and repetitious, yet necessarily comprehensive for the professional and college level archaeologist. It would have helped to have had clear and distinct conclusions or summaries at the end of each chapter. The analytical information left me unfulfilled and wishing for a novelist to flesh out the facts with real human beings living holistic and meaningful lives.

This book is in our AAS library.

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PHOTOGRAPHY	Kathy Donahoe	884-7531
FIELD TRIPS	Faith Bouchard	842-5604
MEMBERSHIP	Dudley King	299-0043

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NEWSLETTER EDITOR	Dolores Sundt, 6207 Mossman Pl. NE, Albuquerque, NM 87110 phone 881-1675
EDITOR EMERITUS	Beryl McWilliams

REGULAR MEETINGS: third Tuesday of each month in the auditorium of the Albuquerque Museum, Mountain Rd. NW, Old Town, Albuquerque, NM.

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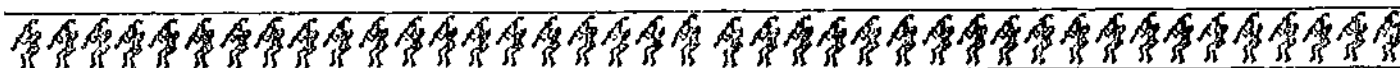


ALBUQUERQUE ARCHAEOLOGICAL SOCIETY

Post Office Box 4029
Albuquerque, New Mexico 87196

Newsletter

US ISSN 0002 4953



VOLUME XXVII, No. 4

April, 1992

THE PROFESSIONAL AND THE AVOCATIONAL ARCHAEOLOGIST: THE VIEW FROM MIMBRES AND ELSEWHERE

by Stephen Lekson

Tuesday, April 21, 1992, at 7:30 p.m.

Albuquerque Museum, 2000 Mountain Rd. N.W., Old Town

Steve Lekson is a familiar contributor to the Albuquerque Archaeological Society. As an archaeologist in the National Park Service, he worked in the Chaco Center. His monograph, The Great Pueblo Architecture of Chaco Canyon, was published by the National Park Service in 1984 and reprinted in 1985 by UNM Press. His work in the Mimbres region, especially his survey work, provided new insights into the way of life of the Mimbreno people.

Steve graduated from Case Western Reserve University. He received his M.A. from Eastern New Mexico University and his Ph.D. from the University of New Mexico. He is currently the curator of archaeology with the Laboratory of Anthropology in Santa Fe.

MEETING FACILITIES NOTE: The Museum will be conducting a watercolor class in the open area by the auditorium during our meeting on April 21 and again on May 19. Please come directly into the auditorium. The class will be over by 9 p.m. and after the meeting we will be able to have refreshments and conversation in the area as usual.

FIELD TRIP TO POTTERY MOUND

The field trip to Pottery Mound is scheduled for Saturday, April 25. We will meet at the southeastern corner of Winrock, near Wards and Marshalls, to carpool. Bring water, lunch, and warm and cool clothing. If you want to go and haven't signed up, please call Faith Bouchard, work: 888-5995; home: 842-5604. This is going to be an interesting outing.

COMING EVENTS

LAB Wednesday evenings, 7:30-9:00, and most Saturdays, 9:30-5:00, at the Old Airport Building at the south end of Yale Blvd. Call Dick Bice for directions.

MAXWELL MUSEUM Two free lectures leading up to the benefit auction will be held in Rm. 101 of Mitchell Hall, which is south of the duck pond. Free parking in Lot E on the north side of the museum and adjacent to University Blvd.

Wednesday, April 15, 7:30 p.m. "Trading Posts and Transitions in Navajo Weavings." Bruce Burnham will discuss the importance of trader-weaver relationships in the evolution of Navajo weaving styles.

Wednesday, April 22, 7:30 p.m. "Traders, Rugs, and Auctions." Herman Coffey, who has sold more Navajo weavings than anyone, ever, during his many years as an auctioneer at Crownpoint, will discuss how traders have used auctions as an increasingly important tool in marketing Southwestern crafts.

Thursday April 30, 7:30 p.m., Rm. 163, Anthropology lecture hall, adjacent to the museum. Patricia Crown will speak on "Salado Polychrome Pottery and the Southwestern Cult." \$1 for MMA members, \$2 for non-members.

MAXWELL MUSEUM BENEFIT AUCTION Saturday, May 2, in the Anthropology lecture hall. Preview, 11 a.m. to 1 p.m. and auction, about 1:30 to 4 p.m. Southwestern crafts will be featured and ethnographic materials from around the world will also be offered. You can also enjoy an exhibit of Native American crafts, foods, and music.

AAS FIELD TRIP to Pottery Mound. Saturday, April 25. Meet at the southeastern corner of Winrock at 9 a.m. to carpool.

ASNM ANNUAL MEETING May 1-3, 1992, at Salmon Ruins near Farmington. Friday evening, registration/reception; Saturday a.m. and p.m., papers and business meeting; evening, banquet; Sunday, field trips.

HISTORIC PRESERVATION WEEK, May 9-17, 1992.

ROCK ART RECORDING FIELD SCHOOL June 20-July 3, 1992, at the Three Rivers site. Contact Jay Crotty, Star Route Box 831, Sandia Park, NM 87047, phone 505-281-2136.

EXCAVATION FIELD SCHOOL July 5-July 31, 1992, at the Vidal site near Gallup. Contact Phyl Davis, 3713 Camino Sacramento, Albuquerque, NM 87111, phone 505-299-7773.

BOOK COLLECTION CONTINUES

THANKS TO OUR VOLUNTEERS

Three new mail crew volunteers worked last month to send out AWANYU, the newsletter of ASNM. We were very happy to have the assistance of Kim Berget, Mary Lynn Johnston, and Allene Kleweno.

Congratulations and thanks to all who donated books to the University of Chihuahua. We have gathered 120 pounds of books.

The Mexican consul has not yet shipped them to the University, however, so you still have one more chance, at our April meeting, to donate books on anthropology and related fields.

Albuquerque Archaeological Society
Minutes, March 17, 1992

President Carol Condie called the meeting to order, acknowledged all the guests and welcomed them to the meeting. The minutes were approved as printed.

REPORTS Librarian Mari King brought some books dealing with Black Mesa as well as newsletters for anyone who didn't get one.

Carol asked if anyone had brought books for the University of Chihuahua. Ann Carson is collecting them and will have them shipped.

Carol told about the visit to the photo archives of the Albuquerque Museum. They have a very comprehensive and user-friendly retrieval system. Anyone else interested in touring the archives contact Faith Bouchard and she will set up a new time and date. There must be four to six people for the tour.

ANNOUNCEMENTS Dudley King announced that the ASNM annual meeting will be in Farmington on May 1-3 this year. They are looking for papers and if you would like to present one, contact him.

Faith Bouchard said the Pottery Mound trip is scheduled for April 25. We will meet at Winrock Mall near Wards and Marshalls to carpool. Please bring water, warm and cool clothing, lunch, etc.

Phyl Davis told about the field school in Gallup next July. Anyone interested should contact her.

Alan Shalette announced that the Maxwell Museum will be having their annual auction on May 2. There will be over 300 items to bid on and it will benefit the museum. During the month of April Alan has arranged to have three speakers concerning the auction and marketing and developing the crafts of the area. For more information contact Alan or the Maxwell Museum.

Jay Crotty announced the rock art field school at Three Rivers. This will be the sixth and last year at Three Rivers. Quite a few people have already registered, but there is still plenty of room. He promises "no ice or snow," so contact Jay if you are interested.

Ann Carson announced that this

year's Southwest Institute's summer program will concentrate on the Four Corners area. The Institute provides a two-week intensive lecture course on various aspects of the region. An optional one-week field trip is also offered. For more information contact Ann or the Southwest Institute at the University.

Faith Bouchard, Secretary

There are certainly many, many opportunities during the next six months for expanding our knowledge of prehistory, history, and related fields. Here are some of the conferences, classes, and meetings, besides those activities listed in "Coming Events," that have come to our attention.

ASNM ANNUAL MEETING MAY 1 - 3

The San Juan Archaeological Society will host the 1992 spring meeting at Salmon Ruins, Highway 64, Bloomfield, NM, on May 1-3. Registration and a reception will be held at the ruin headquarters between 5 and 8 p.m. on Friday. Come early for a tour of the ruins and a visit in the museum, and help yourself to refreshments.

Papers will be presented Saturday, and the business meeting will be held in the afternoon also. Polly Schaafsma will be the banquet speaker Saturday evening. Her subject is "Power of Imagery in the Navajo Landscape."

On Sunday a choice of three field trips is offered: tour of BLM excavation, tour of rock art panel/pueblito, or tour of east ruins of Aztec Ruins, led by Peter McKenna.

Registration fee is \$15; banquet \$10, and sack lunch for the field trip, \$3. Send your check to: San Juan Archaeological Society, P.O. Box 118, Flora Vista NM 87415.

NEW MEXICO HERITAGE PRESERVATION
MAY 9 - 17

Preservation Week, May 9 - 17, will consist of dozens of events statewide. All events are sponsored by volunteers and are designed to get folks interested in the great wealth of historic and prehistoric resources. This year's events will include everything from archaeological excavations to a trail ride on the Butterfield stage route to a murder mystery weekend at a historic hotel. There will be tours of ghost towns and historic buildings and districts, hikes to prehistoric sites, and living history demonstrations from many areas.

Several programs will focus on more recent history like Route 66 and the Depression Era New Deal programs, especially at public buildings containing some of the remarkable murals painted by New Mexico artists under the sponsorship of the WPA and other economic recovery programs.

Calendars of events are available free of charge from the New Mexico Historic Preservation Division, 228 East Palace, Santa Fe NM 87503, 505-827-6320.

SOUTHWEST INSTITUTE FEATURES
THE FOUR CORNERS AREA

Each year the Southwest Institute provides an inter-disciplinary study of one region of New Mexico. This year's program will concentrate on the Four Corners region. The fields of study include archaeology, ethnology, geography, geology, history, ecology, and maybe others.

There is a two-week lecture program -- three lectures each morning by experts, (including AAS members Dave Stuart, Tom Windes, Jean Brody, and Jerry Brody). This is scheduled July 6 through July 18 in the Anthropology lecture hall at UNM. Then there is an optional six-day field trip through the Four Corners region, which is scheduled four different weeks, one in June, two in July, and one September-October. Faculty experts accompany the bus tour.

For information contact Southwest Institute, UNM, Bandelier West, Room 106,

Albuquerque NM 87131, (505) 277-2828.

CORONADO TRAIL CONFERENCE
TO DISCUSS CORONADO'S ROUTE

The Coronado Trail Association will hold a conference at Highlands University August 21-23, 1992, entitled "Where Did the Encuentro Happen in the Southwest?: Questions of the Coronado Expedition's Route."

Some 16 to 20 scholars knowledgeable about the early Spanish presence in the Southwest will participate in the conference. During the conference they will discuss 1) what is actually known about this first encounter; 2) ongoing research into the effects of the encounter; and 3) directions for continued research.

For information contact:

Shirley Flint
Conference Coordinator
Box 216
Villanueva, NM 87583

"A MEETING OF TWO WORLDS"
Quincentary Commemoration

The Bureau of Land Management, in partnership with the Universities of Arizona and New Mexico, is planning a Quincentary commemorative event for October 3 - 9, 1992. A symposium in Tucson begins the event. Then a five-day bus tour takes participants to Spanish colonial and Native American contact sites in Arizona and New Mexico. The tour concludes in Albuquerque with the final two-day symposium.

The tour will visit Spanish colonial missions and forts, and Native American pueblos and ruins in Arizona and New Mexico. Historians, Native Americans and/or interpretive specialists will be at each stop to conduct site-specific tours and will ride with the participants on the buses to provide narratives en route.

The cost is \$45 for each of the symposiums and \$570, double occupancy, for the bus tour. For information contact Gail Acheson, BLM, P.O. Box 16563, Phoenix AZ 85011, phone 602-640-5504.

The Cycle of Life and Death in the Prehistoric Southwest
Lecture by Debra L. Martin

5

Dr. Martin's lecture reconstructed the health of prehistoric peoples, using skeletal evidence. Using information from the Four Corners area, especially Black Mesa, she described the life cycles, birthing, childhood, adulthood, and old age.

There is a common misconception that Indian women and other primitive women gave birth easily -- that they worked until labor began and after giving birth, returned immediately to the fields. This is a myth.

The Anasazi oral traditions of legends, myths, and stories often dealt with women having problems in childbirth. One story Dr. Martin related was about a beautiful woman who already had had two children with few birthing problems. But the story continues describing the problems she had giving birth to a third child, and in the end both mother and child died. Many other stories of this nature were woven into the history of the people, marking this as a concern.

Early historic documents reveal that doctors talked to Native Americans concerning childbirth. There were many risks during pregnancies and there were many different rituals to help women through. Some of these are: the skin of a weasel passed over a woman's body would make birthing easier, and dressing quickly in the morning would make childbirth faster. There was a horse ceremony that eased childbirth and a bow string ceremony that would help untangle the umbilical cord before birth. There was the ancient Aztec story of Mociuaquetzque in which the woman became a warrior if she died in childbirth.

Childbirth in humans always has some risk. The birth canal through the pelvis is curved rather than straight, thus requiring the child to make a turn. Childbirth is more difficult for younger women because the bones don't fuse until about age 20. The Brim index is a measurement of the size of the birth canal, and a measurement below 90 indicates a probable hazardous birth with prolonged labor. In the Black Mesa area, the Brim index averaged 79.8.

Dr. Martin summarized the factors that lead to problem pregnancies, and many or most of these factors were present in prehistoric times. These were: early

menarche, teen pregnancies, poor nutrition, short birth space, high parity, chronic poor health, anemia and the type of work they were doing.

Because of the close and complex relationship between mother and child, the infants of such mothers can be expected to suffer these problems: low birth weight, reduced weight gain, impaired infant neurobehavior, low Apgar scores, reduced milk volume, increased fat loss, and decreased immune factors in breast milk.

Malnutrition was a factor in other ailments as well. Corn was the staple crop in the Black Mesa area, and findings have shown that vegetal matter made up 90% of the diet. Because of their diet, people were iron deficient. This anemia is shown in the porous bones caused by mass produced red blood cells.

Osteoporosis was common, not only with older women, but with both sexes and with younger people.

Life expectancy at birth for males was 24 years and for females, 21.6 years. In the Black Mesa area the death rate of children between the ages of 1 and 5 was 55%; between 6 and 14, it was 68%; for adult males 25% and adult females, 66%. In modern Guyana, the same percentages are 44%, 57%, 32%, and 61%.

Reported by Faith Bouchard

DEATH BY DISEASE

Dr. Ann Ramenofsky, who spoke to AAS in November on the effects of European diseases on Native Americans at the time of contact, has published an article on the same subject in the current Archaeology magazine.

As she said in her lecture, written accounts of epidemics were extremely scarce until the eighteenth century, but archaeological evidence points to such epidemics much earlier. Archaeologists can count the number of hearths, houses, or towns before, during, and after the sixteenth century to learn whether populations increased or decreased during that time. Studies in the Southeast have shown a 75 to 80% decrease in the number of towns. The spread of European diseases is the most reasonable explanation.

The ALBUQUERQUE ARCHAEOLOGICAL SOCIETY is a non-profit corporation organized under the laws of New Mexico. Its purposes are (1) to preserve and protect prehistoric and historic remains in this region; (2) to educate members and the public in archaeological and ethnological fields; (3) to conduct archaeological studies, research, surveys, and excavations; (4) to publish data obtained from research studies and excavations; and (5) to cooperate with other scientific institutions.

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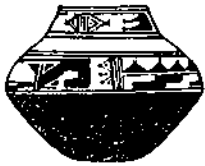
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Newsletter

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VOLUME XXVII, No. 6

June, 1992

PLANNING FOR PETROGLYPH NATIONAL MONUMENT, Albuquerque, New Mexico

by Lawrence Beal

Tuesday, June 16, 1992, at 7:30 p.m.

Albuquerque Museum, 2000 Mountain Rd. N.W., Old Town

Petroglyph National Monument was established by Congress in June 1990. This legislation directed the National Park Service to prepare a general management plan for the monument. The plan will set management goals, help define agency roles, identify appropriate public uses, and determine the functions and general locations of facilities. The plan will include general direction for resource management and interpretive programs and a Rock Art Research Center. The National Park Service is currently preparing this general management plan in cooperation with the City of Albuquerque and the State of New Mexico. We are now seeking comments and involvement regarding the preliminary management of the monument.

As Chief of Planning for Petroglyph National Monument, Lawrence Beal is responsible for directing and coordinating the preparation of the monument's general management plan. He has been preparing plans for the National Park Service for 13 years in many diverse locations, including Lowell National Historical Park, Upper Delaware National Scenic and Recreational River, five national park areas in Alaska, and Indiana Dunes National Lakeshore.

Mr. Beal has a master's degree in regional planning from the University of Massachusetts and a bachelor's degree in geography from Clark University. He is a member of the American Institute of Certified Planners.

COMING EVENTS

LAB Wednesday evenings, 7:30-9:00, and most Saturdays, 9:30-5:00, at the Old Airport Building at the south end of Yale Blvd. Call Dick Bice for directions. There will be no lab during July and early August.

PECOS CONFERENCE August 13-16, Pecos National Historical Park. Registration fee \$15 before July 13. Saturday dinner \$12, preregistered price. Reports on current fieldwork and research on Friday and Saturday, 9 a.m. to 5 p.m. On Sunday there will be several half-day tours to sites in the park.

Albuquerque Archaeological Society
Minutes, May 19, 1992

Since President Carol Condie was out of town, Vice President Jean Brody conducted the meeting. She asked guests to introduce themselves and invited them to join the society. She then introduced membership chairman Dudley King, whom they should contact about joining.

The minutes were approved as printed in the Newsletter.

Librarian Mari King brought books on the Four Corners area and on pottery.

Dick Bice said the lab would be closed in July while he and several other members will be working at the field school.

Phyllis Davis reported that the field school at Gallup was full for this summer. If you are interested in going next season, see her.

ASNM President Dudley King reported on the annual meeting held in early May at the Salmon Ruins near Farmington. Trustees elected were: Sheila Brewer, Phyl Davis, Paul Williams, and David Brugge. Alternate trustees will be Arlette Miller, Ann Carson, and Joseph Martin. The honoree for this year's book is J. J. Brody. Each member of ASNM receives a free copy of the book. Dolores Sundt handed out copies to AAS members who are also members of ASNM and invited everyone to become members of the state organization.

Jean Brody said there are still openings for the Rock Art Recording field school in Three Rivers during the last two weeks in June. Contact the Crotty's.

Joan Mathien announced the Pecos Conference to be held August 13-16 at Pecos National Historic Park. She is

looking for help at the registration desk. Please contact her if you would like to help.

Faith Bouchard said everyone enjoyed the field trip to Pottery Mound last month. We won't have another field trip till September.

Faith asked people to sign a petition to the University to continue Dave Stuart's class on Ancient New Mexico in the fall semester.

Jean Brody introduced the speaker, Eric Blinman.

After the meeting, refreshments were provided by Ann and Jim Carson.

Faith Bouchard, Secretary.

PECOS CONFERENCE TO BE HELD
AT PECOS NHP AUGUST 13-16

The 65th Annual Pecos Conference will be held at Pecos National Historical Park, New Mexico, on August 13-16. The purpose of the Conference since its organization in 1927 has been to bring archaeologists together after the summer field season in order to share information about Southwestern prehistory and discuss problems and ways to attack them.

Its informal nature and spirit of conviviality have helped the Conference achieve these goals over the years and have made it one of Southwestern archaeology's most important and longstanding conferences.

The registration fee is \$15 for those who register before July 13; \$18 afterward. A registration/refreshment get-together will be held Thursday evening, August 13, at the Lab of Anthropology on Camino Lejo in Santa Fe, 7 to 9 p.m., and

registration will continue on Friday at the Conference site at 8 a.m.

Reports on current fieldwork and research will be presented on Friday and Saturday, 9 a.m. to 5 p.m. This year's mini-symposia will focus on three topics: (1) Transitions in the Rio Grande Sequence, (2) Dating Methods, and (3) Issues of Architectural/Archaeological Documentation and Preservation.

Saturday evening a New Mexico dinner with beer and non-alcoholic beverages will be served. \$12 if prepaid, \$15 at the Conference. Music will follow.

On Sunday, August 16, several half-day tours will be offered to sites at Pecos National Historical Park.

Free primitive camping will be available at a Forest Service site between Glorieta and Pecos. Only water and toilets provided. There are a few commercial campgrounds in the area and, of course, motels in Santa Fe.

65th Pecos Conference
Pecos National Historical Park
P.O. Drawer 418
Pecos, New Mexico 87552

HOPI KACHINA DOLLS: MAXWELL'S NEW EXHIBIT

"Hopi Spirits: Contemporary Kachina Doll Carvers" is on display at the Maxwell Museum through October 11.

The exhibit, which includes more than 100 black and white and 22 color photographs, documents the development of kachina doll making and the process of carving a doll. Traditional kachinas were carved by the Hopi to represent the ancient spirits that symbolized their religious life. Today kachina doll carving has evolved into a modern art form expressing individual artistic styles as well as the cultural tradition. The exhibit documents the work of 38 Hopi carvers.

A number of kachinas from the Maxwell collection will be displayed in connection with the exhibit, which was designed by the Arizona State Museum. The kachina collection of Mrs. Maxwell is one of the core holdings of the Museum.

ARCHAEOLOGICAL CONSERVANCY BUYS ARIZONA SINAGUA RUIN

A major Sinagua ruin near Cornville in central Arizona has a new lease on life. Large protests blocked the destruction of the ruin last year and led to a new state law protecting burial grounds.

The Archaeological Conservancy, a non-profit preservation group from Santa Fe, paid \$90,000 for 18 acres which includes Sugarloaf Hill, where the Sinaguas lived in a 54-room stone complex in the 14th century.

The purchase will be funded by grants and individual contributions. An additional \$20,000 will be used for fencing and other security measures. The Conservancy would like for it to become part of the state or national park system.

The owner of the property had intended to clear the ruins and build a home there. Residents of Cornville and members of the Hopi, Apache, and Yavapai tribes organized a series of protests. The controversy led the state Legislature to outlaw digging up burial sites on private land.

AAS members are well aware that archaeological sites are rapidly being destroyed. They are being leveled for construction or agriculture and they are being looted for artifacts.

The Archaeological Conservancy is a private, national organization devoted to preserving archaeological sites. To date, they have saved 80 endangered sites in 14 states. Their method is simply to buy the sites.

They are looking for people to join in this work by making a financial contribution, which is tax-deductible.

The Archaeological Conservancy
415 Orchard Drive
Santa Fe, NM 87501

The Origin and Development of Anasazi Pottery

Lecture by Eric Blinman

Dr. Blinman said that as a student he had not wanted to work on Southwestern prehistoric pottery because he thought everything of importance had already been discovered. However, he has worked in the Four Corners area, with the La Plata highway project and with the National Park Service projects in the area. He gave credit for much of the information in this lecture to his partner, Dean Wilson, who, he says, has handled more potsherds of the area than anyone else of his age.

Dr. Blinman began his pottery chronology with Basketmaker II. The usual description of the Basketmaker II culture says they grew corn, lived in small houses, made fine baskets, but had no pottery. However, archaeologists kept finding pottery near Durango which dates to 200 A.D., Basketmaker time. Some archaeologists have thought it must be intrusive, but Blinman and Wilson believe this pottery, called Sambrito Brown, is indigenous and a precursor to the Anasazi Black-on-white wares. This transitional pottery has a coarse paste which darkens during firing. The clay was dug from arroyos and needed no temper. It fired nicely, a natural brown color, but the walls were very thick.

Between A.D. 200 and 600 alluvial clay which contained its own temper was used in both the Anasazi and Mogollon areas. Later a shale clay was used, which required added temper. We wonder how they knew they had to add temper. Blinman suggests temper made the clay easier to work, and is hoping to prove this idea in the next few years.

Lino Gray, a plainware with large angular quartz temper particles, was manufactured all over the Anasazi area as early as A.D. 500. The grayware began as plain and smoothed, but potters began to leave some corrugations showing: first just the neck of jars, then the top half, and finally the whole jar or pot. The corrugation style changed over the years, but the paste from which the pots were made stayed constant from the earliest time to the latest.

Dr. Blinman said that the paste

mixture wasn't changed because it worked. He and his associates have tried to find out why it worked. The temper is coarse, angular, crushed rock. It is believed that during the firing process it expanded to make larger voids in the clay, which remained when the temper particles shrank on cooling. They experimented with different minerals which had different coefficients of heating. The quartz that was used in these corrugated vessels would expand faster than the clay and make the walls weaker.

The cooking pots were placed on the fire, where the outside surface would be 500-600 °C, while the inside would remain at 100 °C, thus causing stress on the vessel. If a crack would begin, it would be able to go only until it hit one of those voids caused by shrinkage during firing, and then it would stop. This process seems to relieve the stress from the vessel. The soft, porous, weak paste will undergo many weak catastrophic changes, but never seems to have any major catastrophic changes.

Why were corrugated pots used anyway? Did they have better heat transfer? Were they stronger because of the textured surface? No, smooth pots transfer heat better and corrugated are no stronger. Blinman concludes that these pots were cost effective; it took only 2/3 as much time to make a corrugated pot as a smoothed one.

Although most early painted pottery is Black-on-white, pottery with a red background appeared fairly early, too. Some of it was made from iron-rich clay which fired red, but most was made with a red slip on gray clay.

San Juan Redware was everywhere in the Four Corners region prior to A.D. 1050; in 1051 you couldn't find it anymore. Blinman suggests this phenomenon as a study topic. After that, there was a proliferation of types with a paste that fired orange or yellow.

Until 1982, no pottery kilns had been found, and therefore no one really knew how prehistoric people fired their pottery. Then five kilns were found and excavated,

and other very similar ones have been found since. They were about one meter wide, 30 centimeters deep, and two to eight meters long. The bottoms of the kilns were covered with jagged rocks, which let the air circulate throughout the firing process. Theoretically the kilns are limited to open fire temperature of 800 C, but in the trench it can get as high as 1000 C. The trench sides and covered top cause some heat to be radiated from the walls back into the kiln.

Kilns weren't discovered before 1982 because of their location and the fact that no one knew what to look for. The kilns are located as much as two miles from the habitation. It seems that the pots were brought to the source of fuel, instead of the fuel being brought to the pots. Now over 600 kilns have been identified.

Dr. Blinman concluded with the theory that thick-walled pottery and trench kilns had a relationship which hasn't yet been discovered.

Reported by Faith Bouchard

THEY'RE STILL LOOKING FOR GOLD AT GRAN QUIVIRA

National Park Service rangers cited eight California men for illegal damage to Gran Quivira, the largest pueblo in Salinas National Monument. The men were charged with "prospecting and mining within a national park." One man admitted to having used a device he called an "electroscope" in hopes of locating treasure. They got the device from a man who told them there was gold at Gran Quivira. They dug a hole six feet in diameter and five feet deep before leaving the site. Although no artifacts were taken, NPS rangers found a shovel, posthole digger, trash, a shotgun, two rifles, a bow, camping gear, and a semiautomatic pistol with silencer at the site and in their vans. In addition to the charges, the men were required to repair damage to the site.

FEDS URGE PUBLIC PARTICIPATION IN ARCHAEOLOGICAL PRESERVATION

The theme of the "Federal Archeology Report" for March, 1992, is programs that improve the stewardship of America's archaeological heritage through public education and participation.

The report describes programs in many states in which professional and amateur archaeologists work together to their mutual benefit. Amateurs receive training and an opportunity to satisfy intellectual curiosity or whatever motivates them. The professionals get hands and backs and minds to assist in uncovering (literally) information, as well as an opportunity to increase public awareness of the significance of archaeological resources.

New Hampshire has a State Conservation and Rescue Archaeology Program (SCRAP). The acronym SCRAP was inspired by the Persian word for archaeologist, "Bastanshanas," which means "one who collects garbage." The acronym was chosen not only as a description of most of the material upon which archaeologists focus, but as a means of bringing a little levity into the program. It implies that the professionals do not take themselves and their esoteric knowledge too seriously, thereby reducing the potential for friction between professional and avocational archaeologists.

The Albuquerque Archaeological Society has excavated many sites over the years, sometimes under professional guidance, sometimes with amateurs as directors, and mostly with a combination. No matter who is directing the dig, the object is to do the work competently and scientifically. At present, the emphasis is on analyzing the information and writing the reports on our digs.

The same is true for the Archaeological Society of New Mexico in their two field schools. The combined leadership of professional and avocational archaeologists aim to teach their students not only good techniques but also an appreciation of the need to preserve the archaeological resources.

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EDITOR EMERITUS	Beryl McWilliams

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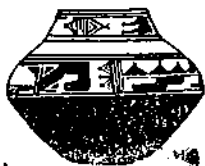
FIELD TRIPS and SEMINARS held during the year. EXCAVATION and SURVEYS as scheduled.

ALBUQUERQUE ARCHAEOLOGICAL SOCIETY is an affiliate of the ARCHAEOLOGICAL SOCIETY OF NEW MEXICO. Membership includes a monthly meeting with a lecture, and opportunities to participate in laboratory projects, field trips and cooperative activities with other archaeological institutions. ANNUAL DUES: Individual \$12.00; Family \$16.00; Sustaining: Single \$20.00, Family \$30.00; Institutional (Newsletter only) \$8.00.

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VOLUME XXVII, No. 5

May, 1992

ORIGINS AND DEVELOPMENT OF ANASAZI POTTERY

by Eric Blinman

Tuesday, May 19, 1992, at 7:30 p.m.

Albuquerque Museum, 2000 Mountain Rd. N.W., Old Town

Using information from his work in the Four Corners area during the past ten years, Dr. Blinman will be looking at production techniques, resource selection, production organization such as possible specialization and how these changed through time.

Dr. Blinman did his undergraduate work at the University of California at Berkeley and received his M.A. and Ph.D. from Washington State University. His Southwest experience began with work at the Dolores Archaeological Program. Since then he's worked with collections from all the Four Corners states and with the La Plata Project. He is currently with the Museum of New Mexico Office of Archaeological Studies.

JUST TO REMIND YOU that a class will be in session in the open area near the auditorium before and during our meeting.

COMING EVENTS

LAB Wednesday evenings, 7:30-9:00, and most Saturdays, 9:30-5:00, at the Old Airport Building at the south end of Yale Blvd. Call Dick Bice for directions.

MAXWELL MUSEUM Thursday, May 21, 7:30 p.m. "People of the Southwest" Lecture. "Impact of the Railroad on Native American Arts and Culture," by Bruce Bernstein. \$2.00 (\$1.00 MMA)

May 30 and 31. Chaco Canyon Field Trip. Pre-registration required by May 18. \$40 Adults (\$35 MMA) and \$15 Child under 17 (\$10 MMA) Call 277-5963 for more information.

ROCK ART RECORDING FIELD SCHOOL June 5 - July 3, 1992, at the Three Rivers site. Contact Jay Crotty, Star Route Box 831, Sandia Park, NM 87047, phone 505-281-2136.

EXCAVATION FIELD SCHOOL July 5 - July 31, 1992, at the Vidal site near Gallup. Contact Phyl Davis, 3713 Camino Sacramento, Albuquerque, NM 87111, phone 505-299-7773.

Albuquerque Archaeological Society
Minutes, April 21, 1992

President Carol Condie called the meeting to order and asked visitors to introduce themselves if they wished. The minutes of the previous meeting were approved as printed.

Dudley King announced the ASNM spring meeting to be held May 1, 2, and 3 at the Salmon Ruin at Bloomfield, and asked people to contact him if they needed details.

Dick Bice gave the hours the lab is usually open and said it would be closed on May 2.

Phyllis told about the Field School in Gallup. Anyone in need of information should contact her.

Jay Crotty said that this is the last year the Rock Art Field School will be held at Three Rivers. If you want to go, contact him asap.

Jean Brody introduced the speaker, Dr. Stephen Lekson.

Arlette Miller provided refreshments after the meeting.

Faith Bouchard, Secretary

A GREAT TRIP TO POTTERY MOUND
Reported by Faith Bouchard

We all had a great time on our trip April 25! We had a large group, 31 varied and unique people. We were glad to have two knowledgeable people who were able to answer all our questions. Our own member Jim Bieberman, who always has an extensive amount of knowledge, was gracious enough to help out. We also had Paul Kay, who had worked on the site in the 1960's as one of the artists. Paul lives in Denver but was doing some work with OCA this past week and heard about our trip.

The group was indeed a diverse one. We had a visitor from the Estancia/Torrance County society, a T-VI instructor of anthropology, OCA people, members of the Tijeras group, members of our society, and other visitors. We had one unwelcome visitor, a rattlesnake, but it didn't cause us any problems.

The road gave us some problems, but we just left the cars and went in the back of the trucks. The site was worth the wait, and we did have a great time.

Everyone enjoyed the different talks and seeing all the pottery that was still left on the surface. We saw all types of pottery from Biscuitware to glazeware with a dragonfly motif and part of a pipe, as well as lithics.

The Professional and the Avocational Archaeologist:
The View From Mimbres and Elsewhere
Lecture by Stephen Lekson

Dr. Lekson opened his lecture by giving the dictionary definitions of both amateur and professional. An amateur is a person who does not work full time and doesn't get paid for the work. A professional gets paid, it's his job, and he is usually educated in that field.

In sports amateurs are highly respected for their talents; in Olympic competition, even more than their professional counterparts. In archaeology, the amateur is often disdained, but Steve gave examples of avocational archaeologists who, though essentially untrained, worked as scientifically and productively as professionals.

The Southwest was the center of archaeological interest in the '20's and '30's, and money and people were dedicated to this area. A. V. Kidder was working in the Anasazi area when Harold Gladwin approached him, wanting to work in archaeology. Gladwin was a wealthy avocational archaeologist. Kidder recognized talent and sent him into the Arizona area later to be known as Hohokam. Gladwin surveyed all around the Phoenix Basin and discovered pottery types different from the Anasazi pottery.

Emil Haury went into the area south of Anasazi and dug pithouses above the San Francisco River, which later became known as Mogollon.

In the 1920's Burt and Hedy Cosgrove ran into Kidder at the Maddox Ruin. Again he spotted someone with talent and encouraged them in their work in the Mimbres area. Kidder thought the Mimbres were Anasazi wanna-be's. He thought the pottery was great but the sites themselves were regrettable. Kidder had been dealing with Anasazi buildings and thought Mogollon to be very crude. The Cosgroves still have the best field report on the area -- Swarts Ruin.

In the 1970's Rockefeller discovered primitive art, and museums began to place this art next to that of Renoir or Monet. Pothunting, though certainly not a new activity, became a new industry; bulldozers were used to find pots. Since pots could bring \$10,000 each, everyone became a pothunter.

In 1989 the legislature passed a law that was designed to prevent wholesale pothunting and to preserve sites. But since the law did not go into effect for 30 days after it was signed, between April 6 and May 6, 100 sites were bulldozed. Half of the Mimbres sites are gone, a quarter are severely damaged, only one quarter were not bulldozed.

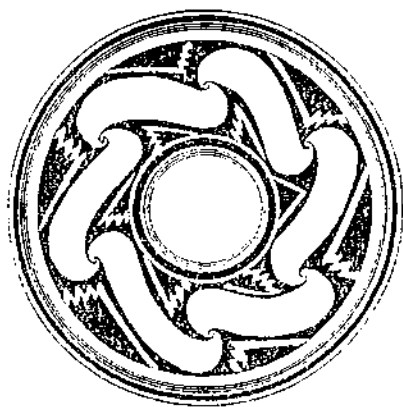
In 1988 Senator Bingaman started a study for a Mimbres National Monument. Steve believes that Bingaman was doing this in the best interest of the area. Bingaman soon found out that this was a political hot potato. Many people gave him a hard time. The Park Service had problems with some local people who didn't like dealing with a large federal agency. They feared that the government was going to take their land or cause it to be less valuable. However, the four sites included in the plan were not owned by private individuals. The T.J. Ruin is part of Gila National Monument. Cameron Creek is owned by the Phelps-Dodge Corporation and Matlocks Ruin by the Mimbres Foundation. Both of these are willing to sell to the N.P.S. Woodrow Ruin, the fourth site, is owned by the State of New Mexico. It is the largest surviving Mimbres site that is relatively intact.

One of the big problems during this time was the fact that the professionals were not making the avocationalists understand that information from the site is important. The locals felt that the professionals were taking the pots from the sites to sell them when they got back to their home area.

If you would like to express your views on the proposed Mimbres National Monument, write to Rep. Joe Skeen or Rep. Bruce Vento, Subcommittee on Parks and Public Land, 2304 Rayburn HOB, Washington, DC, 20515. If you would like information you may also contact the Park Service.

Dr. Lekson ended by saying that AAS should be proud of the work it does as an avocational archaeological society. People respect the society and the work they are doing.

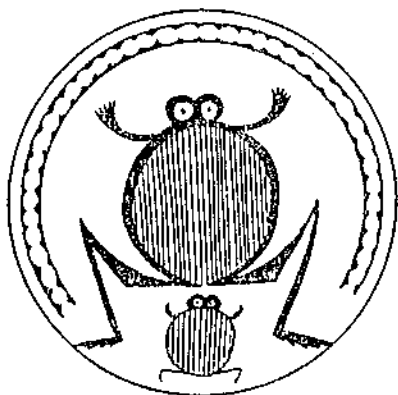
Reported by Faith Bouchard



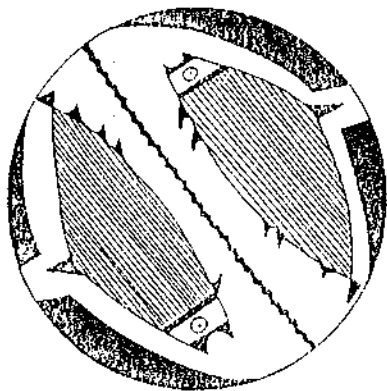
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From the Swarts Ruin

ANNUAL MEETING OF ASNM HELD AT SALMON RUINS MAY 1, 2, 3

About a dozen members of the Albuquerque Archaeological Society joined to hobnob with their fellow diggers at the annual meeting of the Archaeological Society of New Mexico the first weekend in May. The meetings were held at the Salmon Ruins Visitor Center. The San Juan Archaeological Society was the host for the meeting, with assistance from other local archaeological groups. Thanks to all who helped with the excellent arrangements for the meeting.

I want to put in a plug for the Salmon Ruins Center. They have a good museum and library and offer interesting tours. They have 26,000 visitors a year, of which 8,000 are school kids. Friday evening I took the outdoor "Tour Through Time," led by Patti Bell. She gave an interesting presentation of the development of dwellings and tools from Paleo mammoth hunters to several cultures of near-contemporary time. The school children get to throw spears or atlatls at a target on a mammoth, but we adults skipped that. We went inside models of a pithouse, teepees, and hogans and got much better knowledge of these structures than we ever could from pictures. Patti said that an Apache consultant had told her, "You'll never get a husband with a saggy teepee like that." Maybe hides work better than canvas.

ASNM President Dudley King opened the meeting on Saturday by introducing the 1992 honoree, Jerry Brody, and presenting him with the book of collected papers published in his honor.

Three AAS members presented papers. Jay and Helen Crotty described the ASNM Rock Art Recording Field School, and Bart Olinger talked about the Pottery from the Arroyo Hondo Site. (It comes from many different sources.) I may be biased, but I thought these were among the very best of the papers presented.

Polly Schaafsma gave the Bandelier Lecture at the banquet, speaking on imagery in Navajo rock art.

Next year the Albuquerque Archaeological Society will host the meeting.

Reported by Dolores Sundt

BOOK REVIEW

Farmers, Hunters, and Colonists

*Interaction Between the Southwest
and the Southern Plains*

Katherine A. Spielmann, Editor, 1991
The University of Arizona Press
Tucson

Hard Cover, (ix), 169 pp. Bibliography

By Leona B. Dees

A Conference on the topic of the Plains-Pueblo interaction involving both archaeologists and historians was held in September 1987 at the Fort Burgwin Research Center of Southern Methodist University, Rancho de Taos, New Mexico. The volume provides an analysis of the evolution of inter-societal relations between the Southwestern and Plains populations from the late prehistoric, protohistoric, and historic periods (ca. A.D. 1200-1870) and is an attempt to capture the dynamic nature of Plains-Pueblo interactions as environmental, demographic, social, and political conditions changed in the two areas.

Conference attendees were:

Timothy G. Baugh
Judith A. Habicht-Mauche
Frances Levine
Christopher Lintz
David H. Snow
John D. Speth
Katherine A. Spielman
David R. Wilcox

The first three chapters elaborate upon mutualistic Plains-Pueblo interaction through discussion of (1) factors that sustained and affected Plains-Pueblo exchange (Speth), (2) aspects of competition and parasitism that were components of this interaction (Spielmann), and

(3) the importance of exchanged goods other than food to the adoption of Plains nomads (Habicht-Mauche).

The five remaining chapters place the protohistoric system in the broader context of Southwest and Plains intersocietal relations. Three chapters, one focusing on the Southwest (Snow) and the others on the Southern Plains (Lintz, Baugh) analyze intersocietal relations between A.D. 1200 and 1450.

Both Lintz and Baugh argue that this trade was but one of a series of strategies to acquire substance resources beyond locally produced horticultural products on the Southern Plains.

(Snow) focuses on farming populations who lived at different altitudes at the Eastern border of the Southwest. He argues that short falls in horticultural products at high altitudes may have been recurrent enough that exchange with farmers at lower altitudes became regular and in essence mutualistic. Meat and hides may have moved from higher altitude farmers in return for seed corn from lower altitude farmers.

The intent of Wilcox's chapter is to place the Plains-Pueblo interactive system in the context of other prehistoric interactive systems operating in the Southwest, such as those based at Casas Grandes and within the Rio Grande valley.

The final chapter, by Levine, focuses on the historic participation of Spanish colonists in trade with Plains groups. Levine focuses on the Comanchero trade between Hispanic New Mexicans and Plains Comanches during the eighteenth and nineteenth centuries.

Speth states that intergroup food exchange is a complex, multifaceted phenomenon that can involve much more than just a simple buffering response when subsistence returns fall short of need. Four aspects of this phenomenon are: (1)

the impact of mutualistic food exchange of hypergyny--the outflow by marriage of hunter-gatherer women into Pueblo communities, (2) the annual timing of mutualistic food exchange between farmers and foragers stemming from nonsynchronicity of their seasonal or interannual hunger periods; (3) changing strategies of protein acquisition by farming communities in response to increasing horticultural commitment, greater village permanence, and local large-game depletion; and (4) nutritional constraints that push hunter-gatherers to exchange protein for carbohydrates with farmers.

Spielman (1982, 248-251) and others summarize the major wild plant foods that would have been available to foraging groups in the Southern Plains grassland. These include the sugar rich outer pods of mesquite, (the seeds are extremely high in protein), acorns, walnuts, pecans, various fruits (e.g., persimmon, hackberry, wild plum, grapes, yucca and prickly pear) grass seeds and a few roots, tubers, and bulbs (e.g. prairie turnip, wild onion, and Jerusalem artichoke). Despite the apparent diversity of plant food on the grassland, few were important sources of starch, and most were not abundant or productive enough, or sufficiently reliable, to serve as major staples, leading (Spielmann) to the conclusion that "reliable sources of carbohydrates do not exist on the Southern Plains," thus the attractiveness of Pueblo corn.

The evolution of Plains-Pueblo interaction is reflected in the kinds of materials that were traded. Although little emphasis is placed on Plains materials at Pueblo sites, the dominant preservable products found include Alibates agate, elbow pipes, occasional cord marked pottery, a wide range of bone tools, bison metapodial fleshers or tibia digging-

stick tips, etc. Tangible Pueblo materials occurring among Antelope Creek sites along the Canadian River include ceramics, obsidian from the Jemez Mountains, stone (turquoise) and shell jewelry, pipes and perhaps exotic materials.

One key component in the economy of New Mexico was the Plains-Pueblo trade fair. A variety of commodities were exchanged. In addition to buffalo hides, the Spaniards placed a high premium on slaves who were used in the silver mines of Northern Mexico or as domestic servants in local New Mexican households. Later many of the captives and/or their descendants became genizaros who were settled in a number of buffer communities between the nomadic Plains groups and the Hispanic and Pueblo communities. Slaves were at first obtained by the Plains Apache through raids on the Plains Caddos, but the Athapaskan's inability to acquire large numbers of captives and the Spaniard's increasing demands soon led to raids against and enslavement of the Apache themselves (Forbes 1960, 148).

Items exchange brought by the Comanche at the Taos trade fair in 1776 included buffalo hides, white elk skin, horses, mules, buffalo meat and slaves. They also traded guns, pistols, powder, ball, tobacco and hatchets. The Spanish crown maintained a delicate truce with the Apache, Comanche and other Plains Indian groups in part by providing annual or at least regular distribution of symbolic and substantive goods. Included were various kinds of domestic and imported textiles and garments, such as capes, skirts, cotton armor and hats. Also, knives skewers, kettles, hatchets, griddles, sugar, glass beads, mirrors and other trinkets.

Comanchero trade involved the Hispanic settlers on the Eastern

plains who ventured out on the Plains in wooden trading wagons. The village of San Miguel del Vado grew significantly in the later years of Spanish rule and gradually replaced Pecos Pueblo as the focal point for Hispanic-Plains Indian commerce.

Whipple (1853-54) provides some ethnographic data on Plains Indian-New Mexican trade. He lists flour, biscuits, sugar, hard bread and tobacco as the principal goods carried by the comancheros and exchanged for horses and buffalo robes. Other items and ornaments that were probably received in trade by the Kiowa and Comanche, including brass nails, metal arrow points, brass rings, silver buckles, medallions and crescent-shaped ornaments, brass wire bracelets, and colored beads.

Kenner (1969) provides a summary of the trade that has been the most widely quoted source of information on the Plains-Indian-New Mexican trade (Levine) feel Kenner's emphasis on cattle rustling and whiskey trade presents a view of comanchero trade in its decline, which the expansion of the American frontier aided and abetted.

The volume provides insight into both the types of intersocietal relations that existed among prehistoric nonhierarchical societies and the nature of change when more complex societies enter an interactive system. It has limited appeal except to those researching the subject, Levine's chapter being the exception.

* * * *

PRE-BURIAL PRACTICES OF THE PAST

The body of Admiral Horatio Nelson, killed at the Battle of Trafalgar, was sent back to England perfectly preserved in a cask of brandy and sherry.

After his death, Alexander the Great's remains were preserved in a huge crock of honey. It was common practice among the Ancient Egyptians to preserve the dead in this manner.

All of which leads to this hoary old Grape Joke:

Q. Who did they find in Alexander the Grape's tomb?

A. Alexander the Raisin.

You can't take it with you because it goes before you do.

NEW ROCK ART DISCOVERIES

The editor recently received a free copy of a new publication, "International Newsletter on Rock Art." As the title indicates, it contains news of rock art reports, finds, and meetings all over the world. Those of you who would like to brush up on your française would find it valuable because articles appear side by side in French and English.

One interesting article reports the finding of the apparently largest known rock painting in the world in the Victoria River District of the Northern Territory Australia. It is the picture of a snake. With a coiled-up body measuring more than 1 m in width, the red painting is about 24 m or 25 m long.

Hardly had this report been published when another researcher located an even larger painted motif in the Kimberly District of northern Australia. It is an incompletely preserved bichrome painting in white with red outline, now 43.7 m. It was probably more than 50 m originally, and could have been one of the long-torso anthropomorphs of the early Wandjina period, which usually have a rayed headdress. Both ends of the figure have been lost.

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VOLUME XXVII, No. 7

July, 1992

PROTECTING THE PAST FOR THE FUTURE

by Lynn Sebastian

Tuesday, July 21, 1992, at 7:30 p.m.

Albuquerque Museum, 2000 Mountain Road N.W., Old Town

Lynn Sebastian has been assistant to the State Historical Preservation Officer, but has just been appointed to the post of State Archaeologist. Her talk will address the different federal and state laws that are designed to protect archaeological resources, both prehistoric and historic. She will explain how these laws are supposed to work and how they sometimes don't work.

Dr. Sebastian is a Southwest archaeologist and has worked in all four of the Four-Corner states. She got her M.A. at the University of Utah and her Ph.D. from the University of New Mexico. Her major area of interest is Chaco, with specific concentration in social and political organization.

COMING EVENTS

LAB is closed during July and August until after the Pecos Conference.

PECOS CONFERENCE August 13-16, Pecos National Historical Park. Registration fee \$15, Saturday dinner \$12 before July 13; \$18 and \$15 afterwards. Reports on current fieldwork and research on Friday and Saturday, 9 a.m. to 5 p.m. On Sunday there will be several half-day tours to sites in the park.

CORONADO TRAIL CONFERENCE August 21-23 at Highlands University in Las Vegas. "Where Did the Encuentro Happen in the Southwest?: Questions of the Coronado Expedition's Route." Contact Shirley Flint, Box 216, Villanueva, NM 87583

Albuquerque Archaeological Society
Minutes, June 16, 1992

Carol Condie opened the meeting and welcomed visitors, including three from North Carolina who were here with an internship program. The minutes of the previous meeting were approved as printed.

Dick Bice announced that the lab would be closed during the month of July and would reopen in the middle of August after the Pecos Conference.

Jay Crotty announced that the Rock Art field school would begin on Saturday, June 20 and end July 3.

Lance Trask presented to the group his next installment of Rock Art in the Jemez. It will be available in the library at the lab.

Faith Bouchard announced two future field trips. One to Paako this summer is planned as a working field trip. Once we get permission, we will be fixing the fences at Paako, and herding cattle and horses off the property. It will be few hours of work in the morning, lunch, and then a tour of the site.

The second trip is planned for September 26 to El Malpais National Monument. This trip will include a 45 minute hike and a discussion on cultural awareness concerning Acoma. The hike and discussion will be led by Darwin Vallo, an Acoma native. We will meet at Winrock Mall near Marshalls and Wards about 9:30. It's a two-hour drive. After lunch we will be ready to meet our guide. He will discuss Acoma and Zuni pueblos, historically and prehistorically. If you have

questions, call Faith at 842-5604.

Jean Brody introduced the speaker, Lawrence Beal.

After the meeting, refreshments were served by Edith Boettcher.

Faith Bouchard, Secretary

PECOS CONFERENCES VOLUNTEERS
ARE NEEDED

Registration for the 65th Annual Pecos Conference, August 13-15, 1992, will be handled by ASNM members as part of our cooperative contribution to this outstanding event. We need volunteers to collect fees for the conference registration, dinner tickets, T-shirts, and commemorative ceramic pots, as well as hand out name tags on Thursday evening at the reception at the Museum of New Mexico Laboratory of Anthropology between 7-9 p.m., and all day Friday, and Saturday morning at the conference site--Pecos National Historic Park.

If there are a lot of volunteers, each one will spend only a few hours at the registration table and will have plenty of time to visit friends, listen to reports, and catch up with all the archaeological news. If you would like to help, contact Joan Mathien at 988-7600 (Tues., Wed., and Fri.) 988-6744 (Mon. and Thurs.) or 275-1144 (evenings and weekends) by August 1 so that a schedule can be worked out prior to the conference. Many thanks.

FEDERATION FIELD SCHOOL TO BE HELD BY MIDLAND SOCIETY

Federation Field School to be held Sept. 5-7, Labor Day weekend, and October 10-12, Columbus Day weekend, will be an opportunity to do some Plains-type archaeology and get some exposure to the Southeastern area of New Mexico. The site is in Roosevelt County near Portales, New Mexico. The camp for the participants will be near Portales at an RV park with full facilities.

The site is a buffalo kill site, probably late Historic Period. Over 25 years ago, the Llano Archaeological Society did some test excavations at this site, but didn't determine the extent of the site or survey the surrounding region. The research design for this field school is to survey the area and test around the previous excavations to determine the extent of the kill site.

If you are interested in this field school, contact James Word, P.O. Box 655, Floydada, Texas 79235, or Teddy Stickney, 201 West Solomon, Midland, Texas 79705, (915) 682-9384.

FOUR CORNERS ROCK ART FIELD SEMINAR

Polly Schaafsma and Crow Canyon Archaeological Center in Cortez, Colorado, are collaborating on a Rock Art Archaeological Field Seminar which will be offered on October 8 - 17. Tours will visit rock art sites in Barrier Canyon of Canyonlands National Park, the Ute Mountain Reservation south of Cortez, Navajo petroglyphs in Delgadito Canyon, Comanche Gap, Albuquerque West Mesa, Village of the Great Kivas at Zuni, and Canyon de Chelly. A one-day raft trip down the San Juan will visit additional rock art sites accessible only from the river. For fees and information contact Dr. Stuart Struever, Crow Canyon Archaeological Center, 1777 S. Harrison St., Suite 815, Denver, Colorado 80210 or telephone (303) 759-9212.

EARLY PERUVIAN AGRICULTURE

Indians of the Andes have been cultivating the potato for at least the last 4000 years. These Indians were great agricultural experimenters, and they learned how to produce high yields of potatoes. Instead of the modern agricultural method of altering the environment to suit the plant, they tried to develop a different kind of plant for every type of soil, sun, temperature and moisture condition. They developed potatoes in a variety of sizes, textures, colors, and flavors.

At the time of the Spanish conquest, Andean farmers were producing about three thousand different types of potatoes. This compares with the mere 250 varieties now grown in North America, of which no more than twenty varieties constitute three-quarters of the total potato harvest.

The Incas produced many other tuber and root crops which are no longer grown. They grew corn in many varieties and diverse habitats, and cultivated other grain crops such as amaranth and quinoa as well.

The success of these early farmers is visible today in the extensive agricultural ruins of the Urubamba Valley, stretching from Machu Picchu to the Inca capital of Cuzco. Crumbling watchtowers along the ridges overlook empty villages. Irrigation canals once brought water down from the melting snows to the terraces. Now the terraces are broken down and the canals are filled with rock and mud.

This valley must have been magnificent before the conquest. Green terraced fields continued for miles; now parched parcels of land, crumbling terraces, and destroyed bridges are all that remain. As Spanish armies, clergy, and disease swept through the river valley, whole villages died or were taken away to work in the silver mines. The valley now has only a fraction of its former population. While the fields lie neglected, the government of Peru imports potatoes from the Netherlands to feed the people.

Excerpted from Indian Givers
by Jack Weatherford

Planning for Petroglyph National Monument Lecture by Lawrence Beal

The Petroglyph National Monument was established in June 1990 as a partnership between city, state and the federal government. Mr. Beal discussed the general management plan and the issues involved with the plan. He encourages continued involvement by the public.

The site has five volcanos, 17,000 acres, and a 17-mile escarpment with thousands of petroglyphs. Ninety percent of the petroglyphs are dated 1300 to 1700. The other ten percent are believed to be archaic.

Mr. Beal discussed some of the questions that relate to the Monument's relationship to the City of Albuquerque. What kinds of facilities are needed for visitors? What will be the effects on the immediate residential neighborhood? What about traffic and parking? How will the additional trash be handled? (This was once a site for major dumping. Now dumping is done off the site.) Will shooting at the petroglyphs be stopped? Will a fence be necessary? What will be the impact on the site of the Double Eagle II airport, especially in 20 or 30 years when it is the largest airport in the area? What about privately owned land when the owners want to develop it? What will be the impact on the site of bringing in electric power and storm drainage and building a permanent visitors' center?

Mr. Beal introduced three alternatives for the area. The first alternative, a new road would be built on top of the escarpment which would allow visitors to drive to parking areas and then walk to the petroglyphs. (Many comments and questions were voiced at this time: Would this road be any better than the proposed Unser or Paseo del Norte roads through the site?) An intensive visitors' center would be located on the south edge of the escarpment. There would be limited excavation, recreation, and bus shuttle service.

The second alternative is a larger use area with the visitor center at Rinconada Canyon. There would be no off-trail areas, but there might be horse trails and non-motorized bike trails. Limited excavation would be permitted.

The third alternative is a very restricted area with the visitors' center in the State Park area. Limited guided tours would be offered, which might include Piedras Marcadas, the volcanos, Marsh peninsula, and Rinconada Canyon. There would be only pedestrian use on the mesa top. There would be access points for the surrounding neighborhoods, with limited parking facilities.

All of these alternatives are being researched. Visitors usually stay at a National Monument forty minutes. How much can a person see in forty minutes? What do they want to see in forty minutes? Do people want to see all the petroglyphs, or are a few enough? How do Native Americans want the site interpreted? These are but a few of the questions now being studied, and the Petroglyph Monument committee is always looking for input into these plans.

The purpose of the National Monument is to preserve the petroglyphs for future generations through education, interpretation, walks, and limited use areas. There are plans for a rock art research center and neighborhood involvement groups to help manage the area.

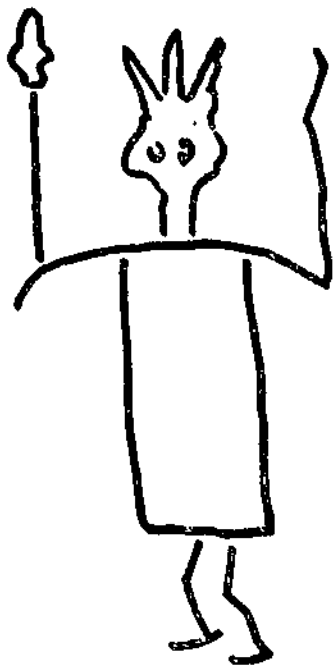
Reported by Faith Bouchard



I recently received this article for publication in the Newsletter from Dr. George A. Agogino, Distinguished Research Professor in Anthropology, Emeritus, Eastern New Mexico University. He sent it in response to our frequently voiced concern for petroglyphs, and I gladly pass it on to our readers. The article was originally published in The Wyoming Archaeologist, Vol. 36, Nos. 1-2, 1992.

DESECRATION OF VALUABLE PICTOGLYPHS by George A. Agogino

My message will be brief and to the point. I will only show one example, from the Twin Buttes site west of Kenna, New Mexico (Figure 1). Few interested in archaeology, anywhere in the United States, have not seen the wholesale senseless destruction of this art. The destruction is normally either by vandals signing their names to this art, or simply shooting pistol or rifle bullets into the stone canvas holding this art.



IM BERR

In every state of this nation, some centuries old, non-replaceable Indian art is painted over or etched over. Native American artists used stone as their canvas, because it seemed to promise that this work would withstand the ravages of time. It has withstood erosion well, but not the

stupid sacrilege by the hand of contemporary man.

I have speculated why this is done, yet I cannot come up with a logical answer. It is destruction totally without any understandable reward. The religious and artistic creations by the hands of our Native Americans, a link between the past and present, have been broken by unthinking vandals. I am glad my initials are not on such representations. My only conclusion is that the individuals that do such destruction are soulless, mindless individuals without compassion or feeling for either the past or the future. What they cannot appreciate themselves, they are destroying, so that their betters, more sensitive individuals, cannot enjoy this link with the past.

Comparable to this situation would be someone leaving their initials on the altar of St. Peter's Cathedral in Rome, or the Lincoln Memorial, or by marking with paint across a priceless canvas of a long dead master painter. The only permanence these vandals leave behind is their names, initials or the permanent destruction of something valued by millions. Their names and initials, identifying them as people, are such that I would never want to meet or to be associated with in any manner.

STAMP HONORS EARLY SETTLERS

Centuries before Columbus arrived in America, Asians braved the unknown to cross a land bridge over what is now the Bering Strait to the far northwest America. On October 12, 1991, the U. S. Post Office issued a 50-cent stamp honoring these pioneers. Stamps honoring other pre-Columbian explorers will be issued in the future.

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LABORATORY SESSIONS weekly: Wednesday 7:30 pm, and on scheduled Saturdays, Old Albuquerque Airport building, west basement entrance.

FIELD TRIPS and SEMINARS held during the year. EXCAVATION and SURVEYS as scheduled.

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VOLUME XXVII, No. 8

August 1992

ACROSS THE COLORADO PLATEAU: ANTHROPOLOGICAL
STUDIES ALONG THE TRANS-WESTERN PIPELINE

by Joseph C. Winter

Tuesday, August 18, 1992, at 7:30 p.m.

Albuquerque Museum, 2000 Mountain Road N.W., Old Town

A recent project of UNM's Office of Contract Archaeology involved the excavation of over 160 archaeological sites and the investigation of over 50 current Navajo and Hopi localities of importance between Bloomfield, New Mexico, and Needles, California. Joe Winter will describe the work and the findings at our next meeting.

Dr. Winter did his undergraduate studies at the State University of New York at Binghamton and earned his Ph.D. at the University of Utah. He is director of the Office of Contract Archaeology at UNM. His research and publications have dealt with the development of agriculture at Hovenweep and with Navajo and Anasazi agriculture in the San Juan Basin. He has also investigated the pre-revolt Dinétah Phase of the Navajo occupation in northwestern New Mexico and the history of ranch life in eastern New Mexico.

COMING EVENTS

LAB is closed until after the Pecos Conference. Then it will be open on Wednesday evenings, 7:30-9:00, and most Saturdays, 9:30-5:00 at the Old Airport Building at the south end of Yale Blvd. Call Dick Bice for directions.

PECOS CONFERENCE August 13-16, Pecos National Historical Park. Registration fee \$18, Saturday dinner \$15. Reports on current fieldwork and research on Friday and Saturday, 9 a.m. to 5 p.m.. On Sunday there will be several half-day tours to sites in the Park.

CORONADO TRAIL CONFERENCE August 21-23 at Highlands University in Las Vegas. "Where Did the Encuentro Happen in the Southwest?: Questions of the Coronado Expedition's Route." Contact Shirley Flint, Box 216, Villanueva, NM 87583

MAXWELL MUSEUM Field trip to Canyon de Chelly, September 3-7. Led by archaeologist Don Keller. \$375 per person. Cost includes all food, expert staff, Navajo guide, supplies, and fees.

AAS FIELD TRIP TO EL MALPAIS NATIONAL MONUMENT. September 26. Meet at Winrock Mall near Marshalls to carpool.

GRAN QUIVIRA CONFERENCE XXI October 8-11 in San Diego and Mission San Juan Capistrano. Registration fee \$20. Send to Diane Barbolla, c/o Humanities Institute (Olafson), San Diego Mesa College, 7250 Mesa College Dr., San Diego CA 92111-4998. Reservations requested by August 20.

Albuquerque Archaeological Society
Minutes, July 21, 1992

Carol Condie called the meeting to order and asked guests to introduce themselves. The minutes were approved as published.

Librarian Mari King brought old magazines that were not being utilized at the lab.

Jay Crotty announced that the Rock Art Field School didn't finish the project at Three Rivers and that they will be going back in September. The area they worked on this year was about 20 meters square and they took over 200 photos. Jay said that they had a good crew and that they worked a total of 2200 man hours on the project this time. BLM certainly got their money's worth!

Faith Bouchard reported that the field trip to El Malpais National Monument is set for September 26. We will meet at Winrock to carpool. People can sign up at the next meeting. The Paako trip is still not finalized. There we will be fixing the

fences and gate, herding cattle off, and then touring the site. More information at the next meeting.

Carol announced the deaths of two members, Fred Plog and Herb Dick. Both were professional archaeologists.

Carol introduced the speaker, Lynne Sebastian.

Refreshments were provided by the Friends of the Tijeras Pueblo.

Faith Bouchard, Secretary

STAFF CHANGES IN
STATE ARCHAEOLOGY

Recent staff changes in state archaeological positions were announced last month. Lynne Sebastian will be State Archaeologist but will continue to serve as Deputy State Historic Preservation Officer. She and the HPD staff are planning to devote increasing amounts of time to public awareness and public education programs.

They will work on strengthening ties between avocational and professional archaeologists, producing popular publications on the archaeology of New Mexico, and sponsoring a statewide archaeology fair.

Former State Archaeologist Curtis Schaafsma will be Curator of Anthropology at the Museum of Indian Arts and Culture/Laboratory of Anthropology in Santa Fe. He will be devoting his time to the archaeological collections at MIAC/LAB and to public tours and other Museum activities.



MAXWELL MUSEUM IS LOOKING FOR ADDITIONAL DOCENTS

If you are looking for an ongoing educational experience in anthropology, one that you can share with others, being a Maxwell Museum docent may be just what you want. The Maxwell is looking for volunteers to train as docents.

Docents sometimes give students hands-on experience with prehistoric tools or folk music instruments or learning what "artifacts" might say about an "unknown" group of people. Or they give tours at the museum, answering questions about the items in an exhibit.

Mary Smith, education director, will head the docent training sessions this fall. The weekly training sessions last a little more than two months in the fall, continuing with monthly sessions in the spring. Docents continue their learning experiences with each new exhibit in the museum as they prepare to guide tours. It takes about three years to learn all the programs involving docent activities.

Contact Mary Smith at the museum, 277-4405, for information about the program.

WRITTEN RECORD OF LIFE IN A ROMAN FRONTIER POST

British archaeologists turned up a cache of historical treasures: more than a thousand written "documents" buried in the remains of a Roman fort established on the frontier in northern England about A.D. 90.

Some of the documents contain the year or the date. This period was almost a blank in British history, and now they have names of people and the regiments based there. Although most of the documents are army records, there is also the correspondence of ordinary people in the Roman garrison.

There is a thin piece of wood with a child's school exercise, an invitation to a birthday party, and a letter from home saying a soldier will soon receive "woolen socks, two pair of sandals, and two pairs of underpants."

National Geographic, July 1992

Protecting the Past for the Future Lecture by Lynne Sebastian

As described in another article, there has been a shift in the office of the State Archaeologist from the Museum of New Mexico to the State Historical and Preservation Office. SHPO wants the office to be available to the people of New Mexico. They are interested in public education, public awareness, and outreach into the communities.

SHPO is working on three programs. The first is an effort to make a stronger link between professional and avocational archaeologists. They want to make archaeology fun and accessible to everyone. As we know, archaeology is not unreachable by the untrained. They need an outlet for people who want to be involved. SHPO also has funding available for projects.

The second program they want to see implemented is the development of a popular publication about archaeology in New Mexico. The third program is a statewide archaeological fair. This fair would be coordinated with local societies and would take place simultaneously throughout the state.

After these comments, Dr. Sebastian introduced us to the federal and state laws that surround our work. In the 1800's the only sites of importance were the Revolutionary War battlegrounds and famous homes. Mount Vernon at one time was to be torn down and replaced by a marble replica. Fortunately, the needs of the Civil War intervened and saved the original Mount Vernon. In 1892 Casas Grandes in Arizona was the first effort of archaeological preservation. In 1906 Mesa Verde was made a National Park. Also in 1906 Edgar E. Hewitt helped get the Antiquities Act passed, which protected prehistoric sites located on federal land. Hewitt also worked on the establishment of National Monuments, which were easier to set up than National Parks since the President could establish them without going through Congress. The National Park Service was established in 1916.

Nothing much happened in federal archaeology until after WWII, when the Basin Surveys began. This was an archaeological WPA work plan set up to record, identify, and survey all sites before the dams were built. Threats to sites reached epidemic heights in the 1950's and 1960's because of a frenzy of development at this time. Men were home from the war looking for work, and the government put them to work on the projects. However, with so much work being done, we were losing vast amounts of heritage.

In 1966 the National Historic Preservation Act was passed to protect us from the government. It stated that federal government funded activities had to take into account what effects the project would have on historic properties. In 1979 the Archaeology Resources Protection Act did the same thing for prehistoric sites. In 1988 the thresholds for penalties were lowered and penalties were raised. If more than \$500 worth of damage was done to a federal site, it became a felony. The penalties were: first offense, one year in jail; second offense, two years and a fine. Also included were confiscation of a truck, metal detector, backhoe, etc. to the federal government. There is a conscientious effort by Congress to let the states say

what they want done. Three different groups are involved in this process: the State Historic Preservation Office, the Advisory Council of Historic Preservation, and the federal government.

The most important law is Section 106, a simple statement which dictates the whole system. The head of any federal agency thinking about getting funding on historical properties must realize what it will do and how it will affect the site. Before any agency can get a permit for a project, it must complete certain requirements.

The first step is to do a survey to identify any historic or prehistoric properties, write a report, and send it to the federal agency. The federal archaeologist decides whether there are any sites eligible for the National Register. Then SHPO gets the report and makes the same kind of decision. If these two can't agree, the Keeper of the National Register will make the final decision.

The second step is to discover what adverse effect, if any, the project would have on the site. Would the project damage the historic eligibility of the site? If the project can't avoid the site, what action would be least damaging? This is where mitigation comes in, to decide what is best or least damaging for the site, and what could be done to preserve information from the site, such as photos, sketches, survey, or salvage archaeology.

Here in New Mexico there are approximately 100,000 identified sites logged at the Lab of Anthropology. Last year there were 5000 reviews under Section 106, mostly archaeological sites. There is a lot of development going on across the state.

Dr. Sebastian stated again that there is a need for professional and avocational archaeologists to get together to work on projects and to educate the public. She believes that we will not be able to protect all the sites by laws. We need to educate the people through projects and enthusiasm.

Reported by Faith Bouchard

A SIMPLIFIED GUIDE TO POTTERY

by Jerry Dawson

Reprinted from the Newsletter, Vol. II, No. 4, April 1967

Would you like to stand on a Pueblo site and know, within several hundred years or less, when it was occupied? Would you like to look at a fragment of pottery or an entire vessel and tell approximately when it was made?

An archaeologist, either amateur or professional, reports on the who, where, when, what, and why of a site. Pottery can be very helpful in answering the WHO and the WHEN. Although a detailed knowledge of pottery takes a lifetime to acquire, a basic outline can be learned in a very short time, and as you shall see, quite painlessly. Not only will this add to your enjoyment in the field, but it will also help you to record, and to communicate to others, what you have found.

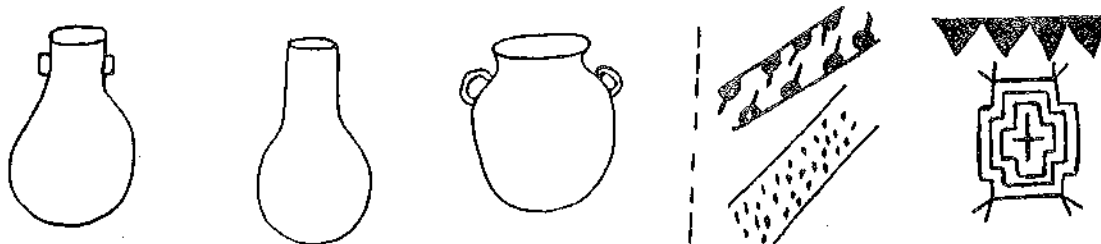
A word of warning. No classificatory scheme you will ever use as an archaeologist will be perfect; there is no magic formula which works every time and everywhere. The scheme given below, which is essentially the Pecos classification (Pueblo I, II, III, etc.), is no exception. In my opinion, however, it works better throughout the Pueblo region than any other scheme that has been tried. It is based upon style changes in certain key pottery types. The exact dates for these style changes are not known for many areas, including Albuquerque. Although these changes may have started earlier in some places and lasted longer in others, generally the Pueblo region showed remarkable unity in making the same kind of change at about the same time. Because of this unity, it is possible to roughly date pottery sites within the field.

This scheme is nothing more than a skeleton, which, as the user wishes, may be used as a guide to learn more about pottery. Once the broad outlines of style changes, within the Pueblo region, are known, it is much easier to learn the exceptions and the variations which occur in each area.

First, there are two, and only two, kinds of pottery: Decorated, which has a painted-on design, and Utility (cooking), which is either plain or has a design molded into its clay. Utility wares are not painted because a design would soon burn off or be covered with soot.

Second, utility pottery styles are used to determine the first four Pueblo periods (Basketmaker III, Pueblo I, II, and III); decorated pottery styles are used to distinguish the last two periods (Pueblo IV and V).

Basketmaker III utility pottery is characterized by a plain vessel with or without handles. Through the entire Pueblo region, this is called Lino Gray. To the right of the outlines of the utility vessels (below) are some decorated-ware designs popular during this period.



Toward the last of Basketmaker III and in early Pueblo I within the Albuquerque area, a highly-polished red and a blackened (smudged) pottery appears. This is probably a result of trade with or intrusion by Mogollon peoples from the south.

Pueblo I utility ware is characterized by wide, overlapping bands which appear on the neck and shoulders of the pot. Throughout most of the Pueblo region, this ware is known as Kanaa Neck Banded. Again, (below), to the right of the utility vessels are some Pueblo I decorated-ware designs.



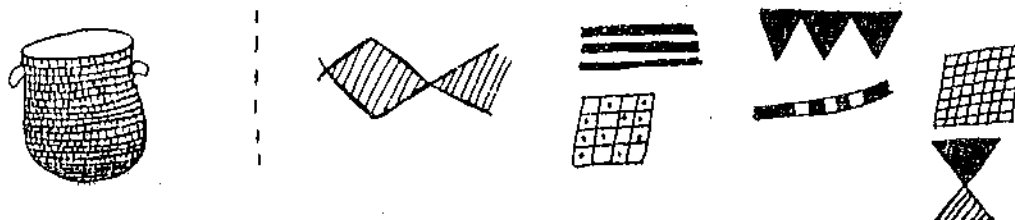
Pueblo II utility ware is characterized by the application of finger-pinched banding over the entire vessel. This ware is known as Exuberant Corrugated. The designs on decorated pottery are similar to Pueblo I, but much more poorly done.



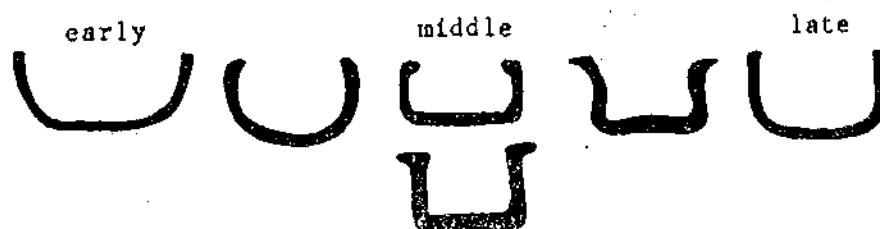
In late Pueblo II within the Albuquerque area, a brown utility ware (Los Lunas Smudged) with fine-line designs (see enlarged design on right) and a blackened, polished interior appears. This form lasts into Pueblo IV.



Pueblo III utility ware is characterized by much narrower banding than Pueblo II Exuberant Corrugated, with part of the surface blurred from rubbing. This ware is known by different names within different areas. This ware also lasts well into the succeeding period.



Pueblo IV is characterized by glaze decoration. (Some areas to the north of Albuquerque, however, continue the black-on-white tradition using thick, porous clay vessels call biscuitware.) Generally, early glaze designs are well done; late glaze designs are very sloppy and appear poured on instead of painted. Rim styles in decorated wares, all illustrated below, are good indicators of early, middle, and late glaze.



Pueblo V is characterized by the use of non-glaze paints instead of glaze. Although a large number of pottery styles were developed within this period, the great majority of decorated wares will have a solid red base or red areas with a black border on a white or yellowish background. Some of the utility sherds from this period are difficult to distinguish from Mogollon sherds on late Basketmaker III sites.

While looking at a site, remember that you are using a scheme completely unknown to the inhabitants; no one ever told them when a period ended. Quite often, some of the pottery on a site will belong to a former period, permitting a closer estimate of the time of occupation. For instance, if a site has a great amount of Basketmaker III pottery and a lesser amount of Pueblo I, then the site is early Pueblo I. Early glaze (Pueblo IV) sites often contain numerous Pueblo III black-on-white wares.

Careful observation of a number of sites within an area will provide a good idea of what wares accompany the key indicators (Lino Gray, Kanaa Neck-Banded, Exuberant Corrugated, etc.) to Pueblo periods and will thus permit their placement by period(s) when the indicators are absent.

This paper has provided a minimum background for field observation of pottery on Pueblo sites. Further knowledge concerning surface treatment, kind of paint, and additives to clay, necessary to understand technical manuals on pottery, will be discussed in a future paper.

THE LEGEND OF CORN

The planting of Hopi corn dates from prehistoric times - perhaps as far back as 2,500 years ago. The corn is the result of centuries of careful planting and nurturing of their fields, ritual ceremony, and prayers for rain. Many charming legends have grown up around the planting. Here is an example:

"On the fourth day all the tribes came together - Navajo, Supai, Paiute, Apache, Zuni, Utes, and the Bahana (white man). When they came up, the chief had all the different kinds of seeds of corn and grain, or melon and fruit, laid out for them to choose. Then he asked the different tribes to step forward and take their choice.

"The Navajo slipped forward hurriedly and picked out the largest ear of corn, which he thought was the wise thing to do. But the chief and the others knew that the long ear of corn could not last long and was not easily raised. Afterwards the rest of the tribes took their choice in turn.

"The Hopi took the shortest ear of corn and also squash and beans. The Apache didn't take any, for they said they would rather live on game. The Supai took some peaches - he preferred the fruit most. The Zuni took corn and wheat. Paiute didn't take any, he too said he

would rather live on wild game and fruit. The Bahana took his choice last and was rather slow and considered well, and finally he took some wheat which was not so heavy and so he could carry more of it than of corn."

From "Truth of a Hopi" Edmund Negutewa

Arizona Highways, January 1978

Telling Numbers

Can Tomorrow's Workers Read?

American high schools turn out 700,000 graduates each year who are unable to read their own diplomas.

- *Training magazine*

A World Profile

If the world were a town of 1,000 people, there would be 564 Asians, 210 Europeans, 86 Africans, 80 South Americans, and 60 North Americans. Seven hundred people would be illiterate, and 500 would be hungry.

- Liggett-Stashower Public Relations

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VOLUME XXVII, No. 9

September 1992

HOW TO USE ARCHAEOMETRIC DATING

by Janet Kerley

Tuesday, September 15, 1992, at 7:30 p.m.

Albuquerque Museum, 2000 Mountain Road N.W., Old Town

Janet Kerley will discuss various dating methods used by archaeologists, including the use of carbon-14, thermoluminescence, archaeomagnetic, and potassium-argon. She will explain how they can and should be used, their applications and limitations.

Janet spoke to the Albuquerque Archaeological Society in June, 1991, when she described the stone tool technology of Central Mexico. She did her undergraduate work at Baylor University, majoring in archaeology, anthropology, and chemistry. She is a Ph.D. candidate at Tulane University in Meso-American archaeology. She worked with thermoluminescence dating for four years. Currently she is working with Monteverde Environmental Consultants. A recent problem: What happens on archaeological sites when they're in the middle of a toxic waste spill? Some archaeological problems are worse than others.

NOTE: If you have access to the September, 1992, issue of Discover Magazine, read "The Dating Game" as preparation for the lecture. This article describes many dating methods used by archaeologists.

FIELD TRIP TO EL MALPAIS PLANNED FOR SEPTEMBER 26

Our field trip to El Malpais National Monument on September 26 sounds extremely interesting. We'll meet at the southeast corner of Winrock, near Marshalls, at 9:30 to carpool. It's a two-hour drive. Bring lunch and water and wear sturdy shoes. After lunch we will be ready to meet our guide, Darwin Vallo, an Acoma native. He will lead a 45-minute hike and a discussion on Acoma and Zuni pueblos, historically and prehistorically.

We'll have a sign-up sheet at the September meeting, or you can call Faith Bouchard at 842-5604.

COMING EVENTS

LAB is open Wednesday evenings, 7:30-9:00, and most Saturdays, 9:30-5:00 at the Old Airport Building at the south end of Yale Blvd. Call Dick Bice for directions.

FORT CRAIG EXCAVATION Three-day weekends from September 11 through October 11. Volunteers are being recruited. No experience necessary. Call Jeanne Schutt or Peggy Gerow, 277-5853, for information.

AAS FIELD TRIP TO EL MALPAIS NATIONAL MONUMENT September 26. Meet at Winrock Mall near Marshalls at 9:30 to carpool.

MAXWELL MUSEUM Lecture, September 22, 7:30 p.m. Lynne Sebastian "A Political Model of the Chaco System: Leadership, Power and Agricultural Production." \$2 or \$1 for MMA members.

September 26, 11 a.m. - 3 p.m. Pueblo weaving demonstration by Sofie Salvador of Isleta Pueblo. Free.

September 29, 7:30 p.m. Gallery talk by Barbara Berger on Rio Grande weaving. Free.

Albuquerque Archaeological Society
Minutes, August 18, 1992

Carol Condie opened the meeting and welcomed visitors. The minutes of the previous meeting were corrected by Jay and Helen Crotty. The Rock Art Field School did not spend the entire time on a 20-meter section; they did approximately twenty 20-meter sections. The facts given in the minutes were only an example of what each section was like. After this correction, the minutes were approved.

Librarian Mari King brought a couple of articles by the speaker and other books on the topic.

Dick Bice reported that the lab was operational again and that anyone who wants to come down and join the teams working is welcome. The lab was closed during July and early August until after the Pecos Conference.

Joan Mathien and the Park Service thanked all who ran the registration desk at the Pecos Conference, especially since many worked more than their scheduled one hour.

Jay Crotty reported that the site chosen for the next rock art field school was turned down, and they are looking for suggestions. If you know of an area that

would make a good project, contact Jay.

He also made a couple of corrections from the last minutes. They had worked a total of 25 subsites and three partial sites. They will be going back in October to finish three subsites and three partial sites. The north end of the site was very dense. For example, a 20-meter section took 7 1/2 days and over 200 photographs to record. In total they recorded 4096 elements and used 2299.7 man-hours.

Mary Smith of the Maxwell Museum reported that they will be putting on four programs at the State Fair this year. One will be on pot hunting; she wants to let the public know that they should leave the artifacts on site. Another program will be a demonstration of pottery painting that will allow children to take their potsherds home with them. She is asking for a donation of any color of acrylic paint. If you have any to donate, please contact Mary at the museum. Her first presentation is September 11.

Faith Bouchard announced that permission for the work at Paako had been received and plans were finalized for August 22.

The field trip to El Malpais is still scheduled for September 26. If you are interested and have not signed up, contact

Faith at 842-5604. Sign-up sheet will be available at the September meeting also.

Ann Carson announced that the book drive for the library in Chihuahua has been completed with 125 lbs. of books being shipped. The Mexican consulate took care of the shipping costs, so the \$100 donated by Catherine Holtz for shipping is now in our treasury. Thanks, Ann and Catherine, for all your work, time, and money given for this project.

August is the month to appoint a nominating committee for next year's officers. Tom Morales and Catherine Holtz volunteered. At least one more is needed and will be appointed by Carol.

Jean Brody introduced the speaker, Joe Winter.

After the meeting, refreshments were served by Betty Garrett.

Faith Bouchard, Secretary

WORK AT PAAKO IS SUCCESSFUL

A group of twelve workers - six from AAS and six from the East Mountain Association - met at Paako Saturday morning, August 22, and divided into two work groups. Starting at the center gate and working, one group to the north and one to the south, we hoped to meet somewhere in the center. We had expected the work to take a couple of hours, but it turned into a full day of work. We wanted to fix the sections of fence that had been broken, and we didn't realize that the site needed as extensive repair as it did. But since we were there, everyone decided we should continue and repair the entire perimeter of the site so that the animals couldn't break through the fence again soon. With the knowledge of fencing that both groups had, it went smoothly, if slowly.

So the East Mountain Association and AAS joint venture was a success, and the entire perimeter of Paako has been secured the time being. Everyone left the site tired and sore, but satisfied in a job well done.

Both groups thank the volunteers who participated in this venture. Without their time, energy, and effort, the site would not have been preserved.

Reported by Faith Bouchard

VOLUNTEERS WANTED FOR WEEKEND EXCAVATIONS AT FORT CRAIG

The Archaeological and Historical Research Institute and the Bureau of Land Management are again sponsoring a public participation field session at Fort Craig ruins south of Socorro. Excavations will begin on Friday, September 11, and continue for five three-day weekends (Friday, Saturday, Sunday) until October 11.

Fort Craig was established in 1854 to control Apache and Navajo raiding in the region. The fort was involved in one battle during the Civil War. By the late 1870's the Indian problems had lessened, and the fort was abandoned in 1885.

The field session will provide hands on experience in all aspects of an archaeological excavation under the supervision of trained archaeologists. Previous experience in archaeology is not required.

Last year the work force excavated the enlisted men's quarters and the bakery. They recovered important archaeological data and had a good time learning archaeology. This year the group plans to excavate the officers' quarters and the hospital.

Camping is permitted at the fort, and there are motels in nearby Socorro. A tax-deductible donation of \$30 for individuals and \$50 for couples and families is requested but is not mandatory.

Reservations are requested. Call Jeanne Schutt or Peggy Gerow, 277-5853, or write The Archaeological and Historical Research Institute, P.O. Box 300, Corrales, NM 87048.

AAS MEMBERS ENJOYED A STORMY PECOS CONFERENCE LAST MONTH

The 65th Pecos Conference had all the elements of a good novel: unsolved mysteries, skillful speculations, even storms and thunder. With nearly 500 participants, it was a great success.

More than 60 papers - held to a tightly-enforced 10 minute limit - were presented during the sessions on August 14 and 15. An additional 19 papers were contributed to the mini-symposiums on "Issues in Archaeological/ Architectural Doc-

umentation and Preservation," "Precision and Accuracy of Archaeological Dating Methods," and "Transition in the Rio Grande Sequence."

Richard Bice of AAS reported on progress at the Archaeological Society of New Mexico's dig near Gallup on which many of our members have either participated or served as crew chiefs.

Members Helen and Jay Crotty discussed the final recording during the ASNM Rock Art Field School at Three Rivers and the search for a new site for next year's school.

Joan Mathien recruited several of our members to assist in registration both at the opening reception on August 13 at the Laboratory of Anthropology in Santa Fe and at the regular sessions at Pecos National Historical Park. They included Ann and Jim Carson, Mari and Dudley King, Helen and Jay Crotty and Cherry Lou Burns.

This was the seventh time the conference had been held at Pecos since the first gathering there in 1927. The National Park Service is to be complimented for the very efficient job of handling arrangements, including traffic control, coping with heavy rain, hail and wind, facing the danger of main tent collapse, and providing the delicious breads from the on-site horno.

Next year - Springerville, Arizona.
Reported by Cherry Lou Burns

GET READY FOR DECEMBER PROGRAM

I know it's only September, but please start at least thinking about getting your slides ready for our December program. We need six or seven people to present ten-minute slide shows of anthropological interest.

We'd especially like to have presentations from our newer members who may have had archaeological experience in other areas of the country or the world. Please call Jean Brody, 281-3579, if you'd like to be on the program.

DENVER HOSTS AZTEC EXHIBIT

The cultural life of the great Aztec capital city of Tenochtitlan is the focus of an unusual exhibition opening September 26 at the Denver Museum of Natural History. More than 300 artifacts from Mexico's museums will be displayed. Included in the exhibition will be a three-story, 1/10th scale model of the Aztec's Great Temple. This is the most comprehensive overview of ancient Aztec society ever mounted by a museum outside of Mexico. The exhibit closes February 21, 1993.

AAS library recently acquired a copy of a new book on the Aztec civilization, Moctezuma's Mexico, Visions of the Aztec World. It was written by Eduardo Matos Moctezuma, Mexico's leading archaeologist, and David Carrasco, director of the University of Colorado's Mesoamerican Archive and Research Project.

Carrasco says, "The new book is a 'coffee-table book' for anyone who wants to be informed. The articles are written by scholars for a general audience and are not overly academic." Many of the book's 150 color photographs are of the artifacts in the Denver exhibit.

* * * * *

Another new book of interest to AAS members is Polly Schaafsma's updated Rock Art in New Mexico. The original 1972 book was the first comprehensive book on ancient and historic sites in New Mexico. Extensive research over the past twenty years brings new light on the cultural symbolism and systems of visual communication that underlie rock art. This fully revised and expanded edition has a new design and 190 photographs reproduced in fine-quality duotone printing. The book includes expanded sections on Albuquerque's West Mesa.

The book was published by Museum of New Mexico Press. At \$29.95, a nice Christmas present for someone -- maybe yourself.

Across the Colorado Plateau: Anthropological Studies
Along the Trans-Western Pipeline
Lecture by Joseph C. Winter

Enron Corporation planned to lay a gaspipe between Bloomfield, New Mexico, and Needles, California, 500 miles of space, 300 miles of pipeline since some was already in place. The planning started in 1980, but two projected routes were turned down, and it was ten years before the project actually got underway. The route chosen ran southwest along the San Juan, then a straight line from Bloomfield to Gallup, then west and southwest to Needles. The route crossed over six cultures: Navajo, Anasazi, contemporary Hopi, Sinagua, Patayan, and Anglo American.

The pipe is 30 inches in diameter and is buried 8 to 15 feet deep. The right of way was to be 50 feet, but in places it was as much as 200/300 feet. With this size pipe and right of way, there was real danger of destroying many sites in the path of the pipeline as well as opportunity to study them. It took over a year of fieldwork and 230 people to do the survey and excavation work. Analysis is still going on. The pipeline hit both large and small sites. Many of the small sites tied in with known larger sites outside the right of way.

Enron was wining and dining all the influential men to get this project done. They were willing to put money up front so that they would have no surprises later on. So the teams were able to dig many test sites. Some sites had firepits, plazas, and manos and metates in situ. Whole pots used for storage were found in the floors of some sites. They discovered murals on kiva walls, including a reptile figure with three fingers and three toes.

One site that posed a problem was at the base of the San Francisco mountains. This was golden eagle country, and the pipeline was scheduled to be laid along the base of the mountain at the time the fledglings were still in the nest. If the parents were disturbed by the noise and activity around the nest, they might abandon their young. The archaeologists found that there were twelve eagle shrines in the area, still being used. The problem was to lay the pipe without disturbing the birds. After discussions with tribal

leaders, they laid the pipe at a different time of year.

With so many sites over such a wide area, there was a great opportunity to study types and variation in artifacts. How did ceramics change in a controlled area, from small sites to fairly large sites? Are all sites meaningful? How did traditional points change through time and area? What burial goods were found? Was there a hierarchy? The Navajos wanted to know the communal boundaries of each of their ancestral sites.

There was some evidence of early agriculture around 1000 B.C. New processes for pollen analysis use as few as 1000 pollen counts to get an accurate date, and efforts are being made to cut that down to as little as 500.

Aerial photographs were taken, which showed how roads radiated from each site.

Some burials were found, flexed, lying on the side, usually with grave goods. The project was not allowed to keep the bones. After tests and examinations, the bones were reburied in a different location. In a few sites, a number of the buried persons had been butchered, the bones chopped to pieces, which may indicate cannibalism. C. Turner raises the issue of cannibalism and finds many different views. T. White of Berkeley implies cannibalism also, so it is not an original view. At Salmon Ruin, the bones of two women and thirty children were found in this condition.

The pipeline also went through historic gold and lumber camps that were solely owned and operated by the company. The men never had to leave the camp. Everything was provided for them, and the company would charge prices to keep the men there. Some work is being done to look at the differences in the lumber, mining, homestead, and Navajo groups.

Enron was concerned about the ritual aspects of the work and hired ethnologists to discuss any problems that might arise with the Native Americans. The company paid to have both Blessingway and Enemyway ceremonies done. The Enemyway was a common ceremony because so many of the Navajos were dealing with foreigners.

Reported by Faith Bouchard

The ALBUQUERQUE ARCHAEOLOGICAL SOCIETY is a non-profit corporation organized under the laws of New Mexico. Its purposes are (1) to preserve and protect prehistoric and historic remains in this region; (2) to educate members and the public in archaeological and ethnological fields; (3) to conduct archaeological studies, research, surveys, and excavations; (4) to publish data obtained from research studies and excavations; and (5) to cooperate with other scientific institutions.

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MEMBERSHIP	Dudley King	299-0043

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EDITOR EMERITUS	Beryl McWilliams

REGULAR MEETINGS: third Tuesday of each month in the auditorium of the Albuquerque Museum, Mountain Rd. NW, Old Town, Albuquerque, NM.

LABORATORY SESSIONS weekly: Wednesday 7:30 pm, and on scheduled Saturdays, Old Albuquerque Airport building, west basement entrance.

FIELD TRIPS and SEMINARS held during the year. EXCAVATION and SURVEYS as scheduled. ALBUQUERQUE ARCHAEOLOGICAL SOCIETY is an affiliate of the ARCHAEOLOGICAL SOCIETY OF NEW MEXICO. Membership includes a monthly meeting with a lecture, and opportunities to participate in laboratory projects, field trips and cooperative activities with other archaeological institutions. ANNUAL DUES: Individual \$12.00; Family \$16.00; Sustaining: Single \$20.00, Family \$30.00; Institutional (Newsletter only) \$8.00.

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Newsletter

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VOLUME XXVII, No. 10

October 1992

AERIAL ARCHAEOLOGY

by Tom Baker

Tuesday, October 20, 1992, at 7:30 p.m.

Albuquerque Museum, 2000 Mountain Road N.W., Old Town

Tom Baker says his slide-lecture will cover the principles of aerial archaeology, illustrated with photos from a wide selection of Southwestern sites, from Canyon de Chelly to Pecos and from Hovenweep to the Salinas Pueblos. Members of the audience will be furnished polarized glasses for the unique experience of viewing some of the images in 3-D, in which the scenes appear exactly as seen from an aircraft, including the extra dimension of depth. For those interested, Tom recommends Flights Into Yesterday, the Story of Aerial Archaeology by Leo Deuel, St. Martin's Press, New York, 1969.

Tom himself has an illustrated article in Archaeology, September/ October, 1992. In "Scanning the Rio Puerco," he describes his aerial survey of the valley and contrasts his efforts with ground surveys. "A mere glance at the rugged terrain is sufficient to explain the physical problems of ground reconnaissance there, not to mention the legal difficulties in gaining access. The valley is a confusing checkerboard of private, federal, and Native American holdings, so that archaeologists must hike through miles of red tape before they ever get near the land itself (something from which the aerial archaeologist is smugly exempt)."

Tom's long-time interest in archaeology and photography plus army experience as a aerial observer and a love of aviation led him to a master's project at UNM combining all three. He received his Master's degree in 1991. Meanwhile, he and his wife, Lee, had started an aerial photography business, called Baker Aerial Photography, of course. Clients have included the archaeological field schools of Ft. Lewis College and UNM, the Maxwell Museum, the Museum of Natural History, the Park Service, the Bureau of Land Management, UNM's Office of Contract Archaeology, and many authors and publishers nationwide.

Vice-president Jean Brody reminds you to get your act together. Your 10-minute talk or slide presentation for our December meeting, that is. Call her at 281-3579.

COMING EVENTS

LAB is in session on Wednesday evenings, 7:30-9:00, and most Saturdays, 9:30-5:00 at the Old Airport Building at the south end of Yale Blvd. Call Dick Bice for directions.

MAXWELL MUSEUM "People of the Southwest Lecture Series." 7:30 p.m. in the Anthropology Lecture Hall 163 adjacent to the museum. Admission \$2.00.

Tuesday, October 13. "Navajo Archaeology and History," by Dave Brugge.

Tuesday, October 27. "New Light on the Colonial Archaeology of New Mexico," by Frances Levine.

AFTER THE ENCOUNTER. Quincentenary Conference, November 12-14, San Antonio, Texas. Quincentary Committee, San Antonio National Historical Park, 2202 Roosevelt Ave, San Antonio TX 78210, (512-229-5701)

Albuquerque Archaeological Society Minutes, September 15, 1992

Carol Condie opened the meeting, welcoming guests and having the minutes approved from last month.

Mari King asked that people return their library books so that others can use them.

Dick Bice asked for approval of an expenditure of \$500 for maintenance of the copier and the computer. The head on the copier needs to be replaced on a regular basis every three or four years, which is now, at a cost of approximately \$300. The computer needs about 2 mgs of ram memory and a coprocessor to speed up its analysis capability at a cost of approximately \$130. The request was voted on and approved.

Faith Bouchard described the field school held at a buffalo kill site near Portales Labor Day weekend. About 20 people worked at the site, which was very productive. Additional volunteers are needed for the Columbus Day weekend.

Carol Condie announced that the annual meeting of the Archaeological Society of New Mexico will be held in Albuquerque next May and that volunteers are needed to help organize the event, to arrange hotels and food, and to do secretarial jobs. Anyone interested may contact

Phyl Davis, Betty Garrett, or Jean Brody.

Jay Crotty announced that the Rock Art Field School needs about 15 experienced people for about five days of work in October. If you are interested and experienced, please contact Jay. There will be no charge for the work session, and the snakes should be quiet.

Faith announced the last field trip of the year will be held September 26 to El Malpais.

Carol said that Joan Mathien would like to nominate Helene Warren as the next honoree for the ASNM annual volume. Dudley King suggested that anyone with another nomination should contact Carol or Sheila Brewer in Gallup.

Carol is looking for another person to work with the nominating committee. Tom Morales and Catherine Holtz are the present members. If you would be willing to serve, please contact Carol or the committee members.

Joan Mathien is looking for people to work on committees for the 100th anniversary celebration of the Archaeological Society of New Mexico eight years from now. Get involved, this is an important event, and the work that you do now can be used by others in the future. Joan needs your help, so call her to volunteer.

After the meeting, refreshments were provided by Mr. and Mrs. Knight.

Faith Bouchard, Secretary

IN MEMORIAM BETTY RAE MCCONNELL

We regret to report the death of our member, Betty Rae McConnell, in June after a lengthy siege with bone cancer.

Her husband, William McConnell, wrote: "She always enjoyed the activities of the Society that she could attend, including volunteer efforts in the Newsletter mail room. [William McConnell also helped with the mailing.]

"Betty received passing recognition for efforts in the Ojito area by Dr. Dave Gillette in his report to the "Journal of Vertebrate Paleontology," published December 1991.

"A scholarship for Medical Technology students at the University of Minnesota has been set up in her name as a memorial."

We enjoyed knowing Betty and appreciated her contributions to the Society. We extend our sympathy to her husband.

REPORT FROM THE ASNM 100th ANNIVERSARY COMMITTEE

The first meeting of the Committee for the 100th Anniversary Party to be held A.D. 2000 was held May 2 during ASNM's annual meeting. AAS members who serve on the committee are Temporary Chair Joan Mathien and Dick Bice and Jay Crotty, representing the field schools.

One of the most important goals of the committee is to get representation from all the affiliated societies and anyone who is interested. Committee members are the liaisons between local groups and the State society. Meetings of the committee will be held once a year in conjunction with the annual meeting, but all members are urged to communicate with each other at any time.

A number of suggestions were made regarding activities for the celebration.

1. The 100th birthday party should be held in Santa Fe, the city of ASNM's

first formal meeting. It is hoped that the Santa Fe society will host the event.

2. Two years before the celebration we should hold a contest to design a logo to be used on all announcements, publications, etc.

3. ASNM should sponsor a poster contest for the affiliated societies. The content of the posters would be oriented toward the work carried out over the 100 years either by the local society or ASNM.

4. Presentations at the 100th Annual Meeting will be devoted to the history of ASNM and the affiliated societies, including some now defunct.

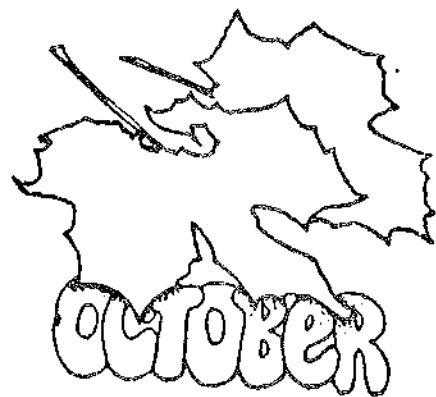
5. Affiliated societies are urged to compile histories of their organization by interviewing long-time members and collecting documents and artifacts. This material should be kept in a safe place and duplicated and placed in an archive for ASNM that exists in the Museum of New Mexico.

6. To make this information available to everyone, the annual volume that year would include chapters on the archaeological and rock art field schools as well as the histories of the affiliated societies.

7. An additional publication made up of the outstanding papers that appeared in previous years - The Best of ASNM - is a possibility if funds are available. The State Historic Preservation Office or some other source might provide funds.

8. Perhaps the Bandelier Lecture at the annual meeting could be given by the member closest to 100 years of age.

Your input is requested. Please contact Joan Mathien at 275-1144 evenings and weekends.



How to Use Archaeometric Dating Lecture by Janet Kerley

Janet Kerley spoke on the use of carbon-14, thermoluminescence (TL) and archaeomagnetic dating and analysis methods. She said that TL is not being used in the United States today because it is not very accurate. She stressed very early on that you should never count on just one date. The mean of several dating results is necessary for an accurate date.

There have been many breakthroughs in dating and analysis, and archaeological investigations in these areas are getting cheaper and easier to use.

Kerley explained that while working on the Valdez oil spill sites, they found that calcium and phosphate could be used to find sites. This method proved to be very accurate. Using this method on the Maya land project, they discovered that the people actually lived in previously unknown village sites at some distance from the pyramid complexes.

Trace element analysis can be used on soils, clays, bones, and obsidian. In the Maya areas, bones were analyzed to locate neighborhoods of different social classes. The bones of (rich) meat eaters have a higher concentration of certain isotopes than the bones (poor) maize eaters. It's easier to find the bones of a meat-eating group than a more vegetarian group.

Los Alamos is leading the way in genetic mapping. The materials that aren't fossilized are used. This project located Olmec bones, which had never been done before. The lab is doing a genetic analysis on who these people were, what they ate, and who they are related to.

Trace elements in clays can be used to reconstruct their sources and thus see where they have been traded to. Natural forces make it difficult to date clay. For dating you need a primary source, but when top soil is eroded away down a mountain, it becomes a secondary source at the bottom. In an ancient source such as the Yucatan, once the source has sunk, the geochemical processes have stopped and the source can be used for an accurate date.

Obsidian results from a single geological event, and it is much easier to

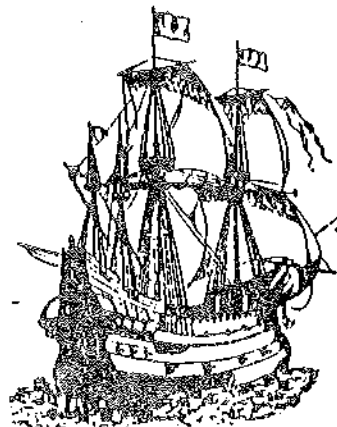
reconstruct sources and trace trade networks with obsidian.

Kerley explained that you must be consistent in your techniques. If you analyze one sample using a certain technique, don't use another technique for the next sample. Be consistent and use the same technique for both.

Each carbon sample taken from a firepit should be wrapped separately, because if it's wrapped with more than one piece, the person testing chooses one piece and tests that one. If you wrap each piece and can send only one for testing, then you, not the tester, make the choice. If possible, send more than one sample from the same firepit. The reasoning is that the firepit could have been used during more than one occupation period. Another reason for multiple sampling is that each person collects differently using different techniques and different equipment, and different types of wood give different types of dates.

Kerley's most important idea is that you must get as many samples as possible, you must use the mean dates, and you should realize the accuracy rates of the tests you're using. For example TL is only 7% accurate. She also stresses that you should send soil samples with your other samples.

Reported by Faith Bouchard



"WAS AMERICA A MISTAKE?"

Historian Arthur Schlesinger, Jr. asks this question in an article in the September 1992 issue of The Atlantic. He provides a balanced view of the current controversy over Columbus and the Quincentenary. "Christopher Columbus has always been as much a myth as a man, a myth incorporating a succession of triumphs and guilt over five long centuries." He traces the triumphalism of the 19th century to the guilt and revisionism of 1992. He says, "Revisionism redresses the balance, but, driven by Western guilt, it may verge on masochism."

Schlesinger is no apologist for the European conquest of the Americas. "No one can doubt the arrogance and brutality of the European invaders, their callous and destructive ways, the human and ecological devastation they left in their trail. . . Genocide - the calculated and purposeful murder of a race - may be too harsh a term, at least for Spanish America; it applies more to British America, which widely believed that the only good Indian was a dead Indian. Many Spaniards wanted to keep natives alive, if only as slave labor."

Then Schlesinger takes deadly accurate aim at the "myth of innocence" that permeates much of the Columbus-bashing. He gives the great pre-Columbian civilization of the Aztecs, Incas, and Mayas their due, noting their superb artistic, architectural, and astronomical accomplishments. "Yet these empires were also theocratic military collectivism, quite as arrogant, cruel, and ethnocentric as the Europeans who demolished them. Far from living in harmony with nature, the Maya evidently brought about their own collapse by deforestation and other destructive agricultural practices that upset the rain-forest ecosystem of Central America. Far from living in harmony with one another, the Mayan city-states appear to have been engaged in constant warfare, with prisoners ritually tortured and decapitated."

In certain respects, there appears to be little difference between Europe and Mexico of 1492: little difference in the uses of power, in imperialism and violence

and destruction and the suppression of individual freedom and human rights. Since it is impossible to freeze history in place and immunize the world against change, the costs of the conquest must be balanced against its benefits.

From the Newsletter of the Southwest Mission Research Center

PLANTS FOR FOOD

Indians north of Mexico used an astounding total of 1,112 different species of plants for food. Of these 86 were cultivated, and among the cultivated plants, 58 were imports from Mexico or Central America. The others were native, 19 in the Southwest and 9 in the East.

In the East, the earliest plants to be cultivated were gourds, squashes, and perhaps pumpkins. All these came from Mexico. Maize, which also came from Mexico, arrived a little later.

Sunflower, pigweed, goosefoot, and marsh elder were also cultivated in the East at an early date, but evidence that they were cultivated before the arrival of the Mexican plants has not been found.

The date when people began cultivation varied from place to place, but generally speaking, it was about 1000 B.C.

In the Midwest, the Hopewell people were the first to grow maize. The addition to their diet of this new source of energy probably had a good deal to do with the tremendous vitality they developed.

As an indication of the continuing importance of plants derived from Indians, economists say that in the state of Georgia alone in 1960, crops from plants of European origin were worth \$21,334,000; at the same time the value of plants domesticated by American Indians were worth more than ten times that amount - \$241,736,000.

America's Ancient Treasure
by Franklin Folsom

In Indian Givers, Jack Weatherhead says that 60% of the food eaten in the world today is of American origin.

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FIELD-AND-LABORATORY	Richard Bice	296-6303
PHOTOGRAPHY	Kathy Donahoe	884-7531
FIELD TRIPS	Faith Bouchard	842-5604
MEMBERSHIP	Dudley King	299-0043

SPECIAL COMMITTEES

PRINTERS	Richard Bice, William Perret
LIBRARIAN	Mari King
PUBLICATION SALES	Phyllis Davis
NEWSLETTER EDITOR	Dolores Sundt, 6207 Mossman Pl. NE, Albuquerque, NM 87110 phone 881-1675
EDITOR EMERITUS	Beryl McWilliams

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ALBUQUERQUE ARCHAEOLOGICAL SOCIETY

Post Office Box 4029
Albuquerque, New Mexico 87196

Newsletter

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VOLUME XXVII, No. 11

November 1992

FISHERS AND FARMERS IN SOUTHERN PERU

by Garth L. Bawden

Tuesday, November 17, 1992, at 7:30 p.m.

Albuquerque Museum, 2000 Mountain Road N.W., Old Town

Garth Bawden for nearly ten years has studied the area between the Titicaca Basin and the south coast of Peru, looking at the changing relationships of the human communities and their wider ecology. He has been looking at the changes in the ways societies have utilized the diverse environmental zones for subsistence, and the social and political strategies that have accompanied these changes, from the earliest permanent settlements on down to the Inca and Spanish incursions.

Dr. Bawden is currently director of the Maxwell Museum and professor of anthropology at UNM. He was born in England and is a graduate of the West Middlesex School of Physical Medicine in London.

He turned to anthropology and received his B.A. from the University of Oregon and his Ph.D. from Harvard University. He has currently been curating a major new exhibition at the Maxwell Museum, "Heritage of the Andes," which is due to open November 21.

There is still room for YOUR PRESENTATION as part of our DECEMBER PROGRAM. We want to hear about and see your experiences in archaeology or a related field. Even pictures of your grandchildren are welcome IF there is an archaeological connection. Call Jean Brody, 281-3579.

COMING EVENTS

LAB is in session on Wednesday evenings, 7:30-9:00, and most Saturdays, 9:30-5:00, at the Old Airport Building at the south end of Yale Blvd. Call Dick Bice for directions.

MAXWELL MUSEUM Exhibit "Heritage of the Andes," the lifeways of the peoples of Ecuador, Peru and Bolivia, using the Maxwell's extensive archaeological and ethnographic collections from these countries. November 21, 1992, through May 21, 1993.

November 10, 9:00 p.m. \$20.00. Reception for Stephen Jay Gould. For reservations, call 277-3121.

Albuquerque Archaeological Society Minutes, October 20, 1992

President Carol Condie called the meeting to order. The minutes were approved as printed.

Jay Crotty announced proudly that the Rock Art Field School was finished with the Three Rivers site. In October the ten people on the project completed the work in three or four days. This year they took over 5000 photos, with approximately 19,000 photos for the whole project.

Dick Bice asked us to vote "yes" for Bond Issue D (for dinosaurs) concerning the Natural History Museum and property it needs to purchase for expansion. Dick was a vital part in making the museum a reality.

Faith Bouchard announced a partial slate of officers for 1993. Vice-president: Alan Shalette; Secretary: Kim Berget; Treasurer: Arlette Miller. Still to be filled are president and director-at-large. We need good people who are willing to work for the society. If you would be willing to serve or if you would like to suggest someone, please call Faith at 842-5604 or Tom Morales at 299-0446.

Jean Brody asked for volunteers to do a ten minute presentation at the December 15th meeting. So go through your slides and see what you can find, a vacation, a past project, and call Jean to volunteer. She needs about five people to make that evening a success.

Nan Bain reminded us that our December meeting will be a party, and many will need to bring snacks for a huge table of goodies. She will ask people to sign up in November. Put it on your calendar: bring food and enjoy party.

Ann Carson announced that a new group had formed called the Albuquerque Conservation Association. Their office is in the old service station at the corner of Walter and Coal, just south of the Carson house. They held an open house October 25.

Phyl Davis mentioned that the last two meetings were not advertised in the Tuesday newspaper. Previously, when we sent our newsletter to the special events editor, a notice was put in the Happenings section. Phyl spent six hours trying to locate the person in charge, only to be told she wasn't in the office and wouldn't be back till the next week. Phyl will not be available to check on this next month, and Faith volunteered to do it.

Jean Brody introduced the speakers, Tom and Lee Baker.

After the meeting, refreshments were provided by Alan and Joyce Shalette.

Faith Bouchard, Secretary

had been removed prehistorically) and the latest kiva floor. Some charred wood will provide for possible additional dating. The great kiva is now ready for completion of the subfloor excavation of the earlier structures, the large kiva and pithouse. Bettie Terry was crew chief on this work, and Wally Cates was assistant.

Phyl Davis was crew chief of the work on the surface rooms, which have been very difficult to trace. The emphasis this year was to clear large surface areas to expose any new architectural features and occupational surfaces. Additional firepits and some buried jars were exposed near the surface between the roomblock and the small kiva, in a probable plaza area.

Gordon Page headed the exploratory augering program, which had the purpose of exploring for the presence or absence of a deep rock layer. The results show that a pithouse is unlikely in the area. Gordon also supervised the off-site field training on the instruments, equipment and techniques used for site layout and site surveying.

DON'T BLAME COLUMBUS FOR ALL INDIAN DISEASE

Biological anthropologist George Armelagos believes the incidence of disease among Indians began increasing even before the European invasion, as the Indians started to settle down to an agricultural life. He studied the bones of 595 people buried between AD 950 and 1300 at the Dickson Mounds in central Illinois. He found that a steadily increasing number, as many as 64 percent of those buried in the later years, showed evidence of iron deficiency in the form of excess bone mass. (When the blood is iron-poor, the body reacts by producing more bone in order to produce more iron-grabbing red blood cells.) "The iron deficiency could be the result of diet, infection, or parasites," says Armelagos. "In a new agricultural population you have an increase in infectious dis-

ease - not just iron deficiency - because people are coming together and nutritional changes are occurring."

Discover 1992

In her lecture to us last March, Debra Martin described the same conditions at Black Mesa in the Four Corners area. Malnutrition was highly prevalent. Corn was the staple crop, and vegetal matter made up 90% of the diet. Because of their diet, people were iron deficient, as shown by excess bone mass, just as in Illinois.

NEW INFO ON NEANDERTHALS

Although scientists have refuted the picture of Neanderthal Man as one who walked like a gorilla and thought like one, too, the question has remained: Was Neanderthal Man truly human? Recent work in Israel has provided a semi-positive answer to the question.

For the first time, a skeleton was found with its hyoid bone intact. No bone speaks more to the question of "humanness" than this tiny structure in the throat. Shaped like a miniature saddle, the hyoid serves as an anchor for muscles connecting the jaw, larynx and tongue, and in Homo sapiens is implicated in that most human quality: speech. The hyoids of our speechless relatives, the gorillas and chimpanzees, are shaped differently and located higher in the throat. Based on anatomical evidence, some scientists had previously maintained that Neanderthal would also have had apelike hyoids and consequently limited speech abilities. Some had speculated that modern humans had replaced Neanderthal because of language. But in size and shape, this Neanderthal hyoid is very similar to that of modern man. The position in the throat is not known, however, and so the answer to the question of Neanderthal speech must be "Maybe."

"The Deepening Conundrum of Neanderthal Man." by James Shreeve. Smithsonian Dec. 1991.

COMMITTEE PRESENTS SLATE OF OFFICERS FOR 1993

Our nominating committee, Faith Bouchard, Tom Morales, and Catherine Holtz, has presented the following slate of nominees to serve as officers in 1993.

President, Tom Morales

Vice-president, Alan Shalette

Secretary, Kim Berget,

Treasurer, Susan Ball, and

Director-at-Large, Karen Castioni

Please mark your ballot and return it to AAS, PO Box 4029, Albuquerque 87196. You may also write in the name of another nominee if that person has agreed to serve. Use one ballot for an individual membership and both ballots for a family membership. You may also bring your ballot to the meeting and give it to the secretary. Ballots will be counted at the December meeting and the new officers will be installed then.

Our thanks to the nominating committee. They worked very hard to come up with this excellent slate. None of the nominees has served as an officer before, but all have shown their interest in the society.

VOLUNTEERS NEEDED TO HELP PLAN ASNMs ANNUAL MEETING

As you know, the Albuquerque Archaeological Society will host the annual meeting of ASNMs next May 1 and 2. That seems a long way off, but, believe me, it will be here very soon. We are responsible for providing facilities and amenities for the meetings and the banquet. ASNMs is in charge of the actual program.

Some of the jobs take talent; most just take work: artwork, clerical work,

planning and organizing, refreshments, registration, banquet arrangements and menu, etc.

Some of our people are already working on the plans, but they need lots of help. If you can assist, speak to Phyl Davis or Faith Bouchard -- while you can still get your choice of jobs.

1992 REPORT OF ASNMs FIELD SCHOOL AT GALLUP By Dick Bice, Director

Every summer the Archaeological Society of New Mexico runs a field school in order to train its members in excavation techniques. All members of the Albuquerque Archaeological Society are eligible to attend the field school and share in the work and excitement of literally unearthing new information about prehistory.

The 1992 Field School at the Vidal Site at Gallup ran four weeks, July 5 - 31. The schedule called for field work in the mornings from 7:00 a.m. to 11:00 a.m., with lab work, lectures, seminars and workshops in the afternoon and evenings, Monday through Friday. Thirty-four students from across the country enrolled for one or more weeks. Twelve attended all four weeks and three enrolled for UNM credit.

Several AAS members were on the staff in addition to director Dick Bice. Phyl Davis served as publicity manager and crew chief, and Bettie Terry and Gordon Page were crew chiefs. Joan Wilkes helped with archaeomagnetic date sampling, and Wally Cates was a crew chief trainee.

The site contains a great kiva, an earlier unit house with its small kiva, and even earlier pithouses. Overall, these intermittent occupations suggest a starting date of ca. AD 850 and confirm an abandonment date of AD 1150.

In the great kiva, the objective was the excavate the material trapped between the burned latilla timbers (larger beams

CHAEOLGY

Tom Baker

Baker are owners of raphy and have been d of work since the

rial archaeology as a for collecting, re-; material -- from an person on the ground he whole picture. He for the trees or the

ork is not new; bal- 1906 at Stonehenge. as were used in air- on opposing armies in aerial views not only sitions but Roman for- outposts, and forts. aeologists started using

ard was the developer y. One story about

him was that he had heard camels would follow a road even if had been covered by sand. So he tried it. The camels lined up on the road, just like he had been told. Maybe we should use this method in Chaco?

A Major Allen used aerial photog- raphy to locate Roman encampments in Britain. He found more in one day than archaeologists had found in many years' work up to that time.

One problem solved with the use of aerial photography was the question of how the stones were moved to Stonehenge. It was generally thought that the stones had been floated down a river most of the way, but some thought that such heavy stones would sink any boat. By using aerial photography, it was easily recog- nized that the stones had been dragged from the river to the site, and the photos showed the route.

From the air, the shape of another henge two miles away, perhaps "Wood- henge," could be plainly seen although there was nothing above ground. This site may be the predecessor to Stonehenge.

Tom went on to explain that shadows, vegetation, and soil scars or marks are indicators used in locating sites. In the

early morning or late afternoon, shadows show up the outlines of a site. The Ba- kers go out early in the morning - Lee flies the plane and Tom manages the cam- eras. By ten o'clock nothing shows up, and cloudy days are no good at all for shadow indicators.

Many kinds of vegetation like the loosened soil on a site. The structures show up as a negative pattern because plants don't grow on the walls themselves. This may be due to chemicals in the stone or to the fact that roots don't grow well in stone..

Tom said that there is nothing as permanent as a hole. Once the soil has been disturbed, it shows up in aerials every time. Ancient roads, whether stone or just trodden earth, show up clearly even when not visible from the ground. When light colored stones are used on darker soil or vice versa, they stand out very clearly.

The visibility of sites depends on many variables, such as time of day, time of year, weather, angle of vision, altitude, and the observer's experience.

Tom also told us about a new instru- ment called a loran. Loran stands for LOnG Range Aid to Navigation. These have been used in ships for some time, but since May of this year, they have been made available to pilots, hunters, fisher- men, and archaeologists. When a site is located, its longitude and latitude can be automatically programmed into the instru- ment.. In re-locating the site, the instru- ment will give direction and distance to that longitude and latitude. It will be a very valuable tool in the future for ar- chaeologists. A small, hand-held version is available for about \$250, a small price for what this instrument will do. [If only the discoverer of the Victorio Peak treasure had had a loran with him!]

Tom concluded his presentation by giving us a 3-D show, complete with glasses. We saw the country as it actually appears from the air. Steep-sided buttes poked up at us and it seemed that we could fly right down into the deep ravines. Ruins had height as well as breadth and were much more visible than in a two-di- mensional picture.

Reported by Faith Bouchard

The ALBUQUERQUE ARCHAEOLOGICAL SOCIETY is a non-profit corporation organized under the laws of New Mexico. Its purposes are (1) to preserve and protect prehistoric and historic remains in this region; (2) to educate members and the public in archaeological and ethnological fields; (3) to conduct archaeological studies, research, surveys, and excavations; (4) to publish data obtained from research studies and excavations; and (5) to cooperate with other scientific institutions.

OFFICERS AND DIRECTORS

CAROL CONDIE, President
JEAN BRODY, Vice-President
FAITH BOUCHARD, Secretary
ARLETTE MILLER, Treasurer
CAROL JOINER, Director at Large
ANN CARSON, Past President

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VOLUME XXVII, No. 12

December 1992



HOLIDAY PARTY AND SLIDE SHOW

presented by

OUR MEMBERS

Tuesday, December 15, 1992, at 7:30 p.m.

Albuquerque Museum, 2000 Mountain Road N.W. Old Town

Once again we are confident of having an exciting program as our members tell of their experiences, whether in far off, exotic places or close to home. We are fortunate to have so many photographers with an eye for the interesting. We know we'll have delicious refreshments as people share their special goodies. Jean Brody has coordinated the program, and Nan Bain has organized the food and drink. Our holiday party is always a highlight of our year, and 1992 will be no exception. **DON'T MISS IT!**

Our officers for 1993 will be installed -- after the ballots are counted. So bring your ballot if you haven't already mailed it in.

It's time to renew your membership for next year. An application form and an envelope are enclosed with the Newsletter. (If you first joined the Society in November or December 1992, you're paid up for 1993.) Perhaps you'll want to be a Sustaining Member and thus help with a little extra for our ever-rising costs. In any case, fill out your check and send it right away.

LAB is open Wednesday evenings, 7:30-9:00, and most Saturdays, 9:30-5:00, at the Old Airport Building at the south end of Yale Blvd. No lab during the holidays from December 23 through January 2.



Albuquerque Archaeological Society
Minutes, November 17, 1992

President Carol Condie opened the meeting and had the minutes of the previous meeting approved.

Mari King brought books related to the speaker's subject, Peru and western South America, for members to check out.

Dick Bice informed the group that the third Tech Note will be ready by the December meeting at a cost of approximately \$4.00. The subject is the floor grooves discovered at the AS-10 excavation near Tijeras Pueblo.

Dick also discussed the planned work day at Pueblo Blanco on November 21. Helen Crotty said that there will be more than one work day, and that if there were snow or muddy roads, the date would be changed to December 5.

Faith Bouchard asked for volunteers to help with the preparations for the state meeting to be held on May 7-9. Workers are needed to make banquet favors, plan field trips, and other miscellaneous duties. If you want to help, contact Faith at 842-5604.

Alan Shalette announced that Maxwell Museum is planning an opportunity for six or eight people to visit the Zuni Pueblo in the spring. This would be a long weekend in which the visitors would have a close contact with a Zuni guide and would be able to visit otherwise inaccessible areas. If you are interested, speak to Alan.

Jay Crotty said he and Helen are still looking for a place for next year's Rock Art Field School. Stay tuned.

Jean Brody introduced the speaker, Garth Bawden.

Refreshments were served by Marion and Jerry Shaw and Waynette Burnett.

Faith Bouchard, Secretary

"HERITAGE OF THE ANDES"
NOW SHOWING AT THE MAXWELL

Insight into the lives of many of South America's indigenous people is offered by the current exhibit at the Maxwell Museum. The ambitious exhibit takes in a large region -- Peru, Ecuador, parts of Colombia, Bolivia, and even parts of Brazil and Venezuela -- from the mountains to the sea. Although the exhibit emphasizes the past, it also describes continuity through time, for these are still living cultures.

The exhibit is ambitious also in the number and variety of objects -- photos, artifacts, materials, graphics and illustrations -- in the show. About 90 percent of the objects are from the museum's collections.

When we hear "Andes" and "Inca," we think "Inca." The collection does have Inca materials, but also artifacts from many other cultures of the region. There is a map of Cuzco in Inca times, pottery from many cultures, and clothing that identifies the wearers' villages.

One of the featured exhibits is a freeze-dried potato. The potato is not only an example of the Andeans' agricultural ability to develop hundreds of varieties of potatoes, but of their technological skill. Long before the twentieth century, these people learned how to freeze-dry potatoes. Mary Smith, the museum's director of education, tells how they did it. They would freeze the potatoes overnight outdoors, and next morning stomp them to squeeze out the water. They repeated this process for several days till they had a dried-up brown ball, which could be boiled into mush or eaten freeze-dried.

The exhibit, which will be shown until May 3, is free.

FISHERS AND FARMERS IN SOUTHERN PERU

Lecture by Dr. Garth Bawden

Garth Bawden's study area concerns long range interaction in southern Peru west of the Lake Titicaca Basin. In this region the terrain changes from an altiplano of over 13,000 feet through high-level valleys 3,500 - 8,000 feet to sea level, all within a lateral distance of less than 100 miles. The unusual ecological configuration of this region generated very distinctive patterns of economic and political interaction throughout the pre-Spanish period and produced the so-called "vertical archipelago" of complementary ecological zones.

Agricultural possibilities vary tremendously from the altiplano down to sea level. Prehistorically, the altiplano with its short growing season was a grassland which supported llama and alpaca herds; the mid-valley had steep slopes, but potatoes and maize grew on terraces at 8,000 feet; in the desert seacoast area, the river goes underground, but stream-fed irrigation made possible the cultivation of maize, and tropical fruits grew along the river near the coast. The center of Bawden's study area was Mosquegua, with the Osmore River running through it.

Andean investigator John Murray studied the vertical archipelago interaction. His theory was that sub-groups of the populations moved to a lower altitude to plant different crops but retained their social membership in the highland communities, thus shifting the foodstuffs between the two groups but not making a different social group.

To test this theory Bawden and his team needed a good starting point, and they chose the smaller sites. The cradle of civilization in this part of the world was Tiajuanaco in the highlands of Bolivia, south of Lake Titicaca. This city was the center of an empire with a large religious component. Its power extended into Argentina and Chile as well as Peru. It was a center for trading, and great caravans of llamas were routed through this area.

Early settlements in the Mosquegua mid-valley region were sparse, by contrast.

The earliest ceramics, Guaracama pottery, were fiber tempered and undecorated. The typical shape was a big-necked olla dating around 500 B.C. Later pottery was similar to the highland ceramic style, indicating the sharing of ideas between the two groups.

At Ono, 300 to 1000 A.D., there is evidence in architecture and ceramics of the influence and domination of Tiajuanaco. There are, for example, a sunken courtyard, a conjoined cemetery on an artificial terrace very similar to those in Tiajuanaco. Ceramics also are similar, although the paste is different. It is apparent that in the Mosquegua valley, authority rested with Tiajuanaco.

At the site of Tumulaca, there is early evidence for Tiajuanaco influence. Pottery was typically Tiajuanaco style but with less elaborate designs. Architecture, too, follows Tiajuanaco style. After the fall of Tiajuanaco c. 1000 A.D., the pattern changes. Houses are smaller, and pottery is technically poorer. The people seemed to be concerned about location for protection, with rock fortifications, unlike earlier times. Bawden suggests that the highlanders were coming down and setting up small communities with defensive structures to protect themselves from the indigenous people. On the western, lower, end of the Mosquegua drainage there was a large site called Yaral, with little highland-type sites nearby with the same dates and pottery.

The coastal Osmore drainage area was a narrow river bed with high sides. Up and down the coast for approximately 100 miles are about twenty springs which are plantation areas. According to the "vertical archipelago" theory, the same pattern of imperial domination would be present, but such was not the case. The assumptions were wrong.

Sites in the area show a long occupation sequence. The latest pre-Spanish culture, Chiribaya, dates 1200-1400 A.D. Carrizal is a Chiribaya site with a large field system and corrals for animals. Erosion in the gorge has exposed earlier sites which are not related to Chiribaya at all. One unique artifact from this earlier culture is an olla with blue paint. Nothing links these settlements to the cultures at

higher altitudes.

Along the coast, people depended on fishing. Many lithic tools were found including harpoons and fish hooks, and also twine and rope. These seem to be similar up and down the coast, and have only a slight resemblance to the contemporary Chiribaya culture.

Dr. Bawden concluded that there were two influences at the same time: the vertical relationship along the Mosquegua valley, where people came down from the higher areas to plant crops, and the horizontal along the coast where there were separate fishing sites and farming areas.

Reported by Faith Bouchard

A VIEW OF THE AZTEC EXHIBIT AT DENVER'S NATURAL HISTORY MUSEUM

Bettie and Jack Terry were very impressed with the Aztec exhibit at the Denver Natural History Museum which they visited recently. They spent an hour and a half examining the wonderful examples of the Aztec culture.

Human sacrifice is the theme of the show. There are hundreds of artifacts, two dioramas, and a 1/10th scale model of the Great Temple. Materials represent the culture from early Aztec to the time of the Spanish. Some of the pieces are very large, and many are made of basaltic material. Some of the artifacts are reproductions, but of such good quality that Bettie couldn't tell any difference between them and the real thing. There was very little gold or jewelry. Bettie's favorite artifact was the skull of a bear (?) with a huge malachite ball in his mouth.

This exhibit cost over \$1 million dollars, and 700,000 visitors are expected.

Bettie and Jack recommend the exhibit, which is on display in Denver until February 21. Admission is \$7.50, and you need reservations. The best days are Wednesday and Thursday, or any day after 1 p.m. (Mornings are for school tours.)

RED BALLS ON YOUR CHRISTMAS TREE

Occasionally today you see a Christmas tree decorated only with red balls, often of satin. These are probably the most authentic reproductions of the earliest known decorated evergreen trees, those used in the 14th and 15th century mystery plays which reenacted the casting out of man from the Garden of Eden. The tree was usually carried by Adam in a parade on December 24th - Adam and Eve's Day on the early calendar of saints - and then used as a stage prop in the play. The tree was decorated with apples, symbolic of the fall of man. Long after the plays were no longer produced, the custom of decorating evergreen trees with apples continued.

"The Old Way of Decorating the Tree," by L. F. Willard, Yankee, December, 1976.

The first mention of a Christmas tree in America is in Lancaster, Pennsylvania, in 1821. The celebration of Christmas got a late start in America. To the Puritans, Christmas was sacred and serious, and Governor William Bradford wrote that he tried to stamp out "pagan mockery" and penalized any frivolity. He was following Oliver Cromwell's preaching against "the heathen traditions" of Christmas carols, decorated trees, and any joyful expression that desecrated "that sacred event."

In 1659, Massachusetts enacted a law making any observance of December 25, other than a church service, a penal offense; people were fined for hanging decorations. That stern solemnity continued until the nineteenth century when German and Irish immigrants undermined the Puritan legacy. In 1856, the poet Henry Wadsworth Longfellow wrote: "We are in a transition state about Christmas here in New England. The old Puritan feeling prevents it from being a cheerful hearty holiday; though every year makes it more so." In that year Christmas was made a legal holiday in Massachusetts, the last state to uphold Cromwell's philosophy.

Extraordinary Origins of Everyday Things. by Charles Panati.

DOWSERS: CAN THEY BE USED IN ARCHAEOLOGY?

by
George A. Agogino

Portales, New Mexico, is a town of 11,000 on the high Plains of eastern New Mexico. This uplift, nearly a mile in height, is a flat land, largely without any running water. Wells supply water for humans, livestock and peanuts, the major agricultural crop in the region. Since wells are so valuable for the survival of people in this area, the water dowser is a respected and frequently sought after professional. Clearly, his services are appreciated. However, it is not completely clear if the dowser's talents depend solely on the magic of the forked hazel branch or an unconscious knowledge of the terrain and where water is most probably to be found.

The earliest known reference to dowsing is a statement by a Benedictine monk named Basile Valentin. Valentin, in his writings, quotes the use of the magic rod, or dowsing rod, over two thousand years ago. Valentin also quotes from the bible (Genesis 37-38):

"I will stand before thee upon the rock in Horeb and thou shalt smite the rock and there shall come water out of it, and the people may drink. And Moses did so in the sight of the Elders of Israel" (Paine 1981:368-369).

Now I do not believe in dowsing. If success is obtained, I feel it is the subconscious of the operator, not the forked stick. In fact, more modern metal rods are often used today and even sold commercially. In my belief, the twisting or drop of the rod, be it forked stick or metal rod, is the involuntary muscular action by the dowser at a spot felt to probably produce positive results. It is the subconscious, not the rod that predicts.

The Wyoming Archaeologist
Volume 36, Nos. 1-2, 1992

I must confess, in my own experience I have used other than visual means of finding archaeological items in my profession as an anthropologist. The second oldest known culture in the New World is the Folsom culture. The oldest and largest site is that of the Lindenmeier site in northern Colorado. It was found in 1923 and by 1960, the culture was not dated by any scientific means. At that time, Dr. Vance Haynes and myself undertook a project to date this site by the recently developed radiocarbon method. It required roughly a thimble full of charcoal from the productive level that had not been displaced by any rodent or other earth moving activity.

However, no fire hearths were found, just flakes of scattered charcoal. After over six hundred hours of laborious work, we failed to meet our goal. Only a few specks of charcoal were in our possession from the productive level. Time was running out. Our research funds were nearly exhausted. One night, we lay in our sleeping bags and one of us stated: "Let us hope we can dream of the source where we can find charcoal and complete our task." The next morning, one of us, I can't recall which, dreamed we should go down the arroyo to a location we though earlier would not be productive and there we would reach our goal. With little to lose, since we could not find the elusive charcoal in prime locations, we followed our dream, saying maybe the Paleoindian ghosts may have advised us in the dream. To our surprise, the new location was so productive we finished our task in less than eight hours. After analysis, we produced the first radiocarbon date for Folsom at 10,780 years ago (Haynes and Agogino 1960).

The second incident also concerns the Fol-

som culture. We had worked at Hell Gap, Wyoming, one of the most productive Early Man sites in the New World. In our eight years of research, we had a cultural sequence running from one thousand years ago to eleven thousand years ago. All the cultural sequences had been clearly identified except a time period about 10,500 years ago. We were almost sure it was the Folsom culture that filled this notch, but until we found a point, we could not be certain. After our third season at the site, we were packing to return home. I walked down the arroyo for a final look at the arroyo banks. Suddenly, I had an urge to dig in a specific location that showed no evidence of any cultural items being present. To this day, I cannot know why I felt this spot would produce Folsom artifacts. I begged my co-directors, Dr. Cynthia Irwin-Williams and her brother Henry Irwin, to give me a half hour to dig in this spot. They were reluctant, for no evidence was present, and wondered why I thought I could produce a Folsom point when in three years, we had not found any at the site, when some thirty people were constantly digging. Anyway, even I was shocked when after a few scrapes with the trowel, my blade hit some lithic objects and our first Folsom point was unearthed. Why I had the irresistible urge to dig here, and how I defied all odds to find a Folsom point, I cannot explain today. Perhaps like the water dowser, I saw some seemingly unconscious clues that I could not record clearly in my mind that presented the possibility I would find a Folsom point at that spot.

I recall as a child I went fishing at Deal Lake in New Jersey, only to find midway in the day I had run out of fish hooks. My reserve supply was a good two miles away back at my parents' campsite. I hated to take the four mile walk, to and from this location, but had no other recourse if I wanted to continue fishing. I had gone no more than a hundred yards, when something told me if I put my hand on the bark of a tree along the path, I would find a fish hook imbedded in the tree. Not really believing I would find anything, I did so, and touched an old and rusty fish hook. My only rationalization

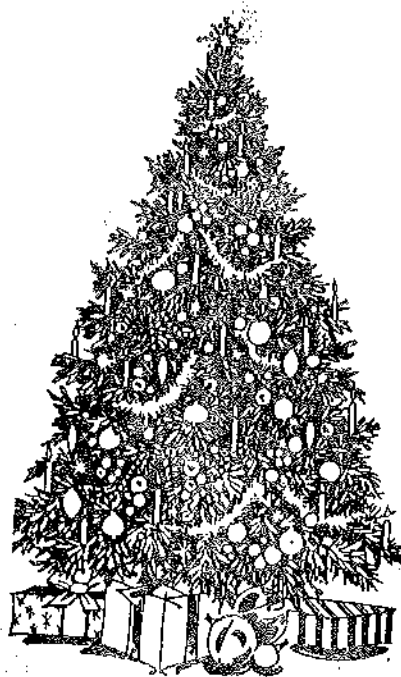
for this event is that I had seen that fish hook on many occasions as I walked to and from Deal Lake, but never needed it. Now, my subconscious was activated to save me a four mile walk. Is this similar to what the dowser does in his activity? I think it is. It brings the subconscious to the conscious level when needed.

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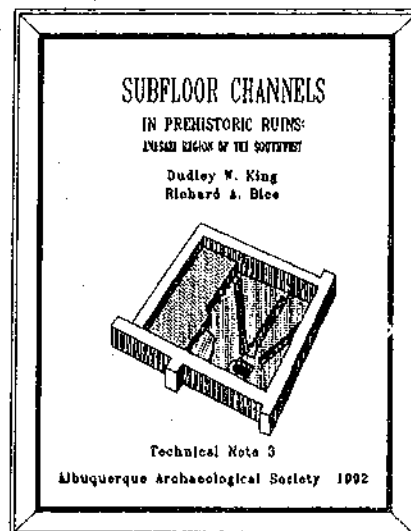
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NEW AAS PUBLICATION GOES ON SALE

Technical Note 3, entitled Subfloor Channels in Prehistoric Ruins, Anasazi Region of the Southwest has just been published by the Albuquerque Archaeological Society. It was inspired by some sunken floor grooves that were discovered in a kiva-like room during the AS-10 excavation project undertaken by the Society in 1986-1987. In this project, two small pueblo ruins, on private land, immediately next to the large Tijeras ruin east of Albuquerque, were partially excavated before they were engulfed in a housing development.

The questions arose as to the history and the meaning of similar features in other times and at other sites. This carefully researched paper provides plausible answers to these questions and adds further to the fascinating insights that the continuing process of Southwest Archaeology brings to us.



Technical Note 3, containing 13 illustrations and photographs, was authored by AAS members Dudley W. King and Richard A. Bice with the library research help of Mari King. It will sell for \$3.00, or for \$4.00 if shipping is required. Copies will be available at the December meeting.

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