Were There Any Well-Known Hohokam Indians?

Allen Dart, RPA

I am happy to say that as long as I’ve worked as a professional archaeologist (since 1975), a lot of people have shown an interest in my chosen career. Many of them are young people who have written or emailed me to pick my brain, often for their schoolwork assignments.

Since many of the youths who inquire about my work ask questions similar to ones that others already have asked, in 1999 I began compiling a file containing the full set of my responses to their many questions. Their queries, which tend to fall into some basic subject groupings, have included:

What kind of tools do you use? [Photos on this page show some of them.]
What does an archaeologist do? [See illustration on page 2.]
Where do you work, what is your family background?
What are archaeological sites and cultural resources?
How ancient is “ancient,” and how recent does archaeology get?
What are artifacts, and why is an archaeologist interested in them?
Do you have any personal stories about how or what it was like becoming an archaeologist?
What is it like being an archaeologist, and what do you do every day? Is it a hard job? Is it exciting?

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What kind of tools does an archaeologist use?
Picks, shovels, and smaller tools such as brushes and trowels are not the only ones. Sometimes machinery must be used to remove earth above buried archaeological features. Mapping and measuring tools are used to record information about where items are discovered. Notebooks or hand-held electronics are essential for recording and sketching what is found. (University of Leicester photos)

1 Issue no. 2 for the 2012 membership year. Due to production difficulties this issue was not actually published until 2014.
What do you know where all the archaeological sites are, and where to dig?

About how many things do you find each year?

What are your expeditions like? Where do you get funding for your expeditions?

Do you like archaeology? If so why? What are some of the benefits of your job? What makes archaeology a worthwhile occupation for you?

Where is the most interesting place you have gone for your work and why was it the most interesting?

Does archaeology require a special training? Are any jobs in your field that don’t require schooling?

For example on digs, what about laborers?

What do the pottery pieces you find look like, where do you find them, and how do you know who had the pottery before you found it? [See left photo on page 3.]

As an archaeologist, what impact do you think your research has on society? Do you think it is beneficial? How does this job help in the community?

Why did you choose to be an archaeologist?

What will an archaeologist do after finding the artifacts? Why do you dig things up and not keep them but give them to museums? [See right photo on page 3.]

Do you get paid, in your opinion, very well, sufficiently, or not the best?

From your experience, what characteristics make a good archaeologist?

Do you contribute to any publications? Have you written any books, or written for any journals?

Which spelling is correct: “archeology” or “archaeology”?

What is a research design?

What is consultation?
What is a Registered Professional Archaeologist? [See explanation in the box below.)

What is the future about archaeology? Do you see a future increase in need for archaeologists? Will this job be necessary in five years? How will it change?

There are actually many more questions archived in my file, but a particular set of actual questions that I thought I’d share in this issue of Old Pueblo Archaeology are:

“How many Hohokam Indians were living in the Southwest U.S. at one time?”

“Were there any well-known Hohokam Indians? (I don’t think so because they lived so long ago and we don’t have that kind of information, but I thought I better check.)”

“What kind of language did they speak?”

“What kind of religion did they have and what kind of things did they do when practicing it? Did they believe in many gods or just one God?”

Here are the answers I provided to the young people who asked these four fascinating questions.

“How many Hohokam Indians were living in the Southwest U.S. at one time?”

In order to estimate populations of prehistoric peoples like the Hohokam for whom we have no written records, one must look at several kinds of archaeological evidence. Archaeologists usually try to estimate population by determining how much house-floor space would have been needed by each person (as determined by cultural anthropologists), then calculating how much floor space there was for an entire archaeological culture (such as the Hohokam) at any one time.

For example, cultural anthropologists have suggested that historical Native Americans and other people who were about at the same level of culture complexity as the ancient Hohokam may have required about 2.3 square meters (about 25 square feet) for each of the first six persons in a household, then about 9.3 square meters (about 100 square feet) for each additional person in the household. Therefore, in order to calculate population, an archaeologist would need to calculate the total amount of archaeological floor space (area in square meters or square feet) available, then divide the total area by 2.3 to figure out how many persons might have occupied that total area of floor space.
space, assuming that all of the ancient households included no more than six people.

It is quite difficult for archaeologists to use the cultural anthropologists’ formulas because we need to answer some other basic questions first, such as:

- How long were structures occupied?
- How should we deal with ruins in which not all structures were preserved in full (that is, what if some of the floor areas were not preserved so we have no idea of how big the original floors may have been)?
- Were all floor areas used for normal living, or were some of the floor spaces used just for storerooms, community buildings, or other purposes besides in-house residence?
- If you don’t have a good date on a particular structure should you count its floor space when making your population estimates?

One of the most basic questions we have to try to answer before making a population estimate is:

- How many houses were inhabited during the time for which we are trying to estimate the population?

This is important, because the Hohokam probably occupied southern Arizona for about 1,000 years, but not all of their houses were in existence at the same time. For example, if archaeologists were to find out that there were, say, 10,000 Hohokam houses accounted for in the entire archaeological record of southern Arizona, we would still need to know how many of those houses were in existence during the time for which we want to estimate the population. Certainly there would have been fewer than 10,000 Hohokam houses in use at any one time, and probably there were far less than that.

I have read and heard from other archaeologists that there may have between 40,000 and 200,000 Hohokam living in southern Arizona when the Hohokam population was at its highest level, around A.D. 1100, but please keep in mind that an archaeologist can only make a “best guess” about how many people were living at any one time because it is usually so difficult to answer these other basic questions.

Here is my reference for the estimate of 2.3 square meters for each of the first six persons in a household, and 9.3 square meters for each additional person in the household:

Cook, Sherbourne F.
1972 Prehistoric Demography. Modular Publications No. 16. Addison-Wesley, Reading, Massachusetts.
“Were there any well-known Hohokam Indians? I don't think so because they lived so long ago and we don't have that kind of information, but I thought I better check.”

Since the Hohokam did not use writing, archaeological evidence alone cannot tell us whether they had any well-known persons. However, the Akimel O’odham (Pima Indians) and Tohono O’odham (Papago Indians) who were living in southern Arizona when Spanish explorers and missionaries (the first Europeans) came in to this area still had oral histories, that is, stories that were told instead of being written down, about some famous Hohokam.

In 1697, Juan Mateo Manje, the first Spanish army captain who explored the territory of the Akimel and Tohono O’odham with the missionary Eusebio Kino, wrote in his diary that the Pima Indians he met along the Gila River told him that the Casa Grande Ruins (one of the biggest Hohokam archaeological sites) and several other great adobe houses nearby were built by a people whose chief was called Siba. The Pimas translated “Siba” as ‘the bitter man’ or ‘the cruel man’ and told Manje that Siba was a historical figure who had been involved in bloody wars involving over 20 distinct Indian groups. According to Manje’s diary these wars, in which many died, resulted in the migration of many people out of central Arizona.

In the early 1900s the Pima Indians had a name for each of the major archaeological ruins along southern Arizona’s Gila and Salt rivers to distinguish each ruin from others.

Also, Pima and Tohono O’odham oral histories (some people might call these histories “mythology”) state that after the creation, and before the great Hohokam conflict era, a culture hero named Elder Brother was living among the Hohokam. However, eventually the Hohokam chiefs who lived in the great adobe ruins became angry with Elder Brother and tried to kill him several times, after which Elder Brother set out to exact revenge through armed conflict. The Native American oral traditions state that Elder Brother assembled many unhappy people from far to the south of the Gila River, even from northern Mexico, and with their help Elder Brother attacked the chiefs living in the great houses. Elder Brother’s forces are said to have killed many and to have driven the rest of the chiefs out of the Gila and Salt River valleys.

Here are my references for this information:

Bolton, Herbert Eugene

Russell, Frank

Teague, Lynn S.
“What kind of language did they speak?”

Archaeologists cannot determine what language the Hohokam spoke because the Hohokam left no written history (or language) and were all dead by the time people who did use writing first came to southern Arizona. However, linguists (people who study languages) who have studied and compared the historical Indian languages of the southwestern United States and northern Mexico have found that the two main, ancient language “stocks” (groups of similar languages) in southern Arizona are Yuman and Tepiman. In historic times, the Akimel O’odham and Tohono O’odham spoke variants of the Tepiman languages. Comparative language studies suggest that many of the Hohokam people spoke a variety of ancient Tepiman, but certain odd words used by the historical Akimel O’odham and Tohono O’odham are more closely related to the Zuni Indian language of western New Mexico than to the main Tepiman language, suggesting that most of the Hohokam spoke Tepiman but some of them may have spoken a variant of the Zuni language.

My reference for this information is:


“What kind of religion did they have and what kind of things did they do when practicing it? Did they believe in many gods or just one God?”

The Hohokam built very large features called ballcourts, platform mounds and “big houses” (also called “great houses”). They also created very imaginative pottery designs and rock art images, and had very elaborate funeral rituals.

Hohokam ballcourts were huge, oval, bowl-shaped depressions up to 80 meters (about 264 feet) long and 25 meters (about 82 feet) wide, with large embankments of earth up to 3 meters (9 feet) high surrounding the depression. These banked-up depressions are believed to have been used for playing a ball

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2 Hokan in the “Language divisions” illustration on this page
3 A subdivision of Uto-Aztecan in the illustration
game that was a partly religious ceremony, which as many as 500 people could watch from the tops of the surrounding embankments.

Platform mounds were giant structures, some of them bigger than modern football fields, up to 120 meters long (about 400 feet). The platform mounds, which were usually rectangular, were constructed by building adobe- and masonry-walled rooms, filling in the rooms with trash and dirt, then erecting buildings on top of the filled-in rooms. The buildings on top are believed to have been used at least partly as ceremonial areas. Both platform mounds and “big houses” were enclosed by surrounding compound walls. The four-story structure at Casa Grande Ruins National Monument in Coolidge is the best-known example of a Hohokam “big house.” The “big houses” were large, adobe, tower-like structures built on top of raised platform mounds by the latest Hohokam (during the Classic period, A.D. 1150-1450), and probably served purposes similar to platform mounds.

The ballcourts, platform mounds, “big houses,” figurative pottery designs and rock art images, and items found associated with human burials suggest that the Hohokam had an elaborate belief system. Mythological stories may have been depicted in some of the rock art and pottery designs. The cycles of nature probably played an important role in the Hohokam belief systems, as they did farther south in Mesoamerica (what is now Mexico and Central America) during ancient times. Archaeologists have determined that the Hohokam had knowledge of astronomy and made observations of the movements of the sun, the moon and possibly other celestial phenomena. That knowledge probably was important for regulating ceremonial cycles throughout the year.

We can’t be sure, but if the Hohokam shared the same oral histories/mythology of the later Akimel O’odham and Tohono O’odham (who are believed to be descendants of at least some of the Hohokam),
then they probably believed in more than one god. According to Akimel O’odham and Tohono O’odham mythology, in the beginning a man-god named Earth Medicine-man drifted alone in a void. He made the earth from his skin scales and, once the earth grew, he made the sun, moon, and stars from his spit. Then he caused a handful of other gods to come into existence. The principal of these was called Elder Brother, whom Earth Medicine-man ordered to be created by calling the sky to kiss the earth. Next Earth Medicine-man made O’odham-language-speaking humans and started them on a normal existence.

In the story’s next important event, Elder Brother, Earth Medicine-man, and a few other beings, including a few normal people, survived a great flood. The people took refuge in the underworld while the gods avoided saving themselves in the people’s death-like manner by floating on the waters in separate boat-like containers. Both gods then created new people to inhabit the earth. Those of Earth Medicine-man were thrown away, and those of Elder Brother became the Huhugam (or Hohokam, which means “the finished-ones”). Earth Medicine-man then sank into the underworld to join his own prior creation.

According to the mythology, many interesting and important events then occurred between Elder Brother and his new people, including the origin of the white race from blanched and revived O’odham. These were sent away with the expectation that they would return. Elder Brother’s people eventually hated and killed him, but he came back to life, walked across the sky, and entered the underworld at the place where the sun sets. There he is said to have met Earth Medicine-man and the earlier creation, then led the people (but not Earth Medicine-man) to the earth’s surface to make war on and defeat and “finish-off” the then-reigning O’odham-speaking creation.

About the last quarter of the story is given to battles between the emergent O’odham and the O’odham that they conquered. After the conquest Elder Brother is said to have retired from the people to live in a cave at a mountain in Tohono O’odham territory, and supposedly remains there to this day. Earth Medicine-man remains at his home in the underworld. The conquerors dispersed to the historical present desert and river locations of the Tohono O’odham and Akimel O’odham, respectively.

(Pages 8 and 9) Some archaeology researchers speculate that animal, human, and flower-like and spiral figures seen in Hohokam petroglyphs and pottery are symbols that had religious significance to this ancient society.

(Hohokam pottery photos, for which the scale is 20 cm long, courtesy of William L. Deaver; petroglyph photos by Allen Dart)
Historical and modern Tohono O’odham and Akimel O’odham visit the cave where Elder Brother is said to live, to say prayers and leave offerings. Perhaps the Hohokam followed similar religious practices.

My reference for the information on “What kind of religion did they have” is:

Bahr, Donald, Julian Hayden, William Smith Allison, and Juan Smith

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*Petroglyphs near a Baboquivari Mountains cave that some Tohono O’odham believe is one of the homes of the deity I’itoi*  
(Photo by Allen Dart)
Did You Know? Two Important U.S.-Mexico Treaties

Allen Dart, RPA

In 1846 the United States went to war with Mexico. The Treaty of Guadalupe Hidalgo that ended that war on February 2, 1848, is the oldest treaty still in force between the United States and Mexico. As a result of the Guadalupe Hidalgo treaty the U.S. acquired more than 500,000 square miles of new territory. The lands ceded by Mexico included what are now the states of California, Nevada, and Utah, parts of Colorado and Wyoming, most of New Mexico west of the Rio Grande, and Arizona’s lands north of the Gila River and some south of it near the state’s current southeastern corner.

The Gadsden Purchase Treaty moved the boundary between Mexico and the U.S. southward to include the portion of Arizona south of the Gila that already had an established Anglo-American population. Our two countries’ diplomats signed the Gadsden Purchase agreement on December 30, 1853, but it was not ratified by both governments until June 30, 1854, when the U.S. Congress voted a treaty appropriation and President Pierce formally published it. Mexican President Santa Anna published the agreement three weeks later, so the Gadsden Purchase came into U.S. possession in the summer of 1854.

A major goal of the U.S. negotiators was to obtain land south of the Gila River for a railroad right of way. Even before the agreement was final, the U.S. Army Corps of Engineers and a private surveying party sponsored by a railroad company began surveying a railroad route along the 32nd parallel in January 1854. The Southern Pacific Railroad arrived in Tucson in 1880.

Upcoming Activities

LOOKING AHEAD: Friday October 24, 2014
Deadline to purchase tickets for the November 13 “Fundraising Raffle of a 2014 Jeep Cherokee” by Tucson’s Jim Click Automotive Team to benefit Old Pueblo Archaeology Center and other charities. See November 13 announcement for this event, below.

Photo of the actual Jeep Cherokee that will be given away on November 13
**Thursday October 23, 2014: Sedona, AZ**

"Set in Stone but Not in Meaning: Southwestern Indian Rock Art" free presentation by archaeologist Allen Dart for Verde Valley Chapter, Arizona Archaeological Society, at Village of Oakcreek Association Community Center (Oakcreek golf course clubhouse), 690 Bell Rock Blvd., Sedona; cosponsored by Arizona Humanities*

7-8 p.m. Free

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**Photo of some petroglyphs on the Tohono O'odham Nation's reservation**

Ancient Indian petroglyphs (symbols carved or pecked on rocks) and pictographs (rock paintings) are claimed by some to be forms of writing for which meanings are known. But are such claims supported by archaeology or by Native Americans? Archaeologist Allen Dart illustrates how petroglyph and pictograph styles changed through time and over different regions of the Southwest prehistorically and historically, and discusses how even the same rock art symbol may be interpreted differently from popular, scientific, and modern Native American perspectives.

This program was made possible by Arizona Humanities.

* This is not an Old Pueblo Archaeology Center-sponsored event. No reservations needed. For meeting details contact Scott Newth in Sedona at 928-274-7773 or rnewth@msn.com; for information about the presentation subject matter contact Allen Dart at Tucson telephone 520-798-1201 or adart@oldpueblo.org.

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**Sunday October 26, 2014: Green Valley, AZ**

"Arts and Culture of Ancient Southern Arizona Hohokam Indians" free presentation by archaeologist Allen Dart for Canoa Anza Days at Historic Canoa Ranch, 5375 S. I-19 Frontage Road, Green Valley, Arizona (along I-19 East Frontage Road between the Continental and Canoa exits); cosponsored by Arizona Humanities*

11 to 11:30 a.m. flexible start time. Free

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**Photo by William L. Deaver of Hohokam Tanque Verde Red-on-brown paneled “squash” jar, smudged with fire clouds**

The Hohokam Native American culture flourished in southern Arizona from the sixth through fifteenth centuries, and the Akimel O'odham (Pima) and Tohono O'odham (Papago) occupied this region historically. Ancient Hohokam artifacts, architecture, and other material culture provide archaeologists with clues for identifying where the Hohokam lived, for interpreting how they adapted to the Sonoran Desert for centuries, and explaining why the Hohokam culture mysteriously disappeared. In this presentation archaeologist Allen Dart illustrates the material culture of the Hohokam and presents possible interpretations about their relationships to the natural world, their time reckoning, religious practices, beliefs, and deities, and possible reasons for the eventual demise of their way of life. This program was made possible by Arizona Humanities.

* This is not an Old Pueblo Archaeology Center-sponsored event. For event details contact Dawn Morley at 520-289-3940 or info@havesomefun.us; Visit https://www.youtube.com/watch?v=_NEIjK7uqecQ or contact Allen Dart at Tucson telephone 520-798-1201 or adart@oldpueblo.org for directions or information about the activity subject matter.
Thursday November 13, 2014: Tucson
(You don’t have to be there to win)

“Fundraising Raffle of a 2014 Jeep Cherokee” by Tucson’s Jim Click Automotive Team. Old Pueblo Archaeology Center gets to keep 100% of the proceeds from all raffle tickets that it sells.

Tickets are 5 for $100 or $25 each

*Photo of the actual Jeep Cherokee that will be given away on November 13*

The Jim Click Automotive Team is presenting a new 2014 Jeep Cherokee to be used as the featured prize in a raffle to raise one million dollars for Tucson-area nonprofit organizations. With your $25 contribution (or 5 raffle tickets for $100) you could win the 2014 Jeep Cherokee. The best part is that 100% of your contribution will support Tucson charities, including Old Pueblo Archaeology Center, which gets to keep all the proceeds from the tickets that Old Pueblo sells.

**Your donation to purchase one or more raffle tickets will help Old Pueblo Archaeology Center provide more archaeology and culture education programs for children who would not be able to afford our programs without your help.**

A maximum of 50,000 tickets will be sold. To be entered in the drawing tickets must be received by Old Pueblo by October 24 so that we can turn them in to the Jim Click Automotive Team’s raffle coordinator by October 31. The drawing will be held on November 13.

The rules of the raffle require that Old Pueblo account for all tickets issued to us and that we return all unsold tickets, therefore payment in advance is required in order to obtain tickets. The ticket price is $25 apiece or five tickets for $100. Tickets may be purchased by check sent to our PO box address listed below, by calling me on my cell phone (520-603-6181) to provide your Visa, MasterCard, Discover, or Diners Club credit card payment information, or through the PayPal portal on Old Pueblo’s [www.oldpueblo.org](http://www.oldpueblo.org) home page. Once you have provided payment, Old Pueblo will enter your ticket(s) into the drawing for you and will mail you the correspondingly numbered ticket stub(s) with a letter acknowledging your contribution.

For tickets or more information contact Old Pueblo at 520-798-1201 or info@oldpueblo.org. For more information about the Jim Click Automotive Team’s 2014 Jeep Cherokee raffle visit the Raffle Facebook page at [https://www.facebook.com/JeepCherokeeRaffle](https://www.facebook.com/JeepCherokeeRaffle).

Saturday November 15, 2014: West of Red Rocks and south of Arizona City, AZ

“Archaeology of the Ironwood Forest Area” free presentation by archaeologist Allen Dart at Ragged Top Mountain, Ironwood Forest National Monument, Arizona*

11-11:50 a.m. presentation; entire event is from 8 a.m.-3 p.m. Free

*Photo by Murray Bolesta of petroglyphs in vicinity of Ragged Top Mountain, Ironwood Forest National Monument, Arizona (Copyright Murray Bolesta/CactusHuggers.com)*

In one of the many activities offered during the “Meet the Monument” event, Allen Dart will summarize the archaeology of the Ironwood Forest National Monument and vicinity. The talk is part of the Friends of Ironwood Forest’s efforts to inform visitors about the Sonoran Desert as found in the monument. Other talks will include: 9 a.m., “Big Horn Sheep and the Last Native Herd on Ragged Top” by Joe Sheehey; 10 a.m., “Cacti of the Sonoran Desert” by Bob Schmalzel; and 12 noon, “Tohono O’odham culture and traditions as related to the Ironwood Forest” by Tohono O’odham educator Bernard Siquieros and archaeologist Peter Steere. Opportunities abound to engage the desert directly through guided hikes around the base of Ragged Top Mountain and walkabouts focused on specific topics or activities including natural history, big horn sheep, birding, and nature photography. Bring your own water bottles, lunch, and camp chairs.

*This is not an Old Pueblo Archaeology Center event. For more information and directions to the event contact Gordon Hanson at gordonphanson@gmail.com.*
Thursday November 20, 2014: Tucson

Old Pueblo Archaeology Center’s “Third Thursday Food for Thought” dinner featuring the presentation “Landscape of the Spirits: Hohokam Rock Art of South Mountain Park” with archaeologist Dr. Todd Bostwick at Dragon's View Asian Cuisine, 400 N. Bonita Ave., Tucson; cosponsored by Arizona Humanities

6 to 8:30 p.m. Free (Order your own dinner off of the restaurant’s menu)

The South Mountains in Phoenix contain more than 8,000 Hohokam petroglyphs. This program discusses Dr. Bostwick’s long-term study of these ancient glyphs and describes the various types of designs, their general distribution, and their possible meanings. Interpretations of the petroglyphs include the marking of trails, territories, and astronomical events, as well as dream or trance imagery based on O’odham (Pima) oral traditions. Most of the trails currently used by hikers in the South Mountains contain Hohokam rock art, indicating that these trails date back at least 800 years.

Todd Bostwick has conducted archaeological research in the Southwest for 35 years, was the Phoenix City Archaeologist at Pueblo Grande Museum for 21 years, and is now the Senior Research Archaeologist for PaleoWest Archaeology in Phoenix and Director of Archaeology for the Verde Valley Archaeology Center in Camp Verde. Dr. Bostwick has published numerous articles and books on Southwest history and prehistory and has received several awards, including the Governor’s Award in Public Archaeology in 2005.

This program was made possible by Arizona Humanities.

Saturday November 29, 2014: Tohono O'odham Nation, AZ

“Rock Art and Archaeology of Ventana Cave” Old Pueblo Archaeology Center carpooling educational tour with archaeologist Allen Dart departing from Pima Community College, 401 N. Bonita Ave., Tucson

6:30 a.m. to 3:30 p.m. Fee $35 ($28 for Old Pueblo Archaeology Center and Pueblo Grande Museum Auxiliary members; no charge for members or employees of the Tohono O’odham Nation)

Old Pueblo Archaeology Center offers this early-morning carpool tour onto the Tohono O’odham Nation to visit the Ventana Cave National Historic Landmark site. During the Arizona State Museum’s 1940s excavations in the cave, led by archaeologists Emil W. Haury and Julian Hayden, evidence was found for human occupation going back from historic times to around 10,000 years ago. The cave, which actually is a very large rockshelter, also contains pictographs, petroglyphs, and other archaeological features used by Native Americans for thousands of years. Tour leaves Tucson at 6:30 a.m. to ensure the pictographs can be seen in the best morning light. Fees will benefit the Tohono O’odham Hickiwan District’s efforts to develop a caretaker- interpretive center at Ventana Cave, and the nonprofit Old Pueblo Archaeology Center’s education programs.

Reservations required by Wednesday November 26: 520-798-1201 or info@oldpueblo.org
Thursday December 18, 2014: Tucson

Old Pueblo Archaeology Center’s “Third Thursday Food for Thought” dinner featuring the presentation “Antiquity of Irrigation in the Southwest” by archaeologist Allen Dart at a Tucson restaurant to be announced
6 to 8:30 p.m. Free (Order your own dinner off of the restaurant’s menu)

1929 map by Omar Turney of Hohokam canals in Salt River Valley, Arizona

Preliterate cultures in the American Southwest took advantage of southern Arizona’s long growing season and tackled its challenge of limited precipitation by developing the most extensive irrigation works in all of North America. Agriculture was introduced into southern Arizona more than 4,000 years ago, and irrigation systems were developed here by at least 3,500 years before present – several hundred years before irrigation was established in ancient Mexico. This study session provides an overview of ancient Native American irrigation systems identified by archaeologists in the southern Southwest and discusses their implications for understanding social complexity.

Guests may select and purchase their own dinners from the restaurant’s menu. There is no entry fee but donations will be requested to benefit Old Pueblo’s educational efforts. Because seating is limited in order for the program to be in compliance with the Fire Code, those wishing to attend must call 520-798-1201 and must have their reservations confirmed before 5 p.m. Wednesday December 17.

Saturday December 20, 2014: Tucson-Marana, AZ

Old Pueblo Archaeology Center’s “Near-Winter Solstice Tour of Los Morteros and Picture Rocks Petroglyphs Archaeological Sites” with archaeologist Allen Dart departs from northeast corner of Silverbell Road & Linda Vista Blvd. in Marana, Arizona
8 a.m. to noon. $20 ($16 for Old Pueblo Archaeology Center and Pueblo Grande Museum Auxiliary members)

To explore ancient people's recognition of solstices and other calendrical events, archaeologist Allen Dart (Old Pueblo Archaeology Center's executive director) leads this tour to Los Morteros, an ancient village site that includes a Hohokam ballcourt and bedrock mortars, and to Picture Rocks, where ancient petroglyphs include a solstice and equinox marker, dancing human-like figures, whimsical animals, and other rock symbols made by Hohokam Indians between A.D. 650 and 1450.
LIMITED TO 32 PEOPLE.
Reservations required by Friday December 19: 520-798-1201 or info@oldpueblo.org.

Mondays January 19-February 9, 2015: Sun City West, AZ

"Archaeology, Cultures, and Ancient Arts of Southern Arizona" adult education class for Recreation Centers of Sun City West in the R. H. Johnson Recreation Center, 19803 R. H. Johnson Blvd., Sun City West, Arizona
Every Monday Jan. 19 & 26 and Feb. 2 & 9 from 6 to 8 p.m. Fee $35

In this four-session class on Tuesday evenings, Allen Dart, a Registered Professional Archaeologist and volunteer director of the Old Pueblo Archaeology Center in Tucson, will provide information about the archaeology and cultures of Arizona and the Southwest, focusing on the arts and material culture of southern Arizona's prehistoric peoples. The first session, "Archaeology and Cultures of Arizona," will summarize and interpret the archaeology of Arizona from the earliest "Paleoindians" through Archaic period hunters and foragers, the transition to true village life, and the later prehistoric archaeological cultures (Puebloan, Mogollon, Sinagua, Hohokam, Salado, and Patayan). Mr. Dart also will relate the archaeological cultures to the Native American, European, Mexican, African, and Asian peoples who have been part of our state's more recent history. In Session 2, "Arts and Culture of Ancient Southern Arizona Hohokam Indians," artifacts, architecture, and other material culture of southern Arizona's ancient Hohokam culture are illustrated and discussed. The arts and culture that the Hohokam left behind provide archaeologists with clues for interpreting their relationships to the natural world, time reckoning, religious practices, beliefs, and deities, and possible reasons for the eventual demise of their way of life. Session 3, "Ancient Native American Pottery of Southern Arizona," focuses on some of the Native American ceramic styles that
characterized specific eras in southern Arizona prehistory and history, and discusses how archaeologists use pottery for dating archaeological sites and interpreting ancient lifeways of the ancient Early Ceramic and Hohokam cultures, and of the historical Piman (Tohono O'odham and Akimel O'odham), Yuman (including Mohave and Maricopa), and Apachean peoples. Finally, in Session 4, "Set in Stone but Not in Meaning: Southwestern Indian Rock Art," Mr. Dart illustrates pictographs (rock paintings) and petroglyphs (symbols carved or pecked on rocks) found in the Southwest, and discusses how even the same rock art symbol may be interpreted differently from popular, scientific, and modern Native American perspectives.

* This is not an Old Pueblo Archaeology Center event. For more information contact Tamra Stark at 623-544-6194 or tamra.stark@rcscw.com in Sun City West; for information about the activity subject matter contact Allen Dart at Tucson telephone 520-798-1201 or adart@oldpueblo.org.

**Saturday February 21, 2015:**
Sun City West-Buckeye-Waddell, AZ:

“White Tank Mountains Petroglyphs of Waterfall Canyon & Mesquite Canyon” guided archaeological site tour with Allen Dart for Recreation Centers of Sun City West in White Tank Mountain Regional Park, 20304 W. White Tank Mountain Road, Waddell, Arizona*

8:30 a.m. to 3:30 p.m. $35 fee includes park entry fee

Archaeologist Allen Dart guides this tour to see hundreds of ancient petroglyphs in the 30,000-acre White Tank Mountain Regional Park west of Phoenix. Tour includes a 3-hour walk along the 2.5-mile-roundtrip, fairly flat Waterfall Canyon-Black Rock Loop Trail to see and photograph dozens of Archaic and Hohokam petroglyphs; lunch at ramadas with picnic facilities; then an afternoon hike to three petroglyph sites with Archaic and Hohokam rock art in a 3-hour, 2.5-mile-roundtrip hike along the Mesquite Canyon trail, which includes some bush-whacking and boulder-hopping. Bring your own picnic lunch and water, wear comfortable hiking shoes.

* This is not an Old Pueblo Archaeology Center event. Register for the tour online at www.rcscw.com (click on the EXPLORE tab in left-hand column). For more information about registration contact Tamra Stark at 623-544-6194 or tamra.stark@rcscw.com in Sun City West; for information about the activity subject matter contact Allen Dart at Tucson telephone 520-798-1201 or adart@oldpueblo.org.

**Wednesday March 11, 2015:** Queen Creek, AZ

"Archaeology's Deep Time Perspective on Environment and Social Sustainability" free presentation by archaeologist Allen Dart for Arizona Archaeological Society, San Tan Chapter, at Queen Creek Museum, 20435 S. Old Ellsworth Road (southeast corner of Ellsworth and Queen Creek Roads), Queen Creek Arizona; cosponsored by Arizona Humanities*

7:30 p.m. Free

* This is not an Old Pueblo Archaeology Center event. For more information contact Marie Britton at 480-390-3491 or mbrit@cox.net; for information about the presentation subject matter contact Allen Dart at Tucson telephone 520-798-1201 or adart@oldpueblo.org.

Photo of centuries-old Hohokam Indian checkdams on Tumamoc Hill, Tucson, Arizona

The deep time perspective that archaeology and related disciplines provide about natural hazards, environmental change, and human adaptation not only is a valuable supplement to historical records, it sometimes contradicts historical data used by modern societies to make decisions affecting social sustainability and human safety. What can be learned from scientific evidence that virtually all prehistoric farming cultures in Arizona and the Southwest eventually surpassed their thresholds of sustainability, leading to collapse or reorganization of their societies? Could the disastrous damages to nuclear power plants damaged by the Japanese tsunami of 2011 have been avoided if the engineers who decided where to build those plants had not ignored evidence of prehistoric tsunamis? This presentation looks at archaeological, geological, and sustainable-agricultural evidence on environmental changes and how human cultures have adapted to those changes, and discusses the value of a "beyond history" perspective for modern society. This program was made possible by Arizona Humanities.

* This is not an Old Pueblo Archaeology Center event. For more information contact Marie Britton at 480-390-3491 or mbrit@cox.net; for information about the presentation subject matter contact Allen Dart at Tucson telephone 520-798-1201 or adart@oldpueblo.org.
Saturday March 21, 2015: Tucson
"Vista del Rio Archaeology Celebration" free children's activities at City of Tucson's Vista del Rio Cultural Resource Park, 7575 E. Desert Arbors St. (at Dos Hombres Road), Tucson
9 a.m.-3 p.m. Free

Photo of children making their own stone-and-cordage jewelry at a previous Vista del Rio Archaeology Celebration

This Old Pueblo Archaeology Center program, sponsored by Vista del Rio Residents' Association, features hands-on activities, demonstrations, and informational materials along the trails through Tucson's Vista del Rio Cultural Park, where part of an ancient Hohokam Indian village is preserved, to educate children, especially ages 6 to 12, about the ancient people who lived at Vista del Rio and elsewhere in southern Arizona. Activities along the trails through the park include demonstrations of traditional Native American pottery-making and arrowhead-making, grinding your own corn using an ancient metate and mano, learning to play traditional Native American games, rabbit-throwing-stick target practice, and making hand-built pottery, cordage and stone-and-bead jewelry, split-twig-figurines, and dance rattles that you can take home.

No reservations needed. For more information contact Old Pueblo Archaeology Center in Tucson at 520-798-1201 or info@oldpueblo.org.

Sunday March 29, 2015: Camp Verde, AZ
"Set in Stone but Not in Meaning: Southwestern Indian Rock Art" free presentation by archaeologist Allen Dart for Verde Valley Archaeology Fair sponsored by Verde Valley Archaeology Center at Camp Verde Community Center, 395 S. Main Street, Camp Verde, Arizona; cosponsored by Arizona Humanities*
1:30 p.m. Free

* This is not an Old Pueblo Archaeology Center-sponsored event. For event details contact Kenneth Zoll in Sedona at 928-593-0364 or zollken88@gmail.com; for information about the activity subject matter contact Allen Dart at Tucson telephone 520-798-1201 or adart@oldpueblo.org.
Archaeology Opportunities is a membership program for persons who wish to support Old Pueblo Archaeology Center’s education efforts and perhaps even to experience for themselves the thrill of discovery by participating in research. Membership is also a means of getting discounts on the fees Old Pueblo normally charges for publications, education programs, and tours. Members of Archaeology Opportunities at the Individual membership level and above are allowed to participate in certain of Old Pueblo’s archaeological excavation, survey, and other field research projects, and can assist with studies and reconstruction of pottery and other artifacts in the archaeology laboratory. Membership benefits include a 1-year subscription to the Old Pueblo Archaeology electronic quarterly bulletin, opportunities to participate in Old Pueblo’s member-assisted field research programs, discounts on publications and archaeology-related items, and invitations and discounts for field trips and other events.