Petroglyph possibly representing the tiered cosmos, with overlaying bell rock at Cocoraque Butte (photograph by Lance K. Trask).

Next General Meeting:
March 19, 2018; 7:30 p.m.
Duval Auditorium
Banner-University Medical Center
1501 N. Campbell Ave.
Tucson, Arizona
www.az-arch-and-hist.org

In This Issue

2 President’s Message
4 Sights and Sounds of the Cocoraque Butte Rock Art Site, Janine Hernbrode and Peter Boyle
14 The Cornerstone
President’s Message

by John G. Douglass

Here in Tucson, I find myself getting into a rut at times as I drive around the city, continually going to the same places daily or weekly. Driving here and there on regular routes becomes routine, and I’m more focused on getting to my destination than I am about looking around for new things. When Jill and I first moved to Tucson (Has it really been a decade? How did time fly by so fast?), I was more curious about what’s along these routes than I am now. To me, that’s sad, but it’s also a reality of having busy lives. We miss seeing the world around us because we’re so focused on our destinations, not our journeys.

One example of this may be those drivers that come down from the foothills each day into midtown Tucson along Craycroft Road. As drivers drop down into the valley floor and cross over the Rillito River and Pantano Wash (both unusually dry this winter), they’ll drive by Fort Lowell Park, which contains the remains of the historic Fort Lowell. Back in the mid- and late-1800s, this historic military outpost was constructed a significant distance, on horseback or on foot through open Sonora Desert, from the “modernity” of downtown Tucson. Especially close to (then) perennial rivers like the Santa Cruz and Rillito, there were a great many natural maladies to contend with in both communities, including malaria.

Malaria was clearly not well understood in the last century. Homer Thiel told me several years ago that in the late 1800s, a Tucson newspaper had an article warning people in Tucson not to eat local watermelon, as it was thought to be a source of malaria. The article documented that people at Fort Lowell had eaten watermelon and had simultaneously come down with malaria! Don’t eat the watermelon! Clearly, modern medicine has since cracked the puzzle of the causes of malaria today — thankfully it does not involved watermelon — and we no longer have to worry about that disease locally.

I bring up Fort Lowell because it’s a very visible and recognizable set of remains that many people in town know something about. But, there are many other historical features right along that stretch of road that people may not recognize. Even if people do see these other historical features every day, we may not see them for what they actually are.

Just north of Fort Lowell Park, there’s a ditch that runs perpendicular to Craycroft Road. Likely, thousands of people drive by it daily and don’t see it. It turns out that this unassuming ditch was one of several large ditches dug in the late 1800s and early 1900s to convey water from near Fort Lowell to points closer to downtown. These ditches, with names associated with their developers, such as Bingham, Corbett, Swan, and Cole, brought water from quite some distance upstream along the Rillito, Pantano, and Tanque Verde to reservoirs and cultivated lands.

Some of these ditches contained redwood flumes or concrete pipe, while others were open and were “underflow” ditches. These latter ditches were dug down to just below the water table (which was particularly high in Tucson during that time) and were then used to convey this water away using gravity. As one can imagine, the collection of water at various points along these rivers by competing developers — the names of whom we still see around town as important founders of the community — led to a number of lawsuits related to water rights and collection rates.

So, the next time you are driving your regular routes around wherever you may live, consider finding the time to slow down and explore, as there may history hiding in plain sight at nearly every turn.
President's Message

by John G. Douglass

Here in Tucson, I find myself getting into a rut at times as I drive around the city, continually going to the same places daily or weekly. Driving here and there on regular routes becomes routine, and I’m more focused on getting to my destination than I am about looking around for new things. When Jill and I first moved to Tucson (Has it really been a decade? How did time fly by so fast?), I was more curious about what’s along these routes than I am now. To me, that’s sad, but it’s also a reality of having busy lives. We miss seeing the world around us because we’re so focused on our destinations, not our journeys.

One example of this may be those drivers that come down from the foothills each day into midtown Tucson along Craycroft Road. As drivers drop down into the valley floor and cross over the Rillito River and Pantano Wash (both unusually dry this winter), they’ll drive by Fort Lowell Park, which contains the remains of the historic Fort Lowell. Back in the mid- and late-1800s, this historic military outpost was constructed a significant distance, on horseback or on foot through open Sonora Desert, from the “modernity” of downtown Tucson. Especially close to (then) perennial rivers like the Santa Cruz and Rillito, there were a great many natural maladies to contend with in both communities, including malaria.

Malaria was clearly not well understood in the last century. Homer Thiel told me several years ago that in the late 1800s, a Tucson newspaper had an article warning people in Tucson not to eat local watermelon, as it was thought to be a source of malaria. The article documented that people at Fort Lowell had eaten watermelon and had simultaneously come down with malaria! Don’t eat the watermelon! Clearly, modern medicine has since cracked the puzzle of the causes of malaria today — thankfully it does not involved watermelon — and we no longer have to worry about that disease locally.

I bring up Fort Lowell because it’s a very visible and recognizable set of remains that many people in town know something about. But, there are many other historical features right along that stretch of road that people may not recognize. Even if people do see these other historical features every day, we may not see them for what they actually are.

Just north of Fort Lowell Park, there’s a ditch that runs perpendicular to Craycroft Road. Likely, thousands of people drive by it daily and don’t see it. It turns out that this unassuming ditch was one of several large ditches dug in the late 1800s and early 1900s to convey water from near Fort Lowell to points closer to downtown. These ditches, with names associated with their developers, such as Bingham, Corbett, Swan, and Cole, brought water from quite some distance upstream along the Rillito, Pantano, and Tanque Verde to reservoirs and cultivated lands.

Some of these ditches contained redwood flumes or concrete pipe, while others were open and were “underflow” ditches. These latter ditches were dug down to just below the water table (which was particularly high in Tucson during that time) and were then used to convey this water away using gravity. As one can imagine, the collection of water at various points along these rivers by competing developers — the names of whom we still see around town as important founders of the community — led to a number of lawsuits related to water rights and collection rates.

So, the next time you are driving your regular routes around wherever you may live, consider finding the time to slow down and explore, as there may history hiding in plain sight at nearly every turn.
We recently completed a recording project at the Cocoraque Butte Complex spanning five field seasons. With the help of a large group of volunteers and the sponsorship of AAHS, we recorded rock art, a variety of structures and grinding features, and a large number of boulders that produce a clear, bell-like tone (“bell rocks”). The Cocoraque Butte Complex is located in the Ironwood National Monument and on adjacent private land. It contains more than 10,000 petroglyphs located on 12 boulder-covered hills of various sizes, with the major concentrations occurring on two of the largest hills. We believe the rock art was produced over an extended time period, encompassing the Early Agricultural period through the Hohokam sequence, and likely into O’odham times. Analysis of the rock art motifs reveals a large number of petroglyphs we interpret as relating to two themes of importance to southwestern peoples: The Flower World and Human Emergence as reflected in Origin Stories.

Of additional interest at this site is the occurrence of more than 120 bell rocks that show clear evidence of prehistoric use. We elicited sound from the boulders by striking them with wooden mallets, not rocks or metal objects, because the latter two would damage the surface of these important features. We believe the presence of such a large number of bell rocks is unprecedented in the Southwest and, along with the rock art, suggests to us that the Cocoraque Butte Complex was utilized for communal activities, including ceremonies, and that these events involved the production of music.

Copies of Peter and Janine’s collaborative published papers are available at janinehernbrode@academia.edu.

Suggested Readings:
Hernbrode, Janine, and Peter Boyle

Kleinitz, Cornelia (British Museum)

Wright, Aaron M., and Will G. Russell

Speaker Janine Hernbrode is a rock art researcher and recorder active in the Tucson area since retirement in 2003. Her work as a national science educator allowed her to pursue her long-time interest in rock art over a large part of the western United States and a few locations in Mexico and Canada. Elective courses in anthropology at the University of Arizona provided a basis for a lifetime pursuit of knowledge about petroglyphs through readings in ethnography and archaeology. Janine now leads the award-winning “Rock Band,” a group of volunteers dedicated to recording rock art, whose embryonic stage began with the three-year effort by AAHS to record Tumamoc Hill, advanced to recording the Sutherland Wash Rock Art District for Coronado National Forest for the next six years, and who have now been at Cocoraque Butte and Cocoraque Ranch for five seasons. She is Co-Project Manager for the Cocoraque Butte Petroglyph Project for AAHS, is currently on the Board of Archaeology Southwest, and is a member of the American Rock Art Research Association.

Speaker Peter Boyle is a behavioral neuroscientist and retired research executive. He received a Ph.D. in Physiological Psychology from the University of Wisconsin, Madison, and was a Postdoctoral Fellow in Biochemistry at the same institution. Formerly, he was head of research and engineering at Kraft Foods. Peter now volunteers regularly in the laboratory at Archaeology Southwest, where he particularly enjoys ceramic analysis. He has been conducting rock art research for the past 12 years and has co-led AAHS-sponsored rock art recording projects at Tumamoc Hill and Cocoraque Butte. He is a past president of AAHS and currently is Board Chair at Archaeology Southwest.
March 19: Topic of the General Meeting

Sights and Sounds of the Cocoraque Butte Rock Art Site
Janine Hernbrode and Peter Boyle
Arizona Archaeological and Historical Society

We recently completed a recording project at the Cocoraque Butte Complex spanning five field seasons. With the help of a large group of volunteers and the sponsorship of AAHS, we recorded rock art, a variety of structures and grinding features, and a large number of boulders that produce a clear, bell-like tone (“bell rocks”). The Cocoraque Butte Complex is located in the Ironwood National Monument and on adjacent private land. It contains more than 10,000 petroglyphs located on 12 boulder-covered hills of various sizes, with the major concentrations occurring on two of the largest hills. We believe the rock art was produced over an extended time period, encompassing the Early Agricultural period through the Hohokam sequence, and likely into O’odham times. Analysis of the rock art motifs reveals a large number of petroglyphs we interpret as relating to two themes of importance to southwestern peoples: The Flower World and Human Emergence as reflected in Origin Stories.

Of additional interest at this site is the occurrence of more than 120 bell rocks that show clear evidence of prehistoric use. We elicited sound from the boulders by striking them with wooden mallets, not rocks or metal objects, because the latter two would damage the surface of these important features. We believe the presence of such a large number of bell rocks is unprecedented in the Southwest and, along with the rock art, suggests to us that the Cocoraque Butte Complex was utilized for communal activities, including ceremonies, and that these events involved the production of music.

Copies of Peter and Janine’s collaborative published papers are available at janinehernbrode@academia.edu.

Suggested Readings:
Hernbrode, Janine, and Peter Boyle

Kleinitz, Cornelia (British Museum)
2016 How to Play an Ancient Rock Gong. <https://www.youtube.com/watch?v=rq0DjwSZzk>

Wright, Aaron M., and Will G. Russell

Speaker Janine Hernbrode is a rock art researcher and recorder active in the Tucson area since retirement in 2003. Her work as a national science educator allowed her to pursue her long-time interest in rock art over a large part of the western United States and a few locations in Mexico and Canada. Elective courses in anthropology at the University of Arizona provided a basis for a lifetime pursuit of knowledge about petroglyphs through readings in ethnography and archaeology. Janine now leads the award-winning “Rock Band,” a group of volunteers dedicated to recording rock art, whose embryonic stage began with the three-year effort by AAHS to record Tumamoc Hill, advanced to recording the Sutherland Wash Rock Art District for Coronado National Forest for the next six years, and who have now been at Cocoraque Butte and Cocoraque Ranch for five seasons. She is Co-Project Manager for the Cocoraque Butte Petroglyph Project for AAHS, is currently on the Board of Archaeology Southwest, and is a member of the American Rock Art Research Association.

Speaker Peter Boyle is a behavioral neuroscientist and retired research executive. He received a Ph.D. in Physiological Psychology from the University of Wisconsin, Madison, and was a Postdoctoral Fellow in Biochemistry at the same institution. Formerly, he was head of research and engineering at Kraft Foods. Peter now volunteers regularly in the laboratory at Archaeology Southwest, where he particularly enjoys ceramic analysis. He has been conducting rock art research for the past 12 years and has co-led AAHS-sponsored rock art recording projects at Tumamoc Hill and Cocoraque Butte. He is a past president of AAHS and currently is Board Chair at Archaeology Southwest.
Upcoming AAHS Field Trips

Participation in field trips is limited to members of AAHS. There is generally a 20-person limit on field trips, so sign up early.

Classic Period Village and Astronomical Site in the Eastern Tortolita Mountains
March 17, 2018
Trip Full, Permit Pending

Honey Bee Village
Saturday, April 7, 2018

Honey Bee Village is a prehistoric Hohokam ballcourt village situated on the southeastern flank of the Tortolita Mountains in the middle of the Canada del Oro Valley. In anticipation of private development within the site, Pima County acquired 13 acres of the core site area, which includes an array of trash mounds, the ballcourt, and several residential and other ancillary cultural features. Several hundred domestic houses have been documented at the site along with many other cultural features. There is an impressive pottery sherd scatter. The site was studied extensively and mapped by Desert Archaeology, Inc., and Pima County maintains the 13-acre core as one of five archaeological preserves it manages throughout eastern Pima County.

Pima County archaeologist, Ian Milliken, will lead the tour, which will start at 9:00 am and last about 2 hours. A small parking lot is available on Moore Rd., just east-northeast of the intersection of Moore Rd. and Rancho Vistoso Blvd. Carpooling is strongly recommended.

To register, contact Cannon Daughtrey at CDaughtrey@westlandresources.com. Registration is limited to 20 people.

AAHS Lecture Series

All meetings are held at the Duval Auditorium, University Medical Center
Third Monday of the month, 7:30–9:00 p.m.

Apr. 16, 2018: Benjamin A. Bellorado, *Dressing Up in the American Southwest: The Fashions of Fancy Footwear in the Chaco and Post-Chaco Eras*

May 21, 2018: Samantha G. Fladd, *Accumulating Identities at the Homol’ovi Settlement Cluster*

June 18, 2018: Nicole M. Mathwich, *Landscapes of Resilience: O’Odham Resource Use in the Colonial Pimería Alta*

July 16, 2018: Karen Schollmeyer, *Perforated Plates, Fish Bones, and the Archaeology of the Upper Gila River in the Fourteenth Century*

glyphs: Information and articles to be included in *glyphs* must be received by the first of each month for inclusion in the next month’s issue. Contact me, Emilee Mead, at emilee@desert.com, or 520.881.2244.
Upcoming AAHS Field Trips

Participation in field trips is limited to members of AAHS. There is generally a 20-person limit on field trips, so sign up early.

Classic Period Village and Astronomical Site in the Eastern Tortolita Mountains
March 17, 2018
Trip Full, Permit Pending

Honey Bee Village
Saturday, April 7, 2018

Honey Bee Village is a prehistoric Hohokam ballcourt village situated on the southeastern flank of the Tortolita Mountains in the middle of the Canada del Oro Valley. In anticipation of private development within the site, Pima County acquired 13 acres of the core site area, which includes an array of trash mounds, the ballcourt, and several residential and other ancillary cultural features. Several hundred domestic houses have been documented at the site along with many other cultural features. There is an impressive pottery sherd scatter. The site was studied extensively and mapped by Desert Archaeology, Inc., and Pima County maintains the 13-acre core as one of five archaeological preserves it manages throughout eastern Pima County.

Pima County archaeologist, Ian Milliken, will lead the tour, which will start at 9:00 am and last about 2 hours. A small parking lot is available on Moore Rd., just east-northeast of the intersection of Moore Rd. and Rancho Vistoso Blvd. Carpooling is strongly recommended.

To register, contact Cannon Daughtrey at CDaughtrey@westlandresources.com. Registration is limited to 20 people.

AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA
The Special Collections at the University of Arizona holds some fascinating and unique material, and over the years, many historians and archaeologists have relied on the staff’s expertise in ferreting out the documentary evidence they need for research and reports. The Director of Special Collections, Stephen Hussman, has a personal interest in archaeology and would love to give us an overview of those collections we might be interested in and take us underground to see the storage areas. Among the holdings, for example, are the Henry Dobbins collection, Ed Abbey’s papers, the Father Francisco Garces journals from 1775–1776 to the Hopi Mesas and along the Gila River, Carl Shuster’s fascinating collection, Patterns that Connect: Social Symbolism in Ancient and Tribal Arts, including Casa Grande Ruins, Sanborn Fire Insurance maps, the Roskrug surveys of some of the Spanish Land Grants for the Land Claims Tribunal, U.S. Military reports from the camps and forts dotting the Southern Arizona landscape, and other documentary gems.

You can explore their web site at, https://new.library.arizona.edu/departments/special-collections.

This experience will be a first for AAHS, so join us for a customized glimpse at the collections on Saturday, May 12, at 10 am. It will be hot in May, but this separate area of the University Libraries has the ultimate climate controlled and spacious interior. Special Collections is normally closed on Saturdays, but Steve will open it for our AAHS members.

The event is open to 20 people. Parking in the garages at the University is free on weekends; the closest parking garage is on the east side of Cherry Street across from the Library. University Commencement is on Friday, May 11, so we anticipate the campus will be quiet, with easy access. We will end in time for you to get lunch.

For additional questions, or if you would like to register, please contact Chris Sugnet at sugnetc@yahoo.com.

Call for Nominations

The Arizona Archaeological and Historical Society welcomes nominations for three annual awards. Nomination letters and Curriculum Vitae, if appropriate, should be emailed to Ron Towner (rht@email.arizona.edu) no later than April 15, 2018. Awardees will be selected by the Awards Committee and approved by the AAHS Board of Directors. Awards will be presented at the Pecos Conference in August 2018.

Byron Cummings Award

The Byron Cummings Award is given in honor of Byron Cummings, the principal professional founder of the Society, the first head of the University of Arizona’s Department of Archaeology (later Anthropology), and the first Director of the Arizona State Museum. The Byron Cummings Award is given annually for outstanding research and contributions to knowledge in anthropology, history, or a related field of study or research pertaining to the southwestern United States or northwest Mexico.

Victor R. Stoner Award

The Victor R. Stoner Award is given in honor of Reverend Stoner, a strong avocational historian, supporter of the Society and one of the founders of Kiva. The Victor R. Stoner Award is given annually for outstanding contributions in leadership or participation in the Society; fostering historic preservation; or bringing anthropology, history or a related discipline to the public.

Alexander J. Lindsay Jr. Unsung Heroes Award

The newly designated Alexander J. Lindsay Jr. Award is given in honor of Dr. Lindsay, a long-time southwestern archaeologist, AAHS member, and Officer. The LUHA is given annually as a lifetime service award to those individuals whose tireless work behind-the-scenes has often gone unrecognized, but that is often critical to the success of others’ research, projects, and publications. These may be field personnel, lab managers, archivists, cooks, analysts, and others.
UNIVERSITY OF ARIZONA
SPECIAL COLLECTIONS TALK AND TOUR
Saturday, May 12, 2018

The Special Collections at the University of Arizona holds some fascinating and unique material, and over the years, many historians and archaeologists have relied on the staff’s expertise in ferreting out the documentary evidence they need for research and reports. The Director of Special Collections, Stephen Hussman, has a personal interest in archaeology and would love to give us an overview of those collections we might be interested in and take us underground to see the storage areas. Among the holdings, for example, are the Henry Dobbins collection, Ed Abbey’s papers, the Father Francisco Garces journals from 1775–1776 to the Hopi Mesas and along the Gila River, Carl Shuster’s fascinating collection, Patterns that Connect: Social Symbolism in Ancient and Tribal Arts, including Casa Grande Ruins, Sanborn Fire Insurance maps, the Roskruge surveys of some of the Spanish Land Grants for the Land Claims Tribunal, U.S. Military reports from the camps and forts dotting the Southern Arizona landscape, and other documentary gems.

You can explore their web site at, https://new.library.arizona.edu/departments/special-collections.

This experience will be a first for AAHS, so join us for a customized glimpse at the collections on Saturday, May 12, at 10 am. It will be hot in May, but this separate area of the University Libraries has the ultimate climate controlled and spacious interior. Special Collections is normally closed on Saturdays, but Steve will open it for our AAHS members.

The event is open to 20 people. Parking in the garages at the University is free on weekends; the closest parking garage is on the east side of Cherry Street across from the Library. University Commencement is on Friday, May 11, so we anticipate the campus will be quiet, with easy access We will end in time for you to get lunch.

For additional questions, or if you would like to register, please contact Chris Sugnet at sugnetc@yahoo.com.

CALL FOR NOMINATIONS

The Arizona Archaeological and Historical Society welcomes nominations for three annual awards. Nomination letters and Curriculum Vitae, if appropriate, should be emailed to Ron Towner (rht@email.arizona.edu) no later than April 15, 2018. Awardees will be selected by the Awards Committee and approved by the AAHS Board of Directors. Awards will be presented at the Pecos Conference in August 2018.

Byron Cummings Award

The Byron Cummings Award is given in honor of Byron Cummings, the principal professional founder of the Society, the first head of the University of Arizona’s Department of Archaeology (later Anthropology), and the first Director of the Arizona State Museum. The Byron Cummings Award is given annually for outstanding research and contributions to knowledge in anthropology, history, or a related field of study or research pertaining to the southwestern United States or northwest Mexico.

Victor R. Stoner Award

The Victor R. Stoner Award is given in honor of Reverend Stoner, a strong avocational historian, supporter of the Society and one of the founders of Kiva. The Victor R. Stoner Award is given annually for outstanding contributions in leadership or participation in the Society; fostering historic preservation; or bringing anthropology, history or a related discipline to the public.

Alexander J. Lindsay Jr. Unsung Heroes Award

The newly designated Alexander J. Lindsay Jr. Award is given in honor of Dr. Lindsay, a long-time southwestern archaeologist, AAHS member, and Officer. The LUHA is given annually as a lifetime service award to those individuals whose tireless work behind-the-scenes has often gone unrecognized, but that is often critical to the success of others’ research, projects, and publications. These may be field personnel, lab managers, archivists, cooks, analysts, and others.
Winners of the Second Carryl B. Martin Research Award

On the recommendation of the AAHS Research and Travel Grant Committee, the Second Carryl B. Martin Research Award is to be divided between two proposals. Kathryn Baustian of Skidmore College will receive $3,900 for the collections-based portion of her project Kinship and Interaction in the Prehistoric Mimbres Region of Southwest New Mexico: An Exploration of Skeletal and Cultural Indicators.

This study will use bioarchaeological analysis to identify the biological and cultural impacts of differential access to resources, gendered roles, exposure to conflict, and social interactions during these transitions. The bioarchaeological project will identify markers of genetic relatedness for comparison with archaeological finds that demonstrate kinship patterns and regional mobility in the ancient American Southwest. This research broadly seeks to provide insight into kinship patterns and regional mobility using biodistance data and supporting mortuary data. The resulting data will increase understanding of relatedness and marriage practices between Mimbres communities. Long-term, the research objective is to identify these patterns for all available Mimbres human remains for comparison with each other and other Mogollon and Ancestral Puebloan data.

The award will fund that portion of the project that involves the analysis of existing collections of human remains at Hamline University and Peabody Museum. The Hamline University Osteology Laboratory curates human remains from excavations of Mimbres sites conducted by the University of Minnesota in the 1920s and 1930s. Sites in the collection include Galaz, Cameron Creek, Warm Springs, and Hudson/Hot Springs. The Peabody Museum of Archaeology and Ethnology at Harvard University houses archaeological and skeletal materials from Mimbres sites excavated in the 1920s and 1930s. Human remains from Harris, Swarts, Cameron Creek, and Treasure Hill represent the collection.

The committee also recommended funding Brandon McIntosh of Washington State University $1,100 toward a portion of his project titled, Ancient Turkey Domestication in the Northern Mogollon Region of the U.S. Southwest: Stable Isotope, aDNA and Osteometric Evidence for Human-Turkey Interaction in the Southeastern Southwest.

This study examines turkey husbandry in the northern Mogollon region, including the Mimbres and Jornada Mogollon areas in southern New Mexico. The turkey (Meleagris gallopavo) is the only animal originally domesticated in North America. The proposed work is an interdisciplinary project combining morphological, osteometric, isotope, and genetic analyses to determine when and where turkey domestication occurred in the northern Mogollon region, how turkeys were managed, and how domestic birds in the study area were genetically related to other managed turkeys in the Southwest. The data will specifically address if turkey husbandry developed in tandem with, or independently from, increased sedentism and dietary reliance on maize (Zea mays) agriculture in the region and if domestic turkeys in the study area are genetically linked to domestic turkeys in the northern Southwest.

The Carryl B. Martin Award will fund the portion of the project that involves stable isotope analysis (δ13C, δ15N) of 70 turkey bones from across the northern Mogollon region to distinguish wild from domestic birds based on diet.

Again this year, we had a good pool of applicants and renew our thanks to Carryl B. Martin for providing this bequest that will contribute to the support of significant research in the Southwest.

AAHS Used Book Sale • March 10, 2018

In conjunction with the Tucson Festival of Books and the Arizona State Museum Friends Benefit Sale, AAHS will be holding a used book sale on the lawn in front of the ASM building on Saturday March 10, from 10 a.m. to 4 p.m. In addition to archaeology books we have a wide variety of books ranging from gardening to sociology. Zooarchaeologists may be interested in the large number of books from Stanley Olson and Mary Stiner. Many books are priced at $1.00, and 90 percent of the proceeds benefit the ASM library.
WINNERS OF THE SECOND CARRYL B. MARTIN RESEARCH AWARD

On the recommendation of the AAHS Research and Travel Grant Committee, the Second Carryl B. Martin Research Award is to be divided between two proposals. Kathryn Baustian of Skidmore College will receive $3,900 for the collections-based portion of her project Kinship and Interaction in the Prehistoric Mimbres Region of Southwest New Mexico: An Exploration of Skeletal and Cultural Indicators.

This study will use bioarchaeological analysis to identify the biological and cultural impacts of differential access to resources, gendered roles, exposure to conflict, and social interactions during these transitions. The bioarchaeological project will identify markers of genetic relatedness for comparison with archaeological finds that demonstrate kinship patterns and regional mobility in the ancient American Southwest. This research broadly seeks to provide insight into kinship patterns and regional mobility using biodistance data and supporting mortuary data. The resulting data will increase understanding of relatedness and marriage practices between Mimbres communities. Long-term, the research objective is to identify these patterns for all available Mimbres human remains for comparison with each other and other Mogollon and Ancestral Puebloan data.

The award will fund that portion of the project that involves the analysis of existing collections of human remains at Hamline University and Peabody Museum. The Hamline University Osteology Laboratory curates human remains from excavations of Mimbres sites conducted by the University of Minnesota in the 1920s and 1930s. Sites in the collection include Galaz, Cameron Creek, Warm Springs, and Hudson/Hot Springs. The Peabody Museum of Archaeology and Ethnology at Harvard University houses archaeological and skeletal materials from Mimbres sites excavated in the 1920s and 1930s. Human remains from Harris, Swarts, Cameron Creek, and Treasure Hill represent the collection.

The committee also recommended funding Brandon McIntosh of Washington State University $1,100 toward a portion of his project titled, Ancient Turkey Domestication in the Northern Mogollon Region of the U.S. Southwest: Stable Isotope, aDNA and Osteometric Evidence for Human-Turkey Interaction in the Southeastern Southwest.

This study examines turkey husbandry in the northern Mogollon region, including the Mimbres and Jornada Mogollon areas in southern New Mexico. The turkey (Meleagris gallopavo) is the only animal originally domesticated in North America. The proposed work is an interdisciplinary project combining morphological, osteometric, isotope, and genetic analyses to determine when and where turkey domestication occurred in the northern Mogollon region, how turkeys were managed, and how domestic birds in the study area were genetically related to other managed turkeys in the Southwest. The data will specifically address if turkey husbandry developed in tandem with, or independently from, increased sedentism and dietary reliance on maize (Zea mays) agriculture in the region and if domestic turkeys in the study area are genetically linked to domestic turkeys in the northern Southwest.

The Carryl B. Martin Award will fund the portion of the project that involves stable isotope analysis (δ13C, δ15N) of 70 turkey bones from across the northern Mogollon region to distinguish wild from domestic birds based on diet.

Again this year, we had a good pool of applicants and renew our thanks to Carryl B. Martin for providing this bequest that will contribute to the support of significant research in the Southwest.

AAHS Used Book Sale • March 10, 2018

In conjunction with the Tucson Festival of Books and the Arizona State Museum Friends Benefit Sale, AAHS will be holding a used book sale on the lawn in front of the ASM building on Saturday March 10, from 10 a.m. to 4 p.m. In addition to archaeology books we have a wide variety of books ranging from gardening to sociology. Zooarchaeologists may be interested in the large number of books from Stanley Olson and Mary Stiner. Many books are priced at $1.00, and 90 percent of the proceeds benefit the ASM library.
Archaeology at the Tucson Festival of Books

This year’s Festival of Books, March 10–11 on the University of Arizona Mall features a number of archaeology-related talks. You can find out more at their website, https://tucsonfestivalofbooks.org.

Here are a few highlights.

Chip Colwell will be presenting two talks: “Plundered Skulls and Stolen Spirits: Inside the Struggle to Reclaim Native American Culture,” on Saturday, March 10, at 10 am in the Integrated Learning Center, and “Who Owns the Past: Science, Archaeology & Culture,” on Sunday, March 11, at 1:00 pm on the Science City Main Stage.

On Saturday, March 10, at 1:00 pm, Beebe Bahrami will be presenting “Café Neanderthal: Changing Perceptions on our Past” in the Student Union.

Douglas Preston will talk at 11:30 am on Saturday, March 10, on “Digging the Past: The Lost City of the Monkey God.”

Tickets are free for these events, although it is a good idea to get them in advance where they are available.

Welcome to the
Presidio San Agustín del Tucson Museum

The Presidio San Agustín del Tucson Museum is a re-creation of the Tucson Presidio built in 1775. Visitors travel back in time to learn about life as early Tucsonans would have lived it. Docent tours discuss life in the Santa Cruz Valley for early Native Americans, Presidio residents, and Territorial period settlers. See the archaeological remains of a pithouse, walk along the original Presidio wall, and experience a 150-year-old classic Sonoran Rowhouse. The Presidio is located at 196 N. Court Ave., and is open Wednesday through Sunday, 10:00 am to 4:00 pm. Admission is $5 for general public ($1.00 for children 6–14 years; free for children 5 and under and for Presidio Trust members).

See tucsonpresidio.com/ for more information about visiting, programs, the events calendar, volunteering, membership, and support. Or call 520.837.8119 to speak with someone.

Membership Dues to Increase June 30, 2018

After significant debate, the AAHS Board has decided to raise membership dues as of June 30, 2018, to keep a healthy operating balance. It has been quite a few years since the last increase, and publication and distribution costs for Glyphs and Kiva have increased significantly. The new rates will be:

**Glyphs Membership:** $45.00
**Kiva Membership:** $60.00
**Contributing Membership:** $100
**Supporting Membership:** $150
**Lifetime Membership:** $1500
**Student membership:** $35 (no change).

Please remember that AAHS memberships include all members of a single household.

Arizona Archaeology Expo 2018

The 2018 Expo will be held in front of the Arizona Museum of Natural History on Saturday, March 10, 2018. Please mark your calendars—the Expo will include docent-led tours of Mesa Grande, a National Register-listed archaeological site that has been preserved into an archaeological park. The Expo runs from 10:00 am to 4:00 pm. For more information, contact Kris Powell at kpowell@azstateparks.gov or 602.542.7141, or see our website at www.azstateparks.com/archy. Follow us on Twitter and Facebook at AzArchyMonth.

If you are interested in helping plan the Archaeology Expo, please contact kpowell@azstateparks.gov for more information.

Follow AAHS on Facebook at www.facebook.com/pages/Tucson-AZ/Arizona-Archaeological-and-Historical-Society
Archaeology at the Tucson Festival of Books

This year’s Festival of Books, March 10–11 on the University of Arizona Mall features a number of archaeology-related talks. You can find out more at their website, https://tucsonfestivalofbooks.org. Here are a few highlights.

Chip Colwell will be presenting two talks: “Plundered Skulls and Stolen Spirits: Inside the Struggle to Reclaim Native American Culture,” on Saturday, March 10, at 10 am in the Integrated Learning Center, and “Who Owns the Past: Science, Archaeology & Culture,” on Sunday, March 11, at 1:00 pm on the Science City Main Stage.

On Saturday, March 10, at 1:00 pm, Beebe Bahrami will be presenting “Cafe Neaderthal: Changing Perceptions on our Past” in the Student Union.

Douglas Preston will talk at 11:30 am on Saturday, March 10, on “Digging the Past: The Lost City of the Monkey God.” Tickets are free for these events, although it is a good idea to get them in advance where they are available.

Welcome to the Presidio San Agustín del Tucson Museum

The Presidio San Agustín del Tucson Museum is a re-creation of the Tucson Presidio built in 1775. Visitors travel back in time to learn about life as early Tucsonans would have lived it. Docent tours discuss life in the Santa Cruz Valley for early Native Americans, Presidio residents, and Territorial period settlers. See the archaeological remains of a pithouse, walk along the original Presidio wall, and experience a 150-year-old classic Sonoran Rowhouse. The Presidio is located at 196 N. Court Ave., and is open Wednesday through Sunday, 10:00 am to 4:00 pm. Admission is $5 for general public ($1.00 for children 6–14 years; free for children 5 and under and for Presidio Trust members).

See tucsonpresidio.com/ for more information about visiting, programs, the events calendar, volunteering, membership, and support. Or call 520.837.8119 to speak with someone.

MEMBERSHIP DUES TO INCREASE JUNE 30, 2018

After significant debate, the AAHS Board has decided to raise membership dues as of June 30, 2018, to keep a healthy operating balance. It has been quite a few years since the last increase, and publication and distribution costs for Glyphs and Kiva have increased significantly. The new rates will be:

Glyphs Membership: $45.00
Kiva Membership: $60.00
Contributing Membership: $100
Supporting Membership: $150
Lifetime Membership: $1500
Student membership: $35 (no change).

Please remember that AAHS memberships include all members of a single household.

Arizona Archaeology Expo 2018

The 2018 Expo will be held in front of the Arizona Museum of Natural History on Saturday, March 10, 2018. Please mark your calendars—the Expo will include docent-led tours of Mesa Grande, a National Register-listed archaeological site that has been preserved into an archaeological park. The Expo runs from 10:00 am to 4:00 pm. For more information, contact Kris Powell at kpowell@azstateparks.gov or 602.542.7141, or see our website at www.azstateparks.com/archy. Follow us on Twitter and Facebook at AzArchyMonth.

If you are interested in helping plan the Archaeology Expo, please contact kpowell@azstateparks.gov for more information.

Follow AAHS on Facebook at www.facebook.com/pages/Tucson-AZ/Arizona-Archaeological-and-Historical-Society
In 1972, ASM was among the first group of museums to be accredited by AAM. As the program expanded, Thompson, as a member of the AAM Accreditation Visiting Committee, had the opportunity to visit and appraise the accreditation status of some 16 museums in 11 states. This comparative information alerted him to the fact that, although ASM more than met the national standards, it clearly had a way to go if it were to do a proper job of caring for its collections. He saw an opportunity for ASM both to improve its own practices and to provide some leadership for anthropology museums.

There were very few conservation labs devoted to the many problems of object conservation found in anthropology museums beyond the Smithsonian Institution, which hired a person to conserve the anthropology collections in the late 1960s. By the 1970s, conservation had become a full-fledged graduate program at three universities, and conservators of anthropological materials had been hired by several museums, including the Carnegie in Pittsburgh, the Peabody at Harvard, the Lowie (now Phoebe Hearst) at Berkeley, and the Field in Chicago. Thompson reasoned that if ASM could obtain authorization to recruit a conservator and develop a conservation laboratory, its position at the University of Arizona (UA)—a major research university with strong programs in anthropology, chemistry, fine art, materials science, and others—would enable it to develop a unique program to train students.

Thompson began campaigning for a conservation position. After several years of failed budget requests, he took advantage of former director Emil Haury’s change of status to half-time. In 1979, he assigned the freed portion of Haury’s budgeted salary to a new...
The Beginnings of Conservation at ASM

Prior to World War II, care and conservation of museum collections were, for the most part, limited to fine arts collections, especially paintings. Anthropology museums like the Arizona State Museum (ASM) paid little or no attention to the possible special needs of the objects in their care except to protect perishable materials from insect damage. After all, the arid climate of the Southwest had been naturally preserving objects for thousands of years.

After World War II, the American Association of Museums (AAM, now the American Alliance of Museums) greatly increased its efforts to establish standards for collections management, especially in the areas of documentation and care. AAM developed a system of accreditation to promote those standards and by which to recognize institutions that met them. ASM director, Raymond H. Thompson, served on the AAM committee that developed that accreditation system.

In 1972, ASM was among the first group of museums to be accredited by AAM. As the program expanded, Thompson, as a member of the AAM Accreditation Visiting Committee, had the opportunity to visit and appraise the accreditation status of some 16 museums in 11 states. This comparative information alerted him to the fact that, although ASM more than met the national standards, it clearly had a way to go if it were to do a proper job of caring for its collections. He saw an opportunity for ASM both to improve its own practices and to provide some leadership for anthropology museums.

There were very few conservation labs devoted to the many problems of object conservation found in anthropology museums beyond the Smithsonian Institution, which hired a person to conserve the anthropology collections in the late 1960s. By the 1970s, conservation had become a full-fledged graduate program at three universities, and conservators of anthropological materials had been hired by several museums, including the Carnegie in Pittsburgh, the Peabody at Harvard, the Lowie (now Phoebe Hearst) at Berkeley, and the Field in Chicago. Thompson reasoned that if ASM could obtain authorization to recruit a conservator and develop a conservation laboratory, its position at the University of Arizona (UA)—a major research university with strong programs in anthropology, chemistry, fine art, materials science, and others—would enable it to develop a unique program to train students.

Thompson began campaigning for a conservation position. After several years of failed budget requests, he took advantage of former director Emil Haury’s change of status to half-time. In 1979, he assigned the freed portion of Haury’s budgeted salary to a new
position of conservator and offered it to Barbara Pough Moore, wife of Andrew Moore, who was then employed as a visiting professor of anthropology. Having completed a degree in conservation in 1970, at the Institute of Archaeology at the University of London, Mrs. Moore began to develop ASM’s approach to conservation. Unfortunately, she left after only two years, when her husband’s visiting appointment ended. ASM was fortunate to replace her in 1983, with Nancy Odegaard (1981 M.A., George Washington University; 1981 Advanced Certificate in Conservation of Ethnological and Archaeological Conservation, Smithsonian Institution; and 1997 Ph.D., University of Canberra), who had just completed the first and second phases of condition assessment and treatment for the Peabody’s North American basketry collection as part of a National Science Foundation grant.

Thompson was chairman of the steering committee of the AAM Collection Needs Project in 1979, and was a co-principal investigator, along with the directors of AAM and the American Museum of Natural History in New York, for a grant proposal to the National Endowment for the Humanities (NEH) to take a broad new approach to collections care. It was funded in 1985, and Thompson served on the steering committee, participated in three of the six national panel discussions, and was consultant in the preparations of the final report.

That report had an important impact on organizations concerned with collections care, such as NEH, Bay Foundation, Getty Conservation Institute, and the National Institute for the Conservation of Cultural Property (with Thompson a board member from 1989 to 1993). Odegaard skillfully took advantage of these developments. Her competence, research, publications, reputation, energy, and vision quickly put ASM in the national leadership position it has held ever since.

In 2000, ASM added two professional positions and the conservation laboratory became the Preservation Division. Odegaard served on the board and as president of the American Institute for Conservation from 2003 to 2007. In 2007, ASM’s conservation lab moved from cramped quarters in the basement of the south building into a state-of-the-art facility with expanded workspace, instrumentation, and chemical labs in the north building.

In 2008, ASM was awarded a National Preservation Award for Demonstrated Excellence and Outstanding Commitment to the Preservation and Care of Collections. The award specifically cites ASM’s care of its pottery collection, expertly led by Odegaard. Presented by the American Institute for Conservation of Historic and Artistic Works and Heritage Preservation, the award is a high honor—recognition for 30 years (now 40) of steadfast dedication to conservation that all started with Thompson’s vision back in the 1970s. Today, ASM conservation, still led by the internationally respected Odegaard, is renowned for conducting cutting-edge research, sharing expertise and methods through books and papers, conducting training sessions all over the world, providing hands-on education for students and conservation professionals, and, all the while, for continuing to care for ASM’s unparalleled collections.

For more on ASM’s history and national impact, check out the museum’s YouTube channel for 15 video interviews with Nancy Odegaard and other ASMsers, past and present (www.youtube.com/azstatemuseum).
position of conservator and offered it to Barbara Pough Moore, wife of Andrew Moore, who was then employed as a visiting professor of anthropology. Having completed a degree in conservation in 1970, at the Institute of Archaeology at the University of London, Mrs. Moore began to develop ASM’s approach to conservation. Unfortunately, she left after only two years, when her husband’s visiting appointment ended. ASM was fortunate to replace her in 1983, with Nancy Odegaard (1981 M.A., George Washington University; 1981 Advanced Certificate in Conservation of Ethnological and Archaeological Conservation, Smithsonian Institution; and 1997 Ph.D., University of Canberra), who had just completed the first and second phases of condition assessment and treatment for the Peabody’s North American basketry collection as part of a National Science Foundation grant.

Thompson was chairman of the steering committee of the AAM Collection Needs Project in 1979, and was a co-principal investigator, along with the directors of AAM and the American Museum of Natural History in New York, for a grant proposal to the National Endowment for the Humanities (NEH) to take a broad new approach to collections care. It was funded in 1985, and Thompson served on the steering committee, participated in three of the six national panel discussions, and was consultant in the preparations of the final report.

That report had an important impact on organizations concerned with collections care, such as NEH, Bay Foundation, Getty Conservation Institute, and the National Institute for the Conservation of Cultural Property (with Thompson a board member from 1989 to 1993). Odegaard skillfully took advantage of these developments. Her competence, research, publications, reputation, energy, and vision quickly put ASM in the national leadership position it has held ever since.

In 2000, ASM added two professional positions and the conservation laboratory became the Preservation Division. Odegaard served on the board and as president of the American Institute for Conservation from 2003 to 2007. In 2007, ASM’s conservation lab moved from cramped quarters in the basement of the south building into a state-of-the-art facility with expanded workspace, instrumentation, and chemical labs in the north building.

In 2008, ASM was awarded a National Preservation Award for Demonstrated Excellence and Outstanding Commitment to the Preservation and Care of Collections. The award specifically cites ASM’s care of its pottery collection, expertly led by Odegaard. Presented by the American Institute for Conservation of Historic and Artistic Works and Heritage Preservation, the award is a high honor—recognition for 30 years (now 40) of steadfast dedication to conservation that all started with Thompson’s vision back in the 1970s. Today, ASM conservation, still led by the internationally respected Odegaard, is renowned for conducting cutting-edge research, sharing expertise and methods through books and papers, conducting training sessions all over the world, providing hands-on education for students and conservation professionals, and, all the while, for continuing to care for ASM’s unparalleled collections.

For more on ASM’s history and national impact, check out the museum’s YouTube channel for 15 video interviews with Nancy Odegaard and other ASMers, past and present (www.youtube.com/azstatemuseum).
Old Pueblo Archaeology
Upcoming Events

Vista del Río Site Tour
March 3, 2018; 9:00–10:00 am
Old Pueblo Archaeology Center and Vista del Río Residents’ Association will sponsor a free archaeological tour of the Vista del Río site, located at Vista del Río Park, 757 E. Desert Arbors St. (at Dos Hombres Rd.), in Tucson. Archaeologist and Old Pueblo Archaeology Center Executive Director, Allen Dart, will lead this tour of Vista del Río, an ancient village of the Hohokam archaeological culture that inhabited southern Arizona between AD 650 and 1450, in celebration of Arizona Archaeology and Heritage Awareness Month.

Reservations are required and must be made by Thursday, March 1, to 520.798.1201 or info@oldpueblo.org.

ARCHAEOLOGY CAFÉ:
EXPLORING PHOENIX AND TUCSON UNDERGROUND

Archaeology Southwest announces the 2017–2018 Archaeology Café series in Phoenix and Tucson. Archaeology Café is an informal forum where adults can learn more about the Southwest’s deep history and speak directly to experts.

In Tucson, the cafés are at The Loft Cinema (3233 E. Speedway Boulevard); in Phoenix, Changing Hands Bookstore (300 W. Camelback Road) is the gathering place. Each venue can seat up to 100 or more people. The events are free, with no-host food and drinks available. All programs begin at 6:00 pm.

Tucson Schedule
April 3, 2018: Homer Thiel, Spanish Colonial and Mexico Period Life in Tucson

Phoenix Schedule
March 6, 2018: Gary Huckleberry, The Salt River and Irrigation: 1,000 Years of Bringing the Valley to Life
May 1, 2018: Glen Rice and Jeff Clark, The Salado in Phoenix: Point/Counterpoint

AAHS Membership Application

Membership is open to anyone interested in the prehistory and history of Arizona and the Southwest and who support the aims of the Society. Membership runs for a full year from the date of receipt, and covers all individuals living in the same household.

If you are joining as a household, please list all members of the household. Monthly meetings are free and open to the public. Society field trips require membership.

Membership Categories

- $50 Kiva members receive four issues of the Society’s quarterly journal Kiva and 12 issues of Glyphs
- $40 Glyphs members receive Glyphs
- $35 Student Kiva members receive both Kiva and Glyphs
- $75 Contributing members receive Kiva, Glyphs, and all current benefits
- $120 Supporting members receive Kiva, Glyphs, and all current benefits
- $300 Sponsoring members receive Kiva, Glyphs, and all current benefits
- $1,000 Lifetime members receive Kiva, Glyphs, and all current benefits

Note: For memberships outside the U.S., please add $20. AAHS does not release membership information to other organizations.

I wish to receive Glyphs by (circle your choice): Email Mail Both
I am interested in volunteering in AAHS activities: Yes Not at this time

Institutional Subscriptions

University libraries, public libraries, museums, and other institutions that wish to subscribe to Kiva must do so through the publisher, Taylor & Francis at tandfonline.com. For institutional subscriptions to Glyphs ($100), contact AAHS VP for Membership at the address below.

You can join online at www.az-arch-and-hist.org, or by mailing the form below to:
Barbara Montgomery, VP Membership
Arizona Archaeological and Historical Society
Arizona State Museum, The University of Arizona
Tucson, AZ 85721-0026

Name: __________________________________ Phone: ___________________
Address: ________________________________________________________________________
City: ________________________________ State: _____________ Zip: ________________
E-mail: __________________________________

Officers
President: John Douglass | jdouglass@sricrm.com | 909.213.2775
Vice President for Activities: Katherine Cerino | kcerino@gmail.com | 520.907.0884
Vice President for Membership: Barbara Montgomery | bmontgomery@tierra-row.com | 520.861.1653
Recording Secretary: Michael Diehl | mdiehl@desert.com
Communications Officer: John Hall | john.hall@terracon.com
Treasurer: Joanne Canalli | jcanalli@email.arizona.edu

Directors
Kirk Astroth
Patricia Gilman
Robin Rutherfoord
James Watson
Suzanne Crawford
Sharlot Hart
Karen Schollmeyer
Nicolé Mathwich, Student Representative

Editors of Society Publications
Kiva: Debra Martin, Acquisitions Editor | debra.martin@unr.edu
Glyphs: Emilee Mead | emilee@desert.com | 520.881.2244

Board of Directors 2017–2018

Archaeology Café:
Exploring Phoenix and Tucson Underground

Archaeology Southwest announces the 2017–2018 Archaeology Café series in Phoenix and Tucson. Archaeology Café is an informal forum where adults can learn more about the Southwest’s deep history and speak directly to experts.

In Tucson, the cafés are at The Loft Cinema (3233 E. Speedway Boulevard); in Phoenix, Changing Hands Bookstore (300 W. Camelback Road) is the gathering place. Each venue can seat up to 100 or more people. The events are free, with no-host food and drinks available. All programs begin at 6:00 pm.

Tucson Schedule
April 3, 2018: Homer Thiel, Spanish Colonial and Mexico Period Life in Tucson

Phoenix Schedule
March 6, 2018: Gary Huckleberry, The Salt River and Irrigation: 1,000 Years of Bringing the Valley to Life
May 1, 2018: Glen Rice and Jeff Clark, The Salado in Phoenix: Point/Counterpoint

Upcoming Events

Vista del Río Site Tour
March 3, 2018; 9:00–10:00 am
Old Pueblo Archaeology Center and Vista del Río Residents’ Association will sponsor a free archaeological tour of the Vista del Río site, located at Vista del Río Park, 757 E. Desert Arbors St. (at Dos Hombres Rd.), in Tucson. Archaeologist and Old Pueblo Archaeology Center Executive Director, Allen Dart, will lead this tour of Vista del Río, an ancient village of the Hohokam archaeological culture that inhabited southern Arizona between AD 650 and 1450, in celebration of Arizona Archaeology and Heritage Awareness Month.

Reservations are required and must be made by Thursday, March 1, to 520.798.1201 or info@oldpueblo.org.
AAHS Membership Application

Membership is open to anyone interested in the prehistory and history of Arizona and the Southwest and who support the aims of the Society. Membership runs for a full year from the date of receipt, and covers all individuals living in the same household. If you are joining as a household, please list all members of the household. Monthly meetings are free and open to the public. Society field trips require membership.

Membership Categories

- $50 Kiva members receive four issues of the Society’s quarterly journal Kiva and 12 issues of Glyphs
- $40 Glyphs members receive Glyphs
- $35 Student Kiva members receive both Kiva and Glyphs
- $75 Contributing members receive Kiva, Glyphs, and all current benefits
- $120 Supporting members receive Kiva, Glyphs, and all current benefits
- $300 Sponsoring members receive Kiva, Glyphs, and all current benefits
- $1,000 Lifetime members receive Kiva, Glyphs, and all current benefits

Note: For memberships outside the U.S., please add $20. AAHS does not release membership information to other organizations.

I wish to receive Glyphs by (circle your choice): Email Mail Both

I am interested in volunteering in AAHS activities: Yes Not at this time

Institutional Subscriptions

University libraries, public libraries, museums, and other institutions that wish to subscribe to Kiva must do so through the publisher, Taylor & Francis at tandfonline.com. For institutional subscriptions to Glyphs ($100), contact AAHS VP for Membership at the address below.

You can join online at www.az-arch-and-hist.org, or by mailing the form below to:

Barbara Montgomery, VP Membership
Arizona Archaeological and Historical Society
Arizona State Museum, The University of Arizona
Tucson, AZ 85721-0026

Name: ____________________________________________________     Phone :_____________
Address: ________________________________________________________________________
City: ________________________________     State: _____________     Zip: ________________
E-mail: __________________________________

Officers
President: John Douglass | jdouglass@seicrm.com | 909.213.2775
Vice President for Activities: Katherine Cerino | kcerino@gmail.com | 520.907.0884
Vice President for Membership: Barbara Montgomery | bmontgomery@terra-eow.com | 520.861.1653
Recording Secretary: Michael Diedl | mdiedl@desert.com
Communications Officer: John Hall | john.hall@terracon.com
Treasurer: Joanne Canalli | jcanalli@email.arizona.edu

Directors
Kirk Astroth
Suzanne Crawford
Patricia Gilman
Sharlot Hart
Robin Rutherfoord
Karen Schollmeyer
James Watson
Nicole Mathwich, Student Representative

Editors of Society Publications
Kiva: Debra Martin, Acquisitions Editor | debra.martin@unr.edu
Glyphs: Emilee Mead | emilee@desert.com | 520.881.2244

Board of Directors

2017–2018

Vista del Rio Site Tour
March 3, 2018; 9:00–10:00 am
Old Pueblo Archaeology Center and Vista del Rio Residents’ Association will sponsor a free archaeological tour of the Vista del Rio site, located at Vista del Rio Park, 757 E. Desert Arbors St. (at Dos Hombres Rd.), in Tucson. Archaeologist and Old Pueblo Archaeology Center Executive Director, Allen Dart, will lead this tour of Vista del Rio, an ancient village of the Hohokam archaeological culture that inhabited southern Arizona between AD 650 and 1450, in celebration of Arizona Archaeology and Heritage Awareness Month.

Reservations are required and must be made by Thursday, March 1, to 520.798.1201 or info@oldpueblo.org.

ARCHAEOLOGY CAFÉ: EXPLORING PHOENIX AND TUCSON UNDERGROUND

Archaeology Southwest announces the 2017–2018 Archaeology Café series in Phoenix and Tucson. Archaeology Café is an informal forum where adults can learn more about the Southwest’s deep history and speak directly to experts.

In Tucson, the cafés are at The Loft Cinema (3233 E. Speedway Boulevard); in Phoenix, Changing Hands Bookstore (300 W. Camelback Road) is the gathering place. Each venue can seat up to 100 or more people. The events are free, with no-host food and drinks available. All programs begin at 6:00 pm.

Tucson Schedule
April 3, 2018: Homer Thiel, Spanish Colonial and Mexico Period Life in Tucson

Phoenix Schedule
March 6, 2018: Gary Huckleberry, The Salt River and Irrigation: 1,000 Years of Bringing the Valley to Life
May 1, 2018: Glen Rice and Jeff Clark, The Salado in Phoenix: Point/Counterpoint

Old Pueblo Archaeology
Upcoming Events
The objectives of the Arizona Archaeological and Historical Society are to encourage scholarly pursuits in areas of history and anthropology of the southwestern United States and northern Mexico; to encourage the preservation of archaeological and historical sites; to encourage the scientific and legal gathering of cultural information and materials; to publish the results of archaeological, historical, and ethnographic investigations; to aid in the functions and programs of the Arizona State Museum, University of Arizona; and to provide educational opportunities through lectures, field trips, and other activities. See inside back cover for information about the Society's programs and membership and subscription requirements.