



# **Sacramento Archeological Society, Inc. Newsletter**

[www.sacarcheology.org](http://www.sacarcheology.org)

November/December - 2018

## **UPCOMING EVENTS**

- November 3-4, 2018 – **Bishop Tablelands Rock Art Tour - RESCHEDULED FROM OCTOBER**
- December 8, 2018, Saturday- **Annual Meeting** featuring “Study of bone use-wear using 3D surface texture analysis” by Naomi L. Martisius and “Heat treatment of silicate rocks” by Sara Watson at McGregor’s home at 1334 Mission Ave, Carmichael, CA 95608
- January 10-12, 2019 – “**New Discoveries in the American Paleolithic: The Pre 16,000 BP Archaeological Record**” at Borrego Springs, CA. This [Non-SAS event](#) is sponsored by the Center for American Paleolithic Research, Anza-Borrego Desert State Park®, ABF, the Colorado Desert Archaeology Society, and the Anza-Borrego Desert State Park Paleontology Society.
- January 26, 2019 Saturday, 1:00 - 4:30 p.m. – **SAS Scholar Symposium (1) “Pompeii Artifact Life History Project”** by Aaron Brown, “Excavation and technological analysis of Donggutuo stone artifacts” by Corey Johnson, “Burnt bone analysis – Bukovac, Serbia” by Giulia Gallo at North Highlands – Antelope Library, 4235 Antelope Road, Antelope, CA 95843
- February 16, 2019, Saturday, 2:00 - 5:30 p.m. – **SAS Scholar Symposium (2) “Paleolithic excavation in Trou Al’Wesse –Belgium”** by Ryan Gallagher, “Flot sample analysis” by Gloria Howat Brown, “Paleo-Coast lithic analysis – Santa Rosa Island, CA” by Kevin Smith and “Historic archaeological excavation – Bear Creek Ranch” by Ryan Poska at North Natomas Library, 4660 Via Ingoglia, Sacramento, CA 95835.
- March 16, 2019 Saturday, 1:00 - 4:30 p.m. – **SAS Eclectic Symposium “Italian excavation”** by Kim Frasse and more at North Highlands – Antelope Library, 4235 Antelope Road, Antelope, CA 95843

***Sacramento Archeological Society, Inc.’s***

***Annual Meeting***

**Featuring**

**Cutting Edge Evolutionary Anthropology Research**

***“Study of bone use-wear using 3D surface texture analysis”***

By University of California, Davis Scholar, Naomi L. Martisius

***“Heat treatment of silicate rocks”***

By University of California, Davis Scholar, Sara Watson

**Saturday, December 8, 2018**

**12:00 – 6:00 p.m. at  
Carolyn and Gordon McGregor's home  
1334 Mission Ave.  
Carmichael, CA 95608**

At our annual meeting we are pleased to have two scholars who received SAS scholarships in 2018 present their research and field work. **Naomi L. Martisius**, a graduate student at University of California Davis will speak on her research leading to a unique methodology for study of bone use-wear using 3D surface texture analysis. **Sara Watson**, also a graduate student at University of California Davis will feature incites from her lab training at the University of Tubingen, Germany on heat treatment of silicate rocks.

### **Annual Meeting Program**

The schedule for the event is as follows:

12:00 – Meet and Greet

12:30 - Lunch

1:30 - SAS Annual Meeting with election of officers

3:00 – Naomi L. Martisius, “Study of bone use-wear using 3 D surface texture analysis”

4:00 – Sara Watson, “Heat treatment of silicate rocks”

Lunch will be provided by Carolyn McGregor. The lunch is complementary from the McGregors but a contribution to our scholarship fund of \$15 per person would be appreciated.

For Carolyn to manage her catering PLEASE provide your **RSVP** by **Monday, December 3** to Carolyn McGregor at 916-487-6218 or [sabrina53@earthlink.net](mailto:sabrina53@earthlink.net).

Don't miss this annual meeting. Bring a friend.

## ***Bishop Volcanic Tableland Rock Art Tour***

**November 3-4, 2018 Rescheduled from October 6-7  
Bishop, CA**

Join us in our exploration of petroglyphs on the Volcanic Tablelands near Bishop, California. Early native peoples carved designs into the face of rocks, cliffs and caves on volcanic tuff faces. They scraped away the dark colored surface layer (patina) to create various figures and shapes. The petroglyphs in this area likely are from 1,000 to 10,000 years old.

The tour will highlight two days of petroglyph viewing in the Bishop Volcanic Tablelands north of Bishop.

### **Itinerary:**

**Friday, November 2**

Arrive in Bishop

5:00 Meet at Vagabond Inn at 1030 N Main St, Bishop, CA 93514

**Saturday, November 3**

8:30 Meet in Vons parking lot in Bishop near Vagabond Inn

9:30 Chidago Canyon, Red Canyon, Chalfant, Fish Slough etc.

Bring bag lunch. Piute Shoshone Museum (option)

5:00 Happy Hour at Vagabond Inn

**Sunday**, November 4

9:00 Meet for remote petroglyph site hike at Vons parking lot in Bishop

### **Tour Details**

**This is a Members only event and attendance is limited.** Reservations are accepted on a first come basis. A non-refundable reservation fee of \$10 per person is required with the reservation. Participants are responsible for making their own lodging reservations, arranging their own transportation to and on the tour, and paying for their food, fees and incidentals.

The itinerary is subject to change at the discretion of Sacramento Archeological Society, Inc., but participants will be notified of significant changes in advance. All participants are required to sign a Hold Harmless Agreement prior to the tour.

The sites on the first day are easily accessed from the car. To access some petroglyphs on the second day hiking up a ridge and along and over some boulders is required.

To make reservations contact Jan Johansen [janjohansen@sbcglobal.net](mailto:janjohansen@sbcglobal.net) Also, send the registration fee of \$10 per person to Sacramento Archeological Society, Inc. at P.O Box 163287, Sacramento, CA 95816-9287.

## ***New Discoveries in the American Paleolithic: The pre-16,000 BP Archeological Record***

**January 10 – 12, 2019**  
**Borrego Springs, CA**

This conference will present evidence from throughout the Americas that demonstrate the presence of a wide-spread human occupation much earlier than was previously recognized. It will focus on new sites and discoveries older than 16,000 BP as well as innovative methodological innovations in dating.

The conference is sponsored by the Center for American Paleolithic Research, Anza-Borrego Desert State Park®, ABF, the Colorado Desert Archaeology Society, and the Anza-Borrego Desert State Park Paleontology Society. It will include an evening wine and cheese meet and greet on Thursday, the 10<sup>th</sup> with poster sessions. On Friday and Saturday, the 11<sup>th</sup> and 12<sup>th</sup> enjoy presentations from international scientists and researchers. A detailed itinerary will be forthcoming.

The cost of the conference is \$35.00/ person. Since space is limited, please register as soon as possible by calling 760-767-0446 ext 1004. Also for more information refer to <http://theabf.org/explore-anza-borrego> . If you plan to attend, it is highly recommended that you make lodging reservations in Borrego Springs as soon as possible. In the past we have been pleased to stay at Hacienda del Sol, Borrego Springs.

## *Annual Scholar Symposium (1)*

By  
2018 Scholarship Recipients  
Sunday, January 26, 2019

**1:00 – 4:30 p.m.**

at

North Highlands – Antelope Library  
4235 Antelope Road  
Antelope, CA 95843

## *Annual Scholar Symposium (2)*

By  
2018 Scholarship Recipients  
Saturday February 16, 2019

**2:00 – 5:30 p.m.**

at

North Natomas Library  
4660 Via Ingoglia  
Sacramento, CA 95835

In 2018 Sacramento Archeological Society awarded nine scholarships to support archeological/anthropological education. Two of these individuals **Naomi Martisius** and **Sara Watson** will present at the annual meeting on December 8, 2018. The other seven will be presenting on their experiences made possible by the scholarships at the Scholar Symposium on **Saturday, January 26, 2019** or **Saturday, February 16, 2019**. Mark your calendars for these two events.

## **PAST ARCHEOLOGICAL ACTIVITIES**

### *SAS Potluck Social*

We thank Dan and Victoria Foster for hosting a Society Social on **Saturday, September 8** at their farm. At this informal event we had time to socialize with the members.

## *Viewing California's Past through Seeds and Science*

On Saturday, October 20<sup>th</sup> we were pleased to celebrate International Archaeology Day by presenting two outstanding lectures at the **Maidu Museum & Historical Site**. While **Maidu Museum & Historical Site** offered hands on archaeological experience for children and family tours of their historical site, **Sacramento Archeological Society** featured lectures on how plants can be used to investigate California prehistory and how skeletons can shed light on the participation of women in California warfare.

**Eric Wohlgemuth**, Principal Investigator and Chief Archaeobotanist Far Western Anthropological Research Group, Inc. introduced Archaeobotany, a study of ancient plant remains. His work focuses on macro archaeological plant remains. This includes charred wood, seeds, fruit, nuts and roots. Eric reported that the leading plant remains from the California sites studied were wood, acorn nut shells, *Chenopodium rubum* seeds (red goose foot), and *brodiaea*

corm (cluster-lilies) in that order. He noted how the distribution of these varied by location and by time period. He also compared the nutritional value of acorns, seeds, and corms with fish and shell fish and noted that fish provided the highest return rate (Kcal/hour). By studying this material he constructed historic reference maps of diet for regions of California

**Al Schwitalla** professional archaeologist and artifact reproduction specialist with more than 30 years of experience in central California presented recent research conducted with Marin Pilloud of the Department of Anthropology at the University of Nevada, Reno on the active participation of women in combat in California. By studying limited ethnographic evidence and sharp force trauma as reflected in skeletons he ascertained the probable involvement of men versus women in conflicts. From the data reviewed (289 males and 128 females in the period of 3050 BC to 1899) and patterns explored males and females were both subject to violent encounters in warfare. Injuries were grouped according to trajectory of injury, the timing of injury and the location of injury on the skeleton. He pointed out that factors including the introduction of bow and arrow and the medieval climactic anomaly may have played a role. Differences noted between the sexes were that males experience violence in higher numbers and were slightly more likely to show trauma on the facial skeleton, which may be an indicator of higher levels of face-to-face combat. Women were not passive by-standers in the creation, development, maintenance, and protection of their communities – rather they seem to have been active participants in their communities' defense.

## *California's First Maritime Heritage Trail Opened at Emerald Bay Underwater Park in Lake Tahoe*

### *Scuba Divers Can Now Explore Newly Revealed Dive Sites*

California State Parks and the Sierra State Parks Foundation were proud to debut California's first maritime heritage underwater trail devoted to showcasing Lake Tahoe's historic recreational watercraft and barges that now rest below the surface of Emerald Bay.

John Foster, a retired underwater archaeologist with California State Parks and past president of Sacramento Archeological Society, Inc. was a central figure in the team that led to the maritime trail's establishment. He was with California State Parks when all of Emerald Bay — that is, below Lake Tahoe's surface — was named a state park in 1994.

Starting on October 1, scuba divers can explore three newly revealed dive sites under Emerald Bay in addition to the Barge Dive Site established in 1998. The new Emerald Bay Maritime Heritage Trail (Emerald Bay Underwater Trail) is the first of its kind in California.

Emerald Bay, situated on the western side of Lake Tahoe, is and has been an American tourist destination for well over 150 years. It was designated a National Natural Landmark in 1969 for

its brilliant panorama of mountain-building processes and glacier carved granite. Translucent blue-green water surrounded by vertical cliffs, green conifers, and granite boulders creates the quintessential Tahoe experience and one that has drawn people to the bay specifically for recreation since the 1860s.

The Emerald Bay Underwater Trail celebrates the history of Emerald Bay and Lake Tahoe's culture of recreation by way of shipwrecks. The bay is the final resting place of several recreational boats, launches, and barges used on the lake during the early 20th century. This was the heyday of the Emerald Bay Resort (1920s and 1930s) and the construction of the Scandinavian "castle," Vikingsholm (1929). These boats were purposely scuttled (sunk) when they outlived their usefulness, but now serve as reminders of the golden age of recreation in Tahoe. This collection is the largest, most diverse group of sunken small watercraft, in their original location, known to exist in the nation.

The four dive sites of the Emerald Bay Underwater Trail at Lake Tahoe range in depth from 10 to 60 feet. Underwater interpretive panels have been placed at the four dive sites so divers can learn about the sunken ships they are exploring. Waterproof information cards created for divers will be available at the park's visitor centers, local dive shops, and on [State Parks](#) and [Sierra State Parks Foundation's](#) websites. Because of the remote location, access by boat is advised.

On Friday, September 28, State Parks dive teams introduced the Emerald Bay Underwater Trail across its social media platforms from one of the four dive sites, using remote audio and video technology. Scuba divers are encouraged to view the video to get a sense of what their experience at the underwater trail will look like. The video and additional information on the Emerald Bay Underwater Trail are available on State Park's website at [www.parks.ca.gov/EmeraldBayUnderwaterTrail](http://www.parks.ca.gov/EmeraldBayUnderwaterTrail)

## MEMBER'S CORNER

### *Election of 2019 Board of Directors*

During the Annual Meeting the 2019 Board of Directors will be elected. The following slate of officers is proposed. We invite additional member to become involved. Serving on the Board of Directors is a way to influence the content and timing of events. Come to the annual meeting and consider participation on the Board.

The slate of the board is:

Candidate	Office	Candidate	Office
Tom Johansen	President	Paul K. Davis	Member at Large
Lydia Peake	Vice-President	Jeremy Johansen	Member at Large
Carolyn McGregor	Secretary	Jan Johansen	Member at Large
Doug La Rocca	Treasurer	Ruth McElhinney	Member at Large
John Foster	Past President	Roger Peake	Member at Large
		Diane Sangster	Member at Large

		Knuti VanHoven	Member at Large
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## *Welcome New Members*

We welcome the following new members: Eric DeMartini and .Kathy Hieb. We look forward to seeing you at our events.

## *Renewal of Annual Memberships*

All memberships are renewable on **January 1** annually except for those who join recently (after September of the previous year). Please support the society by promptly paying your **2019** dues. **Remember your dues make scholarships possible.** We keep overhead low so that the funds can be used to support students. You may now use our web site <http://sacarcheology.org/society-membership/> to renew and make payment using a **credit card or Paypal.**

The annual dues are:

Student/Limited Member	\$15
Individual Membership	\$30
Family Membership	\$40
Sponsor	\$100 - 499 (individual) \$500 - 999 (business)
Patron	\$1000

Alternatively, please make out your check to “**Sacramento Archeological Society, Inc.**” and mail it to:

**Sacramento Archeological Society, Inc.**  
**P.O. Box 163287**  
**Sacramento, CA 95816-9287**

Thank you in advance for your prompt payment. We really appreciate your support.

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### Annual Dues for 2019

Name(s): \_\_\_\_\_ Email: \_\_\_\_\_ Phone: \_\_\_\_\_

\_\_\_\_\_ Email: \_\_\_\_\_ Phone: \_\_\_\_\_

Address: \_\_\_\_\_

\_\_\_\_\_

Student/Limited Member	\$15	_____	\$_____
Individual Membership	\$30	_____	\$_____
Family Membership	\$40	_____	\$_____
Sponsor	\$100	_____	\$_____



Scholarship Donation

\$\_\_\_\_\_

Total enclosed

\$\_\_\_\_\_

## **ARCHAEOLOGICAL REFERENCES**

### **"An abstract drawing from the 73,000-year-old levels at Blombos Cave, South Africa"**

"Abstract and depictive representations produced by drawing—known from Europe, Africa and Southeast Asia after 40,000 years ago—are a prime indicator of modern cognition and behavior. This article reports on a cross-hatched pattern drawn with an ochre crayon on a ground silcrete flake recovered from approximately 73,000-year-old Middle Stone Age levels at Blombos Cave, South Africa. Our microscopic and chemical analyses of the pattern confirm that red ochre pigment was intentionally applied to the flake with an ochre crayon. The object comes from a level associated with stone tools of the Still Bay techno-complex that has previously yielded shell beads, cross-hatched engravings on ochre pieces and a variety of innovative technologies. This notable discovery predates the earliest previously known abstract and figurative drawings by at least 30,000 years. This drawing demonstrates the ability of early *Homo sapiens* in southern Africa to produce graphic designs on various media using different techniques." (Christopher S. Henshilwood, et al., *Nature*, V. 562, 2018-10-4, pp. 115-118)

### **"The genome of the offspring of a Neanderthal mother and a Denisovan father"**

"Neanderthals and Denisovans are extinct groups of hominins that separated from each other more than 390,000 years ago. This article presents the genome of 'Denisov 11', a bone fragment from Denisova Cave (Russia) and shows that it comes from an individual who had a Neanderthal mother and a Denisovan father. The father, whose genome bears trace of Neanderthal ancestry, came from a population related to a later Denisovan found in the cave. The mother came from a population more closely related to Neanderthals who lived later in Europe than to an earlier Neanderthal found in Denisova Cave suggesting that migrations of Neanderthals between eastern and western Eurasia occurred sometime after 120,000 years ago. The finding of a first-generation Neanderthal-Denisovan offspring among the small number of archaic specimens sequenced to date suggests that mixing between Late Pleistocene hominin groups was common when they met." (Vivianne Slon, et al. *Nature*, V. 561, 2018-9-6, pp. 113-121)

### **"The prehistoric peopling of Southeast Asia"**

"The human occupation history of Southeast Asia (SEA) remains heavily debated. Current evidence suggests that SEA was occupied by Hòabinhian hunter-gatherers until ~4000 years ago, when farming economies developed and expanded, restricting foraging groups to remote habitats. Some argue that agricultural development was indigenous; others favor the "two layer" hypothesis that posits a southward expansion of farmers giving rise to present-day Southeast



Asian genetic diversity. By sequencing 26 ancient human genomes they show that neither interpretation fits the complexity of Southeast Asian history...The evidence described favors a complex model including a demographic transition in which the original Hòabinhian admixed with multiple incoming waves of East Asian migration associated with Austroasiatic, Kra-dai and Austroneasian language speakers.” (Hugh McColl, et al. *Science*, V. 361, 2018-7-6, pp. 88-91)

## “Ancient genomes document multiple waves of migration in Southeast Asia prehistory”

Southeast Asia is home to rich human genetic and linguistic diversity, but the details of past population movements in the region are not well known. The article reports genome-wide ancient DNA data from 18 Southeast Asian individuals spanning from the Neolithic period through the Iron Age (4100 to 1700 years ago). Early farmers from Man Bac in Vietnam exhibit a mixture of East Asian (southern Chinese agriculturalist) and deeply diverged eastern Eurasian (hunter-gatherer) ancestry characteristic of Austroasiatic speakers, with similar ancestry as far south as Indonesia proving evidence for an expansive initial spread of Austroasiatic languages. By the Bronze Age, in parallel pattern to Europe, sites in Vietnam and Myanmar show close connections to present-day majority groups, reflecting substantial additional influx of migrants.” (Mark Lipson, et al. *Science*, V. 361, 2018-7-6, pp. 92-95)

## “How island shrink People

### Evolutionary history and adaptation of a human pygmy population of Flores Island, Indonesia”

“Living on an island can have strange effects. When food and predators are scarce, big animals shrink and little ones grow. But no one was sure whether the same rule explains the most famous example of dwarfing on Flores, the odd extinct hominin called hobbit, which lived 60,000 to 100,000 years ago and stood about a meter tall. Now, genetic evidence from modern pygmies on Flores—who are unrelated to the hobbit—confirm that humans, too, are subject to so-called island dwarfing (Ann Gibbons, *Science*, V. 361, 2018-8-3, p. 439)

## “Evolutionary history and adaptation of a human pygmy population of Flores Island, Indonesia”

“Flores Island, Indonesia, was inhabited by the small-bodied hominin species *Homo floresiensis*, which has an unknown evolutionary relationship to modern humans. This island is also home to an extant human pygmy population. This article describes genome-scale single-nucleotide polymorphism data and whole-genome sequences from a contemporary human pygmy population living on Flores near the cave where *H. floresiensis* was found. The genomes of Flores pygmies reveal a complex history of admixture with Denisovans and Neanderthals but no evidence for gene flow with other archaic hominin. Modern individuals bear the signatures of recent positive selection encompassing the FADS (fatty acid desaturase) gene cluster, likely related to diet, and polygenic selection acting on standing variation that contributed to their short-stature phenotype. Thus, multiple independent instances of hominin insular dwarfism occurred on Flores”. (Serena Tucci et al, *Science*, V. 361, 2018-8-3, pp. 511-516)

## "The first horse herders and the impact of early Bronze Age steppe expansion into Asia"

"According to the commonly accepted "steppe hypothesis" the initial spread of Indo-European (IE) languages into both Europe and Asia took place with migrations of Early Bronze Age Yamnaya pastoralist from the Pontic-Caspian steppe. This is believed to have been enabled by horse domestication, which revitalized transport and warfare."..."Our findings reveal that the early spread of Yamnaya Bronze Age pastoralist had limited genetic impact in Anatolia as well as Central and South Asia. As such, the Asian story of Early Bronze Age expansions differs from that of Europe. Intriguingly, we find that direct descendants of Upper Paleo-lithic hunter-gatherers of Central Asia, now extinct as a separate lineage, survived well into the Bronze Age. These groups likely engaged in early horse domestication as a prey-route transition from hunting to herding, as otherwise seen for reindeer. Our finds further suggest that West Eurasian ancestry entered South Asia before and after; rather than during the initial expansion of western steppe pastoralists, with the later event consistent with Late Bronze Age entry of IE languages into South Asia. Finally, the lack of steppe ancestry in samples from Anatolia indicates that the spread of earliest branch of IE languages into that region was not associated with a major population migration from the steppe." (Peter de Barros Damgaard et al., *Science*, V. 360, 2018-6-29, p. 1423)

## "New geological age comes under fire"

In July 2018 the International Commission on Stratigraphy (ICS), the bureaucracy that governs geological time, declared we are living in a new geological age. The new age is called the **Meghalayan**, based on signs in the rock record of a global drought that began about 4200 years ago. It is one of three newly named subdivisions of the Holocene, the geological epoch that began 11,700 years ago with the retreat of ice age glaciers. The other two ages are **Greenlandian** from 11,700 to 8200 years ago and **Northgrippian** from 8,200 to 4,200 years ago.

In 2012, paleoclimatologist reported an analysis of stalagmites from Mawmluh Cave, a limestone complex in Meghalay state, a wet part of northeastern India. In the Mawmluh stagmite, a shift in oxygen isotopes seemed to show a stark drying around 4200 years ago. Critics are not content with this edict because world-wide evidence for a drought at this time is scant. But, to prevent continual spats, ICD froze discussion for a decade after it ratified the boundary. (Paul Voodsen, *Science*, V. 361, 2018-8-10, pp. 537-538)

## "Bang or whimper?"

The evidence for collapse of human civilizations at the start of the recently defined Meghalayan Age is equivocal"

"Overall, the archaeological and historical evidence suggests that 2200 BCE was not a threshold date and that there was no sudden universal civilizational collapse. If there was a mega drought around 2200 BCE and after, it may be more instructive to look at how societies survived—their resilience—rather than suggesting an ancient apocalypse"... "Even if scientists agree that the

paleoclimate data indicate substantial and widespread climatic changes around 2200 BCE, accompanied by sudden, severe and long-lasting aridification, they must be prepared to admit that many people and societies seem to have coped with it and even flourished at this time.” (Guy D. Middleton, *Science*, V. 361, 2018-9-21, pp. 1204-1205)

## “Study reignites debate about when Thera blew its top

### Radiocarbon curve suggests archaeological data were right”

“Hundreds of years before the Trojan War, the volcanic island of Thera in the Aegean Sea blew its top in an explosion that rocked the ancient world. The eruption spread ash across the eastern Mediterranean, so a precise date could pin down the chronologies of ancient cultures including Greeks, Minoans, and Egyptians. Archaeologist and radio carbon daters have battled fiercely over the timing. By correlating Egyptian records and pottery, archaeologist put the eruption as early as 1500 BCE. But radiocarbon dates from Thera city, Akrotiri, and nearby sites, including an olive tree buried by the eruption, pointed to a date more than 100 years earlier, in the late 17<sup>th</sup> century BCE.

By comparing the ratio of isotopes, scientist can calculate how long ago an organism was alive. But  $^{14}\text{C}$  levels starts to decay at known rate while  $^{12}\text{C}$  levels stay the same. But  $^{14}\text{C}$  in the atmosphere fluctuates with the amount of cosmic radiation hitting Earth. To calibrate the clock, scientist must track those fluctuations.

In a new study led by archaeologist and tree ring scientist Charlotte Pearson of the University of Arizona in Tucson the team measured the radiocarbon stored in individual rings from five trees. The resulting calibration curve differs slightly but significantly from the standard. These recalculated dates fall in the late 16<sup>th</sup> century BCE perhaps around 1540—closer to the archaeological date.

This paper will now be cited for the next decade to demonstrate that there’s ambiguity with the radiocarbon. The new calibration data must be confirmed independently.”(Lizzie Wade, *Science*, V. 361, 2018-8-17, p. 634)