



Southwest Florida Archaeological Society (SWFAS)

OUR 41st YEAR

May 2021 Newsletter

<https://swflarchaeology.org/>

PRESIDENT’S CORNER *By John F. Furey M.A., RPA*



Have you ever heard of Neuroarchaeology? No? You have now! Dr. Alyson Muotri at UC-San Diego will explain what it is in our first article this month by using fossilized Neanderthal skulls. While we are on Neanderthals, Amy Woodyatt reports on radiocarbon dates from Spy Cave in Belgium that indicates that Neanderthals disappeared earlier than previously thought. And finally, a new find at Lake Titicaca in Peru possibly explains more about the function of the lake during Inca times.

This month marks the 73rd FAS Annual Meeting. Due to the pandemic, it is a ‘virtual’ meeting, a first for FAS, but so many things have changed since the arrival of Covid 19 it is an attempt at ‘normalcy’. See the report below.

The Society for American Archaeology (SAA) held their 86th Annual Meeting this year in Anaheim, California on April 12 to April 17, 2021. The SAA has backed the return of indigenous artifacts, yet one of the scheduled talks was against repatriation of these artifacts. This has caused an internal schism in the organization. To read about this by Lizzie Wade please go to: <https://www.sciencemag.org/news/2021/04/archaeology-society-hosted-talk-against-returning-indigenous-remains-some-want-new>.

This May SWFAS Newsletter and the May SWFAS Zoom Newsletter are the last ones for the Spring season and we will resume them in September. Have a great Summer and we’ll see you in the Fall. Please remember that if you travel to an interesting archaeological site(s), write up your visit and send it along with a few photos and we will share it in the Newsletter. I hope that you have found many of the items recommended in the SWFAS Zoom Newsletter interesting and we have tried to locate new subjects for you.

John Furey, editor. jffurey@charter.net.

LOOKING FOR SOMEPLACE LOCAL TO GO THIS SUMMER?



Don’t forget that the 5 Collier County Museums are open and offer a variety of great programs this Summer! Visit all five museums. Go to <https://colliermuseums.com/> to find out the dates and programs. In Fort Myers the IMAG History and Science Center on Cranford Street is open and has great exhibits and hands-on interactive activities for both children and adults. Go to <https://theimag.org/> to



see their schedule of events. Don’t miss the aquarium.

NATIONAL HISTORIC PRESERVATION MONTH



May is National Historic Preservation Month. Our aim in SWFAS is to foster preservation of both archaeological resources and our local historical resources. Remember to support local preservation and your local historical societies.

SWFAS 2021 NEWSLETTER and ZOOM SCHEDULE

MAY 2021 – SWFAS Zoom Newsletter

MAY 2021 - SWFAS Newsletter

MAY 2021 - FAS 73rd ANNUAL MEETING A Virtual Conference

JUNE-AUGUST 2021 - Off for the Summer

SEPTEMBER 2021 - SWFAS Zoom and Newsletters Resume

REPORT ON THE FAS 73 ANNUAL MEETING

The 73rd Annual FAS Meeting took place on Friday and Saturday May 21-23 and was a first ever as a virtual conference due to the pandemic. The organization of the conference was a familiar format that our past conferences have had with a full Friday of organizational meetings and a ‘social’ hour’ in the evening. It was a ‘bring your own social’ to this social hour.

Saturday was organized in two conference rooms named to honor two legendary figures in Florida archaeology: the Bullen Zoom Room 1 and the Griffin Zoom Room 2. Each session had morning and afternoon papers with a one-minute time for questions at the end of each presentation and a period for questions and answers at the end the afternoon sessions. The most difficult aspect of these conferences usually is your selection of what papers to listen to and which ones you must forgo since they often conflict with each other. This year, however, they will all be available on line for 30 days for registered attendees resolving any of these conflicts.

I was able to attend only three presentations and was very impressed by the presenters and the ability to see the graphics so close. Often in a large room you see the graphics at an angle and they are so much clearer on your computer screen. I had to hear Aubrey Farrell’s talk on her testing of residue on shark teeth and the presentation of the interpretation of many symbols that we see in Native American art in Florida. It has religious meaning and is similar to Mississippian art, often representing the water panther, “teardrops” are teeth, and the division of the heavens in two.

On Saturday evening, Bob Austin was the moderator and announced the following FAS 2021 Awards:

The 2021 Ripley P. Bullen Award: to Sarah E. Miller.

The 2021 William C. Lazarus Award: to Linda Allred.

FAS 2021 Chapter Award: Warm Mineral Springs/ Little Salt Springs Chapter of Northport/ Charlotte, Florida.

FAS 2021 Certificates of Achievement: to
Thomas Frachino of SWFAS
Steven Tutko of SWFAS

The 2021 Dorothy Moore Student Grant: to Emilee McGann

FAS 2021 Student Paper Prize: to Crystal Wrigh

The Saturday evening Virtual Awards and the Keynote Speaker are a FAS Conference “must not miss” event. This year the selection of Dr. Kenneth E. Sassman was a great choice. Dr Sassman is a captivating speaker and a prolific and entertaining story teller and can bring the story and struggles of the Native Americans to life in your imagination. His years of working in the St. Johns River Valley provided us with the picture of its changes over time as sea levels rose and water, was now plentiful and dry land was at a premium, led to pond burials. This later developed into mound burials and the St Johns River developed, matured and provided apple snails and freshwater clams as the mainstay of their diet. My short synopsis does not do his presentation the justice it deserves.

While we were able to have the 73rd FAS Annual Meeting virtually, the actual face-to-face meetings are always the best and I congratulate and applaud the hard work of the many individuals that it took to “pull it off”. Have a great Summer and see you in the Fall.

TWO SWFAS MEMBERS RECEIVE 2021 FAS AWARDS

We are proud to announce that at the 73rd Florida Anthropological Society (FAS) Annual Meeting two members of SWFAS were recognized with 2021 FAS Certificates of Achievement. They are Steve Tutko and Thomas Franchino. Both of these deserving members will have their awards presented to them in the Fall at a ceremony in Naples, Florida. Congratulations Steve and Tom.

ARTICLES

NEUROARCHAEOLOGY

NEANDERTHAL GENES CAN CHANGE CLUSTERS OF HUMAN BRAIN TISSUE, SCIENTISTS FIND

By Katie Hunt, CNN

February 11, 2021

From CNN at <https://www.cnn.com/2021/02/11/americas/brain-organoids-neanderthal-study-scn/index.html>



Brains are not preserved in the fossil record, making it impossible to know how modern human brains differ from our long-extinct ancestors, the Neanderthals. From fossilized skulls we know that their brains were big -- slightly bigger than ours, in fact -- but they tell us little about their neurology and development. Scientists from the University of California San Diego have come up with an exciting and provocative way to begin to answer this question. They have created blobs of brain tissue genetically modified to carry a gene that belonged to

Neanderthals and other archaic hominins but not Homo sapiens.

While the research is at a very early stage, the researchers found that the Neanderthalized brain organoids produced significant changes in how the brain is organized and wired. "The question here is what makes us human," said Alysson Muotri, professor and director of the Stem Cell Program at the University of California San Diego School of Medicine's Institute for Genomic Medicine. "Why are our brains so different from other species including our own extinct relatives?"

Muotri, who has so far spent eight years on the project, calls his work "neuroarchaeology." "When you find a piece of bone or (charcoal) and you try to reconstruct how that society lived, what they were doing, how they connected with each other -- you try to understand the mind. We are doing the same at the genetic level."

The work combines three cutting-edge areas of science: sequencing ancient DNA, CRISPR gene editing and organoids. Organoids are miniature organs made from stem cells of individuals -- they have allowed medicine to test drugs safely outside the body, personalizing and revolutionizing areas of medical innovation such as cancer treatment.

The Neanderthalized brain organoids were a "popcorn shape" compared to the more rounded, even shape of the modern human ones, Muotri said. His team also observed that the neurons in the organoids matured faster than the modern human ones. "The neurons in the archaic version organoids, we see more activity in the very early stages than the modern human ones. We were definitely not expecting that." He said that he had observed similar activity in his previous work on chimpanzee organoids. "A baby chimpanzee can outsmart a human newborn by far. We need time to nurture our babies until they become independent. We don't see that in other species. I think what we're seeing here is something similar."

However, Muotri stressed that this was speculative. Organoids are a long way from real brains. For one, they lack connections to other organs. "We don't know how the human brain carrying these archaic versions will behave," he said. "All these differences we see at the early stages could go away because the brain has ways to

compensate." "But we do know that very early, subtle alterations in brain development can result in consequences for the adult brain. Take the genes implicated in autism, for example."

We now know that many of us are a tiny part Neanderthal, with DNA carrying traces of past encounters between early modern humans and Neanderthals, who populated Europe and parts of Asia until around 40,000 years ago. The evidence that early humans interbred with Neanderthals emerged in 2010 after scientists led by geneticist Svante Pääbo pioneered methods to extract, sequence and analyze ancient DNA from Neanderthal bones and mapped their genome in detail. Some humans, particularly in Asia, also have a genetic legacy from Denisovans, another more enigmatic group of archaic humans. The UCSD team first compared the genomes of Neanderthals, Denisovans and modern human populations to locate which genetic variants weren't shared with our close cousins. "We asked what is unique about us? We ended up with only 61 protein-coding genes that are different between modern and archaic humans," Muotri said.

The team chose to focus on a gene known as NOVA1 because it is considered a "master regulator" of other genes that affect early neurodevelopment in modern humans. Alterations in this gene have been linked to mental disorders such as schizophrenia and autism, he said. Then, the scientists used the CRISPR gene editing technology, which won the Nobel prize for chemistry in 2020, to swap the modern NOVA1 gene for the archaic version in human stem cells and coaxed the stem cells to grow into organoids. "It's an extremely difficult set of experiments," said Grayson Camp, an assistant professor at the University of Basel in Switzerland, who wasn't involved in the research. "Organoids are hard to control. If they had all the controls in there, one could believe that this single amino acid change has a strong effect on brain development. Which is extraordinary." In his lab, Camp has created brain organoids using stem cells containing some of the Neanderthal DNA found in modern human populations today.

Such audacious research naturally comes with caveats. Gene editing isn't a perfect process, and inserting an archaic gene into human cells doesn't reproduce what the Neanderthal genome was actually like, said Tony Capra, an associate professor of epidemiology and biostatistics in the Bakar Computational Health Sciences Institute at the University of California, San Francisco. "It is challenging to say that the Neanderthal variant organoid results necessarily reflect how Neanderthal brains developed," he said via email. Capra was not involved in the study. "This change is being evaluated in the context of human genome, so the archaic variant is on a genetic background that doesn't reflect what the Neanderthal genome was like."

Nonetheless, Capra was excited by the research, which published Thursday in the journal *Science*. However, he cautioned that "we shouldn't expect there to be one magic variant that made us human. "Most of the traits that make us modern humans as compared to Neanderthals (or even chimpanzees) are very genetically complex," Capra said. "Thousands of parts of our genome contribute to neurodevelopment and cognition." He added, "Organoids are exciting because they enable us to test variants in more complex settings than single cells, but we will ultimately need to fully 'Neanderthalize' the organoid."

Next, Muotri wants to look at the other 60 genes the team identified, altering them alone and in combination. To do this, he has set up a new lab called the UC San Diego Archealization Center. Recent archaeological discoveries have suggested that Neanderthals had many of the same cognitive abilities as early modern humans but, like the fossils and the stone artifacts, it's unlikely neuroarchaeology will be able to offer definitive answers, Capra said. "We will never be able to recreate the environmental and social context in which these individuals lived or these events occurred. Environment is so essential to shaping how genomes express themselves that we will always have to speculate," he said. "That said, I think we will learn much more from the bones and genomes over the coming years."

NEANDERTHALS DISAPPEARED FROM EUROPE THOUSANDS OF YEARS EARLIER THAN WE THOUGHT

By Amy Woodyatt, CNN

Mar 9, 2021

From CNN at https://www.gwinnettdaily.com/news/neanderthals-disappeared-from-europe-thousands-of-years-earlier-than-we-thought/article_52c76415-9ac8-5cf9-bfb1-7c806e1b192b.html



Royal Belgian Institute of Natural Sciences/Patrick Semal

Neanderthal remains believed to belong to some of the last survivors of the species in Europe are thousands of years older than once thought, according to a new study. Exactly when Neanderthals, our closest ancestors, disappeared in Europe is hotly debated. They are thought to have gone extinct around 40,000 years ago -- not long after modern humans migrated out of Africa. But previous studies of remains found in Belgium's Spy Cave had placed specimens as recent as around 37,000 years ago - which would have made the owners some of Europe's latest surviving Neanderthals.

But experts from Belgium, England and Germany suspected that the age of previously analyzed specimens could be unreliable due to contamination. Using a process known as liquid chromatography separation, experts extracted a single amino acid from the Neanderthal remains. They used this to date and reanalyze the remains, which were now free from contaminants such as glue. The experts said that contamination of the remains meant that they had been dated as "inaccurately young" by up to 10,000 years. Experts then dated remains found at two other Belgian sites, Fonds-de-Forêt and Engis, and found the remains were a similar age to those found in Spy Cave. "Dating all these Belgian specimens was very exciting as they played a major role in the understanding and the definition of Neanderthals," Grégory Abrams, an archeologist at Belgium's Sceladina Cave Archaeological Centre, said in a statement.

Based on these latest radiocarbon dates, experts estimate that Neanderthals disappeared from the region much earlier than previously estimated -- 44,200 to 40,600 years ago. "This new study gives us more clues about when Neanderthals got extinct in Europe," lead author Thibaut Devièse, associate professor at Aix-Marseille Université, told CNN in an email. "There was some controversy about the last appearance of Neanderthals in Western Europe and particularly for some individuals from Spy Cave," he explained. "Dating is crucial in archaeology, without a reliable framework of chronology we can't really be confident in understanding the relationships between Neanderthals and Homo sapiens as we moved into Europe 45,000 years ago and they began to disappear," Tom Higham, a professor at the University of Oxford, who directs the PalaeoChron research project, which ran the study, said in a statement. "That's why these methods are so exciting, because they provide much more accurate and reliable dates," Higham added.

Devièse said that more accurate dates for these Neanderthal specimens answered one important question -- but also opened up new ones, such as how long did Neanderthals and early modern humans overlap? "We now know more precisely when Neanderthals disappeared in Europe, but we now need to confirm with the same robust methods when anatomically modern humans arrived in order to elucidate for how long these two species cohabited," he added.

The research was published in the journal Proceedings of the National Academy of Sciences.

A SUBMERGED INCA OFFERING HINTS AT LAKE TITICACA'S SACRED ROLE

By Bruce Bower

August 3, 2020

From Science News at <https://www.sciencenews.org/article/inca-offering-late-titicaca-sacred-religious-supernatural>

A stone box fished out of Lake Titicaca contains tiny items that add an intriguing twist to what's known about the Inca empire's religious practices and supernatural beliefs about the massive lake. Divers exploring an underwater portion of the lake's K'akaya

T. SEGUIN/UNIV. LIBRE
DE BRUXELLES



reef found a ritual offering deposited by the Inca, say archaeologists Christophe Delaere of the University of Oxford and José Capriles of Penn State. The carved stone container holds a miniature llama or alpaca carved from a spiny oyster shell and a gold sheet rolled into a cylinder about the length of a paperclip, the scientists report in the August *Antiquity*. The meaning of these objects to the Inca are unclear.

The location of the K'akaya offering indicates that Inca people regarded all of Lake Titicaca, which straddles the border between Bolivia and Peru, as sacred, not just its fabled Island of the Sun, the researchers say. Spanish documents described the Inca, who had no writing system (SN: 6/11/19), as believing that their ancestors had originated on the Island of the Sun, about 30 kilometers south of K'akaya Island. Inca rulers, whose empire lasted from 1400 to 1532, built a ceremonial center there. And until now, it's the only place on Lake Titicaca where similar submerged stone boxes bearing figurines and gold sheets have been found. Of at least 28 stone boxes found there since 1977, many had been looted; only four had partially preserved or intact contents.

Stone boxes containing figurines and gold items have also been uncovered at sites of Inca child sacrifices in the Andes. A connection may have existed between human sacrificial ceremonies that were intended to appease Inca deities and events held at Lake Titicaca, including the submerging of ritual offerings, the researchers suggest.

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Find us on Facebook at Southwest Florida Archaeological Society!

Check out our website at <http://swflarchaeology.org/>

SWFAS AND FAS MEMBERSHIP APPLICATIONS

We encourage those interested in Florida archaeology to become members of The Florida Anthropological Society (FAS) and The Southwest Florida Archaeological Society (SWFAS). Annual dues are due in January and membership applications to both organizations are attached. Membership in the FAS provides you with four annual volumes of *The Florida Anthropologist* and occasional newsletters on anthropological events in Florida in addition to the annual statewide meeting. More information on FAS can be found online at: www.fasweb.org. Membership in SWFAS offers you a local series of talks on archaeological and anthropological subjects that you can attend. The SWFAS monthly newsletter keeps you up to date on local events as well as other important archaeological topics. We urge you to support both with your membership. All of the SWFAS Lecture Series are open to the public at no charge.



JOIN US!

The Southwest Florida Archaeological Society

<http://swflarchaeology.org/>

The Southwest Florida Archaeological Society (SWFAS) was founded in 1980 as a not-for profit corporation to provide a meeting place for people interested in the area's past.

Our goals are to:

- Learn more of the area's history
- Create a place for sharing of this information
- Advocate for preservation of cultural resources

Its members include professional and amateur archaeologists and interested members of the general public. Members come from all walks of life and age groups. They share a lively curiosity, a respect for the people who preceded them here, and a feeling of responsibility for the conservation of the places and objects they left behind.

The Society holds monthly meetings between October and April, attracting speakers who are in the forefront of archaeological and historical research. Occasionally members join in trips to historical and archaeological sites.

A monthly newsletter, Facebook page, and website keep members abreast of our events and happenings.

The organization is a chapter of the Florida Anthropological Society, a statewide organization that publishes quarterly newsletters and a journal, *The Florida Anthropologist*, and holds an annual conference.

I want to help The Southwest Florida Archaeology Society preserve and interpret Florida's heritage!

Name (please print) _____

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I hereby agree to abide by the rules and bylaws of the Southwest Archaeological Society. I further release from any and all liability due to accident and injury to myself, dependents and any property owners cooperating with the society.

Signature: _____ Date _____

Please make your check out to SWFAS and mail to:

Charlie Strader
SWFAS Treasurer
27655 Kent Road
Bonita Springs, FL 34135

REV. 12052017

FAS Membership Categories

Membership in the Society is open to all interested individuals who are willing to abide by the Florida Anthropological Society Statement of Ethical Responsibilities, which can be found on our website fasweb.org. *Membership is for one year.*

Student *	\$15	Sustaining	\$100
Regular	\$30	Patron	\$1,000
Family	\$35	Benefactor	\$2,500
Institutional	\$30		

*Student membership is open to graduate, undergraduate and high school students. A photocopy of your student ID must accompany payment. **Add \$25 for foreign addresses.

Send Membership Form and Dues Payment to:

Florida Anthropological Society, P O Box 1561 Boynton Beach, FL 33425

You can join online or pay Membership dues renewals via PayPal on our website fasweb.org.

THE FLORIDA ANTHROPOLOGICAL SOCIETY, INC. IS A TAX-EXEMPT 501C3 ORGANIZATION. TAX ID#59-1084419.

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I wish to make a donation to:

\$ _____ Dot Moore/FAS Student Grant Fund \$ _____ Florida Archaeology Month Account

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