



# Atlanta Antiquity

Newsletter of the Greater Atlanta Archaeological Society for  
November 2009

Opinions expressed in this newsletter do not necessarily reflect those of the Greater Atlanta Archaeological Society or its board of directors. Articles, comments, and responses to items contained herein are invited

## November Meeting

Our meeting on November 10 (7:30pm, Fernbank Museum of Natural History) will be an "Ethics Bowl" debate/discussion of ethics in archaeology conducted by Georgia State University (GSU) Anthropology students and professors. Dr. Despina Margomenou writes the following:

Often archaeologists find that there is significant miscommunication between them and all those interested in archaeology (the "public"). Often too, there can be conflict over all sorts of matters: a collection not accepted by a museum; clashes with landowners; native american human remains and their fate. Despite the best of intentions archaeologists sometimes appear arrogant or "removed" from the concerns of the communities with interests in the remains of the past.

In recent years however, all this is starting to change. As archaeologists try to reach out to the public and as archaeological practice becomes more "self-reflective", we come face to face with a range of ethical issues: looting, interactions with descendent communities, CRM practices, dealing with the media, archaeotourism, to name a few. The ways in which a new generation of archaeologists will address such dilemmas is crucial to the future of the discipline, but also to the ways that everyone else (the public) perceives and values archaeology in the 21st century.

During this semester the students of the Archaeological Practice and the Public course at the Department of Anthropology at GSU are debating in class over ethical dilemmas and problems in archaeological practice following the SAA format known as the "Ethics Bowl". In this form of debate, groups are not required to argue the pros and cons of a problem; they rather have to present their case using comprehensive, well thought-out arguments following strict time-limits, and they must be prepared to have their case scrutinized by an opposing team and a

group of judges. An ethics bowl includes two rounds; so we will compete over two problems/ethical dilemmas.

Our hope with this event is to engage everyone in pondering over the implications of archaeological practice; we also hope to show how complicated decision-making in the archaeological and museum practice can be for professionals and the kinds of ethical considerations that play into such decisions.

The two competing teams of GSU undergraduate students are:

### TEAM A

Robbie Finch, Matt Salter, Melissa Webb, Robin McLaughlin, Elyse Butler, and Kelly Murray

### TEAM B

Ian Volpi, Sarah Brown, Christie Glover, Jana Champion, and Kelly Woodard

Other participants include:

### JUDGES

Dr. Dennis Blanton (Fernbank Museum)

Dr. Jeffery Glover (GSU Dept. of Anthropology)

### MODERATOR

Dr. Despina Margomenou (GSU Dept. of Anthropology)

Kanan Mehta (Assistant Graduate Student)

## *GAAS Information*

**Hot Line** 770-452-0009

Get info about GAAS activities!

## **Fernbank Museum Archaeology Open House—Volunteers Needed!!!**

Fernbank Museum will be holding an Archaeology Open House on November 14th, from 11am to 3 pm. We will have activities for people of all ages, from coloring pages to sifting sand, as well as a table of teaching artifacts (just to mention a few things). This is a great opportunity to help teach the public the inner workings and importance of archaeological work.

I am in need of several volunteers to help me run the Open House. As I said, the open house will run from 11 am until 3pm, so any amount of time that you would be able to spend helping in this endeavor would be greatly appreciated! Please call or email me as soon as you know if you are available to help.

I look forward to hearing back from you and hopefully seeing you soon! Thank you very much,

Kathryn Jackson  
Archaeology Programs Specialist  
Fernbank Museum of Natural History  
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kathryn.jackson@fernbankmuseum.org

## **Society for Historical Archaeology 2010 Conference on Historical and Underwater Archaeology**

January 6–9, 2010 at Amelia Island Plantation;  
Jacksonville, Florida

### **Conference Registration Form:**

Registration for the SHA 2010 Conference opened on Thursday, October 1, 2009. The advance registration period runs from October 1, 2009 to December 4, 2009. After December 4, registration rates increase. There are three ways to register:

1. Online until December 30, 2009. The link for the online registration system for the SHA 2010 Conference will be posted to the SHA website home page ([www.sha.org](http://www.sha.org)) prior to October 1, 2009. Instructions on how to register will also be available on the site. SHA Members will receive registration instructions by email along with any required log in information to obtain the lower member registration rate. Contact the SHA Headquarters staff at [hq@sha.org](mailto:hq@sha.org) with any questions on registering for the SHA 2010 Conference.
2. Fax your completed registration form with your credit card payment information to the SHA at 301/990-9771.
3. Mail your completed registration form with your payment to: Society for Historical Archaeology, 9707 Key West Avenue, Suite 100, Rockville, MD 20850.

If you need assistance completing this form, please contact the SHA Headquarters staff at 301/990-2454 or [hq@sha.org](mailto:hq@sha.org).

### **Registration Categories and Fees:**

Full Conference registration includes admission to all symposia, forums and general sessions, the Plenary Session and Public Archaeology Event, the Book Room, Wednesday's Opening Night Reception, the SHA Business Meeting, the Pre-Awards Banquet Cocktail Hour, and the Awards Ceremony and Dance. Workshops, roundtable lunches, Thursday evening's Marsh Mash and Silent Auction at Walker's Landing, and Friday evening's Awards Banquet. Note: All organized tours are priced separately and are not included in the Full Conference registration price.

To qualify for the member registration rate, you must be a 2009 or 2010 SHA member. Students must provide proof of current student status (copy of student ID) with their registration to receive the student rate. Guest registration includes admission to the Opening Reception, and Friday's Pre-Awards Banquet Cocktail Hour and the Awards Ceremony and Dance. Registered guests may also purchase tickets for Thursday evening's Marsh Mash and Silent Auction at Walker's Landing, Friday evening's Awards Banquet, and all organized tours.

The Public Archaeology Event on Saturday is open to everyone free of charge.

## **New Philadelphia Field School in Archaeology and Laboratory Techniques - Summer 2010**

This field school for undergraduates will be given from May 24, 2010 to July 30, 2010 and is supported by the National Science Foundation. The Application Deadline: for best consideration -- March 19, 2010.

Application forms and additional information are available online at

<http://www.histarch.uiuc.edu/NSF/fieldschool.html>

### **Field School Objectives**

The New Philadelphia story is both compelling and unique. Many studies in historical archaeology that concentrate on African-American issues have focused on plantation life and the pre-emancipation era. The history of New Philadelphia is very different. It is a chronicle of racial uplift and centering on the success of an African-American family and their ability to survive and prosper in a racist society. In 1836, Frank McWorter, an African American who was born into slavery and later purchased his own freedom, acquired 42 acres of land in the sparsely populated area of Pike County, Illinois, situated in the rolling hills bounded by the Illinois and Mississippi rivers. He founded and platted a town, subdivided the property,

and sold lots. McWorter used the revenues from his entrepreneurial efforts to purchase the freedom of sixteen family members, with a total expenditure of \$14,000. Families of African American and European heritage moved to New Philadelphia and created a multi-racial community. Local residents likely provided "safe house" service for the "Underground railroad" as enslaved African Americans fled northward escaping the oppression of southern plantations. The history of New Philadelphia serves as a rare example of a multi-racial early farming community on the nation's Midwestern frontier. The town's population reached its peak of about 160 people in 29 households after the Civil War. Unfortunately, at the end of the century, racial and corporate politics of America's gilded age resulted in the death knell for the settlement. Many of New Philadelphia's residents eventually moved away and, by the early 20th century, only a few families remained.

A collaborative project of archaeologists, historians, and members of the local and descendant communities is underway to further research the social history of this demographically integrated town and to enhance its focus in our national memory and heritage. Participating organizations include the University of Illinois at Urbana-Champaign and several other university cosponsors. The town site of New Philadelphia is now designated as a National Historic Landmark. The primary goals of the project are to: 1) Understand the town's founding and development as a multi-racial integrated town; 2) Explore and contrast dietary patterns between different households of different ethnic backgrounds by examining faunal and botanical remains; 3) Reconstruct the townscape and town lot uses of different households from different ethnic backgrounds using botanical data and archaeological landscape features; 4) Elucidate the different consumer choices residents of different ethnic backgrounds made in a frontier situation and understand how household choices changed with the increased connection to distant markets and changing perceptions of racialization within the society.

The excavation and analysis of artifacts and archaeobiology data will provide students with a hands-on learning experience and mentoring process for students in an interdisciplinary setting: immediate environment, diet, agricultural practices, social affiliation, and consumer choices.

### **Project Location, Facilities and Student Stipends**

All students are required to be in Pike County on May 24, 2010, and the instructions will begin on May 25. New Philadelphia is about 75 miles west of Springfield, Illinois, and 25 miles east of Hannibal, Missouri. The closest town is Barry, Illinois (population 1400) where students will stay at the Kinderhook Lodge. Lodging and meals will be provided during weeks 1-5 while staying in Pike County and students will be transported to the site

every day. During the weekends students with access to autos are free to travel and explore the region when fieldtrips are not scheduled. During weeks 6-10 students will move to the dormitories in Springfield, Illinois and work at the ISM-RCC. This facility provides a state-of-the-art environment and it has vast collections and high quality research laboratories and offices for anthropology, botany, geology, and zoology. **Students receive a \$450 per week stipend paid on a bi-weekly basis, and the NSF-REU grant also covers the costs of their lodging and meals as described above.**

This announcement was taken from the HISTARCH site and has been condensed to save space. For additional details about this field school opportunity, please visit the web sites listed above, or contact Chris Fennell by email at [cfennell@illinois.edu](mailto:cfennell@illinois.edu).

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### **Comets Didn't Wipe out Sabertooths, Early Americans** *(National Geographic)*

A comet impact didn't set off a 1,300-year cold snap that wiped out most life in North America about 12,900 years ago, scientists say. Though no one disputes the occurrence of the frigid period, known as the Younger Dryas, more and more researchers have been unable to confirm a 2007 finding that says a collision triggered the change.

The earlier study says the drop in temperature, plus fires from the purported impact, wiped out sabertooths, mastodons, and other giant animals, and may have caused the decline of an early civilization known as the Clovis culture. The 2007 research was based on a combination of archaeological artifacts and extraterrestrial magnetic grains in soil samples found in a thin layer of sediment throughout North America. The original team, led by Richard Firestone, a nuclear chemist at Lawrence Berkeley National Laboratory, also found what he said are traces of charcoal and microscopic bits of carbon from intense fires ignited by the collision. However new research, presented at a meeting of the Geological Society of America recently in Portland, Oregon, has taken aim at all of these findings.

Nicholas Pinter, a geologist at Southern Illinois University, argued that black mats described as charcoal in the 2007 research weren't actually charcoal. Instead they were from ancient, dark soil formed in a long-ago wetland, Pinter said. "It's a misunderstanding of what these layers represent." Likewise, the small amounts of carbon "are not uniquely associated with high-intensity fire," he said. As for the magnetic grains, they may well have come from outer space, he said. But the grains are likely from the 30,000 tons of tiny meteorites that fall to Earth each year. He found such grains in equal or greater concentrations at many other layers dating to other time periods.

Vance Holliday, an archaeologist at the University of Arizona, added that there is no sign that the demise of the Clovis culture was caused by a comet crash. Around the time of the cold snap, the style of spear points changed—which Firestone and colleagues argued was evidence that the Clovis peoples had declined due to the comet impact. But Holliday said it reflects a normal evolution in preference. He compared spear point designs to the appearance—and disappearance—of tail fins on classic automobiles. "We really don't know what style means in the archaeological record," he said. Tastes "come and go. We don't know why." But "an extraterrestrial impact is an unnecessary solution for an archaeological problem that doesn't exist."

Firestone, the original proponent of the comet theory, is sticking to his guns. Though no one can prove the Clovis disappeared, the total number of spear points plummeted after the impact, he said by email. Likewise, other research has shown a gap of more than a hundred years between the Clovis and the ensuing Folsom culture, Firestone pointed out. As for the other evidence, the comet-impact layer is very thin, he told Australia's *Cosmos Magazine*, and is easy to miss if samples are diluted with soils from adjacent layers. University of Southern Illinois' Pinter is also wrong about the charcoal and carbon fragments, he added. These substances are not widespread as soil would be, and are found only in a narrow band of sediment. In addition, the magnetic grains are not the same composition as what's found in typical tiny meteorites, he added.

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## Ancient Greeks Introduced Wine to France

*(Telegraph.co.uk)*

The original makers of Côte-du-Rhône are said to have descended from Greek explorers who settled in southern France about 2500 years ago, a recent Cambridge study claims. The study, by Prof Paul Cartledge, suggested the world's biggest wine industry might never have developed had it not been for a "band of pioneering Greek explorers" who settled in southern France around 600 BC. His study appears to dispel the theory that it was the Romans who were responsible for bringing viticulture to France.

The study found that the Greeks founded Massalia, now known as Marseilles, which they then turned into a bustling trading site, where local tribes of Ligurian Celts undertook friendly bartering. Prof Cartledge said within a matter of generations the nearby Rhône became a major thoroughfare for vessels carrying terracotta amphorae that contained what was seen as a new, exotic Greek drink made from fermented grape juice. He argued the new drink rapidly became a hit among the tribes of Western Europe, which then contributed to the French's modern love of wine. "I hope this will lay to rest an enduring debate about the historic origins of supermarket plonk," he

said. "Although some academics agree the Greeks were central to founding Europe's wine trade, others argue the Etruscans or even the later Romans were the ones responsible for bringing viticulture to France."

Prof Cartledge said there were two main points that proved it was the Greeks who introduced wine to the region. "First, the Greeks had to marry and mix with the local Ligurians to ensure that Massalia survived, suggesting that they also swapped goods and ideas. "Second, they left behind copious amounts of archaeological evidence of their wine trade (unlike the Etruscans and long before the Romans), much of which has been found on Celtic sites."

The research forms part of Professor Cartledge's study into where the boundaries of Ancient Greece began and ended. Rather than covering the geographical area occupied by the modern Greek state, he argued Ancient Greece stretched from Georgia in the east to Spain in the west.

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## Pre-Columbian Societies Knew a Thing About Extracting Gold

*(ScienceNow)*

When Spanish conquistadors seized the Inka emperor Atawallpa in 1532, they demanded an enormous ransom of silver and gold. For weeks, llama trains carried tons of gold and silver statues, cups, and other objects to the Europeans, who then ordered them melted down to ingots for transport back to Spain. Such an enormous stash suggests that the Andean people knew sophisticated metallurgy, but there has been little evidence to support this. Now a team of geologists and archaeologists have found clues that these indigenous people refined gold with mercury amalgamation, an important metallurgical technique that is still in use today.

To extract precious metals from ore, workers mix liquid mercury with finely ground gold or silver ore, creating an amalgam or alloy. They then separate out the heavier amalgam and heat it to boil away the mercury, arriving at almost-pure silver or gold. The Romans knew of mercury amalgamation in the 1st century, but it was not widespread in Europe until the 12th century. Polish engineer-archaeologist Arthur Posnansky insisted as far back as 1945 that amalgamation was used near the famed Incan site of Machu Picchu, but archaeologists have always vigorously disputed these claims, noting that much of Posnansky's work was overly credulous. Instead, experts believed that the process was nonexistent in the Americas until colonist Bartolomé de Medina developed a variant in Mexico in 1557.

But William Brooks, a geologist based in Reston, Virginia, couldn't believe that societies, which produced large quantities of gold, lacked techniques to recover it from placer gold, the minute gold flakes in stream beds found along coastal Peru. So Brooks and colleagues in Peru and Colombia analyzed residual mercury levels in

seven samples of pre-European-contact gold foil--three from the Sicàn culture, which existed between 750 C.E. and 1375 C.E. in Peru, and four from Colombia. The team found signs of amalgamation similar to those seen in contemporary gold foil in southeastern Peru, it reported at the Geological Society of America's annual meeting in Portland, Oregon. "We think this technique was used throughout the Andes, probably centuries before it was commonly used in Europe," Brooks says.

The researchers' work has not escaped criticism, however. Almost all known Sicàn gold artifacts were looted from elite burial sites, which makes their context uncertain, says Izumi Shimada of Southern Illinois University in Carbondale, director of the Sicàn Archaeological Project. Moreover, he says, both artifacts and bodies in the tombs were often "painted from head to foot in cinnabar," a brilliant vermilion pigment made from a mercury-sulfur compound, which could have contaminated the scientists' measurements. To confirm mercury amalgamation, Shimada says, "would require an independent testing of items recovered from a nonfunerary context."

Brooks agrees that contamination is a potential issue and says that the museums preparing their samples carefully removed the cinnabar deposits. If there were still cinnabar contamination, however, Brooks says he would have expected random variations between samples instead of the consistent measurements his team observed. Also, amalgamation, he says, just makes sense: "They had to have some way to produce all that gold, and an obvious candidate is the metallurgical technique used everywhere else in the world."

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## Neanderthals 'Had Sex' With Modern Man (TimesOnline)

Modern humans and Neanderthals had sex across the species barrier, according to a leading geneticist who is overseeing a project to compare their genomes. Professor Svante Paabo, director of genetics at the renowned Max Planck Institute for Evolutionary Anthropology in Leipzig, will shortly publish his analysis of the entire Neanderthal genome, using DNA retrieved from fossils. He aims to compare it with the genomes of modern humans and chimpanzees to work out the ancestry of all three species.

Modern humans arrived in Europe from Africa about 40,000 years ago to find Neanderthals already living there. The two species then co-existed for 10,000-12,000 years before Neanderthals died out — a fact that has caused endless academic speculation about whether they interbred.

Paabo recently told a conference at the Cold Spring Harbor Laboratory near New York that he was now sure the two species had had sex — but a question remained about how "productive" it had been. "What I'm really interested in is, did we have children back then and

did those children contribute to our variation today?" he said. "I'm sure that they had sex, but did it give offspring that contributed to us? We will be able to answer quite rigorously with the new [Neanderthal genome] sequence."

Such an answer might ease the controversy over recent contradictory discoveries regarding Neanderthals. Some fossils seem to have both modern human and Neanderthal features, suggesting that the two species interbred. Yet DNA scans have shown that Neanderthal genes were very different from those of modern man.

Recently Professor Chris Stringer, head of human origins at the Natural History Museum, presented a conference at the Royal Society in London with an idea that could accommodate both sets of evidence. "It's possible that Neanderthals and humans were genetically incompatible, so they could have interbred but their children would have been less fertile," said Stringer. This phenomenon is seen in many other species such as when lions breed with tigers and horses breed with zebras. "I used to believe Neanderthals were primitive," said Stringer, "but in the last 10,000-15,000 years before they died out, around 30,000 years ago, Neanderthals were giving their dead complex burials and making tools and jewelry, such as pierced beads, like modern humans."

Due to the length of time that has elapsed since Neanderthals became extinct, any trace of their DNA in modern humans could have been diluted below detectable levels. Paabo hopes to overcome this by scanning the Neanderthal genome for the genes of modern humans.

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## Makeover May Lose Bolivian Pyramid its World Heritage Site Listing (Guardian.co.uk)

As with all makeovers, it seemed a good idea at the time. The village of Tiwanaku in the Bolivian Andes reckoned it could attract more tourists by giving an ancient pyramid a facelift. Workers plastered the Akapana pyramid — one of the biggest constructions in South America which predates the Incas — with adobe to make it look more impressive. The problem, according to some experts, is that the new look is an archaeological travesty which could cost the pyramid its UN world heritage site designation.

Rather than clay bricks, the original construction, of immense spiritual significance for the Tiwanaku civilisation, is believed to have used stone. "They decided to go free-hand with the design. There are no studies showing that the walls really looked like this," José Luis Paz, who has been appointed to assess damage at the site, told Reuters.

Officials from the UN heritage agency, Unesco, are due to visit Tiwanaku to determine if its main attraction should be removed from the list of world archaeological treasures. It was included in 2000 because its ruins "bear striking witness to the power of the empire that played a leading role in the development of the

Andean pre-Hispanic civilisation". The Tiwanaku civilization, which reached Bolivia and parts of Peru, Argentina and Chile, existed from 1500BC to AD1200. The pyramid was thought to have been built between AD300-700.

Paz, who heads excavations at the site, said the adobe not only looked wrong, its weight risked collapsing the pyramid. Thousands of tourists pay \$10 (£6.50) each to visit every year and the people of Tiwanaku, he said, hoped to swell the revenue with a "more attractive" structure. Staff from the state National Archaeology Union (UNAR) did the renovation. The motivation may have come from guides such as the Lonely Planet which noted the original Akapana pyramid, ransacked and eroded, "was in a rather sorry state". Authorities defended the renovation. "The UNAR has restored the original form the pyramid had," the culture minister, Pablo Groux, told Reuters. "If we look at pictures from five years ago, there was just a hill there. What we can see now is something close to what the construction originally looked like." He said Tiwanaku would not lose its world heritage status because the government halted the makeover earlier this year when told to do so by Unesco. "The inclusion in the list of world heritage sites involves regular checks, because some places may lose the essence of why they were included in the list. In the case of Tiwanaku losing that title is unlikely," he said.

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## **Giant Impact Near India -- Not Mexico -- May Have Doomed Dinosaurs** *(AlphaGalileo)*

A mysterious basin off the coast of India could be the largest, multi-ringed impact crater the world has ever seen. And if a new study is right, it may have been responsible for killing the dinosaurs off 65 million years ago. Sankar Chatterjee of Texas Tech University and a team of researchers took a close look at the massive Shiva basin, a submerged depression west of India that is intensely mined for its oil and gas resources. Some complex craters are among the most productive hydrocarbon sites on the planet. Chatterjee presented his research at this month's Annual Meeting of the Geological Society of America in Portland, Oregon, USA. "If we are right, this is the largest crater known on our planet," Chatterjee said. "A bolide of this size, perhaps 40 kilometers (25 miles) in diameter creates its own tectonics." By contrast, the object that struck the Yucatan Peninsula, and is commonly thought to have killed the dinosaurs was between 8 and 10 kilometers (5 and 6.2 miles) wide.

It's hard to imagine such a cataclysm. But if the team is right, the Shiva impact vaporized Earth's crust at the point of collision, leaving nothing but ultra-hot mantle material to well up in its place. It is likely that the impact enhanced the nearby Deccan Traps volcanic eruptions that covered much of western India. What's more, the impact

broke the Seychelles islands off of the Indian tectonic plate, and sent them drifting toward Africa. The geological evidence is dramatic. Shiva's outer rim forms a rough, faulted ring some 500 kilometers in diameter, encircling the central peak, known as the Bombay High, which would be 3 miles tall from the ocean floor (about the height of Mount McKinley). Most of the crater lies submerged on India's continental shelf, but where it does come ashore it is marked by tall cliffs, active faults and hot springs. The impact appears to have sheared or destroyed much of the 30-mile-thick granite layer in the western coast of India.

The team hopes to go India later this year to examine rocks drill from the center of the putative crater for clues that would prove the strange basin was formed by a gigantic impact. "Rocks from the bottom of the crater will tell us the telltale sign of the impact event from shattered and melted target rocks. And we want to see if there are breccias, shocked quartz, and an iridium anomaly," Chatterjee said. Asteroids are rich in iridium, and such anomalies are thought of as the fingerprint of an impact.

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## **The Mary Rose's Artifacts Give Us a Unique Insight into Tudor Life**

*(TimesOnline)*

Launched as the flagship of a young and ambitious king, the Mary Rose was not only a reflection of Henry VIII's ambitions, she was also a new breed of warship. She was one of England's first ships to be built with gunports: part of the first generation of broadside-firing warships that heralded the beginnings of a 300-year period of warship design.

But the Mary Rose is important not only to maritime historians. It is also what she took with her to the bottom of the Solent in 1545 that gives her a special significance. These were the possessions and tools of 500 men from all levels of society. The 19,000 artifacts that have been recovered range from gunners' linstocks to gambling dice, from a bosun's call to a rosary. There is no comparable collection of Tudor artifacts anywhere: no other archaeological site has given us so many insights into Tudor life. No other shipwreck, no other structure and no other collection gives such a clear window into the 16th century. It is no exaggeration to describe the Mary Rose as England's Pompeii. Her loss at a precise moment gives us a chronological reference point for all the artifacts that went down with her. This is almost unique for a museum collection. Specialists from many fields consistently remark how the Mary Rose artifacts they have studied represent the earliest known examples of their type or provide unique information for the study of human society.

It should also be remembered what an enormous technical and human achievement it was to raise the artifacts and the ship from the seabed. It pioneered the

techniques of the emerging discipline of underwater archaeology and captured the imagination of the United Kingdom in 1982. To this day, the archaeological excavation of the Mary Rose remains the largest yet carried out under water. Over the ensuing years there has been an equally impressive effort in conservation to ensure that she and her collection are accessible for generations to come.

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## Case Closed: Famous Royals Suffered From Hemophilia *(ScienceNOW)*

Queen Victoria's male descendants were cursed with poor health. The 19th century British monarch's son Leopold, Duke of Albany, died from blood loss after he slipped and fell. Her grandson Friedrich bled out at age 2; her grandsons Leopold and Maurice, at ages 32 and 23, respectively. The affliction, commonly known as the "Royal disease," spread as Victoria's heirs married into royal families across Europe, decimating the thrones of Britain, Germany, Russia, and Spain. Based on the symptoms, modern researchers concluded that the royals suffered from hemophilia--a genetic disease that prevents blood from clotting--but there was never any concrete evidence. Now, new DNA analysis on the bones of the last Russian royal family, the Romanovs, indicates the Royal disease was indeed hemophilia, a rare subtype known as hemophilia B.

Hemophilia prevents proteins known as fibrins from forming a scab over a cut or forming clots to stop internal bleeding. Even minor injuries can lead to bleeding, which lasts for days or weeks and can be fatal. The disease is recessive and is carried on the X chromosome, meaning that men are more likely to develop it, whereas women usually act as carriers and don't show symptoms.

Such was the case with Prince Alexei Romanov, son of Tsar Nicholas II, great-grandson of Queen Victoria, and heir to the Russian throne. From an early age, Alexei was prone to prolonged bleeding, and his family feared that he wouldn't make it through his first month of life, says Evgeny Rogaev, a geneticist at the University of Massachusetts Medical School in Worcester. The disease didn't kill Alexei, however. He was murdered at age 13 in 1918 along with the rest of the Russian royal family following the Russian Revolution. Earlier this year, Rogaev and his colleagues reported that, based on DNA analysis, the bodies of two children found near the murder site were indeed those of Alexei and his sister Maria. They further confirmed that the other bodies near the site belonged to the rest of the Romanov family. But Rogaev wanted to solve the final Romanov riddle: Did they really suffer from hemophilia?

He and colleagues analyzed DNA from the royal bone fragments again, this time looking for genetic markers of hemophilia. The most common type of the

disease, hemophilia A, accounts for about 80% of hemophilia cases and is caused by a mutation to a gene called F8, which encodes a protein involved in blood clotting. They didn't find the mutation. So Rogaev moved on to looking for a rarer form of the disease, hemophilia B, which involves another gene, F9. This time, the team found a mutation in F9, which would have inhibited clotting, in bones from Alexei, his sister Anastasia, and their mother Alexandra.

The findings, published online in *Science*, indicate that Alexei did indeed have hemophilia B and that his mother and Anastasia were carriers for the disease, bearing out the previous speculation. They also confirm that the other instances of "Royal disease" in the family line were hemophilia, Rogaev says, because they all shared a common genetic heritage. The last carrier of the disease in the royal family was Prince Waldemar of Prussia, who died in 1945.

The disease impacted not only the Romanov family but also probably Russian history, Rogaev adds. Alexei's frail condition encouraged his mother Alexandra to keep close company with the Russian mystic Grigori Rasputin, who claimed to wield healing magic. "There was no medication at that time," Rogaev says. "She tried to do everything possible." According to some historians, when Rasputin used his close relationship with the Romanovs to influence bureaucratic affairs in his favor, the public grew increasingly suspicious of the regime, possibly hastening the revolution.

Katherine High, a hematologist who studies blood coagulation at The Children's Hospital of Philadelphia, says that the mutation found in the Romanov bones fits an established genetic pattern known to cause hemophilia B, further supporting Rogaev's findings. Tracing this pattern back to the royal family and its history of disease is "very interesting and very exciting," she says.

People affected by the disease today should be excited to see hemophilia B step out from under the more common A-type's shadow, says pediatric hematologist Paul Monahan of the University of North Carolina, Chapel Hill. "Now it's clear it's had an enormous impact on Western history."

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## Extinct bison body could rewrite Canadian archaeological record *(Calgary Herald)*

The carcass of an extinct steppe bison, discovered two years ago melting out of a cliff in a remote village in the Northwest Territories, is shedding new light on the Ice Age species — and could rewrite the history of human migration in Canada as glaciers began retreating in the region nearly 14,000 years ago. An analysis of the super-sized beast, larger than both the plains and wood bison which inhabited North America following the demise of its steppe-cousin, showed the specimen was one of the last of its kind in ancient Beringia — the ice-free, northwest

corner of the continent that was once linked to eastern Siberia. But the rare find, documented by a team of Canadian, British and American scientists in the latest edition of the journal *Quaternary Science Reviews*, has wider implications for dating the retreat of the glaciers in northern Canada and the possible entry of human hunters from Asia — the ancestors of today's aboriginal Canadians — into the continental interior.

The "partially mummified" steppe bison was found two years ago in Tsiigehtchic, N.W.T., by local resident Shane Van Loon. The animal's distinctive skull and wide horns were largely intact, but more tantalizing were portions of preserved limbs, hide and intestines — soft tissue that permitted detailed genetic analysis allowing scientists to accurately situate the specimen in the evolutionary history of North America's bison populations.

"Based on the genetics, this animal was one of the last of the remaining steppe bison in Beringia," Yukon government paleontologist Grant Zazula told Canwest

News Service. "Shortly after this, populations in the North are completely replaced by bison that evolved in the mid-continent." What the find also shows is that the post-glacial ecosystem inhabited by the steppe bison, which was found a short distance east of the Yukon-N.W.T. border near the Mackenzie River Delta, must have supported large mammals earlier than previously known. That, say the scientists, suggests human hunters may well have entered the area around this time and — potentially — left traces of their own activities at sites still waiting to be found by archeologists. "Given that steppe bison inhabited the northern portal to the 'ice-free corridor,' data from the Tsiigehtchic bison raises the potential for discovery of archaeological sites in the lower Mackenzie River Valley," the study states.

## Announcements (Leslie Perry, Terry Hynes, & Allen Vegotsky)

**November 4-7** - SEAC 2009, 66th Annual Meeting at the Renaissance Riverview Hotel in Mobile, Alabama; Phil Carr is the Meeting Organizer. SEAC 2010, 67th Annual Meeting, will be on October 27-30, 2010 at the Lexington Downtown Hotel and Conference Center, Lexington, Kentucky.

**November 14** – Fernbank Museum Archaeology Open House, 11am to 3 pm - activities for people of all ages, from coloring pages to sifting sand, as well as a table of teaching artifacts (just to mention a few things)

**March 18, 2010** at 7:00pm - AIA National Sponsored Lectures - **Jitse H.F. Dijkstra**, University of Ottawa, *Scratched in Stone: The Isis Temple Graffiti Project*, Reception Hall, Michael C. Carlos Museum, 571 South Kilgo Circle

**April 22, 2010** at 7:00pm - AIA National Sponsored Lectures - **Robert Lindley Vann**, University of Maryland (Jashemski Lecture), *The Palace and Garden Complex of Kasayapa in Sigiriya (Sri Lanka)*, Reception Hall, Michael C. Carlos Museum, 571 South Kilgo Circle

## Greater Atlanta Archaeological Society

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