A Conversation with Dr. Doug Owsley: Dan Sonnet speaks with the forensic anthropologist from the Smithsonian Institution

Dr. Doug Owsley is a forensic anthropologist and heads the Physical Anthropology Division in the Smithsonian Institution’s National Museum of Natural History in Washington, D.C. He is recognized as a leading expert on North American human remains and has studied thousands of skeletons from all periods of American history. Dr. Owsley currently leads a team of researchers studying skeletons from numerous sites in Maryland and Virginia in order to learn more about life and death in the Colonial-era Chesapeake Bay region—from Jamestown and beyond. His work is featured in the film *Nightmare in Jamestown*.

**Sonnett:** You have been involved in numerous high-profile forensics cases—identification of 9/11 victims, of victims at the Branch Davidians compound in Waco, Texas—and you continue to work with police on missing persons cases. But you are also trained as an archeologist. What are some of the similarities and differences between modern forensics investigations and historical cases such as Jamestown?

**Owsley:** There are a number of steps that are possible to try to identify a specific individual. What this entails is a very careful examination of the skeleton. You learn what the bones can tell you and obtain a profile on that individual. But it’s not like an identification you can make in a contemporary forensics investigation—a missing persons case—where you might have x-rays or dental records of the person you are attempting to identify. It’s not that cut and dried.

But it doesn’t mean that it’s impossible. You have to piece together several different kinds of information to come to a determination. This type of investigation brings together historians (who search the historical record to determine what is known about the individuals and the time period they lived in), archeologists (who are instrumental in the recovery of the remains as well as examining the coffin and other objects found inside the coffins), as well as forensic experts (who will look at the remains that are found).

**Sonnett:** How did you become involved in looking at Colonial-era remains from the Chesapeake Bay region?

**Owsley:** I was initially asked to join a team of investigators to look at three lead coffins in St. Mary’s City, Maryland’s colonial capital. These were very high-status individuals. To be buried in a lead coffin in the 17th century means that you were truly someone of importance. There have only been five of these coffins found in the Chesapeake area.

These coffins had been found at the location of the Brick Chapel in St. Mary’s City. At the time of our work, this area was essentially an open field. It had been used as a cornfield for centuries and there was no indication of what was there. We were called in after the lead coffins were discovered during an archaeological remote sensing survey to help identify who these people were.

When you look at a sealed-coffin burial, which is extremely rare for this time period—the 17th and 18th centuries—you can use different techniques to learn about this person. Insects and pollen that were sealed in the coffin along with the person can indicate the season in which they were buried. If we’re able to learn this information, it helps us link a burial to the historical records.

One of the people we identified in this set of coffins was Anne Wolsely Calvert, the wife of Governor Phillip Calvert and a very high-status woman in historic St. Mary’s City. She would have had all of the material benefits anyone could expect available in the colonies at that time. And this is reflected in her teeth, which are in very poor shape. She had lost many of them during her life, which is partly due to her advanced age. But I believe that she lost many of them as a result of being able to afford sugar, which was certainly not available to everyone at that time. This had a destructive effect on her teeth.

Because of her status, you could say that she was a lot better off than most people in the colonies. But it doesn’t mean that her life was easy. One of the things she suffered from was a very severe fracture of one of her thigh bones—her right femur. It’s a badly overriding fracture that shortened the length of her leg. It had healed on it own. Today, if you had this type of fracture, they’d take you to the hospital, put you in traction, give you muscle relaxers and set your leg with surgical screws. The best they could do for her at the time was bed rest and the bone healed itself the best it could. When this happened, she developed an abscess where the bone rejoined itself, causing a very painful infection. She lived with this for years.

**Sonnett:** One of the lead coffins you examined at St. Mary’s City contained an infant. What was life like for these new Americans?

**Owsley:** Childcare as we know it today didn’t exist in Colonial America. The infant that we recovered at St. Mary’s City was a terribly sick baby. It showed many types of pathological changes to the bones. Malformations in the ribs and skull showed the onset of rickets, due to a lack of Vitamin D, and an anemic condition from an iron deficiency.

These babies were swaddled, wrapped up tight in cloth. Well, we know today that sunlight is important to the production of Vitamin D, so, by keeping them out of the sun, they were making them sicker. And, as they did get worse, they’d call a physician and a common treatment was “bleeding.” This was believed to remove contaminations from the blood, which would improve their chances of survival. But children lost iron when they lost blood, which in turn made them even sicker. So sometimes the treatment was worse than the original illness.

**Sonnett:** When you were invited to examine remains found at Jamestown by archeologist Dr. William Kelso, what did you find there that linked back to your other studies of Colonial-era settlers along the Chesapeake?

**Owsley:** I was asked to help the National Park Service identify five skeletons had been excavated on Jamestown Island many years ago. They were believed to have been Native Americans, but our examinations showed that they were 17th-century Africans, some of the first in English America. Dr. Kelso was conducting an excavation in the fort area of Jamestown and he was discovering burials—and there were a lot of them. He was looking for specifically architectural features and artifacts that dated to the earliest days of the colony, but these remains offered the opportunity to begin our collaboration. This gave us a chance to examine the remains of men and women who lived during the earliest days of the English colonies in America. As we combine the data that we have collected on burials from 17th and 18th century sites in Maryland and Virginia, we are gaining new information about the people who helped build the American way of life.

The first burial that they recovered was “J.R.,” or Jamestown Recovery, 102C. He’s a young man—about 17 to 19 years old. He’s still growing—the limb bones still have growth plates that are open. And he had a mortal wound to his right lower leg—a gunshot wound. It was a combat, shotgun-type load with a large caliber round ball as well as about twenty pellets of buckshot.

**Sonnett:** Can you tell if this shot was intentionally self-inflicted or a result of combat or an accident?

**Owsley:** From the position of the wound—low in the leg—and the scatter of the shot, you can tell that it’s not something he could have done. The lead projectiles were spread out over several inches. So it’s going to be as a result of someone else.

We know from the historical record that there were individuals who died as a result of accidents as well as through conflict with the Native Americans. And determining this depends a lot on the time period we are talking about, because if this were in the 1607 period, it would be the English colonists that had the guns. An accident seems likely. However, I don’t believe this is one of the very earliest burials. If this burial dates a decade or two later, it could be possible that it occurred during a hostile encounter with Native Americans, who acquired these kinds of weapons through trade.

We’re trying to pin down J.R.’s time of death through radiocarbon dating, but he falls right in that break point. By testing the isotope value of his remains, we’re learning something about his diet, which indicates that he was in the colonies for much of his growing-up period.  So if he wasn’t born here, he probably came over as a very small child.

**Sonnett:** Do the position of the burials at Jamestown offer clues as to when people were buried?

**Owsley:** There are three general burial areas we’re working in on Jamestown Island: the area around the brick church, a specific area within James fort that was built over in 1610, and the “Third Ridge” cemetery, also known as the “Starving Time” cemetery. Artifacts recovered from this area seem to indicate that these burials date from around 1609-1610, during the period when the colony suffered great hardship and losses, up through about 1630.

Sometimes we find people were buried in great haste. The style of burial, (for example, with or without a coffin) and associated artifacts provide clues as to the date of the burial. And the burials on the “Third Ridge” cemetery are not consistent with the formal burial practices of the time—a few have coffins, some have shrouds, some have neither. The position of the burials—traditionally facing east-west—was not consistent. Some graves contained two people, which was not common practice. Some burials were shallow. These and other observations indicated a social breakdown that would be consistent with what we know about the “Starving Time” period of 1609-1610 from the historical record.

**Sonnett:** Despite the hardships and violence that faced settlers in the Chesapeake Bay, the English settlements ultimately prospered here. From looking at the bones of some of these early settlers, what kind of story can you see?

**Owsley:** In a sense, the history of the Jamestown, St. Mary’s City, and other English settlements along the Chesapeake Bay are truly written in bone. The climate of the Chesapeake Bay region was unlike the climate that these Englishmen left behind or what they would find in New England. These settlers had a hard time adjusting to the conditions and pathogens they encountered here.

Plus they came, initially, during a historic drought. So they had very poor timing, and, in a sense, were not fully prepared for the challenges, in terms of adequate food and health care, with what they would find here. They had problems with water contamination, since they were drinking right out of the river. With the lack of rainfall, salt water was moving up the bay and its tributaries and they were experiencing salt water poisoning from drinking the water. Plus they were dealing with typhoid and probably malaria as well as other diseases they brought from Europe. They died in great numbers in the early years of the colonies.

But many people lived through the period of adjustment, or “seasoning,” which we are now just beginning to understand. For those who lived, life was very hard. Everyone—Europeans and Africans—worked incredibly hard at farming and trades to make a living here. The impact of this work is reflected in the stresses and strains that are evident in their remains. Back problems and arthritis were common.

**Sonnett:** What do you feel is the greatest benefit of the work you are doing to add to our understanding about life on the Chesapeake Bay?

**Owsley:** Many of these people from the colonial period of the Chesapeake lived their entire lives without anybody writing a single word about them. Their remains are the only story that is left to us about the kinds of lives they led. We look at them with the eyes of a scientist, but we also recognize that they were once people that someone cared about, so we handle them with care and respect. This is their legacy to us and we must use all of the skills we can as historians, forensic investigators, and archeologists to be able to read their stories.

I want to be able to tell the story of what life was like for people in the Chesapeake from this period and tell it from different people’s perspectives. This is a fascinating process, in that you see things in the bones that you can’t see anywhere else. This is truly hands-on science and hands-on history.

[***Historic Jamestowne***](http://www.historicjamestowne.org/)*, site of the first English settlement in North America, is jointly administered by the*[***Association for the Preservation of Virginia Antiquities***](http://www.apva.org/)*and the*[***National Park Service***](http://www.nps.gov/)*. National Geographic gratefully acknowledges the cooperation of Historic Jamestowne and of the*[***Virginia Tourism Corporation***](http://www.jamestown1607.org/)*in the making of* The New World.