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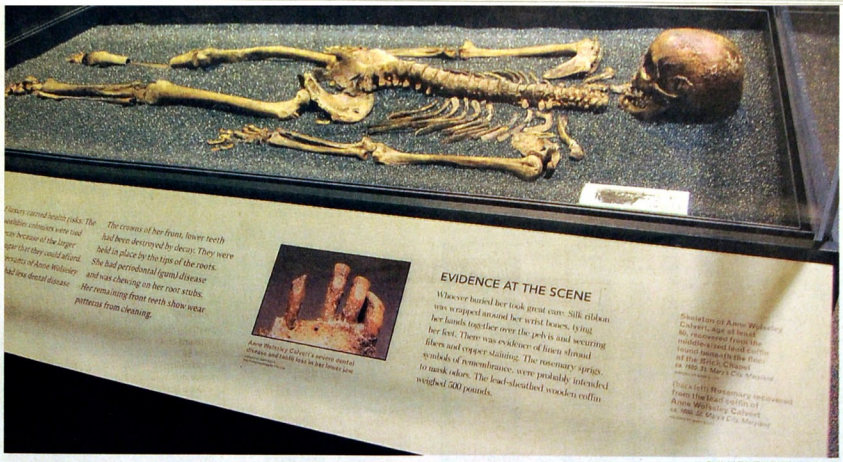

BY ANN CAMERON SIEGAL FOR THE WASHINGTON POST

The skeleton of Anne Wolseley Calvert, a member of Maryland's founding family, was discovered 25 years ago in St. Mary's City. It shows she was about 5-foot-3 and had broken her leg.

Down to the Bone

Exhibit Shows How Skeletons and Graves Tell the Stories of People Who Lived Long Ago

Did you know that bones can talk? So can burial sites.

Permanent clues about our lives are contained within our bones and teeth. Grave sites tell us about local customs, the social status of individuals and times of trouble in history.

"Written in Bone," an exhibit opening Saturday at the Smithsonian's National Museum of Natural History, focuses on 17th-century Chesapeake Bay communities, including Jamestown, Virginia (established in 1607), and St. Mary's City, Maryland (1634). Displays of human bones and artifacts found there will show visitors how 21st-century forensic anthropologists, archaeologists and osteologists (bone specialists) use observation and modern technology to unlock some mysteries of life and death from more than 400 years ago.

Bone and Teeth Biographies

Skeletons can reveal sex, age, ethnicity, diet, amount of exercise and health. Even without written records, today's scientists can determine which early settlers carried heavy loads, rode horses frequently, suffered from disease and infections or were left-handed. The clues are in the bones.

Lacking the dental care we have today, many 17th-century settlers had teeth that were broken or had holes. Holes called "pipe facets" were common in smokers who clenched hard clay pipe stems between their teeth. Women who sewed often had "tailor's notches": grooves in teeth caused by holding pins and needles in the mouth.

BY CHIP CLARK — SMITHSONIAN INSTITUTION

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Unearthing the Evidence

It's important for archaeologists to work slowly when a skeleton or burial site is discovered. First, they gather as many clues as possible "in situ" — at the scene — before anything is touched. They take photographs and measurements.

They look for other signs that might help them piece together the puzzle. Are there tools nearby? Other bones? Household objects? Weapons? Clothing deteriorates over time, so it might not be found, but metal fasteners or buttons may remain. Soil samples help pinpoint the date of burial.

The bones are then carefully labeled to help re-create the skeleton in the lab, where more testing is done.

Disorder in the Grave

Sometimes grave sites don't fit with what we historically know about burial customs. For example, graves may not be where we expect them, or a body may be in an unusual position. In those cases, extra detective work is needed to solve the mystery. Consider these three stories that are part of the exhibition:

A number of disorganized grave sites found in **Jamestown** several years ago pointed to our historical knowledge of the winter of 1609. Colonists in the first permanent English settlement in America — people who knew Pocahontas or worked with Captain John Smith — were struggling to survive. The environment was harsh. Food was scarce, and new supplies were delayed. Colonists resorted to eating leather, rodents and even their horses. The burial sites confirmed that deaths were so numerous that there was no time for proper funerals.

By contrast, 25 years ago in **St. Mary's City**, archaeologists digging in a cornfield found three 17th-century lead coffins neatly entombed beneath the floor of a long-forgotten chapel. The coffins' construction and placement indicated that the occupants were upper class, well-known and given an appropriate burial. Two of the skeletons were identified as members of Maryland's founding family: Philip Calvert and his wife, Anne, who died in the late 1600s. The third coffin contained an unidentified infant.

BY CHIP CLARK — SMITHSONIAN INSTITUTION

This model was created based on the skeleton of a boy found buried in a basement.

A far different story was revealed in **Anne Arundel County**. In 2003, while digging in a plowed field, archaeologists found a human skeleton in the ruins of a 17th-century house. Researchers could tell that this was a hastily dug grave. Had someone tried to hide the body?

The bone development of the skeleton indicated it was of a boy about 16 years old. Further testing revealed that he had a wheat-based diet, common to Europeans in the 1600s. Americans at that time ate corn-based diets, so the boy hadn't been in this country long. To see how scientists solved the mystery of the boy in the basement, go to *anthropology.si.edu/writteninbone/comic*.

The Future

People today live much longer than those early settlers did, so your bones will get a lot more use — possibly into your 90s and beyond. Artificial joints and limbs can now replace body parts that wear out. What stories will your bones tell future scientists?

— Ann Cameron Siegal

NATIONAL MUSEUM OF NATURAL HISTORY

A Web comic tells how scientists deduced the cause of death for the boy shown above.

If You Go

"Written in Bone" opens Saturday on the second floor of the National Museum of Natural History, at 10th Street and Constitution Avenue NW. A forensic lab for hands-on activities will be open to school groups and available to the public when otherwise unused. The exhibition runs through February 2011.

The museum is open daily 10 a.m. to 5:30 p.m. and is free.