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# At Burial Site, Teeth Tell Tale of Slavery

By [JOHN NOBLE WILFORD](#)

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While remodeling the central plaza in Campeche, a Mexican port city that dates back to colonial times, a construction crew stumbled on the ruins of an old church and its burial grounds. Researchers who were called in discovered the skeletal remains of at least 180 people, and four of those studied so far bear telling chemical traces that are in effect birth certificates.

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## HINTS OF DIASPORA

Archaeologists found the remains of at least 180 people

The particular mix of strontium in the teeth of the four, the researchers concluded, showed that they were born and spent their early years in West Africa. Some of their teeth were filed and chipped to sharp edges in a decorative practice characteristic of Africa.

Because other evidence indicated that the cemetery was in use starting around 1550, the archaeologists believe they have found the earliest remains of African slaves brought to the New World.

In a report to be published in The American

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– European, Indian and African – near the ruins of a colonial church in Campeche, Mexico.

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### [The Slave Trade](#)



American Journal of Physical Anthropology

### A LINK OF ENAMEL

Mutilated teeth from a Yucatán burial site suggest African origin.

Journal of Physical Anthropology, the archaeology team led by T. Douglas Price of the University of Wisconsin concluded, "Thus these individuals are likely to be among the earliest representatives of the African diaspora in the Americas, substantially earlier than the subsequent, intensive slave trade in the 18th century."

Dr. Price said last week that a more precise dating would be attempted soon with radiocarbon analysis of the excavated bones. Maps and other records of Campeche, on the Yucatán Peninsula, indicate that the burial ground was used from the mid-16th century into the 17th. A pre-1550 medallion was found in a grave.

Other archaeologists and historians who were not involved in the research said they knew of no earlier skeletal remains of African-born slaves that had been found in the Americas. Dr. Price said that a colleague in the research, Vera Tiesler of the Autonomous University of the Yucatán, who is a historian of the colonial period, thought the slave burials occurred in the cemetery's first years. She directed the excavations.

The fact that the burials were found in ruins of a colonial church could mean "that they had some kind of status or were converted to Christianity," said Richard H. Steckel, a professor at Ohio State University who studies health and [nutrition](#) of pre-Columbian American Indians.

Although ample records attest to the presence of African slaves in the New World at this time, Dr. Steckel, who had no part in the discovery, said: "Much less is known about their health. So, if researchers can document the stature, degenerative joint disease, dental decay, trauma and so forth, then it could be quite interesting."

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William D. Phillips, a University of Minnesota professor who is a historian of Old World and New World slavery and who was not involved in this research, said it was not surprising to find African remains in the Yucatán at this time.

Dr. Phillips and other historians said colonial Campeche was an important Spanish gateway to the Americas and would have had substantial traffic in slaves. Within a few years of the first voyage of Columbus, in 1492, they noted, Africans were shipped to the Caribbean and then the mainland. Their numbers increased steadily as sugar plantations were established by the Spanish on the islands, then in Mexico and coastal Peru.

"Some experts suggest that more Africans than Europeans went to Spanish America in the period up to 1600," Dr. Phillips said.

Herbert S. Klein, a historian of Latin America at Stanford and an author of studies on slavery in the region, said, "The slave trade was in full development by the mid-16th century and would have brought African slaves to Mexico, though the primary work force remained Amerindians."

In time, as European diseases reduced Indian populations, the demand for labor from Africa increased. Over a span of four centuries after Columbus, it is estimated, as many as 12 million Africans were placed in bondage and brought across the Atlantic to ports throughout the Americas.

If any older slave burials have been excavated, Dr. Klein has not seen reports of them in the professional literature, he said. The most likely places for any earlier finds, he added, would be in Santo Domingo in the Dominican Republic or in Cuba, where African slaves were first introduced.

The site in Campeche was discovered in 2000. As researchers examined the remains, they determined that some belonged to Europeans and Indians. Then they were drawn to a few with the distinctive dental mutilations, their first clue that these were probably people born in Africa.

Upon further examination, James Burton, the third member of the team,

said four of the individuals "were like something we'd never seen."

Dr. Burton and Dr. Price, who are colleagues at the Laboratory of Archaeological Chemistry at Wisconsin, and Dr. Tiesler embarked on the strontium studies, supported by the National Science Foundation. Such strontium research, often applied in physical anthropology, is a part of their broader investigation of social mobility — where people were born and how near or far from home they eventually settled — in ancient Mexico and Central America, known as Mesoamerica.

At least 10 skeletons appeared to be African, the researchers reported, and four had teeth with "unusually high" combinations of two isotopes of the element strontium. An isotope is a slight variation of a chemical element, with a different mass but otherwise the same as the basic element.

In this case, the ratios of the isotopes strontium 87 and strontium 86 were consistent with those in the teeth and bones of people who were born and grew up in West Africa. A comparison with strontium measurements of people born in Mesoamerica showed no similarities with the four specimens.

These strontium signatures enter the body through the food chain as nutrients pass from bedrock through soil and water to plants and animals. Different geologies yield different isotopic strontium ratios. This is locked permanently in tooth enamel from birth and infancy, an important tool to trace the migration of individuals.

The researchers said the findings showed that these four appeared to be original migrants to the New World, not their children. Five other individuals thought to be African slaves had isotope ratios expected for people born around Campeche, hence from a later generation.

"In a community occupied for several generations, only a relatively small proportion of the individuals in a cemetery would be expected to come from the first generation," they wrote in the report.

The four individuals, the researchers said, appeared to have come from the

area around Elmina, Ghana, a major West African port in the slave trade.

This was also the region of origin of some of the slaves found in the 17th- and 18th-century African Burial Ground, uncovered in 1991 in Lower Manhattan.

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