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features

Legend of the Crystal Skulls

by Jane MacLaren Walsh

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Along with superstars like Harrison Ford, Cate Blanchett, and Shia LaBeouf, the newest Indiana Jones movie promises to showcase one of the most enigmatic classes of artifacts known to archaeologists, crystal skulls that first surfaced in the 19th century and that specialists attributed to various "ancient Mesoamerican" cultures. In this article, Smithsonian anthropologist Jane MacLaren Walsh shares her own adventures analyzing the artifacts that inspired *Indiana Jones and the Kingdom of the Crystal Skull* (in theaters May 22), and details her efforts tracking down a mysterious "obtainer of rare antiquities" who may have held the key to the origin of these exotic objects.



In 1992, this hollow rock-crystal skull was sent to the Smithsonian anonymously. A letter accompanying the 30-pound, 10-inch-high artifact suggested it was of Aztec origin. (James Di Loreto & Donald Hurlburt/Courtesy Smithsonian Institution)

I told him I knew of a life-sized crystal skull on display at the British Museum, and had seen a smaller version the Smithsonian had once exhibited as a fake. After we spent a few minutes puzzling over the meaning and significance of this unusual artifact, he asked whether the department of anthropology would be interested in accepting it for the national collections. I said yes without hesitation. If the skull turned out to be a genuine pre-Columbian Mesoamerican artifact, such a rare object should definitely become part of the national collections.

I couldn't have imagined then that this unsolicited donation would open an entirely new avenue of research for me. In the years since the package arrived, my investigation of this single skull has led me to research the history of pre-Columbian collections in museums around the world, and I have collaborated with a broad range of international scientists and museum curators who have also crossed paths with crystal skulls. Studying these artifacts has prompted new research into pre-Columbian lapidary (or stone-working) technology, particularly the carving of hard stones like jadeite and quartz.

Crystal skulls have undergone serious scholarly scrutiny, but they also excite the popular imagination because they seem so mysterious. Theories about their origins abound. Some

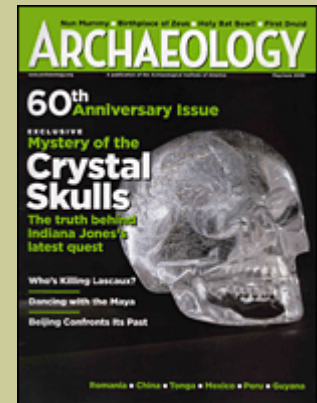
Legend of the Crystal Skulls

The truth behind
Indiana Jones's latest quest

Sixteen years ago, a heavy package addressed to the nonexistent "Smithsonian Inst. Curator, MezoAmerican Museum, Washington, D.C." was delivered to the National Museum of American History. It was accompanied by an unsigned letter stating: "This Aztec crystal skull, purported to be part of the Porfirio Diaz collection, was purchased in Mexico in 1960.... I am offering it to the Smithsonian without consideration." Richard Ahlborn, then curator of the Hispanic-American collections, knew of my expertise in Mexican archaeology and called me to ask whether I knew anything about the object--an eerie, milky-white crystal skull considerably larger than a human head.

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believe the skulls are the handiwork of the Maya or Aztecs, but they have also become the subject of constant discussion on occult websites. Some insist that they originated on a sunken continent or in a far-away galaxy. And now they are poised to become archaeological superstars thanks to our celluloid colleague Indiana Jones, who will tackle the subject of our research in *Indiana Jones and the Kingdom of the Crystal Skull*. Details about the movie's plot are being closely guarded by the film's producers as I write this, but the Internet rumor mill has it that the crystal skull of the title is the creation of aliens.



The author and Scott Whittaker, director of the Smithsonian's Scanning Electron Microscope (SEM) Facility, examine the "Mitchell-Hedges Skull." Silicone molds of the skull's carved features were analyzed by SEM for evidence of tool marks. (James Di Loreto/Courtesy Smithsonian Institution)

These exotic carvings are usually attributed to pre-Columbian Mesoamerican cultures, but not a single crystal skull in a museum collection comes from a documented excavation, and they have little stylistic or technical relationship with any genuine pre-Columbian depictions of skulls, which are an important motif in Mesoamerican iconography.

They are intensely loved today by a large coterie of aging hippies and New Age devotees, but what is the truth behind the crystal skulls? Where did they come from, and why were they made?

Museums began collecting rock-crystal skulls during the second half of the nineteenth century, when no scientific archaeological excavations had been undertaken in Mexico and knowledge of real pre-Columbian artifacts was scarce. It was also a period that saw a burgeoning industry in faking pre-Columbian objects. When Smithsonian archaeologist W. H. Holmes visited Mexico City in 1884, he saw "relic shops" on every corner filled with fake ceramic vessels, whistles, and figurines. Two years later, Holmes warned about the abundance of fake pre-Columbian artifacts in museum collections in an article for the journal *Science* titled "The Trade in Spurious Mexican Antiquities."

The first Mexican crystal skulls made their debut just before the 1863 French intervention, when Louis Napoleon's army invaded the country and installed Maximilian von Hapsburg of Austria as emperor. Usually they are small, not taller than 1.5 inches. The earliest specimen seems to be a British Museum crystal skull about an inch high that may have been acquired in 1856 by British banker Henry Christy.

Two other examples were exhibited in 1867 at the Exposition Universelle in Paris as part of the collection of Eugène Boban, perhaps the most mysterious figure in the history of the crystal skulls. A Frenchman who served as the official "archaeologist" of the Mexican court of Maximilian, Boban was also a member of the French Scientific Commission in Mexico, whose work the Paris Exposition was designed to highlight. (The exhibition was not entirely successful in showcasing Louis Napoleon's second empire, since its opening coincided with the execution of Maximilian by the forces of Mexican president Benito Juárez.)

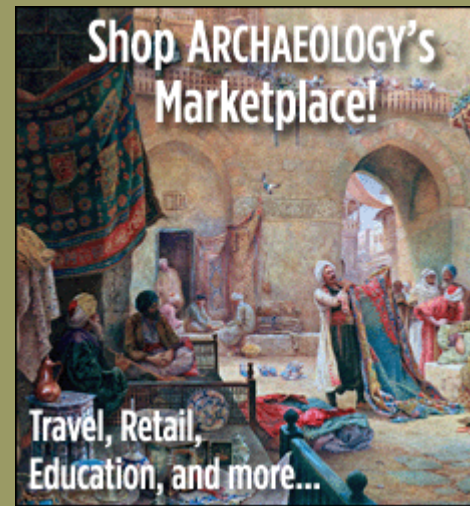
One small crystal skull was purchased in 1874 for 28 pesos by Mexico City's national museum from the Mexican collector Luis Costantino, and another for 30 pesos in 1880. In 1886, the Smithsonian bought a small crystal skull, this one from the collection of Augustin Fischer, who had been Emperor Maximilian's secretary in Mexico. But it disappeared mysteriously from the collection some time after 1973. It had been on display in an exhibit of archaeological fakes after William Foshag, a Smithsonian mineralogist, realized in the 1950s that it had been carved with a modern lapidary wheel.



French antiquarian Eugène Boban with his collection of Mesoamerican artifacts at an 1867 Paris exposition. Among the objects on display were two crystal skulls. At his feet rest a pot and a battleaxe Boban exhibited as Aztec. Both are fakes. (Courtesy Jane Walsh/Museo Nacional de Historia, Mexico City)

Silvana Rizzo, David Gill

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These small objects represent the "first generation" of crystal skulls, and they are all drilled through from top to bottom. The drill holes may in fact be pre-Columbian in origin, and the skulls may have been simple Mesoamerican quartz crystal beads, later re-carved for the European market as little mementos mori, or objects meant to remind their owners of the eventuality of death.

In my research into the provenance of crystal skulls, I kept encountering Boban's name. He arrived in Mexico in his teens and spent an idyllic youth conducting his own archaeological expeditions and collecting exotic birds. Boban fell in love with Mexican culture--becoming fluent in Spanish and Nahuatl, the Aztec language--and began to make his living selling archaeological artifacts and natural history specimens through a family business in Mexico City.

After returning to France, he opened an antiques shop in Paris in the 1870s and sold a large part of his original Mexican archaeological collection to Alphonse Pinart, a French explorer and ethnographer. In 1878, Pinart donated the collection, which included three crystal skulls, to the Trocadero, the precursor of the Musée de l'Homme. Boban had acquired the third skull in the Pinart collection sometime after his return to Paris; it is several times larger than any of the others from this early period, measuring about 4 inches high. This skull, now in the Musée du Quai Branly, has a large hole drilled vertically through its center. There is a comparable, though smaller, skull (about 2.5 inches high) in a private collection. It serves as the base for a crucifix; the somewhat larger Quai Branly skull may have had a similar use.

A second-generation skull--life-size and without a vertical hole--first appeared in 1881 in the Paris shop of none other than Boban. This skull is just under 6 inches high. The description in the catalogue he published provided no findspot for the object and it is listed separately from his Mexican antiquities. Boban called it a "masterpiece" of lapidary technology, and noted that it was "unique in the world."

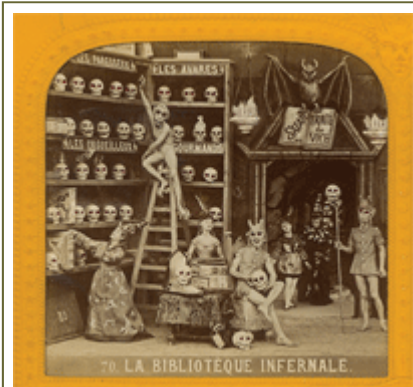
Despite being one of a kind, the skull failed to sell, so when Boban returned to Mexico City in 1885, after a 16-year absence, he took it with him. He exhibited it alongside a collection of actual human skulls in his shop, which he dubbed the "Museo Científico." According to local gossip, Boban tried to sell it to Mexico's national museum as an Aztec artifact, in partnership with Leopoldo Batres, whose official government title was protector of pre-Hispanic monuments. But the museum's curator assumed the skull was a glass fake and refused to purchase it. Then Batres denounced Boban as a fraud and accused him of smuggling antiquities.

In July 1886, the French antiquarian moved his museum business and collection to New York City and later held an auction of several thousand archaeological artifacts, colonial Mexican manuscripts, and a large library of books. Tiffany & Co. bought the crystal skull at this auction for \$950.

A decade later, Tiffany's sold it to the British Museum for the original purchase price. Interestingly, Boban's 1886 catalogue for the New York auction lists yet another crystal skull. Of the smaller variety, it is described as being from the "Valley of Mexico" and is listed with a crystal hand, which is described as Aztec. Neither of these objects can now be accounted for.

A third generation of skulls appeared some time before 1934, when Sidney Burney, a London art dealer, purchased a crystal skull of proportions almost identical to the specimen the British Museum bought from Tiffany's. There is no information about where he got it, but it is very nearly a replica of the British Museum skull--almost exactly the same shape, but with more detailed modeling of the eyes and the teeth. It also has a separate mandible, which puts it in a class by itself. In 1943, it was sold at Sotheby's in London to Frederick Arthur (Mike) Mitchell-Hedges, a well-to-do English deep-sea fisherman, explorer, and yarn-spinner extraordinaire.

Since the 1954 publication of Mitchell-Hedges's memoir, *Danger My Ally*, this third-generation, twentieth-century skull has acquired a Maya origin, as well as a number of fantastic, Indiana Jones-like tall tales. His adopted daughter, Anna Mitchell-Hedges, who died last year at the



Macabre Obsession

The 19th century was a period of keen fascination with skulls and skeletons in Europe. During the reign of Louis Napoleon (1852-1870), French artists created stereoscopic photographs, called Diableries, of miniature dioramas of skeletons at dress balls, libraries (below), conferences with the devil, and in amorous trysts. Wicked lampoons of corruption at Napoleon's court, they illustrate how popular skeletal imagery was when the first crystal skulls made their appearance. (Courtesy of Paula Fleming Collection)

age of 100, cared for it for 60 years, occasionally exhibiting the skull privately for a fee. It is currently in the possession of her widower, but 10 nieces and nephews have also laid claim to it. Known as the Skull of Doom, the Skull of Love, or simply the Mitchell-Hedges Skull, it is said to emit blue lights from its eyes, and has reputedly crashed computer hard drives.



The Mitchell-Hedges skull, top, and the British Museum skull were the subject of a series of 1936 articles in which British Museum curator Adrian Digby and physical anthropologist G. M. Morant debated whether the two were based on the same original skull, which Digby posited was perhaps revered as a Mesoamerican "death god."

Although nearly all of the crystal skulls have at times been identified as Aztec, Toltec, Mixtec, or occasionally Maya, they do not reflect the artistic or stylistic characteristics of any of these cultures. The Aztec and Toltec versions of death heads were nearly always carved in basalt, occasionally were covered with stucco, and were probably all painted. They were usually either attached to walls or altars, or depicted in bas reliefs of deities as ornaments worn on belts. They are comparatively crudely carved, but are more naturalistic than the crystal skulls, particularly in the depiction of the teeth. The Mixtec occasionally fabricated skulls in gold, but these representations are more precisely described as skull-like faces with intact eyes, noses, and ears. The Maya also carved skulls, but in relief on limestone. Often these skulls, depicted in profile, represent days of their calendars.

French and other European buyers imagined they were buying skillful pre-Columbian carvings, partially convinced perhaps by their own fascinated horror with Aztec human sacrifice. But the Aztecs didn't hang crystal skulls around their necks. Instead, they displayed the skulls of sacrificial victims on racks, impaling them horizontally through the sides (the parietal-temporal region), not vertically.

I believe that all of the smaller crystal skulls that constitute the first generation of fakes were made in Mexico around the time they were sold, between 1856 and 1880. This 24-year period may represent the output of a single artisan, or perhaps a single workshop. The larger 1878 Paris skull seems to be some sort of transitional piece, as it follows the vertical drilling of the smaller pieces, but its size precludes it being a bead, or being worn in any way. This skull now resides in the basement laboratories of the Louvre, and the Musée du Quai Branly has begun a program of scientific testing on the piece that will include advanced elemental analysis techniques like particle induced X-ray emission and Raman spectroscopy, so we may know more about its material and age in the near future.



The 1878 Paris skull and the Boban-Tiffany-British Museum skull that appeared in 1881 are perhaps nineteenth-century European inventions. There is no direct tie to Mexico for either of these two larger skulls, except through Boban; they simply appear in Paris long after his initial return from Mexico in 1869. The Mitchell-Hedges skull, which appears after 1934, is a veritable copy of the British Museum skull, with stylistic and technical flourishes that only an accomplished faker would devise. In fact, in 1936 British Museum scholar Adrian Digby first raised the possibility that the Mitchell-Hedges skull could be a copy of the British Museum skull since it showed "a perverted ingenuity such as one would expect to

South American Idol?

In the opening scenes of *Raiders of the Lost Ark* (1981), Indiana Jones is hot on the trail of an extremely valuable golden idol created by an unidentified ancient South American culture. The goddess's image, which Jones deftly snatches from an altar (setting off a series of booby traps that culminate with an enormous boulder nearly crushing our hero), is of a woman in the act of giving birth. The golden figure was modeled on a purportedly Aztec greenstone carving called Tlazolteotl, considered to be a masterpiece by the Dumbarton Oaks Museum in Washington, D.C.

In my research into the object's acquisition history, I discovered that a Chinese dealer in Paris sold the figure in 1883 to a famous French mineralogist, Augustin Damour. His friend, Eugene Boban, advised Damour on the purchase. In examining the artifact's iconography, I found that the birthing position is unknown in documented pre-Columbian artifacts or depictions in codices. I have also used scanning electron microscopy to analyze the manufacture of the idol and have found there is ample evidence of the use of modern rotary cutting tools on the object's surface. In my opinion, the Tlazolteotl idol, like the crystal skulls, is a nineteenth-century fake.

find in a forger." However, Digby, then a young curator, did not suggest it was a modern forgery and also dismissed the possibility that his museum's own crystal skull was a fraud, as early twentieth-century microscopic examination did not reveal the presence of modern tool marks.

The skull that arrived at the Smithsonian 16 years ago represents yet another generation of these hoaxes. According to its anonymous donor, it was purchased in Mexico in 1960, and its size perhaps reflects the exuberance of the time. In comparison with the original nineteenth-century skulls, the Smithsonian skull is enormous; at 31 pounds and nearly 10 inches high, it dwarfs all others. I believe it was probably manufactured in Mexico shortly before it was sold. (The skull is now part of the Smithsonian's national collections and even has its own catalogue number: 409954. At the moment it is stored in a locked cabinet in my office.)

There are now fifth- and probably sixth-generation skulls, and I have been asked to examine quite a number of them. Collectors

have brought me skulls purportedly from Mexico, Guatemala, Brazil, and even Tibet. Some of these "crystal" skulls have turned out to be glass; a few are made of resin.

British Museum scientist Margaret Sax and I examined the British Museum and Smithsonian skulls under light and scanning electron microscope and conclusively determined that they were carved with relatively modern lapidary equipment, which were unavailable to pre-Columbian Mesoamerican carvers. (A preliminary report on our research is on the British Museum website, www.britishmuseum.ac.uk/compass). So why have crystal skulls had such a long and successful run, and why do some museums continue to exhibit them, despite their lack of archaeological context and obvious iconographic, stylistic, and technical problems? Though the British Museum exhibits its skulls as examples of fakes, others still offer them up as the genuine article. Mexico's national museum, for example, identifies its skulls as the work of Aztec and Mixtec artisans. Perhaps it is because, like the Indiana Jones movies, these macabre objects are reliable crowd-pleasers.

Impressed by their technical excellence and gleaming polish, generations of museum curators and private collectors have been taken in by these objects. But they are too good to be true. If we consider that pre-Columbian lapidaries used stone, bone, wooden, and possibly copper tools with abrasive sand to carve stone, crystal skulls are much too perfectly carved and highly polished to be believed.

Ultimately, the truth behind the skulls may have gone to the grave with Boban, a masterful dealer of many thousands of pre-Columbian artifacts--including at least five different crystal skulls--now safely ensconced in museums worldwide. He managed to confound a great many people for a very long time and has left an intriguing legacy, one that continues to puzzle us a century after his death. Boban confidently sold museums and private collectors some of the most intriguing fakes known, and perhaps many more yet to be recognized. It sounds like a great premise for a movie.

Jane MacLaren Walsh is an anthropologist at the Smithsonian's National Museum of Natural History.

♦ For more Indiana Jones, see "[Indy Spirit Awards](#)."

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