

= Grolier Codex =

The Grolier Codex (sometimes referred to as the Sáenz Codex) is a Maya book of a pre-Columbian type but of disputed authenticity . It first appeared in a private collection in the 20th century and was displayed at the Grolier Club in New York , hence its name . The codex consists of a fragment of a Maya book , containing almanacs of Venus represented in a simplistic fashion . The Grolier Codex would be only the fourth surviving pre-Columbian Maya book if genuine . The codex is said to have been recovered from a cave in the Mexican state of Chiapas in the 1960s , together with a mosaic mask and some blank pages of pre-Columbian figural bark paper . It was displayed at the Grolier Club from April 20 to June 5 , 1971 , and is now held in Mexico City . In 1973 , Michael D. Coe published the first half-size recto-side facsimile of the codex in *The Maya Scribe and His World* , produced by the Grolier Club . The codex contains a Venus almanac that , in structure , is closely related to the Venus almanac contained in the Dresden Codex .

The codex , although displaying Mixtec stylistic features , is judged to be Maya (if genuine) based upon the use of bark paper instead of the deerhide preferred for Mixtec codices and because of the presence of Maya day signs and numbering .

The codex is poorly preserved ; the surviving page fragments display a number of figures in central Mexican style , combined with Maya numbering and day glyphs . The document is currently held by the Museo Nacional de Antropología in Mexico city and is not on public display . The physics institute of the Universidad Nacional Autónoma de México subjected the codex to non-destructive testing in an effort to determine its authenticity . The results were published in 2007 and were mixed ; the document apparently contains genuine pre-Columbian materials but certain aspects , such as seemingly artificially induced wear and tear , are suspect . The researchers concluded that they were unable to prove or disprove the pre-Columbian nature of the codex .

= Physical characteristics =

The Grolier Codex is a screenfold book fashioned from bark paper , coated with stucco on both sides and painted on one side . Eleven pages survive of a twenty-page book . The lower portions of the pages are badly damaged by moisture , eroding and staining bottom of each page . The eleventh page is particularly badly damaged with only the central portion remaining , making it unclear whether this page belongs to the codex or not . The greatest height of any of the surviving page fragments is 18 centimetres (7 in) and the average page width is 12 @ 5 centimetres (4 @ 9 in) .

Five single sheets of bark paper were found associated with the codex , they had no stucco coating and were brown and water stained . Two of these had adhered to the codex and the other three may have once been with the codex but had separated . One of these sheets had a painted line in the same red hematite pigment used in the codex itself . A smaller sheet of bark paper was attached to the lined sheet and this smaller piece was submitted for radiocarbon dating . This testing produced a date for the sheet of AD 1230 ± 130 .

= Content =

Each page of the codex has been painted on one side with a standing figure facing left . Each figure holds a weapon and most grip a rope leading to a restrained captive . Colours used on the codex include hematite red , black , blue @ green , a red wash and a brown wash , all upon a strong white background . The left-hand side of each page is marked by a column of day signs ; where this column is complete these total thirteen in all . Each day sign is associated with a bar @ and @ dot numerical coefficient . Six pages depict a figure bearing weapons and accompanied by a captive (pages 1 ? 4 , 6 and 9) , two pages (5 and 8) both depict a figure hurling a dart at a temple . Page 7 of the codex shows a passive warrior standing in front of a tree . Page 11 depicts a death god with a javelin , pointing his weapon at a water vessel containing a snail

. Page 10 is a badly damaged fragment with the subject largely obliterated . Based on the surviving portion , Michael Coe thought it depicted a standing figure wearing a waterbird headdress and bearing an atlatl . The figures represented on each page differ from those on the other Maya codices and are far more similar to the Mixtec codices and Toltec art styles of central Mexico . The heads of the death gods painted in the Grolier Codex are almost identical to those represented in the Laud Codex and Fejérváry @-@ Mayer Codex , including the red colouring of the portion of the teeth closest to the gums .

The pages of the Grolier Codex contain seven hieroglyphs representing days ; the style of these glyphs differs from that of the other three Maya codices but is most similar to the glyphs of the Dresden Codex . The glyphs are arranged in vertical columns incorporating day signs accompanied by a number ; each date corresponds to a manifestation of Venus . Whereas the Venus almanac in the Dresden Codex documents the planet after inferior conjunction as the morning star , the Grolier Codex documents all four of the stations of Venus : rising after inferior conjunction as morning star in the east , disappearance before superior conjunction , reappearance as evening star in the west and disappearance before inferior conjunction .

= = Discovery = =

The codex is said to have been found enclosed in a wooden box in a dry cave in the highlands of Chiapas near Tortuguero ; it was said to have been found with a turquoise mask that is now in the collection of Dumbarton Oaks . In 1965 Mexican collector Dr. Josué Sáenz was taken by two men on a light plane to a remote airstrip in the foothills of the Sierra Madre near Tortuguero in Tabasco state ; the compass of the plane was covered with a cloth but Sáenz recognized his approximate location . At the airstrip he was shown the codex along with some other looted Maya artifacts and was told that he could take the items back to Mexico City for authentication before purchasing them . The antiquities expert that Sáenz consulted declared that the artifacts were fakes but Sáenz later purchased the codex and permitted Michael Coe to display the codex at the Grolier Club in 1971 . In 1976 , the United States @-@ Mexico Artifacts Treaty of 1970 was invoked by the Attorney General of Mexico . This resulted in the seizure of the codex and its return to Mexico . Sáenz donated the codex to the Mexican government and it is currently kept in a vault in the Museo Nacional de Antropología in Mexico City and is not on public display . The claimed discovery of the Grolier Codex would make it the only pre @-@ Columbian codex discovered in the course of the 20th century , except for some codex fragments excavated by archaeologists .

= = Authenticity = =

English Mayanist J. Eric S. Thompson cast strong doubts upon the authenticity of the Grolier Codex in his 1975 article The Grolier Codex , published in volume 27 of the Contributions of the University of California . Thompson argued that the codex was a modern forgery and that the unusual mix of styles in the document was not due to the mixing of cultures but rather due to the hand of a forger . Thompson queried the illustration of all four stations of Venus in the codex , noting that other Mesoamerican codices only illustrated the more spectacular appearance of Venus as morning star .

Following Thompson 's attack upon the veracity of the codex , a number of scholars published their opinions that the document is genuine over the course of the 1980s and early 1990s , including John B. Carlson , Yuri Knorozov , Thomas A. Lee , Jr . , Jesús Ignacio Mora Echeverría , George E. Stuart , and Karl Taube . In 2000 , German epigrapher Nikolai Grube expressed his belief that the document is genuine , based upon the preciseness of the Venus almanac . However , in a later publication from 2012 , he clearly calls the codex a forgery . In 2002 , French archaeologist Claude @-@ François Baudéz commented ? like Thompson before ? that the codex serves no divinatory purpose and was useless as an aid to a Maya priest ; he believes that the document is the product of a forger using pre @-@ Columbian materials but relatively ignorant of his subject . The codex is notable in its use of prominent illustrations of uniform size and the almost complete absence of hieroglyphic text ; the deities lack names and the cardinal directions are unmarked . In a paper

published in 2003 , the authors (including Mayanist Stephen D. Houston) argue that the iconography and lack of hieroglyphic text are the result of a strong central Mexican stylistic influence .

The radiocarbon dating of an associated sheet of unstuccoed bark paper had been used to support a 13th @-@ century date for the Grolier Codex . Large quantities of pre @-@ Columbian bark paper have been found in dry caves , so a genuine piece of blank pre @-@ Columbian paper may have been used by a forger as a base for painting a falsified codex . The fact that the codex is painted on one side only while the three uncontested Maya codices are all painted on both sides has been used as an argument against its authenticity , although Michael Coe has argued that parts of non @-@ Maya Mesoamerican codices had sometimes been left blank for many years before being painted in a style distinct from the opposite side . Baudez , in his 2002 critique of the Grolier Codex , noted that the fact that the codex is only painted on one side is irrelevant in determining its authenticity , since there are many examples of Mesoamerican codices not being painted on both sides . Further doubts have been cast upon how Sáenz acquired the codex and the iconography of the document itself . Archaeologist Donna Yates considers that Coe 's account of Sáenz being contacted by an unnamed person and flown to a remote airstrip by unidentified persons to be " fantastical " . As of 2012 , the authenticity of the document was still disputed , although Carlson has published a further article reaffirming its legitimacy , citing 2002 radiocarbon testing of samples from the codex itself as well his own epigraphic and iconographic analyses .

= = = Iconography = = =

The artifact shows a number of idiosyncrasies that raise questions concerning its authenticity . The numbering systems used in the codex conflict . The Maya bar @-@ and @-@ dot system is used to mark units , but the central Mexican dot system is used to mark multiples of twenty (for example by using 11 dots instead of 2 bars and a dot , as would be the case in the bar @-@ and @-@ dot system where a bar indicates 5 and a dot indicates 1) . Some bar @-@ and @-@ dot numbers are placed within a cartouche decorated with a knot at the top . The only other instance of such a cartouche being used with numbers is in the Dresden Codex , where the cartouche has a very specific function , indicating a negative date count from the zero year of the great cycle of the Mesoamerican Long Count calendar (roughly equivalent to the function of BC in the Gregorian calendar) . In the Grolier Codex , where the numbers mark intervals between stations of Venus , the use of this cartouche appears meaningless .

In the Grolier Codex captives are shown bound with cords leading to their necks , however the most common convention in Mesoamerican art is the depiction of captives bound by the arms or wrists . Some of the figures in the codex represent deities (on pages 1 ? 2 , 4 ? 6 and 9) and some represent mortal warriors without supernatural attributes (on pages 3 , 7 and 8) . Both the deities and the mortals are performing the same actions such as the capture of a prisoner , or conquest symbolised by a spear passing through a temple . Although the codex depicts the stations of Venus , none of the warlike figures is identified with attributes normally associated with the planet in Maya or central Mexican art . On page 9 , a bound captive is depicted from a high point of view with a sense of perspective that French Mesoamericanist and iconographer Claude @-@ François Baudez considers is alien to Mesoamerican art . God K (K 'awiil) is depicted twice in the codex but is incorrectly shown with human incisors instead of snake fangs .

= = = Materials = = =

The paper used for the Grolier Codex appears to be authentic pre @-@ Columbian bark paper and the contents of the document have not been copied directly from any of the generally accepted Maya codices , although they do resemble pages 46 to 50 of the Dresden Codex . A number of non @-@ destructive techniques have been applied to the codex in an effort to authenticate it , and the results were published in 2008 . The analysis revealed that only pre @-@ Columbian materials had been used in its creation ; no modern inorganic materials were detected . Some inconsistencies

were revealed however ; cuts along the page edges seem to have been made with a sharp blade in order to give the appearance of natural wear and tear and the supposed water staining did not permeate the paper . The researchers commented that the staining appeared to be the result of drops of dye or ink being applied to the surface of the codex . In conclusion the researchers were unable to support or refute the pre @-@ Columbian nature of the codex . Unusually for a document that supposedly was stored in a cave for centuries , the paint of the codex still appears fresh .

= = = = Testing = = = =

The codex was tested in the Instituto de Física of the Universidad Nacional Autónoma de México in Mexico City using a 3 megaelectronvolt pelletron particle accelerator . Testing methods applied to the codex included ultraviolet imaging , infrared reflectography , optical microscopy , particle @-@ induced X @-@ ray emission and Rutherford backscattering spectrometry (RBS) . The specific aim of this non @-@ destructive testing was to compare the materials used in the codex with those used in other pre @-@ Columbian codices .

The testing showed that the base layer onto which the codex was painted is composed of gypsum , a material used as a base layer for paintings since antiquity . The black paint was analysed with RBS and found to be a carbon @-@ based pigment consistent with other pre @-@ Columbian Mexican codices . The red colour used in the codex is red ochre , an iron @-@ based pigment . There is not much blue colouration in the Grolier Codex and the presence of the distinctive Maya Blue pigment could not be confirmed . Analysis revealed the blue pigment used on the codex does not contain cobalt and does contain clay . The investigators concluded that the codex does contain some original pre @-@ Columbian materials but could not confirm that the document is authentic .