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History of Pre-Columbian Mesoamerican Papermaking and Modern Uses of Amate

Introduction

My interest in Pre-Columbian papermaking is historical. This paper will explore the history of papermaking in Mesoamerica through the Mayan and Aztec cultures. I focus a great deal on the ceremonies surrounding paper in order to emphasize the tie to modern day rituals, and how an art like papermaking survived because of the importance of these rituals. Also, despite the suppression of native arts such as papermaking, crafts of native peoples turn up as tourist art. I would like to continue to explore the tourist art industry and how it can help us better understand native papermaking techniques. Lastly, because a voluminous amount has already been written on the subject of Mesoamerican Codices, I will only touch upon Aztec and Mayan books in this paper. The information regarding Codices is primarily Art Historical in nature and there is relatively little discussion about how the Codices were actually constructed or the techniques in creating the paper and books. I wish to explore primarily the history and techniques of papermaking and how it has shaped the ancient as well as modern Mesoamerican world.

I. History of Mesoamerican Paper

As early as 500-700 AD the Mesoamerican world was quite sophisticated. Mayans were chronicling their astrological discoveries, had devised a numerical system based on the concept of zero, used calendars, kept record of trade and tributes, accounted for systems of government and had a vast written history. The Mayan and Aztec kept these events chronicled in libraries full of books written on amatl, a type of bark-paper. Paper was not only a central aspect of Mayan and Aztec life used for records, books of government, ceremonial tributes, clothing, and everyday writing, but also considered a sacred substance.

It is not known exactly when papermaking was invented or considered a widely practiced craft in Mesoamerica. Archeologists have found stones in the prehistoric city of Teotihuacan that have been dated to the 6th century AD which resemble modern papermaking stones. Although the cause for some contention, archeologist Paul Tolstoy has found what he believes to be papermaking stones from Guatemala that date to around 1000 BC, which could have been used for early bark-cloth or bark-paper. (Sandstrom & Sandstrom.1986.p14) The Mayans were producing calendars on stone until around 889 AD, when portable and easy to produce books came into fashion. Like the Maya, other Pre-Columbian Mexican civilizations such as the Zapotecs and Toltecs were creating paper documents as early as the 3rd century AD and manufacturing books around 660 AD. (Van Hagen.1944.p 11-12)

The earliest Mayan paper we know of was called Huun, which likely evolved out of Mayan bark-clothing. Fig tree trunks were stripped and beaten to produce clothing, and eventually the same methods were modified to make paper. Used for books and other documents, Huun paper was 6 to 8 inches wide and created in lengths of up to 30 feet, which was folded in accordion fashion called “screens”. The books were covered with wood or hide, were often adorned with gold and jeweled, and could be read leaf-by-leaf or spread out to their entire lengths. These Mayan books were produced until around 1000 AD, when the Mayan period came into decline with the beginnings of the Aztec empire. (Van Hagen.1944.)

By the 15th century AD, the Aztecs had created a centralized government based in Tenochtitlan, now Mexico City. The Aztecs had overrun and assimilated many of the former Mesoamerican groups such as the Zapotecs, Tolteca and Maya. The government organized agriculture, manufacture and trade amongst the city-states and arts such as painting, sculpture, weaving, pottery and metallurgy. The Aztec government was also had of political and military power, and built temples, causeways, highways, aqueducts and other stately buildings, including the stone library at Texcoco, which held thousands of Mayan, Zapotec and Toltec manuscripts. One of the most important trades was the paper industry, responsible for supplying vast amounts of bark-paper amatl to the central Aztec government yearly for ceremonial tribute, books and documents and for daily religious ritual by the citizenry. Paper was a sacred material to the Aztec as well as ubiquitous in use. There were at least forty-two centers of papermaking that produced almost half a million sheets of paper per year for use in tribute alone. (Christensen & Marti.1972.p 9) The Aztec paper centers spread far within the Empire, including what is now Vera Cruz, Morelos, Guerrero, Puebla, Hidalgo and Oaxaca. Another indication of the importance of paper to the ancient Mexicans is the prevalence of paper-related names of cities. Many of the original Nahuatl city name survive despite the Hispanic assimilation. Names like Amaculi, from Amatl, “paper”; Cuilco, “place where they write”; Tlaciloca, “place where there are painers or writers; Amatitlan, “place of many paper trees”; Amattitlan-caz, “place where paper is made”; Amayuca, “place where paper is made”; and Amapala, “place of paper sheets”. These represent a few of the places recognized for the importance of paper. (Sandstrom & Sandstrom.1986.p15)

II. The New Fire Ceremony

In 1507, the Aztec King Montezuma was preparing his empire for the New Fire Ceremony, a ritual of renewed life that took place every 52 years since at least 1325 AD. (Van Hagen.1944.p17) By 1507 Spanish conquistadores had been recognized by the Indians, but their intent in the New World was not yet known. Montezuma’s government was uneasy and needed to insure the New Fire Ceremony was successful so that possible future calamities would be avoided. To avoid the wrath of the gods, all Aztec villages would do their part in contributing to the yearly tribute. Materials involved in tribute included feather clothing, obsidian knives and arrows, bronze axes and rolls of amatl paper. The yearly amount of paper collected for the tribute numbered nearly a half million sheets which came folded, rolled up in bundles, tipped with rubber and copal incense for burning. The paper had taken months to produce, and was now carried by a

stream of men, called tlamemes, to Tenochtilan. Each tlameme carried 22 pounds of paper, which was inspected by agents to insure quality once they reached the city. Most of the paper would be burned in tribute to the New Fire Ceremony. The finest and whitest paper would be set aside for writers and painters for calendars, official documents, tribute registry, trial records, maps, genealogies and historical annals. The most important use of paper was by the priests:

“The chief function of paper was to placate the gods and to record, preserve and implement the power of the rulers. It was only after these needs were met that the residue of the paper would reach the populace, and this residue, used by each individual in hundreds of rituals varying from month to month and almost from day to day, would bind him to the throne and temple in a great unity of paper tradition and symbolism”.
(Van Hagen.1944.p17-20)

Despite the efforts of Montezuma and the Aztec empire, the New Fire Ceremony of 1507 would be the final tribute.

The war waged against the Indian Empires was devastating, leading to an almost complete destruction of the Mesoamerican civilization. Montezuma offered Spanish invaders riches in the hopes that they would be satisfied and leave. Part of the great bounty offered to Cortes and his army were several books. Bernal Diaz del Castillo wrote that the books were “brightly painted which the Indians call tonalamatl...folded in the manner of cloth of Castille”. The books were of little immediate interest to the Spaniards, who tended to be preoccupied by the gifts of gold, and few of the books would survive. In 1529, the first Bishop of Spain, Fray Juan de Zumarraga arrived and recognized the need for spiritual cleansing. He collected hieroglyphic books from every possible corner of Mexico, including the royal library at Texcoc, which was “the most cultivated capital of Anahuac” containing “the great repository of national archives”. The Bishop had the books “piled into a mountain-heap in the market place of Tlatelolco and reduced them all to ashes!”. (Sandstrom & Sandstrom.1986.p 16) In 1561, Diego de Landa discovered a Mayan cultural center and contributed the following to the Spanish incursion:

“Among the Maya we found a great number of books written with their characters, and because they contained nothing but superstitions and falsehoods about the Devil, we burned them all, which the Indians felt most deeply and over which they showed much sorrow”. (Sandstrom & Sandstrom.1986.p 16)

The Spanish settled in and begun a new history of the New World. The sophisticated Indian culture was in the process of being assimilated and erased. Ceremonies, rituals, religions and trades were subjugated, and imported European goods replaced ancient Aztec crafts. In the several hundred years following Cortez’s invasion, if natives were found with traditional sacred bundles of paper, especially cut into what would be later identified as religious ritualistic shapes, they would be brought to trial for idolatry.

Instances such as this happened as late as 1889. (Sandstrom & Sandstrom.1986.p17) The use of traditional paper and paper making was thought to be all but extinct until an anthropologist named Frederick Starr headed expeditions into remote regions of Mexico to record Indian tribal customs and practices. He was told that the craft of papermaking had survived and was made in the Otomi village in San Pablito, Hidalgo. The Indians practiced traditional customs that involved making paper and cutting out munecos (“dolls”) for use in brujerías (“witchcraft”). (Christensen & Marti.1972.p 28-29)

III. Ceremonial Use

Paper was obviously one of the most important materials that Pre-European Mexicans used in their daily lives. Ceremonial life bled into daily life, and the Indian world was devoted to appeasing the Spirit world. Although paper was used for books and tribute and to record tributes and commercial transaction, the use of paper in the religious realm is also extensive.

Much of what we know about the ceremonies of the Indians was recorded by Fray Bernardino de Sahagún, a Franciscan monk who worked at the Indian College of Santa Cruz at Tlaltlalo. Sahagún studied the Aztec language, customs, beliefs, history and dress. He wrote extensively about the Calendar Festivals in “History of the Things of New Spain”. There was a god dedicated to each of the 118 months of the calendar and for each month Sahagún recorded “multitudinous strange and ghastly rituals”. These rituals are intertwined with the use of paper, which was used to burn. As clothing, as flags, and quite often a sign that one was soon to be sacrificed. These are a brief representation of how paper was used in such ceremonies in the Aztec world.

The fourth month the god of the green fields, Tzintautl, was celebrated by placing crowns of paper on the god Vitzilopuchtli, made of dough. Men also carried rolls of paper up to the temple for this ceremony. The bundles of paper were 6 feet long and “one finger thick”. The bundles were carried atop spears decorated with feathers. When the men reached the foot of the temple, they began to roll the paper bundles up, taking care not to unroll them. Once at the top the paper was carefully placed in a throne. Girls with painted faces and arms and legs adorned in red feathers danced through the crowds paper carrying paper banners on tall poles. The priests wore headbands adorned with paper flowers as well as paper undergarments. (Van Hagen.1944.)

The Etztlalitzli festival was held in honor of the Tlaloc, in the sixth month. The priests wore paper flower headbands and carried large round paper flowers like shields. Boy apprentices to the priests made many paper ornaments. High priests carried the paper ornaments, plumes and incense in tiger skin pouches. The lower priests had paper pouches painted to resemble tiger skin. All the priests took their offerings to the lagoon, including earthenware jars holding the hearts of sacrificial captives. They threw the hearts into the lagoon, followed by the paper ornaments, plumes and incense. (Van Hagen.1944.)

In the tenth month festival was called Xocotlvetzi, and a statue made with dough of the amaranth seed was created and adorned with white paper, free of dyes or inks. Paper was cut to resemble hair and attached to his head. Paper stoles were draped from his shoulders to his armpits, and a paper shirt and belt were also made. On his arms were papers “which resembled waves” and were figures of the sparrow hawk. Trees on either side of the state fluttered with rolls of paper, some of which were 60 feet long. Captured prisoners of war were then marched in carrying paper flags signaling their impending death. They were burnt alive wearing a paper loincloth, stole and wig. (Van Hagen.1944.)

The sixteenth month signaled the falling of rain, and for five days there was fasting and penitence prior to a fasting feast. On the eve of the feast the people spent all night cutting paper figures and ornaments into different shapes. They pasted the papers onto long poles like flags and put the poles outside their homes in the courtyards for the day of the feast. (Van Hagen.1944.)

Sahagan also writes of common uses of paper, not necessarily associated with the 18 months festivals. Those who were trying to ward off illness, at the advice of their astrologers, would burn great amounts of paper painted in the likeness of the gods who would help ward off disease. The paper was burned in the hearth of the person with impending illness and then the ashes gathered and buried in the courtyard. (Van Hagen.1944.)

Paper was important also for the dead in their travels to the underworld. Official paper cutters and old men adorned the dead in paper. The deceased received a jar full of papers that he would need on his travels “between two mountain ranges which are joining with one another”. Other papers were to be used “to pass the road which is guarded by the snake” and “to pass the road over which the green lizard roams”. When the deceased finally reached Mictlantecutli (the devil, as called by Sahagan), he was offered the last of the papers given to the deceased for his journey. (Van Hagen.1944.)

IV. Codices

Although codices are vastly important to illuminating the world of pre-Conquest Mesoamerica, very little is written about their manufacture. Codices are one of the only direct links we have to the Mayan and Aztec, and they have been endlessly researched in order to break the hieroglyphic code and construct a history of these civilizations. Unfortunately, so few of these books remain because for years they were considered “incomprehensible and thus valueless”.

Only three pre-Conquest Mayan codices remain: Codices Peresianus, Tro-Cortesianus, and Dresdan. Thirteen Mixtec (meaning influenced by European colonists) codices remain intact: Codices Nuttall, Colombino, Selden, Becker I, Becker II, Laud, Bodely, Waecker-Gother, Copsi, Vienna, Vaticanus B, Borgia, and Fejeruag-Mayer. (Van Hagen.1944.p63)

The Codices are painted on long stretches of page that are made of either animal skins or amatl paper. The pages fold up into screens, accordion-style. The Codex Nuttall is made from sewn together skins 37'6" x 7" long. Both sides of the page are painted and it can either be read page by page or folded out in its' entirety. The page is read "from right to left across the bottom of the page, left to right across the middle of the page, then right to left again at the top of the page". However, this pattern is not consistent throughout the book not from codex to codex. (Robertson.1959.p15).

The monk known as Motolinia recorded that there were books found on an array of subjects, including records of conquests and wars, succession of lords and times of succession, astronomical events, and times of pestilence. He also divided the books up into five categories:

“...the first speaks of years and time; the second of the days and celebrations they held throughout the year, the third speaks of dream and auguries, illusions and vanities in which they believed; the fourth is baptism and names they gave children; the fifth is on the rites, ceremonies, and auguries related to matrimony...” (Sandstrom & Sandstrom.1986.p.8)

Motolinia considered none of the above writings at all important and deemed only the histories vaguely interesting, adding that the others were “invented by demons”.

The Dresden Codex was deposited at the Royal Library at Dresden in 1744 when a private owner who couldn't read the glyphs and thought the book to be worthless. In 1910, it came to the attention of Dr. Rudolph Schwede, who determined that the book was not made from maguey plant, but instead from the fibers of the Ficus. He also noted that the paper was sized with a form of calcium bicarbonate, vegetable in origin, which resembled paper sizing developed in the Orient. This finding was significant because it drew a direct correlation between the work of Frederick Starr and papermaking techniques of Modern Otomi Indians and the ancient Mayan arts of book and papermaking. (Van Hagen.1944.61-65)

V. The Survival of Pre-Columbian Papermaking

As far back as 1635, Otomi tribesmen were brought to trial for “idolatries” that had been found by town priests. Amongst these idols were long paper strips, paper dolls and rolls of paper splattered in blood. Trials were carried out for hundreds of years and as recently as 1889 when a priest recorded that one of the native Indian was “cutting the devil out of paper”. (Sandstrom & Sandstrom.1986.p17) Because these rituals and the ceremonial use of paper had been recorded, in 1900 anthropologist Frederick Starr decided to visit the San Pablito region and made a remarkable discovery. Amate paper was being produced and used in the same way as it had 500 years before.

The anthropological interest in amate paper did not begin until around 1880, when Philip J.J Valentini published an article titled “Mexican Paper” in *Proceedings of the American Antiquarian Society*. Valentini classified Mexican Codices as created either out of the

bark of the amatl tree or as maguey, the Indian term for any Agave-type plant. (Sandstrom & Sandstrom.1986.p18) This misconception had been passed down though the original Spanish observation that paper and books were made out of Maguey. Not much further research had been done on the actual paper and there was a complete lack of understanding of the meaning of “amatl”- the Indian word for paper. However, when Frederick Starr made his discovery of the Omoti tribe in 1900’s, researchers gained an understanding of the Pre-Columbian papermaking process. (Sandstrom & Sandstrom.1986.p19-20)

The Otomi people live in the state of Hidalgo, in San Pablito. This region lies between Central Mexico and the Gulf coast. The Otomi people had miraculously escaped much of the persecution of Spanish colonization, and continued rituals dedicated to fertility, success of crops, insuring rainfall, and curing disease. Ritual papermaking was one important part of this ceremony, done in secret only during certain time of the year. (Sandstrom & Sandstrom.1986.p18-22) Although the Otomis have little or no knowledge of the Pre-Columbian papermaking craft, Otomi papermaking seems to produce the same type of paper that was used in the Aztec and Mayan times. After the Otomi amate paper had been discovered, more papermaking villages were found. The Chicontepec, in Vera Cruz not far from San Pablito, are papermakers as well. The paper is also made for ritual in virtually the same way that the Otomi paper is made. Also like the Otomis, papermaking is a woman’s craft. (Van Hagen.1944.p56-59)

In 1910, Dr Rudolph Schwede tested the fibers from the Dresden Codex and other Mayan codices to determine that they were not made from the Agave, or maguey. This belief that Pre-Columbian paper was made from the agave plant had persisted for almost 300 years since Fray Motolinia had written: “A good paper is made from metl.” The metl Motolinda wrote about is a sort of Aloe plant that grows virtually everywhere in Mexico. While it was used for food, drink, house gutters, shoes and clothing, and even some sorts of paper, maguey was not the primary fiber used in Aztec papermaking. (Van Hagen.1944.p 42) Frederick Starr began the idea of bast-fiber paper in 1900 when he witnessed the Otomi stripping bark to beat into paper, and Dr. Rudolph Schwede concluded that the paper of the Mayan and Aztec world was made from the bast fibers, or inner bark fibers of several species of Ficus and a paper mulberry which is very similar to the plant used in Japanese papermaking. The most common papers are from the Ficus padifolia, Ficus Goldmanii, nettle bush (Ureca baccifera), and the mulberry (Morus celtifolia). The wild fig varieties (the Ficus) produce a brown paper and the mulberry trees produce white. (Christensen & Marti.1972.p14) This is important as both white and brown papers are needed to cast various white and black magic spells. Also, the bark of the wild fig peels off in very long sheets, which is kept intact and produces the characteristic folded screen fashion of the Mayan Codex.

The papermaking process is one of ritual and leisure. Paper is made in the springtime - cuano esta tierna la luna – when the moon is new. Men peel the long sheets of bark from the trees and separate the outer layer from the bast fibers. The bark is pulled off in long strips of at least 5 feet in length. Women who buy the inner bark from the men do the actual papermaking. Freshly peeled bark is soaked in cold, running water so that the

glutinous latex substance from the fibers will coagulate and can be scraped off. The fibers are hung to dry, and are then soaked in a boiling ash-water lime substance. The limewater residue, called nixtamal, is left over from soaking the corn used for making tortillas. (Christensen & Marti.1972.p 15) Once the fibers are softened from hours of cooking in the lime they are again rinsed in cool water and laid out in a wooden board to be beaten. The fibers are beaten with a munito, a stone that has grooves cut in which macerates the fibers. These stones have been found all over Mexico by archeologists and the Otomis prefer to use ancient stones if possible. The Chicontepec make paper in the same fashion except that they use a corncob to beat the fibers rather than a striated beating-stone. The fibers are pounded until the strips of bark have melded together to form a continuous sheet of paper. The sheet, which is smooth on the board side and rough on the beaten side, is allowed to dry in the sun. At this point, the side that faces the board is very smooth while the beaten side is rough. Although older papers used in codices were sized at this point and burnished by a stone to make the paper shiny, the Otomi paper is left rough. The paper, which measures 4 x 9 “ is folded and bound in quarterfolds, packaged in groups of six and sent to the village market for sale. (Van Hagen.1944.)

VI. Modern Uses of Amate Paper

The three major Indian groups of the Huasteca region are the Nahua (Aztec), Otomi and the Tepeha. These groups have been under constant scrutiny since around 1901 when Frederick Starr discovered that they were making paper in much the same way as their ancestors. How the Indians in these regions retained their knowledge is nothing short of miraculous, but it might have to do with their remote location and lack of gold. Since the early 1900's Dard Hunter, Bodil Christensen, Hans Lenz and Wolfgang Van Hagen have studied native papermaking. It is interesting that although papermaking techniques were of interest, until recently the use of the paper was largely ignored. (Sandstrom & Sandstrom.1986.p250-251)

By the 1940s and 1950s, traditional papermaking techniques were dying out because only the Otomis and their neighbors used handmade paper. Then, in the 1960's, amate paper became the choice palette for Nahua art from the Balsas River basin in Guerrero who specifically imported the paper the Otomis. The colorful paintings, which came to be known simply as Amate, became very popular on the western coast as tourist art. (Amith. 1995.p 20) As the popularity in the paintings grew throughout the 1970's, the demand rose for the bark paper and the Otomis became specialized in the handmade bark paper industry. In 1974 the Otomis produced between 50,000 – 60,000 pesos worth of paper used for Nahua paintings. There was even the addition of St. Martin the Lesser to the list of Saints, who in the Otomi village is known as San Jonote, Saint Bark Paper Fiber. Not only did the Otomi people prosper in the new found industry, but there was a revised interest in the papermaking process and why the ancient tradition had carried on for so long. ((Sandstrom & Sandstrom.1986.p259-265)

Since the 1970s researchers such as Alan Sandstrom have taken interest why the Otomi continued their tradition of papermaking and how the paper was used in rituals and ceremonies carried out by tribal shamans. The paper figurines, called munecos, are the current focus of research by Sandstrom and others interested in uncovering the history of paper in Mesoamerica. Although there is no direct correlation between the modern munecos and the Aztec rituals, it is known that cutting bark paper was a very important part of the ceremonies, and perhaps this modern practice is descended from the pre-conquest practices. The paper figures are cut like paper dolls, usually frontal with either bland or frightening expressions. The munecos look almost childlike, but the consistency of expression the figures possess show the artists' skill. Compared to the pre-Hispanic Mayan and Aztec codices, the figures are stylistically very similar. The figures all represent an aspect of the spirit world; usually something having to do with crops or the fertility of plants bearing food. There are also munecos that represent safety of children or figures meant to thwart evil spirits. These figures are still a vital part of the religious knowledge a shaman must possess to be successful "No shaman can establish a positive reputation without first becoming a master paper cutter." (Sandstrom & Sandstrom.1986.p 259-265)

Conclusion

The munecos represent strong ties between contemporary Indian groups and their ancestral past. Rituals that are performed now closely resemble those described by Fray Bernardino de Sahagan, and usually involve shamans cutting representative paper figures, sprinkling the figures with turkey or chicken blood, building dough sculptures that are adorned with paper, and burning copal incense in order to divine vision from the smoke. Paper headdresses either on the figures or used in ceremony is another aspect of Otomi custom that seems to have ties to ancient ritual. Senor Antonio Lopez, an Otomi shaman, and Alfonso Garcia described many of these rituals in small, amate paper books that were sold as tourist art along with munecos. Since the 1960's interest in the folk arts of Mexico has grown, and it is because of the availability of amate paper to tourists that much of the traditional papermaking industry has survived. (Sandstrom & Sandstrom.1986.)

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