

Teijgeler, R., The politics of amate and paper in Mexico. In: *IPH Congress Book 2006, vol.16*. Marburg: International Association of Paperhistorians. To be published soon.

Amate

From cloth, manuscript to painting

By René Teijgeler

Introduction

Even before the Spaniards landed, Mexico was a particularly ethnically diverse country.^{*} Many peoples, including the Toltec, Olmec, Zapotec and Totonac, speaking 150 languages, populated the central highlands and the coastal regions. Some of the early civilizations are now considered to be the oldest in the world. The most famous inhabitants of Central America are the Mayas and the Aztecs.¹ Who doesn't know about the ruins of the Mayan temples of Chichen Itzá in Yucatán and the Aztec Sun Stone, a stone calendar 3.6 metres in diameter. Mayan history goes back to the third century A.D. and persisted for 1100 years. The Aztec originated from a place called Aztlan, somewhere in north or northwest Mexico. In the 12th century they embarked on a period of wandering and in the 13th century settled in the central basin of Mexico after they had overrun and assimilated many of the former Mesoamerican tribes. They finally settled down on small islands in Lake Texcoco where, in 1325, they founded the town of Tenochtitlán (modern-day Mexico City) and continued until Hernando Cortés finally defeated the king Moctezuma II in 1521. The present inhabitants of the United States of Mexico have the Aztecs to thank for their name: they called their city-state 'Mexico', and themselves 'Mexica'. We know that most of the ancient Mexicans were literate. Experts assume that Mayan hieroglyphic writing dates from the year 0, and it remained in use until 200 years after the Spanish *Conquistadores* conquered America.² When the Aztecs marched into Mexico in 1150 from the north, they had no written language of their own. They took over the writing system used by one of the subjected peoples. Just as with the Mayan glyphic writing, the Aztec script gradually disappeared with the arrival of the Spaniards. But what material did they write upon and what are their manuscripts made of? Early Spanish accounts give us brief insight into how the Mexican 'paper' was manufactured. In fact, the Mayas and the Aztec wrote on sheets of beaten tree bark, a material noted for the fabrication of clothing in other parts of the world and the history of which goes back to before our era. Till this day, it continues to play a role in the socio-economic and religious life of many Mexicans.

Tapa

Thousands of years before the birth of Christ, different tribes all over the world wrap themselves in cloth made from beaten tree bark.³ They remove the bark in vertical strips from the trees and scrape off the outer layer of bark. The inner bark or bast, which is much more flexible and durable than the outer bark, is soaked and washed. After that the women pound the inner bark on a hard surface with a beater. The result is a piece of bark many times wider than it was originally. These sheets of beaten bark are generally called 'tapa'.⁴ In Peru, fragments of bark cloth were found as early as 2000 B.C. and Paul Tolstoy,

^{*} This paper is a revised and slightly updated version of an earlier article published as 'De geest van amatl. De religieuze schriftdragers van de Azteken en de Maya / The spirit of Amatl. Religious writing materials of the Aztecs and the Maya' [bi-lingual]. In: (Gentenaar, P. ed.) *Geest van Papier / Spirit of Paper*. Leiden / Rijswijk, Compres / Stichting Papier-manifestatie. 2004, pp. 136 – 186.

the well-known tapa researcher, has found what he believes to be bark-cloth beating stones from Guatemala that date to around 1000 B.C. (Tolstoy 1963 and 1991). At one time numerous Indian tribes in Latin and Central America produced tapa, primarily for clothing.⁵ This was also the case in Mexico. Tree-bark beater finds in the central highlands, show us that tapa was being made as long ago as the Stone Age. Clothing made from beaten tree bark continued in use long after the introduction of cotton cloth. Early Spanish writers record this practice as apparel among the Aztec (Duran, 1971 and Sahagún, 1905). The vast majority of Maya populations also exploit other resources than textile, because cotton garments are primarily worn by members of the elite. It is difficult to discover exactly how long bark material has been in use as a writing material. Especially as only a few manuscripts have escaped the zealous hands of the early Spanish religious fanatics. What is clear is that there is only one other example in the world where tapa is written upon, namely Indonesia, which makes the Mexican example extremely unusual (Teygeler, 2000). The Mexicans pound the separate sheets of tree bark together to form lengths sometimes over six metres long. These are folded in a zigzag manner to create folding books that are easy to inscribe and to read. The bark 'leporellos' are preserved in special rooms, emphasizing their importance.

Around the year 900, the Mayas have stopped to erect stelae, inscribed stone columns, and from then onwards wrote their stories entirely on beaten tree bark. Not much is known about how the Mayas manufacture and use tapa. We do know more however about the Aztec culture because it is one of the best documented in the New World. The Mayas call the beaten tree bark *huun* after the Yucatán Maya name for a particular fig tree, while the Aztecs refer to it as *amatl* from which the Mexican name *amate* derives. Both peoples first apply the material as clothing and then later as a writing material for their manuscripts. The 15th century centralized Aztec government is in great need of *amatl* for ceremonial tribute, manuscripts and documents, and for daily religious rituals of their citizens. There are at least 42 amate producing centres that deliver almost half a million sheets a year for use in tribute alone (Christensen et al, 1972, p. 9). The tapa tribute comes folded, rolled up in bundles, tipped with rubber and copal incense for burning. From far away places the tribute is carried to the capital by a stream of men, called *tlamemes*. Each of them carries 22 pounds of amate that is inspected by agents to insure the quality. The finest and whitest tapa would be set aside for writers and painters (Hagen, 1999, pp. 17-20). Hernando Cortés copies the tribute system from the Aztec but replaces the *amatl* by textiles. The Aztec tapa producers spread far within the empire. Many of the original Aztec city names survived despite the Hispanic assimilation. Place names with the prefix *amatl*, such as Amaculi, Amattitlan-caz, Amapala, Amatlan, Amacuzac, Amayuca, Amatepec and Amatlan are reminders of some of the former production centres of amate. These place names also recognize the historical importance of Mexican tapa manufacture.

The Lacandon

Among the Lacandon in Chiapas, descendents of the Maya, production of bark cloth survived till this day (Frederick, 2004). Interestingly, the Lacandon still use bark cloth in their rituals. The ceremonial implements include headbands (*chäk hu'un*) for ceremonies in which they are offered to their gods, represented by censers with human heads. They are dyed red with symbolic blood and have been associated with depictions of sacrifice in Classic Period Mayan art. This custom has already been recorded by Spanish priests in the 16th century. Other ritual tools are tapa adorned rattles (*soot*), God Pots (*läk-il k'uh*) occasionally adorned with headbands, and 'filet' offerings. Young boys even now accompany their father into the jungle to learn natures' secrets and as they sit by their fathers' sides to learn to pray and make offerings of bark cloth, incense boards, and rubber figures. Before, the Lacandon mainly used the wild fig tree (*hach hu'un*) to manufacture their tapa but in 2004 they also exploit a different member of the Moraceae family, the *Poulsenia armata* (*ak hu'un*). The *bitsar*, either the *Inga* spp. or 'Jinicuil', is also applied and makes a whiter tapa. The bark is stripped off the tree with machete, sometimes soaked in water,

and beaten on a long smooth log with a *bāxā*, probably made of the wild tamarind, to make it flat and pliable. There is a symbolism relating to the act of stripping bark for cloth and skinning an animal. Traditionally the Lacandon wear characteristic long white cotton tunics (*xikul*) but for religious ceremonies they occasionally wear bark-cloth tunics. Were there still 20 Lacandon men making bark cloth in the 1980's only a few men could produce the material in 2004 (Fredrick, 2004, p. 24). Producing a tapa tunic can take up to six hours after which they are decorated with round circles, the large ones representing the sun and the smaller ones jaguar spots.

The Lacandon believe themselves to be the direct descendents of the Classic Maya. To escape Spanish colonial domination they fled to the rainforest in the 17th or 18th century and until the mid-20th century they had little contact with the outside world. They are considered one of the most isolated and culturally conservative of Mexico's native peoples. There is no record of any groups within the Maya Highlands who still produce bark cloth. More and more the Lacandon Maya produce bark cloth directed toward the tourist industry.

Production

At first sight the preparation of amate appears to resemble tapa production in other cultures. After the familiar process to harvest the branches, cut them to size, strip the bark, separate the inner from the outer bark, soak the inner bark in (running) water and dry it in the sun, the strips of inner bark are cooked. Until the cooking process the activities are strictly for men, the rest of the manufacture is left to the women.

Dr. Francisco Hernández, one of Spain's leading physicians, was sent to New Spain by king Phillip II to lead a scientific expedition into the natural history. Around 1575 he visits the Aztec village Tepoztlan and gives a very accurate account of the local amate production: "They cut the larger branches from the tree...these are softened in water and allowed to soak all the night on the river banks. On the following day the outer bark is removed and cleaned of its outer crust with rock 'planches' shaped for that purpose, grooved with striations, and with a bunch of willow twigs through a hole and twisted for a handle. The bark is beaten out thoroughly with these stone beaters. It is thus rendered pliable. After this it is cut into strips which are easily joined together by beating the bark again with a smoother stone. They are then polished and so finally fashioned into sheets of two *dodrans* (44.36 cm) long and one and one-half *dodrans* (33.27 cm) wide. It is something like your own paper except that their paper is whiter and thicker, whilst ours is cheaper and heavier" (quoted in Hagen, 1999, p. 36).

The Otomi, who since pre-Columbian times occupy the mountains and valleys north of Mexico City, 'cook' the bark fibres in limewater for hours, just like they treat the maize kernels to produce a hominy-like substance called *nixtamal*. Cooking the fibres in maize water with lime will produce a yellow tapa as if they are cooked in wood-ash lye the tapa turns out to be much whiter. After boiling and rinsing, the Otomi beat the fibres together with a *muinto* (beater) until they form a sheet, no screen is involved. Striking is the fact that they cook the strips of bark in an alkaline substance; only few tapa producing people cook their fibres before beating. The production process so far is almost the same as the peoples in the Himalayas but those are simple papermakers and do not manufacture tapa. The beating process itself is different from other tapa producing cultures. The Otomi, after rinsing the fibres, cut them to fit a flat, wooden drying board. The strings of fibre are laid in a grid formation with one row horizontal and the next vertical thus forming a chequered pattern of strips. Then the fibres are beaten on the board and once the wholes in the chequer are closed the board with the freshly formed sheet of tapa is left to dry in the sun. The resulting tapa is of course smooth on one side and rough on the other. The rough side will be polished with a stone, in the old days possibly a heated stone. The customary method in other cultures is to beat the strips individually into single sheets, and if so desired to beat these small sheets together at a later stage to make one large sheet. It is unclear why the Otomi lay the bark strips in both horizontal and vertical rows before beating.

In order to make the lengthy screenfold manuscripts several sheets are glued or felted together as is the case with *huun* used in the Dresden Codex and Grolier Codex.⁶

It is clear that gradually the Mexican tapa producers have taken the next step on the ladder of paper technology. Cooking the fibres shows that the early Mexicans made use of a very sophisticated way of tapa production as this part of the process is absent in practically all tapa manufacturing cultures. The antique beaters vary from simple wooden sticks to beaters made from stone with the beating surface tooled in complex patterns. Archaeologists found stone tapa beaters in the prehistoric city of Teotihuacan dating back to the 6th century A.D. Indeed, incised stone bark beaters are a quite common artefact in prehistoric Mayan sites. They have deep grooves long the sides so that they can be mounted into a handle and the beating surface is incised to create ribs, sometimes in complicated patterns. The stone beaters are another example of the advanced level of technology in Mexico. The old beaters hardly differ from what the Otomi use today. Similar beaters have only been found on Sulawesi and Java, Indonesian islands well known for their high quality tapa (Teygeler, 2000). The Chicontepec use a corncob to beat the amate fibres rather than a beating stone.

Mexico is a large, and above all a diverse country, and not surprisingly amate is produced in a number of different ways. Today, the illiterate Lacandon Indians in Chiapas manufacture simple beaten tree bark sheets for the tourist industry that cannot be compared in quality to the refined sheets from the Otomi in San Pablito.

Fibres

From the beginning, there has been a debate about which plant fibre is actually used to manufacture amate. Numerous types of tapa are beaten from the inner bark of trees belonging to the Moraceae family, such as the mulberry and the fig tree. The first naturalist in New Spain, Dr. Francisco Hernández, observes the Aztec papermaking process in Tepoztlan. From his observations it is clear that the Aztec employ the wild fig as raw material for their *amatl* (Hagen, 1999, p. 37). In addition to the fact that Mexico has 50 different species of fig tree, some sources state that there is also a type of tapa made from the Maguey plant, usually identified as *Agave lurida*.⁷ The agave is a plant with large, thick, spiny leaves and is not a species that has an outer and inner bark. In Mexico, it is well known as a source of 'pulque', a strong alcoholic beverage, and as a coarse fibre known to us as sisal. The Aztecs had used sisal for the production of ropes and nets, and later also for weaving fabrics. So in theory the manuscripts could also have been made from the thick leaves of the agave.

Microscopic investigation provides the answer. In 1912 Rudolf Schwede examines three Maya codices and a number of other fragments for the first time and establishes that all the bark papers came from the fig tree, also known as ficus (Schwede, 1912). Four years later Schwede has the opportunity to study 21 more documents (Schwede, 1916). Out of the entire manuscripts investigated one appears to be made from the bark of the Maguey plant. In 1941, at the initiative of Hans Lenz, 44 fibre preparations taken from early Mexican documents are examined, of which three point to the Maguey plant (Lenz, 1961). Michael D. Coe examines the last unexamined pre-Conquest Maya manuscript, the Grolier Codex, in 1972 and comes to the conclusion that the primary material is processed from a species of wild fig (Coe et al., 1997). This finally provides conclusive evidence that the major part of the Mexican tapa is made from the inner bark of fig trees and that the leaves of the agave are used only on a very limited scale. The species of fig trees in San Pablito are later identified as *xaláma(tl) limón* (*Ficus padifolia*) and *xalama* (*Ficus goldmanii*), but other species can have been used depending on the locality. In general the fibre from the fig produces a darker coloured material. Therefore probably from the 20th century onwards a third species is introduced to give the tapa a naturally lighter colour: the mulberry or *mora* (*Morus celtidifolia*). Now that amate has become an immense popular product, increasingly other bark fibres are being exploited though this does not always enhance the quality.

Manuscripts

New archaeological evidence shows that the pictographical writing tradition in Mexico goes back to 650 B.C.⁸ Since, the Mexican glyphs can be found on stone monuments, murals, portable objects, painted or carved ceramics and, above all, in the painted documents. Some of these documents, especially land maps, are painted on large cotton cloth as *lienzos*. It is recorded that Moctezuma II presented Hernando Cortés with several cloth maps, which were extremely helpful in finding his way to Honduras. Other manuscripts are calligraphied on animal skin, books that usually do not exceed the 50 pages.⁹ The Mexican manuscript tradition can be grouped roughly in three broad categories: religious books and guides for living, historical books and practical documents. The first focused on the relation between the natural and the supernatural like protocols for ritual and ceremonies, and divinatory almanacs that serves as essential guides for a balanced living which the Aztec called *tonalamatl*. The historical documents record the mythical as well as the secular history of the people, including cosmogonies and annals called by the Aztec *xiuhtonalamatl*. To the more practical records belong the land maps, tribute and local tax lists, law books, censuses, business records and records of court cases.

The Italian humanist Pedro Martir de Angleria (1455/57-1526) is one of the first chroniclers of the Indies. He describes the Mexican books to Pope Adriaan VI at great length: "we have said these people possess books, and the inhabitants of these new colonies of Colhuacan and their leaders and messengers brought a great many of them. They write in these books, which are made of a certain thin bark of a tree, formed below the outer bark [...] I saw tablets covered with plaster sifted like flour. These can be written upon whenever desired, and then erased with a sponge or cloth as to be used again. The managers of large business houses carry books with them to the markets, made from strips of the fig tree, and they write down with a metal stylus what they purchase, erasing the writing when they transfer it to their account books [...] they not only bind books, but also extend the material for several cubits in length, reducing it to squares which are compact, and not loose, and then glued together with a kind of pitch which is so resistant and flexible that, compared to the wooden boards, they seem to have come from the hands of a clever bookbinder. Whenever the book is seen open two written pages are presented; two faces appear and, behind these, another two, so that when the folio is not placed at full length, there are many pages underneath each one" (Angleria, 1944, p. 335).

Currently, around 500 ancient Mexican manuscripts are known dispersed over the whole world of which 140 are kept at the *Biblioteca Nacional de Antropología e Historia* in Mexico City. Only 16 pre-Columbian leporello books have been recorded, the other texts are written after Cortés' invasion, mainly in the 16th century.¹⁰

Mayan manuscripts

Out of thousands or perhaps more manuscripts once extant during the Classic Maya period (AD 250-900) none remain. For the Post-Classical era (AD 900-1400) it was doubtless greatly diminished from the Classic downfall, but for certain more than the four surviving manuscripts. The books are written on a large sheet of *huun* doubled in folds. To reach the necessary thickness 2 to 3 sheets are fixed on top of another, either by felting or gluing. Each sheet has also to be attached horizontally to its neighbour until the desired length is achieved, a process that most likely precedes the thickening operation. How the leaves are folded is still unclear but it has to be carried out before the coating is applied. The composition of the plaster or gesso sizing has not been unveiled completely, though one source mentions that the plaster is made from the ashes of a shrub by the name of *Zactha* or *tizace* (Tschudin, 1961). Usually the *ah ts'ib*, the Maya scribe, calligraphies both sides of the tree bark paper. His first task is to lay a network of gridlines in thin red wash over those pages on which he is to place his text and accompanying pictures, never more than four pages at one time. The lines are drawn with a quill or reed pen and a straight-edge. Further evidence shows that the scribe knows exactly what he is going to write.

It is not unthinkable that he has another codex at his side to guide him. Especially in the Dresden Codex different hands can be distinguished. The Aztec knew of the Maya lowlands as the 'Land of the Black and the Red', i.e. the land of the codices, and it is true that both black and red pigments are employed to write the hieroglyphic manuscripts.

The folded paper is enclosed between two wooden boards coated with verdigris, a copper salt also known as 'Spanish green' or 'Maya blue'. Some screenfold books are depicted with covers of jaguar skin, emphasizing their regal nature. The pre-Columbian manuscript Vaticanus B is bound between polished boards embellished with a few tiny disks of jade. Both Maya men and women can become scribes. Women have a very high status among the Maya elite, and that includes the production of texts. Though their actual number might have been far lower than the number of men, some of the most beautiful examples are attributed to female scribes.

Mayan book ritual

It is known from the Mayas that their book culture is so sophisticated that they ritually purify their books once a year. The manuscripts are kept permanently in temple libraries except for special occasions when they are allowed to leave the temple as part of ceremonies honouring particular temple gods. For example in the month of Uo, at the beginning of August, the Maya celebrate a festival dedicated to the god Itzamna in which books play an important role. Diego de Landa (1966) reports that, after the priests has driven the devil from the temple, they carry the books outside and set them down in a specially designated cool and open place. They probably unfold the books completely to 'air' them. Next they took a little verdigris and mixed it with 'pure water', which it is said comes from high in the mountains where no woman has ever set foot. This concoction is rubbed onto the covers of the book to (ritually) purify them. Only after this ritual has taken place does the high priest open the book and study the sacred contents and explain the text to those present.

The 'purifying of the book' is a peculiar example of ritual acts being combined with practical knowledge. Perhaps it is difficult for the Maya to rationalize the benefit of their actions, whereas nowadays we know that regular airing of manuscripts is conducive to their preservation. The moisture trapped in the innermost parts of the book is able to evaporate and the usual lucifugous insects can escape. Quite why they paste the covers with verdigris is not wholly understood. We do know that from very early times the same substance is added to foodstuffs to inhibit the growth of bacteria and moulds. Obviously the Maya apply it for the same reason in their purification ritual.

Aztec manuscripts

During Aztec rule the production of *amatl* takes on truly industrial proportions; the material has great significance for them. They rely on painted books and records to document almost all aspects of life. As the Maya the Aztec store their sacred writings in special chambers on the temple complex. Not only is the message itself holy, but the material on which it is written – the sheets of beaten tree bark – has a certain mystique. The sacral element also plays a role in the other applications of amate, these include banners, decorations for statues and figurines, and the headdresses of priests. Some banners reach enormous lengths. Friar Bernardino de Sahagún (1970-81) describes a ceremony in which a banner measuring 33.86 metres long, 1.67 metres wide and 1.5 centimetres thick is used. This would explain why such a great number of ancient tree-bark beaters have been found in the regions around the Aztec capital of Tenochtitlán. The daily life in Aztec society is permeated by religion, it upholds imperial rule and serves as an inspiration for art and culture.

As is the case in other ancient civilizations, knowledge, set down in the form of a writing system is synonymous with power and has therefore to be protected from the ignorance of the common people. This is why the literate class is restricted to the caste of priests and those required reading and writing in order to carry out their duties. Members of this religious caste record their accumulated wisdom in books and

based on this make predictions about the weather, the best day on which to go into battle, to marry or to honour the Gods. Thus wisdom is passed on to the next generation of religious-political leaders. The priests often take their precious works with them when they travel, and some are even buried with their books.

At the peak of Aztec civilization there is even mention of division of labour in the production of books. Under the strict supervision of the priests, papermakers produce the *amatl*, scribes draft the contours of the letters which they afterwards fill in with colour. The painters, called *tlacuilo*, make the colours from natural pigments and the bookbinders fold the tree bark and provide the books with an upper and lower cover fixed in place with glue made from orchids. To make writing easier, the tree bark is pasted with a white vegetable based, calciferous substance. The hieroglyphs require a lot of space and many volumes are needed in order to be able to describe each event satisfactorily. The number of scribes must also have been enormous. Books are not only important for the religion but also for the administration of the kingdom. Information is recorded for example about the past, about daily life, rituals and ceremonies, the calendar, the registration of human migration, and agreements and data of administrative importance. Compared to the first chronicles made after the *Conquista*, the original literature is far more accurate, which without doubt does the early writers much credit.

New Spain

In search of El Dorado, the mythical land of gold, the Spaniard Hernando Cortés lands on the coast of Mexico in 1519, and within three years conquers the Aztec Empire. The capital, Tenochtitlán, is totally destroyed and the capital city of New Spain, present-day Mexico City is built on its ruins. From early in the colonial period Mexico is a cornerstone of the Spanish empire. Royal officials are sent out in 1523 to rule what Cortés has conquered, and the area is given in 1535 the status of a viceroyalty.

The Spanish colonists see the original Aztec books for the first time in the treasure chambers of Cempoallan in Veracruz. It is an awe-inspiring moment for them – they had never expected that heathens would be able to read and write. In amazement, they write about the manuscripts given by Moctezuma II, saying that they are painted in pure colours that the Indians call 'tonalmatl' and that they are folded like Castillian fabric.

The arrival of the *Conquistadores* brings an abrupt end to a highly developed pre-Columbian writing culture. The destruction of the enormous libraries is so complete that just a handful of manuscripts have survived from the period preceding the Spanish conquest. One of the most heinous acts of biblioclasm since the destruction of the Library of Alexandria can be laid at the door of the *Conquistadores*.

The only sources on which we can draw for knowledge about the Mexico at the time of Cortés are a couple of indigenous manuscripts and several reports from the first Spanish colonists. Direct contact between the Aztecs and the Spanish nobility is probably the reason why we are better informed about the Aztecs than any other Central American people. The negotiations between the Aztec king Moctezuma II and Cortés are accurately recorded by a local writer: five days later, messengers from the intimidated Moctezuma arrive bearing more gifts for Cortés, among them two books, which are later sent as trophies to King Charles V of Spain.

With the conquest of the Aztec Empire, the first Spanish missionaries enter the country. They keep chronicles, which are initially written down by Aztec scribes. The missionaries teach these local scribes themselves in a school close to Mexico City. So it transpires that some books from this period are recorded in Aztec, including several Christian texts, and even written on *amatl*. No doubt they proved to be very useful in the conversion of the heathens to Christianity and the conquest of the rest of Mexico.

Book burning

Whenever Cortés enters a Mexican town he throws down idols, including the manuscripts they contain, according to his secretary. It is the heart of the Aztec empire, the Aztec Triple Alliance that bears the brunt of this destruction. During the raid at Texcoco in 1520 the entire royal archive of Nezahualpilli, housed in a stone building, goes up in flames. Apparently it is burned publicly in the market square of Tlatelolco. After the siege of Tenochtitlán Cortés leaves a valorous young brute, Pedro d'Alvarado, in charge who unleashes a massacre and causes the Aztec to rise against the Spaniards. When after many a battle Cortés (re-)conquers the city on 13 August 1521 the palaces and temples are all burned to the ground and the canals must have filled with countless painted books.

Soon after the *Conquista*, the first ecclesiastical representative of the church appears on the Mexican horizon; the cross following the sword as is so often the case. Friar Juan de Zumárraga, the first bishop of Mexico, begins the spiritual conquest of Mexico in 1529. Idolatry must and will be replaced with the crucifix and the indigenous manuscripts with the Bible, the true Word of God. His agents collect all the indigenous books from every remote corner of the Aztec Empire and much to the distress of the local inhabitants destroy them. This burning of pagan texts is known as an "auto-de-fé," or "act of faith." Incidentally, some of the book burning is down to the new converts themselves. The souls of those receiving baptism cannot be saved as long as they own devilish books, and for their own peace of mind, they themselves often offer up their books to the Catholic clergy for destruction.

We have Diego de Landa, the second bishop of Yucatán, to thank for most of the knowledge we have about the Mayan civilization. Strangely enough, he is also the one responsible for the devastating destruction of their ancient written language. First of all he demolishes one of the most beautiful pyramids and uses the rubble to build his first church. Although daunting, it has little effect on the Mayas, who continue to practice their religion and consult their ancient books. This is the reason Landa goes searching for the ancient manuscripts and how he discovers the library of Mani on the peninsula of Yucatán in 1561. Contemptuously, he writes: "we found a great number of books [...] and considering that they contained nothing more than superstition and falsehoods of the devil, we burned them all, which they [the indigenous people] found dreadful, and which caused them much sorrow" (Landa, 1966, p. 82).

Not all the mendicant fathers agree with this dubious 'act of faith'. When Antonio de Ciudad Real has the opportunity to see the Maya codices 20 years after the destructive action at Mani he shows much appreciation for the Maya writings. He is convinced that the possession of writing and books raises the Maya of Yucatán above the rest of the native peoples of New Spain (Landa, 1966). In 1590 the Jesuit Joseph de Acosta even condemns the book burnings in unmistakable terms (Landa, 1966). Friar Diego Duran (1971, p. 55), who grew up in New Spain, states in 1581 that 'those who with fervent zeal (though with little prudence) in the beginning burned and destroyed all the ancient Indian pictographic documents were mistaken. They left us without a light to guide us'.

The Spaniards are not altogether to blame for the destruction of the rich libraries. About 100 years earlier the Aztec king Itzcoatl (1428 - 1440) has, just like the Spanish missionaries, a similarly radical view when it comes to history. After one of the many conquests, he decides that his subjects need a new version of Aztec history. The rewritten documents state that the Aztecs are now descendants of the Toltec nobility and that their gods stand on a par with the ancient Gods of creation. The Aztecs, who are now called the 'People of the Sun', are a race of warriors. The aim of this 'revamping' is nothing more than a means to reaffirm the supremacy of Tenochtitlán and to sacrifice yet more prisoners to the source of all life: the Sun. In order to achieve his goal, Itzcoatl issues the order that all old manuscripts are, without exception, to be thrown onto the fire as well as the books of the conquered people.

Decline of Tradition

With the devastating fires of Mani and Tlatelolco and, we mustn't forget with some help from emperor Itzcoatl, almost all physical evidence of the ancient writing culture of the Aztecs and the Maya has disappeared. The general loss is so extensive that many of the chroniclers from the second half of the 16th century complain that most manuscripts have been burned or destroyed. In particular the religious codices suffer from 'persecution' and together with the indigenous religious ideas the 'painted word' goes underground. It seems that by the 1530s most religious writing has apparently perished. Secular manuscripts also suffer from the unrest of the conquest, but they are not the clear targets like the religious codices were.

As in the 16th century the so-called Spanish world and Indian world become largely inseparable some of the traditional Maya or Aztec texts are written in manuscripts that combine European paper sections with amate sections. The painters differ greatly: one draws crude images on bark paper and another paints in European style on European paper.¹¹ At the same time early Spanish colonial texts are sometimes written on tapa. Known is the volume *Sermones de dominicas y de sanctos en lengua mexicana* by friar Bernardino de Sahagún (1563), which was written in Aztec on 95 sheets of amate. A reason for the use of this mixture of hands and writing materials could be the fact that the colonial rulers engaged Aztec scribes in the very early days of the *Conquista*. For the two new Spanish manuscript forms in the 16th century, the cultural encyclopaedia and the Testerman catechism¹², the friars provide the local scribes with European paper.¹³ Today they are considered artificial genres of manuscript painting. Similar examples of a transitional writing culture are found in 16th century Indonesia when Islam finally reaches Java and the palmleaf manuscripts are slowly replaced by paper manuscripts as well as texts written on tapa (Teygeler, 2000). A confusing Maya manuscript is the Madrid Codex (Schuster, 1999). Thus far it has been considered to date back to the post-Classical period (AD 900-1400). However, fragments of European paper with Spanish writing have been found on the first and last page of the manuscript, sandwiched or glued between layers of amate. The handwriting suggests the paper was written on in the early 17th century. It is unclear whether the paper was inserted at the time of production or at a later date.¹⁴

Many Maya, for instance the Lacandon, flee the violence of the new rulers and retreat to densely forested areas like Yucatán and Petén Itzá state. Here the traditional writing system and book production survive until the 17th century. In a different form, the tradition itself is kept alive in the *Books of Chilam Balam*, native Maya texts written on European paper using the modified Spanish alphabet, which are largely 18th century in date (Coe et al, 1997). It can even be argued that the Maya priests from Yucatán passed their traditional knowledge on to this day through the role of *maestro cantor* or 'choirmaster' who was in charge of all native church officials. Though the sacred knowledge might have survived the Maya writing tradition eventually disappears.

With the disappearance of the calligraphy the production of the traditional writing material, amate, also goes into decline. Many Indians die during the inquisition and huge areas of Mexico become almost completely depopulated as a result of the politics of colonization. Town after town and village after village halt their production of tapa, which has been such a fundamental part of the traditional rites. The Spaniards do not see any point in continuing the production of a stream of alien bark papers in the capital. They attempt an investigation into the bark papers, but come to the conclusion that the local tapa is completely unsuitable for the quill pen and lead type: it is too coarse, too stiff and too irregular. Dr Francisco Hernández, who arrives in 1570 with an expedition and sees how the Aztecs make *amatl*, also decides "it is not suitable for writing on or drawing a line, although the ink does not spread" (Hagen, 1999). The greatest cultural loss takes place in the large urban centres. The Spanish authorities settle here in order to oversee in situ the implementation of their policies. Life in the small, isolated villages although badly affected, is much more difficult to control. Even to this very day, it is precisely in these inhospitable areas where the old religion held its own the longest. Gradually, the people adapt to the new situation under Spanish rule without having to forfeit too much of their own identity.

It is thanks to these remote places that amate production is still able to lead a slumbering existence.

The Post-Colonial Press

By 1500 the Iberian peninsula has conquered the last Moorish kingdom and the expulsion of the Jews makes possible the religious unification of a state that has earlier achieved political solidarity with the marriage of Isabelle of Castile and Ferdinand of Aragon. The discovery of America offers the Spanish a chance to build a new society from its foundations. However, the existence of large Indian populations requires their prudent and lengthy assimilation into the Spanish way of life. The Catholic Church is instrumental in realizing the social and political goals of the Spanish crown in the New World. The first members of the religious orders participate in the conversion of the Indians to Christianity and lay the groundwork for the continuous and stable growth of Spanish American society. Apart from the clergy's demands for vocabularies, grammars, and doctrinal works, the laity as well require the services of the press. In 1571 the Inquisition seriously limits the freedom of press in Mexico.

Printing press

Most astonishing in the history of printing is the fact that, in less than a century after its invention, printing with movable metal type was introduced in the New World. Immediately after his arrival the later archbishop of Mexico Juan Zumárraga realizes how important the printing press will be for the spreading of the Word. The archbishop wishes to have books in the native languages for the use of priests and missionaries. Thus the first printed books are works of devotion for the instruction of the Indians in the Christian faith. Exactly 20 years after Cortés shook the hand of the Aztec emperor, the first publication rolls off a Mexican press, an impressive achievement. In 1539, Juan Zumárraga has a printer brought from Europe, Juan Pablos from the leading printing firm of Juan Cromberger in Seville, Spain¹⁵. In Seville Cromberger starts to print a catechism in the Aztec language but he concludes that the work can be better done by a printer in the immediate contact with the people who speak that language. The first professional printer on the whole American continent brings with him a pressman by the name of Gil Barbero, a printing press, gothic types, western paper and ingredients for making ink.¹⁶ In his contract Juan Pablos is to print 3,000 sheets daily. Next, he is required to act as sales representative for the sale of books and merchandise sent to Mexico by Cromberger. In case the type wore-out he is to melt it down rather than sell it as not to encourage competition. Cromberger dies the next year and after some interruption Juan Pablos takes over the printing office and continues the business till 1560. The first book he prints is the religious manual *Breve y más compendiosa doctrina christiana en lengua mexicana y castellana* (A brief and greatly abridged Christian doctrine in the Mexican and Castilian languages) and it appears in 1539. As no copy of this book survives, we have to turn to two surviving leaves of a *Manual de adultos*, issued December 13, 1540 for physical evidence. The next book appears in 1541, and from that time onwards volumes are published with varying regularity. Juan Pablos soon has built his own printing shop alongside land settled by the Augustans, today the site of the National Library of Mexico. In 1550 he engages the services of Antonio de Espinosa, a skilled punch-cutter who four years later is to cut the first roman and italic types. In 1559 Espinosa starts a print shop for himself and in the following 26 years does much to improve the quality of his former associate. Pablos estate passed in 1563 into the hands of Pedro Orcharte, the third printer in Mexico and editor of the first book on American medicine "Opera medicinalia" by Doctor Francisco Bravo, 1570. Some believe that Esteban Martín preceded Juan Pablos (McMurtrie, 1989, p.393). Esteban Martin joins Pedro de Mendoza in 1532 on his mammoth expedition from Seville to the Río de la Plata. According to the passenger list he is a printer from Granada. However, he never reaches the Plata basin but stays in Mexico. There is evidence that in 1535 he printed *Escala espiritual para llegar al cielo*,

a translation of a work by San Juan Climaco and *Catechismo mexicano* by Juan de Ribas in 1537. Yet, no copies of these or of any other book printed by him are now extant.

Mexico City remains the main residence for the printing shops for almost 200 years. On instigation of bishop Palafox y Mendoza a print shop is established around 1639 at Pueblo de los Ángeles. In 1793 Mariano Valdez Téllez Girón sets up shop at Guadalajara after which printing spread throughout the country; presses appear in Puebla, Oaxaca, Veracruz and Mérida. New Spain even provides the first printer for Peru. A certain Antonio Ricardo, printer from Turin, was asked by the Jesuits in 1570 to come to Lima to work for them. He decides to take on this task as he has found the competition in Mexico City too keen.¹⁷ The publication of language-learning materials in Mexico extends beyond locally spoken dialects to include a Japanese grammar printed for missionaries preparing to work in Japan. Not having access to oriental typefaces, the authors and printers reproduce the Japanese words phonetically using roman type.¹⁸

In the 16th century 179 books are published in Mexico that are highly regarded for their typographical quality. In the next century the total printed works amount to 1228, a number that exceeds the book production of many European cities. In total 11 printers are identified who worked in 16th century Mexico City and over 30 printers that we know of who were active in the 17th century (Torre Villar et al., 1970). It has been estimated that during the whole of the Spanish colonial period 17,000 books were printed in dozens of different locations throughout the country, even in the jungle (Greer Johnson, 1988, p. XIV). These figures show the enormous publishing activity in New Spain. In the multitude of problems in early colonial printing one of the biggest problems is the continuous scarcity of paper that restrains the edition of many works.¹⁹ The majority of the papers have to be imported from Europe as the Mexican paper mills does not manufacture enough paper and besides that paper is of low quality.

Paper mills

Just as the printing presses are getting onto top gear, there develops a pressing shortage of western rag paper. Urged by the monks who had remained behind, friar Zumárraga pleads for the construction of a paper mill in 1533 for the Spanish Court (Zumárraga, 1533). The nobility seems compliant and funds are set aside. Four years later in 1538, still no one has crossed the ocean and they have to continue making do with amate. Two businessmen, Hérmán Sánchez de Muñón from Mexico and Juan Cornejo from Madrid examine the local writing material, amate, and think that they will be able to make paper from the same raw material. Although they receive a charter from King Philip II in 1575 allowing them to produce paper for a period of 20 years, no records have subsequently been found of them having actually set up a paper mill (Lenz, 1968).

The first mill constructed on the western model to be pinpointed is established in 1575 in Culhuacán close to the newly erected monastery of Saint Matthew. The prove is found in the writings and drawings of the royal administrator, the *corregidor* Gonzalo Gallegos in 1580 (Aznar de Cozar, 1956). Until 1960 a few remnants of the mill survive, yet in 1986 Mexican archaeologists start their first dig at the site and two years later the restoration of the first paper mill on the American continent begins (Montellano, 2006). Paper used for a map of Meztitlan, a place not far from Culhuacán, is very possibly from the first Mexican paper mill (Haude, 1998). Just like the printing press, this paper mill is the first on the entire American continent, which is quite an accomplishment considering that the first paper mill in North America was established in 1685 by William Bradford in Pennsylvania. As far as it is known, the first Mexican mill does not carry a watermark of its own. In 1618 a second paper mill is set up in La Magdalena to the south of the new capital. The first proprietor is Juan Pérez Aparicio and the mill is in service until at least 1774. The viceroy Duke de la Conquista grants Francisco Pardo on 13 December 1740 the right to establish a paper mill, probably in Mexico City. The Miraflores mill starts out to grind grains around 1565 and is owned by the first son of Hernando Cortés, Martín Cortés. At least in 1604 there are most likely two mills, of which one is producing paper. In 1759 this mill was renamed 'Loreto' (Lenz, 1968).

Changing hands several times the paper mill is considered the longest existing papermaking mill that in 1814 was auctioned off after which date no information was found. Due to the fact that businesses are registered under the name of the proprietor in official documents, it is difficult, unless a list of owners has been recorded, to discover when the mills cease functioning.

Paper production from the local paper mills alone can not meet the demand for paper; imports of European paper continue unabated. Besides, government regulations hinder the papermaking business in Mexico while the Spanish customs are very favourable for the local industry. In the second half of the 17th century 839,592 reams of paper left the ports of Seville and Cadiz (one ream counts 500 leaves). Although part of this paper is produced by Spanish mills, mainly Catalan, most of it is manufactured in the paper craft centres of France and Genoa (Asenjo Martínez et al., 2007). The many wars in Europe badly affect the paper imports in Mexico. At times the paper shortage is so bad that many books are torn up to sell the printed pages. In 1732 24 ships entered Veracruz with 160,992 reams of paper, in 1741 the 'Nuestra Señora del Carmen y San Jorge' brought 733,416 reams and the 'Santa Rosa' 123,216 reams. Between 1802 and 1819 the imports rose to 33,600,000 reams of paper from Spain alone. Like in the 19th century modern Mexico still has to import most of its papers. In 1997 the Mexican pulp and paper industry accounted for 2.7 percent of manufacturing Gross Domestic Product and a year earlier the pulp production rose to 3,162,000 tons.

Modern times

After it declares independence from Spain in 1821, the young Mexico rediscovered its ancient history. The 19th century lifts the veil of secrecy obscuring the history of the Aztecs, the Mayas and other ancient Mexican peoples. In 1839, John Lloyd Stephens, a lawyer-diplomat turns archaeologist, revives interest with fascinating tales of the buried and abandoned cities of Central America. Especially at the end of this century modern man begins the systematic recovery of ancient Mesoamerica. As in the Old World, explorers search for the ruins of ancient inhabitants of the New World: Alfred Maudsley carries on his intensive work among the Mayan ruins from the 1880s onwards and uncovers the famous Maya site Copán, Honduras in 1885 and Edward Herbert Thompson discovers the treasures of Chichen Itzá, a flourishing centre of Mayan culture as early as the 7th century A.D. in 1904. Regrettably, by this time the indigenous writing systems just about have vanished.

It is during this period that the so-called Dresden Codex, a Mayan manuscript, is rediscovered. The celebrated naturalist Alexander von Humboldt publishes the first fragments, having travelled to the New World himself in 1799 (Humboldt, 1941). Five years later he purchases eight manuscripts at an auction and sent them to Europe. They originate from a collection belonging to Chevalier Lorenzo Boturini who travelled through Mexico in 1735 and collected almost 500 hieroglyph books. However he is arrested and deported to Spain. The whole collection remains behind in Mexico City and only eight of the 500 original items have survived the ravages of time. All that time these precious works have been left laying on the floor in a damp room. Still, there is no one as yet who can fully decipher the Dresden Codex. Constantine Rafinesque, the American naturalist and philologist, establishes a link between the manuscript and the strange symbols found on newly uncovered ruins in the jungles of Mexico. New exploratory expeditions are being organized and the debate on the origin and meaning of the hieroglyphs continues furiously. The lack of original texts and limited knowledge of the language means that it wasn't until after the Second World War that an anywhere near adequate understanding is gained of the Mayan script. Yet, it would take two more generations of linguists before all the mysteries of the script and language of the Maya would be unravelled.

Researching amate

Around 1900, the American anthropologist Frederick Starr undertakes a number of expeditions to southern and central Mexico. On one of his trips, quite by accident,

he comes across the Otomi Indians in San Pablito. Attracted by the insistent pounding of the bark beaters, he discovers that the village women still make amate at home (Starr, 1900). Up until then it has been assumed that this craft has been lost forever.

Since Starr's discovery, the serious lack of research material has been amply compensated for by various scientists. San Pablito is inundated with scholars since then: Dard Hunter (ca. 1906), Victor von Hagen (ca. 1930), Bodil Christensen and Samuel Marti (1934), Hans Lenz (1942-1945), Wilhelm Sandermann (1967), Maarten Janssen and Ted Leyenaar (1974), Allan and Pamela Sandstrom (ca. 1980) and many, many more²⁰. Their research embraces on the one hand the production of the beaten tree bark and on the other the religious rites, which are in fact closely linked. Thus the wife of Don Alfonso, the famous *brujo-curandero* [sorcerer-witch doctor] of San Pablito and the most important 'informant' of the multitudes of researchers, produces, at the request of her husband, the beaten inner bark for sacred ceremonies. In 1974 Don Alfonso's son goes to school in Mexico City and as many other Otomi does not show any interest in the amate spirits of San Pablito.

The spirit of amate

In the several hundred years following Cortés's invasion, if Indians are found with bundles of amate cut into religious ritualistic shapes, they would be brought to trial for idolatry. Instances such as this happen as late as 1889 (Sandstrom et al., 1986, p.17). When a few years later Frederick Starr studies the ethnography of South Mexico, he is not only surprised to discover the production of amate but is also fascinated by the uses to which the sheets of bark are put. Book production utilizing tapa had ceased centuries earlier; shaman now use it for the cut-out figures that play an important role in their religious proceedings. Besides using amate for their manuscripts, the Aztecs decorate statues and figurines of their gods with *amatl* to honour them; made offerings of the bark sheets decorated with the figures of the gods drawn in dotted lines of gum; and adorned prisoners with the sheets before they are sacrificed. Thus the material plays an extremely significant role in the religious ceremonies of the Aztecs, a religious cult that, notwithstanding the grotesque and sometimes violent course of history, has managed to stand the test of time.

The *muñecos* (cut outs) used today represent gods that have to be banished or driven out (*juego de ataque*), or gods from whom favours are required or who need to be appeased or to whom thanks are due. When illness strikes for example, the shaman has to ensure that the evil spirit haunting the sick person is exorcised from the body. If the patient does not recover, he seeks out whoever he suspects of the witchcraft and puts a curse on the culprit. This is done by piercing a dark coloured paper figure with a thorn from an acacia, then burying it with some hair of the victim, a few threads from his clothing or his photograph. Affairs of the heart can also be influenced by the use of the bark figures. A woman whose husband has left her will go to the shaman for help. He cuts out a pair of pale coloured figures and folds the arms of the male figure around the female figure. He then passes them through the smoke from the incense burner in order to convince the man to return to his wife. Sometimes he inserts the paper figures into his mouth, inhales the smoke deeply and blows it into the mouths of the figures. When the ceremony is over, he instructs the wife to take the amate figures everywhere with her, even to bed. But first she has to tie a lock of her husband's hair to the figures with a thread in her favourite colour. If she follows his instructions diligently her husband will definitely return.

White and black magic

White magic is practiced when benign spirits are involved and black magic deals with the evil spirits. This is why the darker figures are destroyed after each ceremony and the white paper figures are preserved. The difference between 'good' and 'evil' is also expressed in the colour of the amate: the lightest sheet possible is used for the benign spirits – often made from the mulberry tree – and a dark sheet for the evil spirits, every so often dyed purple. Today it is not uncommon to use *Papel de China*, modern coloured paper in stead of amate.

In the 1970s, Allan and Pamela Sandstrom record 200 gods and spirits, an extensive pantheon that varies widely from locality to locality.

Some of the paper figures are easy to recognize:

- a female figure is always identifiable by a lock of hair on her forehead which is missing from the male figure
- figures with shoes always represent evil spirits, such as non-Indian communities
- cut-outs with animal heads are always bad spirits
- sheets displaying a perforated pattern are called 'beds,' the figures rest on them during the cleansing ceremonies

The religious ceremonies can be extremely costly because as well as the amate figures, other goods have to be purchased. In addition, it is the custom to provide everyone with plenty of food and drink, and naturally the musicians and shaman have to be paid (Sandstrom et al., 1986).

'Costumbra para la milpa'

In 1941, the Mexican musicologist Samuel Marti collect a number of songs of the Otomi Indians in San Pablito (Christensen et al., 1972). One of the songs from his collection is sung at the 'Costumbra para la milpa', the ritual of the milpa. Milpa is a traditional form of arable farming whereby all the required crops are planted together in the same field. In this ceremony an offering is made to the 'Spirit of the Field' in the hope of a bountiful harvest.

During the proceedings carried out by the shaman, musicians play a tune on the fiddle accompanied by a guitar. A separate melody consisting of several bars is played for each part of the ritual and is repeated over and over again. Generally speaking, the music corresponds to the four stages of the ritual: the Arrival, the Offering, the Joy and the Farewell. The ritual to the 'Spirit of the Field' starts with the shaman taking some earth from all four corners of the field and putting it in a new clay pot. The pot is lined with white amate and also contains an offering of chocolate, cigarettes, bread, sweet cakes, sugar, confectionary, candles, a small broom, a gourd and a wooden bowl. In addition, the 'Spirit of the Field', in the form of several figures cut out of white amate and decorated with fresh greens, is added. The pot is then covered with a wooden board and buried in the field. Several days later, the pot is dug up again and the earth returned to the four corners of the field.

The 'Spirit of the Field' ritual can be divided into the following activities:

- gathering Earth from the four corners of the field;
- greeting the Green Decoration ('from the 'Spirit of the Field');
- thanking Mother Earth with a song;
- returning the Earth to the four corners of the field;
- saying farewell in the form of a dance;
- saying farewell in the form of a song.

Amate or paper?

During the Mexican revolution of 1915, all the bark papers of San Gregorio, Hidalgo are burned. Meanwhile industrially produced paper has become popular and in the decades that follow the art of amate-making threatens to disappear. For example in Ixtololoya, Puebla bark sheets are replaced by the industrial product. The modern paper is available in all sorts of colours, which is very convenient because many gods have their own specific colour. Yet the use of amate does not disappear entirely; it continues to be held in high esteem and appears to be more suitable for the rites. In 1930, there are just a few families and tribes in remote areas of the states of Puebla and Veracruz still producing the bark cloth. Throughout the Second World War, production picks up and the sound of the bark beaters echoes through many villages in the states of Hidalgo, Veracruz and Puebla once again. There have been changes though: whereas previously amate production was exclusively women's work and the men were only involved with the harvesting of the bark.

Now, because of increased demand, the men have been drafted into helping with the production process. Customarily, the amate was only produced in the springtime – when the moon is new but for reasons of high demand it is probably produced outside that season as well. Its traditional use only survives with the Otomi and the Nahuatl, descendants of the Aztec, in the mountains of Puebla and Huasteca.

In 1961 Tschudin identifies several places, next to the tapa production by the Lacandons from Chiapas, where the Indians still produce amate: the Otomi in San Pablito (Puebla), the Chicontepec in Jxhatlan (Veracruz), in Ixtoloya (Pantepec), in San Gregorio (Hidalgo) and in Xalapa (Zacualtipan). The Otomi Indians from San Pablito become the most famous as they were 'discovered' the first and consequently attracted hordes of researchers. Just as their kinsman elsewhere they have specialized in the production of one particular product and continued to produce amate on an extremely modest scale till the early 1960s. By that time the fight against Western paper seems to have been lost.

Amate souvenirs

It is in the early 1960s that the manufacture of the traditional bark sheets started. Max Kerlow, owner of a shop in Mexico City selling traditional art, and the artist Felipe Ehrenberg introduce amate painting in the Balsas valley. The Balsas Nahuatl of Guerrero quickly change from decorating pottery to *pintura en amate* (painting in amate); it is easier to transport and sell. The various decorative motifs are taken from the local ceramic art and executed in acrylic colour. They have used the amate for religious ceremonies only but never produced it themselves. The amate is bought from the Otomi at San Pablito in the state of Puebla, some 500 kilometres away.

In the 1970s the *tlacuilos* (painters) are still experimenting with different materials. An American by the name of Ed Rabkin discovers several of the San Agustín Oapan amate painters in 1972 and encourages them to paint larger works on board that can still be acquired today. In 1974, the community of San Pablito produces sheets of tree bark to the value of between 50,000 and 60,000 pesos per month; the amate industry is flourishing. One of the consequences of this boom, is that many Otomi are today militant supporters of the original religion although over the centuries this has become inextricably interwoven with Catholicism.²¹ In San Pablito, the saint San Jonote, also known as San Amatl, has been added to the pantheon of local gods; a traditional interpretation of the Catholic St. Martin the Lesser.

With the growing stream of tourists visiting the country the popularity of the amate paintings grows considerably in the late 1980s. Particularly in the beginning the decoration of amate is to gain an extra income. The *amates de pájores* (amates with birds) are much cheaper and less elaborate than the *amates de historia* (amates that tell stories) that constitute pictographic ethnographies of the Balsas Nahuatl culture. Some renowned craftsmen produce exclusively for collectors all over the world and earn thousands of dollars.²² The initial commercialization of amate starts in the community of Ameyaltepec and spreads throughout the entire Balsas region.²³ It has become such an outstanding economic means of survival that in certain communities it has even displaced agricultural activities.

The Balsas Nahuatl knew how to stand up against strong pressures during colonial and modern times to assimilate. Culturally they could survive because of isolation, intense commerce, and ritual networking (Flores Farfán et al, 2003). In the early 1990s the threat of an hydroelectric dam that would flood the entire Balsas valley causes the Balsas Nahuatls to mobilize at grassroot level. They successfully oppose this government project and the Nahuatl community comes out stronger than before. The recent history of recreation and innovation clearly manifested in their characteristic arts, including their most successful product of painted amate, provides a fruitful ground for this new militant activism. Still, their cultural and linguistic survival is threatened by strong migration and the presence of Spanish-only schools in the region. With the help of the wealth of local crafts, especially amate, the University of Mexico started to intervene at the educational level.

Cultural heritage

Much has changed since the tourists started flooding into Mexico. True artists and charlatans alike, throw themselves into producing sheets of tree bark covered in modern acrylic paints and neon colours. An industry has already developed producing pre-printed sheets, which make the colourist's job easier. Countless galleries and souvenir shops sell traditional craft products or as an advertisement puts it: "Bring a world of bright colours, dramatic skies and ancient mysteries to the city".

The success of an idea or a product can quickly become its downfall. Mexico's folk culture has now been denigrated to the role of economic goods. Amate's original use has to all intents and purposes been superseded by less expensive paper. The poor now often have their paper spirits cut from sheets of brown wrapping paper or tissue paper, while the rich choose amate from San Pablito. For how much longer the spirit of amate will wander the dry, bear mountains of South and Central Mexico is difficult to predict. Until now, the Otomi Indians especially, using more or less the same means, have been able to continue the extraordinary tradition of their forefathers.

However, there is more at stake. In a time of globalization, the danger of local cultures succumbing to Western market forces, is not inconceivable. It is not without reason that Unesco, in 1989, recommended that measures be taken to combat the threatened demise of the 'immaterial' culture. Amate is actually not so much a writing material as a fundamental part of a age-old religious tradition. As such, it is inextricably bound up with the national spiritual legacy of Mexico. The disappearance of amate could also herald the end of an ancient religion and all its customs, and with it an essential part of Mexico's identity. Let us hope, however, that a tradition more than 2000 years old that has survived countless bloody battlefields and new technology, will also be able to defy an uncertain future.

*Quitquique yn tlilli yn tlapalli
yn amoxtli yn tlacuilolli,
quitquique yn tlamatiliztli,
mochi quitquique yn cuicaamatl yn tlapitzalli.*

*They bear the black inks, the red inks,
the books, the pictographs,
they convey wisdom,
they convey everything, the song books, the flutes.*

Bernardino de Sahagún (Florentine Codex)

Literature:

- Angleria, Pedro Martir de, *Decades of the world*, Buenos Aires 1944.
- Asenjo Martínez, José Luis and Maria del Carmen Hidalgo Brinquis, *El papel: 2.000 años de historia. Exposición Itinerante de la Asociación Hispánica de Historiadores del Papel*. Published at URL: <http://www.aspapel.es/upload/historia.pdf> (accessed 9 January 2007).
- Aznar de Cozar, Andrés, *Relación de Puctla* [por Andrés Aznar de Cozar] y *Relación de Culhuacán* [por Gonzalo Gallegos]. Vargas Rea, Mexico 1956.
- Christensen, B. and S. Marti , *Witchcraft and pre-columbian paper*, Mexico City 1972.
- Coe, M.D. and J.Kerr, *The art of the Maya scribe*, London 1997.
- Duran, Diego, *Books of the Gods and Rites and the Ancient Calendar*. (Fernando Horcasitas and Doris Heyden, eds. and trans.), Norman 1971.
- Frederick, Jennie, 'Lacandon Maya Bark Cloth: Hu'un', in *Hand Papermaking* 19/2 (2004) pp. 23-30.
- Flores Farfàn, J.A. and C. Ramirez Celestino, 'Crafting means to empower Nahua language and culture', in: *Cultural Survival Quarterly* 27.4 (2003).

- Greer Johnson, J., *The book in the Americas. The role of books and printing in the development of culture and society in colonial Latin America*, Providence (RI) 1988.
- Hagen, V.W. von, *The Aztec and Maya papermakers*, New York 1999.
- Haude, M.E., 'Identification of colorants on maps from the early colonial period of New Spain (Mexico)', in: *Journal of the American Institute for Conservation* 37/3 (1998), pp. 240-270.
- Hill Boone, Elizabeth, 'Pictorial Documents and Visual Thinking in Postconquest Mexico', in Hill Boone, Elizabeth, and Tom Cummins (eds.), *Native Traditions in the Postconquest World*, Washington (1998), pp.149-199.
- Humboldt, A. von, *Political essay on the Kingdom of New Spain* (reprint), Mexico 1941.
- Hunter, D., *Primitive papermaking. An account of a Mexican sojourn and of a voyage to the Pacific islands in search of information, implements and specimens relating to the making and decorating of bark-paper*, Chillicothe 1927.
- Jansen, M.E.R.G.N., and Th.J.J. Leyenaar, 'De Amate Geesten van San Pablito', in: *Verre Naasten Naderbij* 9/1 (1975), pp. 29-60.
- Landa, Diego de, *Relación de las cosas de Yucatán. A translation, edited with notes by Alfred M. Tozzer*, New York 1966.
- Lenz, H., *Mexican Indian Paper: Its history and survival*, Mexico City 1961.
- Lenz, H., 'Das Papier in der Kolonialzeit Mexicos', in: *Papiergeschichte* 18 (1968), pp. 39-48.
- Mercader Martinez, Yolanda *Los códices de México*, México [City] 1979.
- McMurtrie, D.C., *The Book. The Story of Printing and Bookmaking*, London 1989
- Montellano, Marcela, 'El primer molino de papel de América'. Lecture on 6 October 2006 at 28th IPH Congress held at Museu Moli Paperer de Capellades, Spain (to be published).
- Motolinia, Toribio de Benavente, *Historia de los indios de la Nueva España*, Edmundo O'Gorman (ed.), Mexico City 1979.
- Oyanguren de Santa Inés, Melchior, *Arte de la Lengua Japona, dividido en quatro libros segun el Arte de nebrixa, con algunas voces proprias de la escritura, y otras de loslenguages de Ximo, y del Cami*. Mexico, 1738
- Sahagún, Bernardino de, *General history of the things of New Spain*. Translated from the Aztec into English, with notes and illustrations by Arthur O. Anderson [and] Charles E. Dibble, Santa Fe (NM) 1970-1981.
- Sahagún, Bernardino de, *Primeros Memoriales del Códice Matritense del Real Palacio, [and] Historia de las Cosas de Nueva España publicado por Francisco del Paso y Troncoso*, vol. VII., Madrid 1905.
- Sahagún, Bernardino de, *Sermones de dominicas y de sanctos en lengua mexicana*. Chicago 1563. Ayer MS 1485, Newberry Library.
- Sandermann, W., 'How paper was made and used in 16th-century Central America', in: *Pulp and Paper International* (1969), pp. 55-57.
- Sandstrom, A.R. and P.E. Sandstrom, *Traditional Papermaking and Paper Cult Figures of Mexico*, London 1986.
- Schuster, Angela M.H., 'Redating the Madrid Codex', in *Archaeology* 52/1 (1999)
- Schwede, R., *Über das Papier der Maya-Codices und einiger altmexikanischer Bilderhandschriften*, Dresden 1912.
- Schwede, R., 'Ein weiterer Beitrag zur Geschichte des altmexikanischen Papiers', in: *Jahresbericht der Vereinigung für angewandte Botanik* 13 (1916), pp. 4-55.
- Starr, F., 'Mexican Paper', in: *American Antiquarian and Oriental Journal* 22 (1900), pp. 301-309.
- Teygeler, R. , 'Dluwang, a near-paper from Indonesia', in (Teygeler, R. ed.): *IPH Congress book 1996, vol.11*. Marburg 2000, pp. 134-145.
- Tolstoy, P. , 'Cultural Parallels Between Southeast Asia and Mesoamerica in the Manufacture of Bark Cloth', in: *Transactions of the New York Academy of Sciences, Series 2*, 1963 (25/1), pp. 646-662.

- Tolstoy, P. , 'Paper route. Were the Manufacture and Use of Bark Paper Introduced into Mesoamerica from Asia?', in: *Natural History* 1991(6): pp. 6-14.
- Torre Villar, E. de la, and A. Gomez, *Das Buch in Mexiko/El libro en Mexico*, 1970.
- Tschudin, W.F., 'Älteste Papierbereitungsverfahren in Mittelamerika. Zusammenhänge zwischen Tapa, Maya-und Otomipapier', in: *Textil-Rundschau* 12 (1961), pp. 3-12 and 16.
- Wheatcroft, Andrew, *Infidels. A history of the conflict between Christendom and Islam*. London: Viking 2003.
- Zumárraga, Juan, *Memorial al Consejo de Indias*. Archivo General de Indias, Seville (1533).

¹ The word Aztec was invented by a 19th century writer; perhaps the word was used to sanitize or distance the historical people from their progeny. The people encountered by Hernando Cortés were known as the Mexica, leaders of the Triple Alliance. Today the more scholarly name for the people is Nahuatl and for their language Nahuatl. For reasons of clarity I continue the use of the popular word Aztec.

² The leaders of Spanish expeditions to the New World call themselves *conquistadores*, a name expressing the similarity of conquests in the New World to the recently accomplished *reconquista*, the Christian crusades to conquer or (re)conquer Spain from the Muslim Moors (A. Wheatcroft, 2003).

³ See the so-called 'tapa belt' referred to in W.F. Tschudin (1961).

⁴ The word *tapa* derives from the Hawaiian word *kapa* meaning 'the beaten thing' It comes into general use after James Cook's travels in the Pacific as the equivalent for 'bark-cloth'.

⁵ For example the Sumo, the Jicaque and the Tawahkas from Honduras, the Gran Chaco from Bolivia and the Tukuna from Brazil

⁶ Analysis shows that also the native *Mapa de Quinatzin* of 1546 consists of two sheets of amate glued together. Next, in the 1570s Francisco Hernández notices that the Aztec of Tepoztlan make use of vegetable glue, an orchid species, to fasten sheets together (V. von Hagen, 1999).

⁷ Friar Toribio de Benavente Motolinia writes in the 16th century 'A good paper is made from metl' The metl he means is a sort of Aloe plant that virtually grows everywhere in Mexico (T. de B. Motolinia, 1979).

⁸ Professor Mary E.D. Pohl from Florida State University and co-researchers Kevin O. Pope of Geo Eco Arc Research and Christopher von Nagy of Tulane University uncover a cylinder seal and fragments of a carved greenstone plaque bearing glyphs dating to 650 B.C. during a recent excavation in the Gulf Coast of Tabasco, Mexico. The discovery provides evidence that it was the Olmec culture that is the first in Mesoamerica to formalize writing and a calendar system.

⁹ Some of these skin screenfold books are the *Codex Borgia* (Apostolic Library in the Vatican, Rome), *Codex Cospi* (Biblioteca Universitaria, Bologna), *Codex Fejervary-Mayer* (Free Public Museum, Liverpool) and *Codex Laud* (Bodleian Library, Oxford).

¹⁰ Next to the four known pre-Columbian Maya screenfold books (Madrid Codex, Grolier Codex, Dresden Codex, Paris Codex) the majority of the other texts are Aztec (i.e. Codex Borbonicus, Codex Boturini).

¹¹ A testimony for the New Spanish court from 1539 by the native painter Mateos was officially recorded on amate (E. Hill Boone 1998, pp. 165-166).

¹² In view of the difficulties of explaining the transcendence of the Christian god to Indians, the Spanish missionaries choose to convey their teachings by means of expressive Indian molds so that there will be a syncretic fusion between the native and the evangelical. Thus, pictorial catechisms illustrating the tenets of Christianity begins to appear. These catechisms are called 'Testerian', as it is believed that Brother Jacobo de Testera is one of the first to use this method in Mexico.

¹³ Examples of cultural encyclopedias are the Codex Tudela, Codex Magliabechiano and Codex Telleriano-Remensis (E. Hill Boone, 1998, p.159)

¹⁴ See Y. Mercader Martinez (1979) for other examples of Mexican and Spanish manuscripts from the transitional period.

¹⁵ Juan Pablos or by his Italian name Giovanni Paoli, was born in Brescia, Lombardy and Juan Cromberger left Germany to settle in Seville, Spain.

¹⁶ It is not until 1628 that Stephen Day builds the first printing press in North America at Massachusetts Bay and helps establish the Cambridge Press.

¹⁷ In 1660 the Mexican printer José de Pineda Ibarra introduces the printing press in Guatemala. Other countrymen help to establish the first presses in California and New Mexico, USA.

¹⁸ See M. Oyanguren de Santa Inés (1738).

¹⁹ See the letter from archbishop Zumárraga to Charles IV, king of Spain, dated May 6, 1538.

²⁰ See D. Hunter, 1927; V. von Hagen, 1999; B. Christensen and S. Marti, 1972; H. Lenz, 1961; Janssen and Th..J.J. Leyenaar, 1975; M.E.R.G.A. Sandstrom and P. Sandstrom, 1986;

²¹ According to tradition already in 1531 a beautiful dark-skinned Aztec speaking Virgin Mary appears unto the baptized Aztec Juan Diego on the location where the Aztec lunar mother goddess *Tonantzin* was honoured. This manifestation came to be known as *La Virgen de Guadalupe* (The Virgin of Guadalupe) who not only becomes the Queen of Mexico but also the patron saint of the entire Latin American continent.

²² Like the artist Marcial Ayala, from the famous Ayala family, who is commissioned to create an artwork in 2001 by the Smithsonian Institution for the grand opening of the National Museum of the American Indian.

²³ Other important amate-painting producing communities in the Balsas valley are Xalitla, Maxela and San Agustin Oapan.