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(English only)

The spirit of Amatl

*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)

Sun-drenched Mexico is a country that relies principally on tourism. The travel brochures are full of people dressed in brightly coloured fabrics and you can almost hear the strumming of Mexican guitars echoing through the living room. But at the same time there is something mystical about Mexico, the ancient land of the Indians who built the enormous pyramids, the land of human sacrifices and the intoxicating beverages, in short the land of Carlos Castaneda. It is also predominantly a country of 'folk art': ceramics, weaving, lacquer and gourd work, and brightly coloured sheets of beaten bark. The tourist industry proliferates here and the handicrafts are now on sale just around the corner from our own front doors. However, most of the purchasers know very little about these indigenous products. Yet the history of the sheets of beaten bark for example goes back to before the birth of Christ and they continue to play an important role in the religious life of many Mexicans.

Even before the Spaniards landed, Mexico was an extremely ethnically diverse country. Many peoples, including the Toltec, Olmec, Zapotec, Totonac and Mixtec, 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 were the Mayas and the Aztecs. Who hasn't seen the ruins of the Mayan temples of Chichen Itzá in Yucatan 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 empire started in 1325 with the construction of the capital city, Tenochtitlán and continued until Hernando Cortés finally defeated the last emperor, Montezuma II, in 1521.

The present inhabitants of the United States of Mexico have the Aztecs to thank for their name: they also called their city-state 'Mexico', and themselves 'Mexica'. Most experts assume that Mayan hieroglyphic writing dates from the year 0, and it remained in use until 200 years after the Spanish Conquistadors conquered America. When the Aztecs marched into Mexico in 1150 from the north, they had no written language of their own. They soon 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.

Tapa

Thousands of years before the birth of Christ, different tribes wrapped themselves in cloth made from beaten tree bark. They removed the bark in vertical strips from the trees and scraped off the outer layer of bark. The inner bark or bast, which is much more flexible and durable than the outer bark, was soaked and washed. After that the women pounded the inner bark on a hard surface with a beater. The result was a piece of bark five times wider than it was originally.

These sheets of beaten bark were called 'tapa'. There are numerous Indian tribes on the two American continents that produce tapa, primarily for clothing. This is also the case in Mexico. It appears from tree-bark beater finds in the central highlands, that tapa was being made as long ago as the Stone Age. Clothing made from beaten tree bark continued to be used after the introduction of cotton cloth. However, it is now the poor who wear barkcloth at religious festivals while the rich wear clothes made from textiles.

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 survived from that period. What is clear is that there is only one other example in the world, namely Indonesia, of tapa being used as a writing material, which makes the Mexican example extremely unusual.

Huun and amatl

The Mexicans pounded the separate sheets of tree bark together to form lengths sometimes up to ten metres long. These were folded in a zigzag manner to create folding books, which are easy to inscribe and to read. The bark 'leporellos' were preserved in special rooms, emphasizing their importance. Currently, just fourteen pre-Columbian leporello books have been recorded, most of which are to be found in European libraries. As well as the Mayan and Aztec manuscripts, there are also a number of Zapotec and Mixtec texts.

Around the year 900, the Mayas stopped erecting stelae, inscribed stone columns, and from then onwards wrote their stories on beaten tree bark. Not much is known about how the Mayas produced and used tapa. We do know more however about the Aztec culture because it is one of the best documented in the New World. The Mayas called the beaten tree bark 'huun', while the Aztecs referred to it as 'amatl'. Both peoples first used the material for clothing and then later as a writing material for their manuscripts.

Aztec manuscripts

During Aztec rule the production of amatl takes on truly industrial proportions. 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 was permeated by religion, it upheld imperial rule and served as an inspiration for art and culture. As was the case in other ancient civilizations, knowledge, set down in the form of a writing system was synonymous with power and had to therefore be protected from the ignorance of the common people. This is why the literate class was restricted to the caste of priests and those required to read and write in order to carry out their duties.

Members of this religious caste recorded their accumulated wisdom in books and based on this made predictions about the weather, the best day on which to go into battle, to marry or to honour the Gods. Thus wisdom was passed on to the next generation of religious-political leaders. The priests often took their precious works with them when they travelled, and some were even buried with their books.

At the peak of Aztec civilization there was even mention of division of labour in the production of books. Under the strict supervision of the priests, papermakers produced the amatl, scribes drafted the contours of the letters which they afterwards filled in with colour, the painters made the colours from natural pigments and the bookbinders folded the tree bark and provided the books with an upper and lower cover fixed in place with glue made from orchids. To make writing easier, the tree bark was pasted with a white vegetable based, calciferous substance. The hieroglyphs required a lot of space and many volumes were needed in order to be able to describe each event satisfactorily. The number of scribes must also have been enormous.

Books were not only important for the religion but also for the administration of the kingdom. Information was 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.

Mayan book rituals

It is known from the Mayas that their book culture was so sophisticated that they ritually purified their books once a year. The manuscripts were kept permanently in temple libraries except for special occasions when they were 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 celebrated a festival dedicated to the god Itzamna in which books play an important role.

Diego de Landa reports that, after the priests had driven the devil from the temple, they carried the books outside and set them down in a specially designated cool and open place. They probably unfolded the books completely to 'air' them. Next they took a little verdigris, copper salt - also known as 'Spanish green' - and mixed it with 'pure water', which it was said came from high in the mountains where no woman had ever set foot. This concoction was rubbed onto the covers of the book to (ritually) purify them. Only after this ritual had taken place did 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 was 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 was able to evaporate and the usual lucifugous insects could escape. Quite why they pasted the covers with verdigris is not wholly understood. We do know that from very early times the same substance was added to foodstuffs to inhibit the growth of bacteria and moulds. Obviously the Maya used it for the same reason in their purification ritual.

Banners

The use of amatl had great significance for the Aztecs. Not only was the message itself holy, but the material on which it was written – the sheets of beaten tree bark – had a certain mystique. Therefore, it was for good reason that the hundreds of books they produced were carefully stored in special temple rooms.

The sacral element also played a role in the other applications of amatl, these included banners, decorations for statues and figurines, and the headdresses of priests. Some banners reached enormous lengths. Friar Bernardino de Sahagún described a ceremony in which a banner measuring 33.86 metres long, 1.67 metres wide and 1.5 centimetres thick was used.

As far as can be determined, in the period before the Spanish conquest, the Maya and Aztecs made their huun and amatl in the same way as all other sorts of tapa. The raw material they used came from a number of species of fig tree and in a few cases a species of agave. In view of the different shapes of the tree-bark beaters, the production process must have been gradually refined in the course of the years. The beaters vary from simple wooden sticks to beaters made from stone with the beating surface tooled in complex patterns.

Conquistadors

In search of El Dorado, the city of gold, the Spaniard Hernando Cortés landed on the coast of Mexico in 1519, and within three years conquered the Aztec Empire. The capital, Tenochtitlán, was totally destroyed and the capital city of New Spain, present-day Mexico, City was built on its ruins. This brought an abrupt end to a highly developed pre-Columbian writing culture. The destruction of the enormous libraries was 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 Conquistadors. The only sources on which we can draw for knowledge about the Mexico at the time of Cortés are several indigenous manuscripts and a few 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 Montezuma II and Cortés were accurately recorded by a local writer: five days later, messengers from the intimidated Montezuma arrived bearing more gifts for Cortés, among them two books, which were later sent as trophies to King Charles V of Spain.

With the conquest of the Aztec Empire, the first Spanish missionaries entered the country. They kept chronicles, which were initially written down by Aztec scribes. The missionaries taught these local scribes themselves in a school close to Mexico City. So it transpired 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.

Treasure chambers

The Spanish colonists saw the original Mexican books for the first time in the treasure chambers of Cempoallan in Veracruz. It was an awe-inspiring moment for them – they had never expected that heathens would be able to read and write. In amazement, they wrote about the manuscripts given by Montezuma II, saying: “[they were] painted in pure colours that the Indians call ‘tonalmatl’ [...] folded like Castillian fabric”.

Six years later, the Italian humanist Pedro Martir de Angleria, official historian of the New Indies, wrote to the (Netherlands) Pope Adriaan VI about the miraculous Mexican books: “We have seen that these people possess books, and the inhabitants, the leaders and the messengers from the new colonies in Colhuacan brought these with them in great numbers. They write in these books, which are made of a particularly thin sort of tree bark that is to be found under the outer bark. [...] They do not only bind the books, but extend the material to several sheets long, after which they are brought back to squares that are compact and not loose from one another and then glue them together with a sort of resin so that they are resistant and flexible, which can be compared to wooden boards, they are probably the work of an ingenious bookbinder”.

Tlatelolco

Soon after, the first ecclesiastical representative of the church appeared on the Mexican horizon; as is often the case, the cross following the sword. Friar Juan de Zumárraga began the spiritual conquest of Mexico in 1529. Idolatry must and would be replaced with the crucifix and the indigenous manuscripts with the Bible, the true Word of God. His agents collected all the indigenous books from every remote corner of the Aztec Empire and much to the distress of the local inhabitants destroyed them.

It was the royal library of Texcoco, in particular, that bore the brunt of this destruction. The huge collection was burned publicly in the market square of Tlatelolco. Incidentally, some of the book burning was down to the new converts themselves. The souls of those receiving baptism could not be saved as long as they owned devilish books, and for their own piece of mind, they themselves often offered up their books to the Catholic clergy for destruction.

Itzcoatl

The first Aztec emperor Itzcoatl (1428 - 1440) had, just like the Spanish missionaries who came later, a similarly radical view when it came to history. After one of the many conquests, he decided that his subjects needed a new version of Aztec history. The rewritten documents stated that the Aztecs were now descendants of the Toltec nobility and that their gods stood on a par with the ancient Gods of creation. The Aztecs, who were now called the ‘People of the Sun’, were a race of warriors. The aim of this ‘revamping’ was 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 issued the order that all old manuscripts were, without exception, to be thrown onto the fire.

Mani

We have Diego de Landa, the second bishop of Yucatan, to thank for most of the knowledge we have about the Mayan civilization. Strangely enough, he was also the one responsible for the devastating destruction of the ancient written language of the Maya. First of all he demolished one of the most beautiful pyramids and used the rubble to build his first church. Although daunting, it had little effect on the Mayas, who continued to practice their religion and consult their ancient books.

This was the reason Landa went searching for the ancient manuscripts and how he discovered the library of Mani. Contemptuously, he wrote: "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".

Decline

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 written culture of the Aztecs and the Maya has disappeared.

After Cortés and his Indian allies had defeated the Aztecs, the production of the traditional writing material, amatl, also went into decline. The Spaniards who took over the empire saw no point in continuing the production of a stream of alien bark papers in the capital. They attempted an investigation into the huun of the Mayas and the amatl of the Aztecs, but came to the conclusion that both sorts of tapa were completely unsuitable for the quill pen and lead type: it was too coarse, too stiff and too irregular. The doctor Francisco Hernandez, who arrived in 1570 with an expedition and saw how the Aztec tapa was made, also decided "it is not suitable for writing on or drawing a line, although the ink does not spread".

Due to the fanatic persecution and the mass burning of books, the demand for sheets of tree bark declined further. Many died during the inquisition and huge areas of Mexico became almost completely depopulated as a result of the politics of colonization. Town after town, and village after village halted their production of tapa, which had been such a fundamental part of the traditional rites.

Place names with the prefix amatl, such as Amatlan, Amacuzac, Amayuca, Amatepec and Amatla are reminders of some of the former production centres of amatl. The greatest cultural loss took place in the large urban centres. The Spanish authorities settled here in order to oversee in situ the implementation of their policies. Life in the small, isolated villages although badly affected, was 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 adapted 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 amatl production is still able to lead a slumbering existence.

The printing press

Immediately after his arrival, friar Zumárraga realized how important the printing press would be for the spreading of the Word. Exactly 20 years after Cortés shook the hand of the last Aztec emperor, the first publication rolled off a Mexican press, an impressive achievement. In 1539, Zumárraga had a printer brought from Europe, the Italian Juan Pablos from the printing firm of Juan Cromberger in Seville. The first professional printer on the whole American continent brought with him a printing press, gothic types, western paper and ingredients for making ink.

The first product to come off his press, of which at least one fragment has survived, was the 'Manual de adultos', a primer for adults printed in 1540. In 1550, Juan Pablos engaged the services of Antonio de Espinosa,

who four years later was to cut the first roman and italic types, and very soon had built his own printing shop alongside land settled by the Augustians, now the site of the National Library of Mexico. It has been estimated that during the whole of the colonial period 17,000 books were printed in dozens of different locations throughout the country, even in the jungle.

Paper mills

Just as the printing presses were getting onto top gear, there appeared to be a pressing shortage of western rag paper. Urged by the monks who had remained behind, in 1534 friar Zumárraga pleaded for the construction of a paper mill for the Spanish Court. The nobility appeared compliant and funds were set aside. Four years later in 1538, still no one had crossed the ocean and they had to continue making do with amatl. Two businessmen, Hérmán Sánchez de Muñón from Mexico and Juan Cornejo from Madrid examined the local writing material, amatl, and thought that they would be able to make paper from the same raw material. Although they received a charter from King Philip II in 1575, no records have subsequently been found of them having actually set up a paper mill.

The first mill constructed on the western model to be pinpointed was established in 1575 in Culhuacán close to the new capital Mexico City, a few remnants of which survived until the end of 1960. As far as it is known, this mill did not carry a watermark of their own. A short while later, a second paper mill was set up in La Magdalena to the south of the new capital, which was in service until at least 1774. Due to the fact that businesses were 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 ceased functioning. There was in any event one more paper mill built in the succeeding years, which remained in business until 1814. Paper production from the paper mills alone could not meet local demand for paper; imports of European paper continued unabated. Which explains why all the pages of an anthology written in Culhuacán around 1600 are made of European paper. From the watermarks in a number of paper maps dating from around 1575, it appears that they were drawn on paper originating from Spain and France. Paper used for a map of Meztitlan, a place not far from Culhuacán, is very possibly from the first Mexican paper mill.

Modern times

After she gained independence from Spain in 1822, the young Mexico rediscovered its ancient history. The 19th century lifted the veil of secrecy obscuring the mysteries of the Aztecs, the Mayas and other ancient Mexican peoples. It was during this period that the so-called Dresden Codex, a Mayan manuscript, was rediscovered.

The famous naturalist Alexander von Humboldt published the first fragments, having travelled to the New World himself in 1799. In 1804, he purchased eight manuscripts at an auction and sent them to Europe. They originated from a collection belonging to Chevalier Lorenzo Boturini who travelled through Mexico in 1735 and collected almost 500 hieroglyph books. However he was arrested and deported to Spain. The whole collection remained behind in Mexico City and only eight of the 500 original items have survived the ravages of time. All that time these precious works had been left laying on the floor in a damp room. The indigenous writing has to all intents and purposes vanished and been replaced by the Latin script of the new mother country: there is no one as yet who can decipher the Dresden Codex. Constantine Rafinesque the American naturalist has established a link between the manuscript and the strange symbols found on ruins recently uncovered 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 meant that it wasn't until after the Second World War that an anywhere near adequate understanding was 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.

Bark beaters

Around 1900, the American anthropologist Frederick Starr undertook a number of expeditions to southern and central Mexico. On one of his trips, quite by accident, he came across the Otomi Indians in San Pablito. Attracted by the insistent pounding of the bark beaters, he discovered that the village women still made amatl at home. Up until then it had been assumed that this craft had been lost forever.

Since Starr's discovery, the serious lack of research material has been amply compensated for by various scientists. San Pablito has been inundated with scholars since then: Dard Hunter (ca. 1906), Victor von Hagen (ca. 1930), Bodil Christensen and Samuel Marti (1934), Nicolas Léon (ca. 1940), Hans Lenz (1942-1945), Maarten Janssen and Ted Leyenaar (1974), Allan and Pamela Sandstrom (ca. 1980) and many, many more. Their research embraced 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 shaman 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.

Production

At first sight the preparation of amatl appears to resemble tapa production in other cultures. On further consideration however there is indeed a difference. The Otomi, and possibly their forefathers, 'cook' the bark fibres after they have washed them in limewater. There are no records of any other tapa culture cooking the fibres beforehand. However, this is in fact an essential requirement in the preparation of fibres in the papermaking process. When the fibres are cooked, they separate into smaller fibre bundles, which can then be beaten more finely. Only in this way do the cellulose fibres become thoroughly suspended in the water. The fibres are so finely beaten that they can be lifted with a mould when mixed with water, forming a layer on the screen, that when dried produces a familiar sheet of paper. However, after boiling, the Otomi beat the fibres together with a beater until they form a sheet, no screen is involved.

It is clear that the amatl producers have taken the next step on the ladder of paper technology. The beaters made from stone are another example of the advanced level of technology in use in some parts of Mexico. They had deep grooves long the sides so that they could be mounted into a handle and the beating surface was incised to create ribs, sometimes in complicated patterns. Similar beaters have only been found Sulawesi and Java, Indonesian islands well known for their high quality tapa.

In order to make a single sheet, the 'amatl-makers' lay the strips of boiled inner bark crosswise on one another on a wooden plank. Then, employing an extremely unconventional method, the resulting open rectangles are beaten closed with the beater. The usual method 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.

In some cases the tree bark sheets are levelled out with a smooth stone. Mexico is a large, and above all an extremely diverse country, and not surprisingly amatl is produced in a number of different ways. Today, the illiterate Lacandon Indians in Chiapas make simple beaten tree bark sheets for the tourist industry but these are extremely inferior in quality to the sheets from San Pablito.

Fibres

From the outset, there has been a debate about which plant fibre was actually used to make amatl. Many types of tapa are beaten from the inner bark of trees belonging to the Moraceae family, such as the mulberry and the fig tree. In addition to the fact that Mexico has 50 different species of fig tree, some sources state that there was also a type of tapa made from the Maguey plant, usually identified as *Agave lurida*. 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 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 provided the answer. The first, in 1912, conducted by Rudolf Schwede examined three Maya codices and a number of other fragments and established that all the bark papers came from the fig tree, also known as ficus. Four years later Schwede had the opportunity to examine 21 more documents. Out of all the manuscripts investigated one appeared 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 were examined, of which three pointed to the Maguey plant.

This finally provided conclusive evidence that the majority of the amatl was made from the inner bark of fig trees and that the leaves of the agave were used on a very limited scale. The species of fig trees in San Pablito were later identified as *Ficus padifolia* and *Ficus geldmanii*, but other species could 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 was utilized to give the tapa a naturally lighter colour: the mulberry (*Morus celtidofolia*). Now that amatl has become a product that sells like hot cakes among tourists, increasingly other bark fibres are being utilized, though this does not always enhance the quality.

The spirit of amatl

When Frederick Starr studied the ethnography of South Mexico, he was not only surprised to discover the production of amatl but was also fascinated by the uses to which the sheets of bark were put. Book production utilizing amatl had ceased centuries earlier; shaman now use it for the cut-out figures that play an important role in their religious proceedings. Besides using amatl for their manuscripts, the Aztecs decorated 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 were sacrificed. Thus amatl played 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 cut outs used today represent gods that have to be banished or driven out, 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 amatl 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 utilized when benign spirits are involved and black magic deals with the evil spirits. This 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 amatl: 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. In the 1970s, Allan and Pamela Sandstrom recorded 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 also 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 amatl figures, other other goods also 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.

'Costumbra para la milpa'

In 1941, the Mexican musicologist Samuel Marti collected a number of songs of the Otomi Indians in San Pablito. 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 amatl 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 amatl 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.

Amatl or paper?

During the Mexican revolution of 1915, all the amatl papers of San Gregorio, Hidalgo were burned. Meanwhile industrially produced paper had become popular and in the decades that followed the art of amatl-making threatened to disappear. In Ixtololoya, Puebla too, bark sheets were replaced by the industrial product. Moreover, the paper was available in all sorts of colours, which is very convenient because many gods have their own specific colour. Yet the utilization of amatl did not disappear entirely; it continues to be held in high esteem and appears to be more suitable for the rites. In 1930, there were just a few families and tribes in remote areas of the states of Puebla and Veracruz still producing the bark cloth. The Otomi Indians from San Pablito is one such people who, just as their kinsman elsewhere, have specialized in the production of one particular product; they continue to produce amatl on an extremely modest scale. The fight against Western paper seems to have been lost.

Amatl souvenirs

Throughout the Second World War, production picked up and the sound of the bark beaters echoed through many villages in the states of Hidalgo, Veracruz and Puebla once again.

There have been changes though: whereas previously amatl 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 also been drafted into helping with the production process too.

It was in the 1960s that the manufacture of the traditional bark sheets really took off. Max Kerlow, owner of a shop in Mexico City selling traditional art, and the artist Felipe Ehrenberg introduced amatl painted with decorative designs. Its traditional use only survives with the Otomi and the Nahua in the mountains of Puebla and Huasteca. The Nahua of Guerrero, who have never made amatl themselves but do use it for their religious ceremonies, have taken to painting the bark sheets from San Pablito with various decorative motifs, usually derived from the local ceramic art. This has become enormously popular with the growing stream of tourists visiting the country. In 1974, the community of San Pablito produced sheets of tree bark to the value of between 50,000 and 60,000 pesos per month; the amatl industry was flourishing as never before. 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. 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.

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. Amatl'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 amatl from San Pablito. For how much longer the spirit of amatl 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 was not without reason that Unesco, in 1989, recommended that measures be taken to combat the threatened demise of the 'immaterial' culture. Amatl 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 amatl 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.

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<About the author>

René Teygeler (1950) began his study of sociology in 1970. Over a period of time he developed a taste for books and after several years in the antiquarian business, he was trained as a bookbinder. Two years later, he was teaching and giving bookbinding lessons at the Amsterdam School of Printing. He then turned to restoration and studied in Amsterdam to become a restorer. His new employer, the Royal Library in The Hague, gave him the opportunity to study non-Western manuscripts. At the request of the curator, after a year-long research at the University of Leiden, he organized an exhibition on the precursors of paper in Indonesia. In order to give his studies more substance, he obtained a degree (with honours) in anthropology in 1996.

Since then René has carried out many studies including the history of paper and book production in Indonesia, India, Thailand, the Philippines, China and Mexico. He has contributed to the Holland Biennial for a number of years and is a member of the Association of International Paper Historians. Currently, under the name 'Paper in development', he advises on projects concerned with cultural heritage in the Netherlands and abroad, and has supervised many paper projects in Asia for clients such as Fair Trade Assistance. Besides this, he has also specialized in the conservation of cultural heritage in the tropics and now has more than 20 publications to his name.

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