



## Language and Culture Archives

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## ADJUSTING TO LIFE IN COATLAN, cont

The natives cooked with wood fires. They built fireplaces with clay. Each fireplace was equipped with a clay griddle for cooking tortillas. Most of the people had a separate house for cooking. Oak was the preferred firewood because it gave lots of coals. We did not have any choice but to cook with open wood fires. I had brought some steel grates. I made a fireplace from clay and fitted the grates in the fireplace. We had a problem with firewood. There was no dry oak wood close by. However there was lots of pine wood close by so we used pine wood. Our cooking pots were soon colored black. I used an axe to cut the wood and I learned to use a tumpline to carry the wood on my back.

There were no stores or markets anywhere near where we lived. The natives lived by subsistence farming. Each family had its supply of food. They raised corn, beans, squash and bananas. Coffee was the cash crop which they depended on for money. Some Mixe villages raised sugar cane and processed it. Coffee merchants brought in some supplies which they traded for coffee. Most of the food that we used we brought in with us, such as oatmeal, rice, sugar, salt, cooking oil, etc. We had some bananas given to us as well as ground coffee. The natives liked to raise chickens and turkeys. However disease kept their poultry flocks small. Meat was always in short supply. The sacrifice of roosters and turkey toms was part of every religious festival. The meat of the sacrifices was eaten. Cattle were butchered and also pigs for major religious festivals. Every body participated in religious festivals and enjoyed eating meat, but meat was not part of the daily diet. Every day meals consisted of tortillas and beans. Eggs were in short supply. We learned that we could pack eggs in rice and the eggs would keep for several weeks. This became known so that

some times people needed eggs for sacrifice offerings in case of sickness and they come to us for eggs. Avocados, mangoes and oranges were available in season. We depended on friends to take us to where the fruit trees were and we would pick our own fruit. There were leaves of lemon trees and grasses available that could be used for brewing tea. Lemons could be found if you knew where to look for them.

Comfortable sleeping was a problem for us. We were used to sleeping on mattresses and there were none available. The natives slept on woven mats and slept in their clothes. The mats were usually laid on the floor although some people had platforms to put them on. I had some ideas about solving our problem. Obviously mattresses could not be transported by mule. I had a mattress cover which I stuffed with pine needles. However the pine needles were not soft and they also had moisture. So this idea didn't work. I had another idea I had brought some rubber inner tubes from car tires. I made a frame. Then I cut the inner tubes into strips and stretched the strips across the frame. I put them first lengthwise and then crosswise. My first attempt ended in failure. The frame was not strong enough. It was made from poles and the round surface of the poles didn't make good joints. When I lifted the bed up to move it to our bed room it folded into a figure eight. I wasn't amused but every body present had a good laugh. Actually I strengthened the frame and we used this bed for several years using mats on top of the rubber strips.

## ADJUSTMENTS LIVING IN COATLAN

We had to make some adjustments for living in Coatlan. There was no electricity, no water system, no toilets, etc. For light the people used pitch-pine sticks, candles and some kerosene lamps although kerosene was always in short supply. We had a Coleman gasoline pressure lamp, however gasoline was difficult to find. We followed the native life style of going to bed early and getting up early.

For toilets the people used the forest which surrounded the village. There were well traveled toilet trails leading into the woods. We used a potty at night.

There were springs of water several hundred yards down the mountain side where people got their supply of water, where they bathed, and where they washed there cooked corn etc. The women carried most of the water. They used clay pots which they carried on their head. Neither my wife nor I learned how to carry things on our head. In our case I carried the water to the house in buckets. I learned the native style of using a short pole with a bucket hanging on a rope or wire on each end of the pole. I carried the pole on my shoulders.

The native style of public bathing where there were springs of water was not comfortable especially for my wife. The native women would get a pot of water and go to the side of the cleared area around the well. They would turn their backs and squat. They would remove their clothes and bathe from the squatting position. It helped that they wore skirts and blouses and no panties. They were very modest. My wife found a way to bathe in the house. I sometimes bathed at a spring some distance away where there was not much traffic. I had to get used to cold water bathing. It took courage to get the first cup of water splashed on my body.

## ALL SAINTS—ALL SOULS FESTIVAL (TODOS SANTOS)

This is a major festival which is celebrated all over Mexico. This is a catholic festival that incorporates ancient customs of the Mixe people probably associated with New Year's festivals. In Coatlan it is the only festival where all the families are involved. Family members living away from home come home for this festival. This is similar to what families do at Christmas time in the U S. The people of Coatlan do not celebrate Christmas. During the days preceding the festival each family prepares food which they place on an altar in their living room. Liquor and tobacco are also placed on the altar. Each altar is decorated with flowers associated with death (marigolds). The day before the festival everybody goes to the graveyard. Each family places flowers on the graves of deceased relatives. They also light candles and place them on each grave. They believe that on the first night of the festival, Nov 1, the souls of deceased relatives return to their homes and partake of the food and liquor on the altar. This belief is supported by stories, such as: "John decided that he doubted that his deceased relatives returned to their former homes at night so one time he did not prepare food and drink or decorate the family altar with flowers. He hid in the attic and waited to see if his deceased relatives would come. About midnight he heard the voices of his deceased relatives talking about the lack of food and drink on the family altar. They were very angry. He heard one of them remark: 'John will be punished. He will soon be packing his bags'." They meant by this that he would soon die.

During this festival people visit the homes of friends and relatives and partake of the food and drink prepared for the festival. They drink liquor and socialize. The children go from house to house and say "I come knocking on your door". They expect gifts. This is something like our custom of trick and treat

## ANCIENT CALENDAR SYSTEM

After the Spanish conquest of what is known as Meso-America the missionaries of the Catholic Church began the process of converting the indigenous people to the catholic faith. They learned that the people had a name for each day and that when a child was born the name of the day was important. They eventually learned that there was a calendar system for naming the days. The system involved 20 names and thirteen numbers. This produced a cycle of 260 days. In each village there were native shamans who kept track of the day names. In the Mixe language the name for these shamans is x++maaby+ which means "day counters". There has been lots of speculation about this 260 day calendar cycle. Some anthropologists say that it fits into a 50 year cycle. There is lots of speculation about the origin of this religious calendar. Some anthropologists speculate that it originated with the Olmec people who represent the oldest culture in Meso-America. The Mixe people that we work with are descendants of the Olmec people.

The catholic missionaries discovered that the day naming system was used by all the different tribes of people in Meso America. Since the name of the day of a child's birth was tied to the animistic world view the missionaries devised a substitute catholic calendar system for naming the children. They took the European calendar and assigned names of catholic saints for each day. The people were required to choose a name for their children from the catholic calendar. This system was in use in Coatlan when we arrived there. With the passage of time and the lack of use the knowledge of the ancient day names are fading. In Coatlan we found one man with a written version of the ancient calendar. In a neighboring village there were still some native shamans who used this calendar system in rituals associated with the animistic world view.

The catholic missionaries learned that the native people also had a year calendar which consisted of 18 lunar months plus five extra days. A lunar month is 20 days. This calendar of 365 days was used to keep track of the seasons for planting and harvesting. They were aware also that they had to add an extra day every four years. This calendar was very accurate and demonstrates that the ancient people of the Americas had a lot of knowledge about astronomy which permitted them to accurately measure time. The lunar month system makes a lot more sense than the calendar system which we use where the months are arbitrarily divided into 12 with some months having 31 days and some months 30 days plus February with 28 or 29 days.

## BEGINNING OF PUBLIC EDUCATION IN COATLAN

When the catholic missionaries were in Coatlan in the 17<sup>th</sup> century they began to train selected young men to be church cantors. They were taught how to read and write Spanish and how to recite the Latin rituals used in the Catholic Church. The men who were trained by the missionaries trained the next generation of cantors. This system of training cantors continued from its beginning in the 17<sup>th</sup> century to the 20th century.

The laws of reform passed in 1867 established the right of a public supported education for every Mexican citizen. Public education began in the cities and slowly expanded to rural communities. In about 1918 some school teachers came to Coatlan. These school teachers were Marxists and one of there objectives was to teach the people to give up their religious practices. They closed the Catholic Church. The people of Coatlan did not appreciate this and these school teachers were forced to leave town.

In 1924 the government department of education made an effort to send school teachers to rural communities. A teacher came to Coatlan and began teaching the children. The town built a school building. The language used in the school was Spanish, but the language used in the home was Mixe. The first part of the 20<sup>th</sup> century the Mexican people suffered through many revolutions and many changes of government. The different governments were having trouble finding resources to maintain the system of education. As a result of this lack of resources the rural communities were often with out teachers. In 1951 when we arrived in Coatlan there were no school teachers. We borrowed the school teacher's house while building our own.

While we were living in Coatlan school teachers came and went. Some were alcoholics who were being disciplined by the school superintendent by being sent to a rural community in the mountains. This situation of incompetent teachers continued for a number of years until the department of education established bilingual education. Our mission working with the indigenous languages had some influence on the government's decision to establish bilingual education. For most of the people living in the rural communities



Spanish was not their primary language. Bilingual education continues to the present time. Education in the rural communities was only primary in most communities. Recently Coatlan obtained a secondary school.

Books and school teachers became a whole new source of information in Coatlan. Prior to this the village elders were the primary source of knowledge. Their learning was from experience with custom passed from generation to generation by word of mouth. The elders were not able to compete with the school teachers as sources of wisdom. This began the decline of the influence of the village elders and the increase of influence for people with book learning.

## BEGINNING OUR STAY IN COATLAN

It was the month of May and the people of Coatlan were out in their ranches preparing their cornfields for planting corn. It turned out that for us to stay in Coatlan, there had to be a town meeting to approve our stay. Some weeks later the town president called a town meeting of the adult men. The meeting was conducted in the Mixe language. We did not attend the meeting. The town did approve our stay for a trial period. It was obvious that we needed to build a house. The schoolteacher's house where we were staying was only temporary pending the arrival of schoolteachers. Our housing consisted of a room that we used for a bedroom. This room had a wooden floor under which the rats were living, and they came through holes in the floor to join us every night. There was a small adobe house that the schoolteacher had used for a chicken house; we cleaned it up and used it for a kitchen.

Houses in Coatlan were built by individual families with help from relatives. The houses were built from materials found in the forest. Each adult member of the extended family participated. The women prepared the food when the house was being built. The men did the building. The actual building would take about two weeks. The preparation for building took several months. The men went into the forest and cut the trees and dried them and then transported them to the house site. Some of the heavy corner posts and beams required a mule for transport. For the roof they went to the river valley and cut grass. They tied the grass in bunches and after it had dried they transported it by mules to the house site. The mud for the walls was prepared at the building site. The principal tools for house building were an axe, a machete and a shovel, no hammer and nails. The mud walls were about six inches thick. The mud was packed in a frame. For us to build a house we had to have help. I did not even know what trees to cut for posts and for the roof structure. Some young men volunteered to help me. For the corner posts

we had to find wood that would last twenty or more years in the ground. The women of one family helped my wife prepare food for the workmen. Fortunately, someone realized that I did not know how to lay out the floor plan. They helped with this and prevented a major mistake. I did not have any way to get grass for the roof, so I bought some roofing material made from cardboard and tar and transported it by mule from the town where I bought it. I put this roofing material on with a hammer and nails. I also used bolts to make the rafters. The natives tied everything together with string made from tree bark. We also had a problem with the mud for the walls. I got it too wet so the walls sagged. We wanted wooden doors, so we needed to saw some lumber. For this I bought a six-foot-long rip saw and a four-foot-long crosscut saw. My brother came to visit us and helped me saw the boards. I had learned how to do this by observing others do it. We cut pine trees for lumber because they were plentiful. White pine was the best but was not as plentiful as pitch pine. We looked for large pine trees on a hill side with straight trunks. We felled the tree with an axe, and then used the crosscut saw to cut a log with flat surfaces on each end. The flat surface was needed to plot the projected cuts. The first line drawn on each end was done with a level so that the lines on both ends of the log would match. The rest of the lines on the ends are plotted using a carpenter's square. Then a chalk line is used to mark a line from end to end. Using an axe and a chalk line the log is squared. Then a sawing stand is made on the hill side below the log and the log is rolled onto the stand. Once on the stand lines are drawn with the chalk line for the saw to follow. It takes a two man team to saw. One gets on top and pulls the rip saw up. The other man gets underneath and pulls the saw down. The saw cuts on the down stroke. It takes some practice to make clean cuts keeping the same thickness of the board. I would not want to show off the boards that I cut, but they served us well. I had problems trying to fill in the end of the house between the mud wall and the roof. I had heard of wood shingles so I tried splitting

some wood blocks into shingles. I couldn't make the shingles straight. I used them because I did not have anything else but they let a lot of air through when the wind blew. Some days we had cold wet winds and the house was pretty cold. We were at 4000 feet elevation.

## CATHOLIC INFLUENCE ON MIXE CULTURE

A Spanish army under Cortez invaded the part of the so called new world that is now known as Mexico. They defeated the Aztec ruler Montezuma and replaced the Aztec government with a Spanish government. They made the Catholic religion the official religion of the conquered territories. They set about establishing control over the conquered territories, and converting the people to be Catholics. The Mixe people at one time controlled a large territory but before the Spanish conquest they had been driven out of the valley of Oaxaca by the Zapotec people and were confined to a mountainous area. Some Spanish military forces attempted to invade the Mixe controlled territory but they were not successful. The Mixe forces defeated the invaders. However Spanish missionaries (friars) of the Dominican order were able to establish mission stations in Mixe territory. This was quite a remarkable accomplishment. They succeeded in convincing the Mixe people to accept the Catholic Church and also the Spanish civil authority. They were able to build churches every place they had mission stations. The idea of having church buildings was entirely new to the Mixe people. The buildings were patterned after catholic churches in Europe and took many years to build. They were made of stone. The native people were required to give several months of donated labor each year. Masons were imported from the cities. Large bells for the churches were cast near the building site and were dated... The mission stations were organized into towns with civil governments. Church and state were united.

The missionaries introduced the catholic rituals of baptism, marriage and the mass. They destroyed the stone idols worshiped by the Mixe people and replaced them with images of Catholic saints. They organized a system of rituals to honor the saints. They trained men to be cantors and church musicians. Eventually they had enough musicians to be able to form town bands. Unfortunately the catholic

priests were only allowed to use Latin in church rituals including the mass. This was even true when we began living in Coatlan. The Scriptures were in Latin and the priests were forbidden to translate them. One priest did translate a catechism book. The people, of course, did not understand Latin so they kept their animistic world view. Two sets of rituals were used in practice. The rituals associated with the earth (Mixe supernatural) were in the Mixe language and the rituals associated with the church were in Latin. The catholic priests and the cantors performed the catholic rituals. The town elders officiated at the Mixe rituals. The town elders performed Mixe rituals in the catholic church, as well as in the homes and at altar sites out side of the church. At the time of death an elder would be required to perform Mixe rituals in the home.

Traditions were formed to make catholic elements, such as the catholic saints, legitimate in the Mixe world view and visa versa. For example There is a tradition that the patron saint of Coatlan, Natividad, was found by a farmer in his field. The supernatural of the earth produced her. This makes the saint legitimately Mixe. When people take the narcotic mushrooms they put the stems of the mushrooms on the altar in the room where the mushrooms are eaten. In the trance produced by the mushrooms the stems become little men who are spokesmen for the Mixe supernatural. When the little men have given their piece of advice a catholic saint appears in the trance. This makes the narcotic mushroom legitimately catholic.

The catholic priests had the civil authority prohibit the shamans (medicine men, Mixe priests) from treating the people. However the need was so great in the case of serious illness that the people disobeyed the town authority and contracted with the shamans to perform the offerings to the spirits associated with the earth. The God of the catholic church was viewed by the Mixe people as being far away. Where as the spirits associated with the earth were ever present.

## COFFEE HARVEST

Coffee growing began in the Coatlan area about the beginning of the 20<sup>th</sup> century. By the middle of the 20<sup>th</sup> century when we came to Coatlan every family had a coffee grove. Coffee was their source of cash. The prime coffee growing land was the flood plain near the river.

One coffee harvest season we spent a few days as guests in a ranch home near the river in order to observe first hand the coffee harvest and learn some of the Mixe language associated with the harvest. It was October and light rains often were falling. Our first surprise was how early in the morning the women became active in the kitchen. It was about 3 AM when my wife heard activity in the kitchen and got up and went to the kitchen to observe the activity. There were no alarm clocks but every woman knew when to get up. At this time of the morning it was very dark. The women were working by the light of pitch pine torches. By about 6 AM the women had all the food prepared for the whole day. The principal food was the corn tortilla. The pot of corn for the dough had been cooked the night before. By about 6:30 the men had eaten breakfast and were on the trail to where they were clearing ground in the flood plain near the river to plant the fall corn crop. I took my machete and accompanied the men.

By 7:30 the women had finished breakfast and were taking the trail to the coffee grove. Hilda accompanied the women. The children went with their mothers. Some of the mothers were nursing babies. The little children played in the coffee grove and the older children picked coffee. The women took with them food for lunch and equipment for picking coffee. Each coffee picker had a small basket with ropes tied to it. The ropes were to tie the basket around their waist. They

picked rapidly using both hands. When the basket was full they would empty it into a gunny sack. The goal of each picker was to fill the gunny sack in a working day. By mid afternoon most pickers had their sacks full; Hilda surprised every one by filling her sack. After picking coffee the women would gather fire wood to carry home. They would stop by the river to bathe and to wash clothes. The women were efficient in making full use of their time.

The men quit clearing ground about mid afternoon and came to the coffee grove where the women were picking coffee. They picked up the full sacks of coffee and transported them to where they had placed a dispulping machine. Dispulping coffee requires a lot of water so the dispulping machine is stationed near a source of water. The dispulping machine is powered by hand. The one thing I found that I could do was crank the dispulping machine. I didn't contribute much to clearing ground because of my lack of skill with a machete. My wife was able to pick a sack of coffee in a days work. She said that she had experience picking cherries as a kid. The coffee fruit resembles a cherry both in size and color. Also the trees are about the same size.

After the coffee is dispulped the coffee seeds which are known as coffee beans are put in gunny sacks and transported to the house. In the day time the coffee beans are spread on straw mats to dry in the sunlight.

The evening meal is served to each member of the family as they arrive home. As soon as it gets dark the women roll out straw mats on the ground and go to sleep. As guests we were given the only bed in the house which was a platform of poles. The night is quite eventful. The house had a thatch roof and the rats had homes in the roof. At night the rats were very active.



## COFFEE

Coffee is used as a beverage by people in just about every nation on earth. Millions of cups of coffee are brewed every day. This was not true in ancient times. The Egyptians, for example, did not know about coffee beans and their use. Coffee probably was first used as a beverage about a thousand years ago. The coffee tree is native to a tropical forest in Ethiopia. Nobody knows how it was discovered that the ground seeds of the coffee berry would make a drink that would keep people awake. There is a legend that somebody noticed that when goats ate the leaves of the coffee tree they stayed awake at night. However it happened, some people in Ethiopia began using coffee as a beverage. Arab traders who were doing business in Ethiopia became acquainted with the coffee beverage. They liked coffee as a beverage and began purchasing coffee beans and taking them to Arabia. By the twelfth century AD, coffee had become popular in Arabia. The use of the coffee beans spread to other countries. By the fifteenth century coffee was popular in Turkey. By the sixteenth century it had become very much in demand in Europe. In order to supply the demand several countries in Africa began to grow coffee. The Spaniards brought coffee to the Americas. Every country with tropical climates in the Americas grows coffee. Brazil is the largest producer.

Coffee trees grow best in shade. Coffee groves have larger trees to provide shade. In Coatlan coffee plants are transplanted from volunteer plants growing in the coffee groves. When small coffee trees are first transplanted banana trees are used to provide shade. Banana trees grow to a full height in a year's time. When other types of shade trees get large enough the banana plants are removed.

In Coatlan a good coffee crop depends on rains that come when the plant is flowering. Coffee plants flower in February and March in Coatlan this is the driest time of the year and some years the coffee harvest is not good

Coffee as a cash crop is in a crises. Coffee is over produced worldwide and the price is so poor that growers can not even afford to hire people to pick the coffee. In Coatlan money from the sale of coffee is used to buy new clothes. Now they have to find another source of money for new clothes.

## COMFORT IN COATLAN

My wife and I grew up in a culture where comfort was a major concern. We had comfortable beds, easy chairs, sofas, etc. For the people of Coatlan comfort was not a major concern. They were accustomed to sleeping on straw mats placed on the dirt floor. They sat on stools carved out of balsa wood. The one comfortable thing nearly everybody had was a hammock which they strung across the center of their house. They purchased the hammocks from traders. Hammocks were nice to lounge in but they were not good for sleeping. I tried to sleep in one and got a crimp in my neck. Mattresses were not available because they could not be transported by mules.

We began our stay in Coatlan by sleeping on the floor. Before the night was passed our bodies would get sore points and we would change positions every few minutes. We had some ideas for a solution to this problem. We had sown two mattress covers together with a zipper opening on one end. We looked for materials to fill this big bag. We tried leaves and pine needles. The problem was that the leaves soon packed down and they were not comfortable to sleep on. Also the leaves had moisture in them and the bag soon mildewed.

I had another idea. I brought to Coatlan some rubber inner tubes from used car tires. I built a bed frame using poles since no cut lumber was available. I cut the rubber inner tubes into strips, then I stretched the rubber strips across the pole frame both length wise and cross wise and fastened the ends of the strips. I was pretty proud of my bed. However when I tried to move it doubled into a figure eight. I had an audience watching me and everybody started to laugh except me. I was looking sad so the audience melted away. I spent the night considering my construction failure. The problem was that poles have round surfaces and I was used to working with cut lumber that had flat surfaces. The next day I reworked the frame and reattached the rubber strips. The result was a bed that we used for a number of years. When air mattresses became

available we used them. Later foam and sponge mattresses became available and we used them.

## THE CONCEPTS OF TONAL AND NAHUAL

Catholic missionaries in Mexico borrowed from the Aztec language the words tonal and nahual to describe certain concepts of the Aztec worldview that were not in the Catholic Christian world view. Anthropologists continue to use these words today when describing the world views of many of the present indigenous cultures of both North and South America. These are basic concepts of an animistic society where the earth has supernatural properties. The earth knows all that happens with humans and imparts this information to animals, serpents, birds and to the lightening, etc. Tonal is a companion spirit living in a certain animal, or bird or serpent or it can be a bolt of lightening. If a person dies the animal with his companion spirit also dies, and visa versa. I heard of a case where lightening struck a certain person's house and burned it down. When commenting on this some people were saying that this man had an enemy and his enemy got revenge by using his companion spirit which was a bolt of lightening.

The word nahual describes when a person is transformed supernaturally into the body of his companion spirit. This transformation is temporary and usually takes place at night. The purpose is to get revenge on his enemies. I was told of an incident where a person was transformed into a rat and entered into a house of a person he had trouble with. The other person discovered the rat in his house. He tried to kill it but he could not kill it because it had supernatural properties.

In the Mixe language I found one word that was used by the Mixe people to express both the tonal and nahual concepts. The word is "adzuu adtzo'k" or simply :tso'k.. Even in the 20<sup>th</sup> century they still maintained the belief that each person

has one or more companion spirits related supernaturally to the earth.. .

## CONDOY THE MIXE FOLK HERO

There are many different versions of stories told about the life of the Mixe folklore hero, Condoy. This is the version of the story as it is told in Coatlan. Coatlan is situated in a mountainous region with streams and rivers. There is one place where a river disappears under a mountain. One time a farmer was working land close to where the river runs under the mountain when he heard babies crying. He looked up and saw twin babies in the water. It is implied that the spirits associated with the earth gave birth to the babies. They were supernatural babies. The farmer took them home and raised them. One of the twins became the serpent of Mixe folklore. The other twin became a giant of a man in Mixe folklore. To this day people talk about evidence of where he once sat on a rock and left a dent in the rock. He became a famous chief of the Mixe tribe. He won many battles with enemy tribes. One legend told today in Mitla, a Zapotec town, has Condoy coming to Mitla looking for a woman to marry. He contracted with the Zapotec king of Mitla for his daughter. The contract was that Condoy was to build a palace for his bride in one night. He was busy building the palace and lacked only the roof when a rooster crowed ending the night. Since he did not complete his task, he could not marry the Zapotec king's daughter.

Some historians believe that there was a Mixe chief named Condoy. Historians studying the pre-Hispanic history of the Zapotec people found evidence of battles with the Mixe people in which a famous warrior was named Condoy. Recently we found evidence when we were doing Bible translation that some older people wanted to use the name Condoy in a phrase for God the father. Thus giving Condoy the status of divinity

## LIVING IN COATLAN—COOKING OUR FOOD

My wife and I grew up in a culture where every home had a stove. I grew up on a farm and we had wood burning stoves. I was familiar with the work of cutting and transporting fire wood. In Coatlan there were no stoves. The people made fireplaces with mud and cooked with open fires. Oak was the preferred wood for cooking because it burned slowly and had a bed of coals. The village of Coatlan was founded many years ago so that by the time we arrived there all the oak trees close to the village had been cut. The people had to travel quite a distance to find firewood. The women are the principal gatherers of firewood. They use machetes to cut branches of trees which they then carried on their backs with tumplines across their foreheads. Some times the men will go out with an axe and cut a live oak tree. They split the wood into small pieces and stack it to dry. When it is dry they go out with a mule and transport the wood to their house.

In our case my wife couldn't manage a load of firewood on her back nor did she have half a day to spend gathering firewood. So gathering firewood was one of my duties. I discovered some pitch pine logs lying on the ground nearby. They were close to the village and I did not have too far to transport the wood. I used an axe, not a machete, to cut the pine logs into blocks. I carried the logs to the house and split them. I was not used to carrying things using my head, so I carried the wood on my back with a tumpline across my shoulders. Pitch pine actually served us quite well in the type of fire place that we constructed. I brought some metal grates to the village that were used in charcoal burners. My wife did not want to cook at ground level; it was too hard on her back. So I built a fire table using posts, poles, and mud. The fire pit was the right width for the metal grates. We built the fire under the grates and set the pots, on top of them. Pitch pine burned hot but also produced a lot of smoke so that our cooking pots all became black. We had a griddle for making pan cakes. We had a cast iron pot that served as an oven.



In later years when we had airplane service we had other options for cooking. We tried kerosene burning stoves. They were hard to regulate the heat. We ended up with stoves that burned bottled gas. This worked fine for us although the pilots took some risk in flying bottled gas containers.

## CULTUTURAL CHANGE –17<sup>th</sup> century

Prior to the 17<sup>th</sup> century AD the Mixe culture had existed for thousands of years with out major change. In the 17<sup>th</sup> century AD there were major changes related to the Spanish conquest of what is now known as Mexico. Prior to the entrance of Dominican missionaries known as friars the Mixe people's religion was animistic. They believed in many spirit beings inhabiting the springs of water, the rivers, the caves, the rocks, the trees, etc. They also had stone idols representing the spirits in the corn field, the rain clouds which included the lightening, etc. They believed that the spirits could do good or evil. They appeased the spirits with sacrifice offerings, probably of monkeys, accompanied by offerings of tobacco, liquor, food, etc. Liquor was fermented from tree bark, etc., not distilled. They had rituals for birth and death and also some form of marriage agreement.

The catholic missionaries did most of their work with the people of Coatlan in the 17th century. They tried to destroy all the stone idols and replaced them with images of catholic saints. Prayers are said even today for rain to a certain catholic saint which replaced the ancient rain god. They tried to suppress the animistic beliefs of the people but without much success. They introduced poultry with the result that roosters and turkey toms replaced the monkeys for the sacrifice offering. They introduced distilled liquor which replaced the fermented liquor. The distilled liquor had a much stronger content of alcohol. They introduced the Spanish and Latin languages. At that time most of the church ritual including the mass was in Latin. The language of government was Spanish. There was no public education. Individual instruction on how to intone the Latin rituals and to read Spanish was given to young men chosen to be cantors. Some men were trained in how to play band instruments. Some were trained to be church musicians. They learned how to accompany the cantor when he intoned the Latin rituals.

Some men learned enough Spanish to serve as town secretary. Town authorities served for one year but town secretaries usually served many years and became very influential. Some political bosses controlled groups of villages by controlling the secretary of each village.

Mixe family groups were organized into villages and given titles to land. Town lands were not surveyed accurately resulting in land wars over territory between villages. Some one has said that the overlapping of land titles was a deliberate action by the Spanish government to keep the villages fighting one another and not uniting to fight the Spanish occupation of their land. Civil government was organized for the villages with town authorities. The formation of villages may have started under Aztec rule because the official name of most Mixe villages is an Aztec name. Coatlan is an Aztec word which is a translation of the Mixe title, Tza'nydu'am. This means: "trail of the serpent". At any rate the Spanish government produced the first written titles to town lands.

While there were many changes there were also many things that did not change. The language in use continued to be Mixe. Since the town authorities could not read Spanish they continued to govern the town using custom, the words of their ancestors. The Mixe shamans were outlawed by the catholic priests but continued to function in their traditional role of performing sacrifices for the sick. They also continued to be respected for their knowledge of the animistic world of spirits.

## CULTURAL CHANGE—20<sup>TH</sup> CENTURY

From the 17<sup>th</sup> century to the 20<sup>th</sup> century there were no major cultural changes in the Mixe village of Coatlan.

The cultural changes that took place in the 20<sup>th</sup> century had their roots in political changes that took place in Mexico in the 19<sup>th</sup> century.

Mexico's war of independence from Spain in the first part of the 19<sup>th</sup> century did not bring major cultural changes. Church and State were still united. Major cultural changes took place when the liberal political party headed by Benito Juarez took control of Mexico. The Mexican government passed laws in 1867 which separated the church from the State and established the right of public education for every citizen. Prior to these changes in the laws of Mexico, the Catholic Church controlled all education and educated only a select few. Benito Juarez was educated under the church system of education. The church control of immigration was broken. Prior to this only Catholics were allowed to enter Mexico.

These laws also made the civil marriage paramount. Everybody was required to be married in a civil ceremony. They also could have a church wedding if they chose, but prior to this the priests could discipline people by refusing to marry them. They also disciplined people by refusing them the right to partake of communion.

The laws of 1867 also produced land reform. At the time of the Spanish conquest of what is now Mexico the king of Spain gave large grants of land to catholic churches and also to individual Spanish citizens. The laws of 1867 provided for the redistribution of these lands.

These reforms did not affect Coatlan until well into the 20<sup>th</sup> century. The two major aspects of the reforms that affected Coatlan were religious freedom provided by the separation of Church and State and public education.

## EASTER WEEK IN COATLAN

Easter is the only time of the year when all the people participate in the rituals in the Catholic Church. On Palm Sunday the trails leading into the village and the streets of the village are decorated with palm branches. No liquor is to be served during the rituals performed this week. On Wednesday they parade the catholic saints in the streets. The saints are divided into two groups. One group has an image of Jesus on a cross. The other group has an image of Mary. The two groups take different routes with a plan to meet at a certain cross street. When the two groups meet they position the head of the image of Jesus in a position to kiss his mother, the image of Mary. After kissing the saints are returned to the church. Thursday night a jail is built inside the Catholic Church. An image of Jesus is placed in the jail and images of Judas and Peter are placed guarding the entrance to the jail. When the rooster crows Jesus is released from the jail. During the day on Friday, the people gather inside the Catholic Church. The cantors recite the Easter story. During this ritual the people respond to ritual questions. Friday night an image of Jesus in a casket is placed in the courtyard outside the church. An all night wake is held. All through the night individual families bring offerings and say prayers. No family is allowed to skip this ritual. Saturday the image of Jesus in the casket is ceremonially buried.

Sunday morning early a group of men go to the grave yard to perform the ritual of the resurrection. They bring to the cemetery a saint called "Pascal" (Passover). They bring a supply of liquor. After the ceremony of the resurrection is finished the people say that the time of sadness is passed and now it is time to rejoice. So they open the bottles of liquor and proceed to spend the day drinking. At nightfall the drunken men return the image of Pascal to the church. Sometimes pieces are broken off the image because the people carrying the image are drunk.

## FOOD SUPPLIES FOR LIVING IN COATLAN

In the village of Coatlan there were no grocery stores, no restaurants and no open market days. There was no food for sale. Everybody in town was a farmer. Each farmer raised food for his own family. The principal food crops were corn, beans, and bananas. They sometimes planted squash in their corn fields. They also had a perennial vine which had a fruit called chayote. The taste of cooked chayote is similar to potatoes. Each farmer had one or more groves of coffee trees. Coffee is native to West Africa and was introduced into Mexico by the Spanish settlers. It became the major drink served with meals for all of Mexico. Coffee supplanted a drink made from corn. Coffee not only became the drink of choice in Coatlan it also became their cash crop. In Coatlan there were some fruit bearing trees such as avocado trees, orange trees, lemon trees, and mango trees. The fruit from these trees was available for anyone to pick. So there was fruit available in season. The problem for us was that we did not know where the trees were. Every family in Coatlan raised chickens and turkeys. However the poultry diseases had arrived in Coatlan before we did and the poultry flocks were decimated. There was even a shortage of chickens, turkeys and eggs for the offerings to the supernatural and the religious festivals.

When we traveled to Coatlan by mule we brought non perishable food with us, such as rice and oatmeal. Have you ever eaten oatmeal three times a day? Some people gave us gifts of bananas and ground roasted coffee. Coffee buyers would bring items from the city on their mule trains as a favor to a coffee grower who would sell him their coffee. Since we had no coffee for sale we could not take advantage of these favors. We tried planting a garden. However we found out that the natives looked on our garden the same way they did on fruit trees and helped themselves. There was so much competition for our garden produce that the natives would pick it before it was ripe. Our tomatoes crossed with the native wild tomatoes which were small in size. Some one tipped us off to the idea of packing eggs in rice. The

rice kept them dry and they did not spoil. When the natives found out that we had eggs they would come to us when they had a special need. This was usually when a shaman came to town. The shamans used eggs in their offerings to the supernatural. When missionary aviation began to give us plane service we could get all the food that we needed flown in.

## FOODS NATIVE TO THE AMERICAS NOW USED WORLD WIDE

There are a number of food plants now in use in many parts of the world that were known only to the Americas before the Europeans invaded this part of the world. We wonder what the Italians used to make sauces before they obtained tomatoes? What did the Irish eat before they got potatoes from South America? What did the French use to make candy before they obtained the coco bean from the so-called new world? What did the Europeans smoke before they got tobacco from the American colonies or what did they chew before they got chicle from Mexico?

Several of these new food plants were from the nightshade family of plants. The most noted of nightshade plants are the tomato plant, the potato plant and the tobacco plant. The fruit of the tomato plant is believed to have first been used in what is now known as Central America. By the time of the conquest its use had spread to many parts of the Americas. Because it can be cultivated in many climates it is now grown in many parts of the world. About every gardener has tomato plants in his garden. The Europeans first used it as a decorative plant but later began to use it as a fruit and in sauces. Thomas Jefferson is reputed to be the first colonist to popularize the fruit of the tomato.

The potato plant is native to the high altitudes of the Andes Mountains in South America. By the time of the conquest potatoes had been used for centuries by the natives of South America. At the time of the conquest of the Americas the use of the potato had not spread very much but is now in use all over the world. The Russians now produce more potatoes than any one else. The history of Ireland notes the disaster of the great potato famine.



One of the most noted of the American plants is cacao, the coco bean from which chocolate candy is made. It is believed that the tree that produces coco beans is native to the Amazon-Orinoco river basin in South America. At the time of the conquest it was being grown in Mexico. The coco bean was so valuable that the Aztecs used it for money. At that time it was used primarily as a beverage. It was the choice beverage of certain ceremonies. To this day the Zapotec Indians in Oaxaca Mexico seal a marriage agreement with a ceremonial drink made from the coco bean. It is still used as a drink. However it is used more to make candy and to be the flavor of many foods such as cake. The coco tree is strictly a tropical plant and it grows in tropical forests at altitudes of less than a thousand feet above sea level. Ghana, Brazil and Nigeria are now the principal producers of cacao. However it is always in plentiful supply in the markets in Mexico.

Tobacco has become both a blessing and a curse. At the time of the conquest tobacco was in common use by the natives of North America in ceremonies. The Europeans popularized its use. Many of them began using tobacco in one form or another on a daily basis to the point they became addicted to its use. Now it is well known that smoking tobacco causes lung cancer. Tobacco is now grown in many countries and is in plentiful supply. Tobacco farming is big business in parts of the U S.

Corn plants are native to the Americas and at the time of the conquest was the principal food of the natives of North America. It is believed that its use probably originated in what is now Mexico. Its use has been traced back to the Olmecs the oldest culture in Mexico. The Mixe people with whom my wife and I work are descendants of the Olmecs.

The use of corn as a food has spread to many parts of the world. Corn also is used in the US to make fuel for automobiles.

The chicle tree is a large tree that grows in the tropical forests of Mexico. The Mexicans began using its sap as chewing gum. We do not know much about the origin of this custom. There is a tradition that the Mexican president, Santa Ana, brought chicle sap to the US and introduced it to the US secretary of State, Adams. Adams added flavor to the chicle sap and began marketing it.

## HOMICIDE IN COATLAN

Some people like to think that village people living isolated in mountainous regions or in tropical rain forests are free from violence. The concept is that they live close to nature and because of this they are peaceful. The fact is that human nature is the same in all the cultures and every culture has some violence. In the small Mixe village of Coatlan where my wife and I lived for some years we observed an average of one homicide a year. Usually, the person who committed the crime fled the village and was able to escape punishment for his criminal act. The new village where he took up residence would not try to bring him to justice since each village was concerned only with crimes committed in their jurisdiction. The murder would be reported in the monthly statistics reported to the state government.

However, the state police were kept busy in the cities and did not venture very much out into the village areas. If the state government thought that the violence in a particular village was out of control they would send an Army platoon to restore order. This happened once while we were living in Coatlan.

In Coatlan news of a murder was electrifying. I would ask: "Who did it?" The answer was always: "Who knows?" In reality, usually everybody but me knew who the guilty person was.

*I observed some exceptions to the general rule. Sometimes the town authorities were implicated in the murder and the town secretary would cover up the truth in his monthly report to the state government. In this case the murderer continued living in the town where he committed the crime. This happened once in Coatlan while we were there. A neighboring village had a prime example of this. The town*

*secretary was also a political boss. It was reported to us that this man had murdered several people. He came to us for medicine and we became a friend of his. One time two U S college students came to us for help. They thought that the village people were peaceful people and they wanted to live in a village to be able to observe the people and report their findings. I allocated them in this neighboring village and the village political boss who was also town secretary promised to help them. After they had been there a few weeks I visited them and told them that their host had murdered several people that he considered his enemies.*

## ON OUR WAY TO BEGIN OUR WORK IN COATLAN

We arrived in Jalapa by truck. Jalapa was located on the Isthmus of Mexico near a big river. The Isthmus is located near sea level and is very hot. We suffered through five hot days in Jalapa waiting for a religious festival to end and then for a flooded river to go down so that we could cross it.

At last the day arrived to load our mules and begin our journey. We had bargained with a mule owner for four mules; one riding mule and three cargo mules. The owner was also the driver of the mules. The first thing we learned was that we had made some mistakes in packing for mule travel: one, we had too much stuff and had to leave some of it. Second, we had packed our pots and pans in a basket with out wrapping them. When the cargo mule began to move the pans rattled. This frightened the mule and he took off. He managed to throw off his load and we had pots and pans scattered all along the trail. Our third mistake was we had packed our paper work in a wooden foot locker. The foot locker was too long and rubbed sores on the mule's shoulder and rear leg. The mule owner was unhappy about this. We learned that one good way to pack for mule travel is to use G I duffle bags

Finally we were on our way. Hilda rode the mule and I walked behind her. For the first two hours the trail paralleled the river and we walked in sand. There were lots of cactus plants along the trail. I tried eating some cactus fruit and learned a lesson. I got a mouth full of hair like thorns. You need to peel the cactus fruit before you eat it. The mule driver traveled faster than we did so he went on ahead. After about seven hours of travel we struggled into Lachiguirí, the midway town. Hilda was sore from riding. She was not born in the saddle and I was exhausted from walking in the heat. As we entered town we wondered where we were going to stay the night. We looked for our pack mules and found them, in the providence of God, at a merchant's house who was from Mitla. Mitla is the town Hilda worked in before we were married. The merchant knew Hilda and began speaking Zapotec to her

to the amazement of every body watching. The merchant welcomed us and we stayed three days with him while I recuperated. The mule driver in the meantime went back to Jalapa for the rest of our stuff.

When the Zapotec people in Latchiguirí learned that we were headed for Coatlan they said. You do not want to go there. The Mixe people are unfriendly. They even murder people. We learned later that the two towns had a history of border disputes which some times resulted in a type of shooting war.

## JOURNEY TO COATLAN (CONTINUED)

We stayed a couple of days in the midway town to rest after the strenuous first day's journey in the hot weather. We began the second leg of our journey on a Sunday morning. We had peace of mind given by the Lord even though the Zapotec people in the midway town tried to convince us of the dangers of going to a Mixe village.

The first part of the trail was a climb of about three thousand feet. To look at this mountain it was hard to believe that the trail went up it. We climbed the mountain by a trail that went back and forth (switchbacks). Once up on top of the mountain the trail wound its way along mountain ridges. We traveled through pine and oak forests. We heard lots of birds singing.

We arrived in the village of Coatlan in the late afternoon. We headed for the town hall. We had letters of recommendation from the governor of the state of Oaxaca and from the director of the Summer Institute of Linguistics of which we were members. The letters explained that we wanted to study the Mixe language. Most of the people in the town hall were drunk including the town president and the town secretary. Earlier in the day there had been a town meeting and it was customary to drink alcohol during and after a town meeting. So we were unable to do business that night.

We ended up staying in the town hall. We were the objects of curiosity. Bystanders filled the doors and windows of the hall. We were finally able to get our sleeping bags out and get a little rest. By the next morning almost every one had disappeared. One young man stayed around because he saw that I had a 22 caliber rifle for hunting game. He took me hunting. What he really wanted was to purchase the rifle. While I was out hunting the town president appeared. He asked my wife in Spanish what our plans were. She indicated to him that we wanted to stay in Coatlan. The town president said there were no houses available except for the schoolteachers' house. There were no schoolteachers that year. So by the time I had returned my wife had arranged for us to temporarily stay in the schoolteachers' house.

## JUNGLE HAMMOCKS

The mission that my wife and I belong to has a focus on translating the Bible for the many unwritten languages of the world. The speakers of many of these languages live isolated in tropical forests. Our mission got its start in Mexico then expanded to other countries, many of which had people living in tropical rain forests. In preparation for expansion, our mission started a training camp in the rain forests in lower Mexico in the State of Chiapas which is near the Guatemalan border. My wife and I served a few years part-time at this training camp. Part of the training was to take the missionaries in training, known as campers, on three day hikes into the rain forest. For these hikes we were supplied with hammocks obtained from army surplus which were designed for soldiers traveling in tropical rain forests. The hammock had a roof to protect from the rain and netting on the sides to protect from mosquitoes. These hammocks folded to fit into back packs along with a sleeping bag and some extra clothes. When preparing for a night in a rain forest, the first problem to solve is to find two trees the right distance apart to string the hammock. The next problem, after crawling into the hammock and closing the zipper, is how to move with out flipping over. If you flipped, as many campers did, you had to call for some one to come and assist you get returned to an upright position. Sleeping in a jungle hammock was an adventure in itself. One camper had claustrophobia when he tried to sleep in a jungle hammock. One time we had a famous photographer as a guest. He spent the night in a jungle hammock but he couldn't sleep. The next morning he described all the jungle sounds such as the night monkeys feeding on the fruit high up in the trees and dropping the seeds on the roof of his jungle hammock.



## JUSTICE IN MEXICO

Recently I wrote an article about homicides in the village of Coatlan. I noted that murderers often got away with murder by simply leaving town. Coatlan authorities could not pursue them. Authorities in neighboring towns considered what happened in Coatlan none of their business. The district and state authorities had jurisdiction. However the district did not have police for chasing out of town criminals and the state did not have enough police to be able to chase criminals in the hundreds of villages in the State. What did happen is that the army could be sent in some cases to take control of a village where the village authorities had been involved in the murder and the families of the murder victim could not get justice in the town where the murder took place because the town secretary filed a false report on the death of the person murdered. The State authorities looked on this type of situation as a kind of insurrection and the army could be sent to intervene.

While we were living in Coatlan there was an instance where the army did intervene. In this instance brothers of the town president hired two gunmen to murder what they considered an enemy of theirs. The victim was a trader who was a native of another town, who had established residence in Coatlan. He purchased coffee and brought items from the city to sell. He had a string of about fifteen mules for transporting coffee to market. His mules were turned loose to graze on the grass in the forest. However, his mules some times got into peoples' cornfields. In this case the owner of a cornfield hired two men to kill the trader. One of these two men was a known killer from out of town.

The family of the murdered trader went to the State authorities to get justice. The State government got

permission from federal authorities and had the army send a platoon of soldiers to Coatlan to take control of the village. They tried to surprise the murderers by entering the village in the dead of night. Since it was a surprise attack nobody knew that the intruders were soldiers. There was some shooting and a soldier was killed. They did manage to capture the murderer from out of town. Since the captain had a deceased soldier he ordered a number of men from Coatlan to be pall bearers for the dead soldier and he made a forced march to the nearest army compound. He took the captured murderer with him. When the captain got to an isolated place on the trail he ordered a halt. He then ordered his sergeant to execute the prisoner with a knife so as not to make any noise. He ordered the Coatlan pall bearers to dig the grave to bury the executed prisoner. He swore everybody to secrecy.

As I understand it the captain had orders from his general to execute the trouble maker. Mexico is proud of the fact that their justice system does not allow capital punishment. However, in this case they used the army to execute a type of justice that could bypass the justice system. I suspect that this is a carry over from the periods of Mexican revolutions. I also suspect that if you talked about this to the general who issued the order that he would justify his action by saying that he got rid of trouble maker.

A friend of mine told me of a time when she was traveling a mountain trail when she was attacked by robbers. People suspected that the robbers were from a nearby town, and that they had been doing this for some time. She heard later that the Mexican army sent in a platoon of soldiers. The town authorities would not cooperate with them and tell them who was doing the robbing. So they grabbed a couple of men

and executed them by hanging them in the center of town.  
This solved the robbery problem

## LAND USE IN COATLAN

In order to understand present day land use we need to go into some of the history of land use in what is now known as Mexico. Prior to the Spanish conquest the land was used by tribes of people. There were no land titles or marked boundaries. Each tribe maintained control of territory by armed might and by land use. Land wars between tribes were common. The people sustained life by farming. They used hand tools. Each family farmed a plot of land. Each year they had to stake out a new plot. They needed enough land for at least six plots. In six years they could reuse the land where they started. The family maintained control over these six plots of land by use. When they stopped using the land somebody else could use it.

When the Spaniards conquered what is now Mexico they introduced new methods of land use. They introduced the idea of ownership by title. The country was divided into States, Counties and Towns. Land titles were issued by the State governments to towns... Beside the titles issued to towns the King of Spain issued titles of large parcels of the best land to individuals to form haciendas. On the haciendas the people using this land were forced to become vassals of the hacienda owner. The hacienda owners introduced the idea of land cultivation with plows pulled by oxen. The same plot of land was reused every year. However the vassals were allowed to plant fields by their traditional methods. They were taxed a portion of their crops which they delivered to the hacienda owner. They also had to give a number of weeks a year of free work.

The town of Coatlan was given a title to the land they were using. They continued with subsistence farming with hand tools much the same way they had lived before the Spanish conquest. The land of Coatlan was very mountainous and was not attractive for the formation of haciendas. Thus the people of Coatlan were able to keep their independence... In the late nineteenth century President Porfirio Dias issue land grants to Mexican ranchers in which he took some of the

land of Coatlan. One rancher formed a coffee plantation another rancher had a cattle ranch. These ranchers lost their lives during the revolutions of the early twentieth century and the people of Coatlan reclaimed their land. They also kept up the production of coffee and cattle ranching. When we lived in Coatlan each family had land which they farmed and the town recognized their right to use the land but nobody owned land. They did own coffee groves and bought and sold them

## LANGUAGE LEARNING

The first step for us in learning the Mixe language was to establish residence in a Mixe village. Where to live? We could not find empty houses for rent. We found out that most of the houses had two or more families using them sometime during the year in order to attend religious festivals. Also the concept of renting a house was unknown. We did what everybody else did, we built a house. In order to get land to build on we paid the delinquent taxes on a house plot. In doing this we incurred the wrath of the plot's owner.

For learning the language we needed language teachers. We were looking for people whom we could pay to spend three or more hours a day teaching us Mixe. We could not find anyone willing to risk being gossiped about, so we were unable to find teachers. Young boys were curious about these strange people from a distant land, so they spent time watching every thing we did in public. They were not worried about gossip. The older people used the little boys to learn some things about us. However, little boys were not much help as language teachers. Some young men were also curious. They would sometimes spend time with us at night and we were able to ply them with questions about the language. My wife went to visit ladies working in their kitchens and was able to get some information about their language. She even went with them to gather firewood.

Under these conditions language learning was a slow process for us. It took us several years before we could begin Bible translation

## LANGUAGE LEARNING CONTINUED

Since we were unable to hire anyone to teach us the language, we looked for opportunities to get information. Hilda visited women working in their kitchens. I went out with the men when they were clearing the overgrowth of vegetation on the trails. In the evening some of the young men could be engaged in conversation in the town center. Almost all conversation was in the Mixe language so we heard lots of Mixe. There was no doubt that Mixe not Spanish was the mother tongue. For our own study of Mixe we recorded Mixe in the international orthography used by linguists. When we wanted Mixe speakers to read what we were recording we improvised a Mixe orthography based on the Spanish orthography.

We recorded each word on a 3 by 5 slip of paper. We had shoe boxes to file the slips in. A shoe box was an economical filing cabinet. These 3 by 5 slips were the beginning of a dictionary. Our concern was for an accurate phonetic recording of each word. One of the first things that we want to know is whether or not words are differentiated by tone. It turned out that Mixe sentences had intonational patterns, but the words were not differentiated by the tone of the vowel. The language that my wife studied before we were married is a tonal language. One language in Mexico has five tone levels. We discovered that Mixe words were differentiated by vowel length. It turned out that the Mixe of Coatlan has three contrasts of vowel length. Many languages have two contrasts, but very few have three vowel length contrasts. One consonant contrast has always given me trouble. The consonant that we record in English as (sh) in Mixe has a contrast between a front and back pronunciation.

From the beginning we tried to decipher the grammatical system of Mixe. We have learned a lot but after fifty years we still have not deciphered every thing there is to know about Mixe grammar. There is really no such thing as a primitive language. When we first worked with Mixe grammar we thought that word order was free. This was not true. There is a great variety of clause constructions, but each clause has its word order. Mixe has a contrast between first person plural inclusive and exclusive. This is not true of English but it is found in many languages. If the speaker uses the inclusive first person plural, he includes the people to whom he is speaking. If he uses the exclusive form, he is excluding the people to whom he is speaking.

## THE MIXE LANGUAGE

There seems to be some confusion about languages indigenous to Mexico, the US and all of the countries of the Americas. When I talk to some people about the Mixe language, they want to use the term dialect. Mixe is a real language just like the hundreds of other languages native to the Americas. Barbara Grimes, with her Wycliffe colleagues, is cataloging the languages spoken in today's world. She has catalogued over six thousand languages spoken in today's world, linguistically speaking. By linguistically speaking, we mean that there is less than 75 percent intelligibility with any other language. Each language has dialects that have more than 75 percent intelligibility with each other. Languages are divided into language families. Language families are not related to each other except by words that are borrowed from one language by another language. For example we borrowed the word "coyote" from Spanish who borrowed it from the Aztec language. Mexico has five indigenous language families: Mixe-Zoque, Otomangean, Mayan, Ute-aztecan, and Chontal of Oaxaca. Each language family has several languages and each language has several dialects. Each family of languages in Mexico has thousands of years of history. Since any given language will change as the years go by, this explains why there are many languages in a language family that have millenniums of history. We do not have any definite knowledge of the origins of the different families of languages. We who believe in a creator of the universe also choose to think that each language family was created. For us this explains the very complex grammars of the different languages. I have been working on the grammar of Mixe languages for 50 years and I do not have it all figured out as yet.



## MARRIAGE CUSTOMS IN COATLAN

Families in Coatlan who have girls who are teenagers or pre-teenagers do not let the girls go anywhere alone. The girls are usually accompanied by their mothers or by other girls when they are away from home. The young men are not allowed to date the girls. The young men park themselves along the sides of trails, especially the trail to the well. When the girls pass by they try to engage them in conversation. If a young girl is interested she will pause and answer the young man addressing her. The young man will take this as a clue.

In this country village there are no careers for women. Their whole future depends on marriage. When a young man finds a young lady that he believes has an interest in him he asks his parents to make a marriage proposal. The parents go to the home of the girl with presents of food, tobacco and liquor. On the first visit the girl's parents will receive the boy's parents' offerings. They will eat and drink together. The boy's parents tell their reason for coming. The girl's parents answer that they will consult their daughter. A few weeks go by then the boy's parents return to the girl's home again bringing presents of food, and tobacco. On this second visit the girl's parents usually receive the gifts offered and there is a time of socializing. A few more weeks go by and the boy's parents return to the girl's home again with gifts. This time if the girl has indicated to her parents that she does not want to marry the boy asking for her hand then her parents will refuse the gifts and there will be no socializing. However if the girl has indicated to her parents that she will marry the boy then the two families make plans for the wedding. There is a custom not always followed that the young man works for his future father-in-law for one year.

The date for the wedding has to be set for a time when a catholic priest is in town. At the time we were in Coatlan the catholic priests planned to visit once a year. They usually stayed for two or three days to do

baptisms and marriages. The church wedding is very simple. There are no best men or brides maids. There are no wedding gowns or flower girls. There are no rings. One thing necessary is that there are co-fathers and co-mothers to affirm the marriage oath with them. The co-mother and co-father arrangement is a life time commitment. If at any time the married couple needs help their co-mother and co-father will help them. The co-mother and co-father are usually a married couple. After the ceremony in the Catholic Church the two families gather at the home of the groom for an all night party. A town elder is hired to perform the rituals to the supernatural associated with the earth. Early in the morning the elder makes a sacrifice offering of a rooster, liquor, tobacco and food. After the offering the rooster is cooked and a meal is prepared for friends and relatives. There is no honey moon. Usually the newly married couple lives with the boy's family. Eventually a house is built for them.

We heard of one case where the two sets of parents agreed on a marriage. But the girl did not want to marry the boy so she eloped with the boy that she wanted to marry.

Most girls marry at the ages of 13 to 16 and the boys ages 16 to 20. In this type of society there are not many teen age pregnancies of unmarried girls. We heard of one case where a teen age girl was raped by a married man. The girl brought the pregnancy to full term and her parents offered it for adoption.

Marriages in Coatlan do some times break up. There are no divorce proceedings. The girl returns to her parent's home. In Coatlan there was a group of adult women who were single. Some had lost their husbands; others were separated from their husbands. These women some times had affairs and continued to bear children. During festivals they were expected to be available as dance partners.

## MEDICAL EMERGENCIES

In the first years of our work in Coatlan we were two days travel by trail from the nearest doctor or hospital. Travel by trail meant: walking, riding a mule or being carried on a stretcher by four men. We hoped and prayed that we would not have such an emergency. There was one occasion when we came close; it happened at a time when there was a town festival. I was in the center of town watching the festival activities. Hilda was not feeling well and stayed at home. She began to have severe abdominal pain.

A lady who was a native curer lived close to us who was able to help. She was especially good at massaging since she often treated pregnant women. She could feel the unborn baby in the womb and position it properly for birth. She found out that Hilda was having a lot of abdominal pain so she massaged Hilda's abdomen.

Hilda was finally able to get someone to go and advise me that she was very ill. When I arrived at the house a crowd had gathered. The word had gotten out that Hilda was dying. I gave Hilda a shot for the pain. The pain slowly subsided and the emergency was over.

This event demonstrated to us that we had won a place in the hearts of the people. A crowd had left the festival activities and gathered at our house to express their concern. We were also thankful for the massaging of Hilda's abdomen by the local curer.

When Missionary Aviation Fellowship began to give us transportation by airplane our problems with emergencies were lessened. This was true, not only for us but for the natives of Coatlan and surrounding communities. We had radio communication with the pilot's house. The plane would come for any kind of medical emergency for us or for the natives.

## MEDICAL WORK

I will divide this topic into two parts: one, our work with modern medicines and two, local curers and their work with traditional methods of curing such as herbs and sacrifice offerings.

We had purchased medical supplies for our own use and for possible use to help the natives. In Mexico you can buy drugs without prescriptions. We had a Merk manual with information on how to diagnose and treat diseases. We also had some orientation by a medical doctor. We were three days travel distant from modern medical doctors and clinics. Living with the people made us aware of the need of modern medicine. People were dying with tuberculosis. Epidemics of whooping cough and measles were taking the lives of the children. One epidemic of whooping cough took the lives of more than twenty children. We learned that previous to our coming to this region a small pox epidemic had reduced the population of Coatlan from about two thousand adults to five hundred.

The first person to ask us for help was a man who was dying. He had tuberculosis. Advanced tuberculosis is easy to diagnose because the patient is coughing up blood. The treatment required daily dosages of pills and weekly shots. I learned that I needed to go to the sick person's house every day to see that he took his pills. There were at least two reasons that the family wouldn't follow instructions about pills. One, they believed that the pills had to be given by the curer because he had a gift of healing from the supernatural. Two they were afraid that the pills might not be compatible with what the patient was eating. We also learned that the term "tuberculosis" did not mean anything to them. The patient was coughing up blood so they assumed that he had

had a fall in which he had injured his chest. They had no idea what we were talking about when we mentioned germs, viruses, etc. or the names of diseases. We learned that when these people went to see a modern medical doctor, the way they described their symptoms did not make any sense to the medical doctor and conversely the questions the doctor asked did not make any sense to them. It was obvious that there had to be a process of education for the native people to take advantage of modern medicine. We had an advantage over the medical doctor. We learned their language and we learned how they described their symptoms. Then in most cases we were able to diagnose the disease.

The second case that we treated was a three year old girl that the local curers had diagnosed as going to die. They brought her to us as a last resort. Since she was an orphan they left her with us. She didn't walk, talk or cry. Worms were coming out of her mouth. After three months of treatment, she became a lively girl. She was even talking some English.

My wife's reputation as a curer grew by leaps and bounds. One eleven year period we did not lose a patient. A medical doctor came to help us with diagnosis. He had a microscope. He found that we were missing the diagnosis of hookworm. The most common diseases that we treated were: intestinal infections (amoeba, worms, typhoid etc. pneumonia, tuberculosis and bloody dysentery. Some diseases required injections. A lot of people insisted on injections so we gave everybody a shot of vitamins. People were coming to see my wife from villages several hours by trail distant. Some would travel half the night to arrive at our place early to be first in line. One time Hilda was talking to a man in the city of Ixtepec where there were doctors. When

he learned where she was going he said “Oh, there is a famous doctor there. I need to take my daughter there”. My wife was the doctor that he had heard about.

Missionary Aviation Fellowship established airplane service. We no longer had to travel by mule. We could travel by airplane and also fly sick people to a doctor. It became possible to fly in vaccine for whooping cough and measles.

Over a period of years the people began to get confidence in modern medicine and doctors. They observed our success with modern medicine. One village elder observed, “The local curers heal a few people but you heal everybody.”

## MERMAIDS IN COATLAN FOLKLORE

In the folklore of Coatlan mermaids, spirit beings in the form of a woman appear. In one incident a man known to be a great hunter was out in the mountains looking for game to kill. He was walking on a hillside when in a stream below a woman appeared. She addressed the hunter by name and said: "Why are you hurting my family? The animals that you hunt belong to me. Stop hunting them."

In a history text written by Perfecto Juarez I found the following incident told as part of the history text. Three men went fishing with dynamite in the big river. They succeeded in detonating the dynamite in a deep pool of water in the river. They succeeded in killing or stunning quite a few fish. The three fishermen spent some time diving into the pool of water and grabbing the dead and disabled fish. One of the fishermen was a very good diver and went deeper into the water pool than the other two fishermen. He spotted a big fish that he did not want to share with his buddies, so when the three fishermen filled their back packs with fish the good diver made pretexts and did not leave with the other two fishermen. Some time after the two fishermen got home the wife of the third fisherman came to the two fishermen and said: "Where is my husband? He has not come home as yet." They answered: "When we left for home he was getting ready to come home. It is too dark now to go look for him, but as soon as there is some daylight we will go look for him." So the next morning early the two fishermen returned to the water hole in the big river where they had dynamited fish. They found their companion's clothes on the river bank beside his back pack full of fish but no sign of him. They decided to dive into the pool of water to look for the missing fisherman. They found him in the bottom of the pool of water held captive by a mermaid. The mermaid said to them: "Why are you hurting my family. The fish are mine. If you will make a sacrifice offering to the spirits of the earth, I will release your companion." So the two men returned to the village and told the wife of the missing fishermen what they had learned. She contracted with a village elder

to make the sacrifice offering. After the offering was made, the mermaid released the fisherman she was holding captive.



## MIXE CONCEPT OF TIME, PRE EUROPEAN CONQUEST

We will begin with the time of day. Our time of day is described by hours, minutes and seconds. The Mixe people did not have watches. They have names for the different times of the day. Early morning is “quiet time”. Morning is “sunrise”. Midmorning is when the sun is about half-way to midday. Midday is when the sun is overhead. Mid afternoon is when the sun is half way down. This is followed by sundown, early evening and dead of night. When we lived among the Mixe people, if anyone had a watch it was worn for prestige but was not used to tell time. The amazing thing was that on cloudy days they had an idea of where the sun was. They always knew the time of day.

Names of days. The Mixe people had 260 day names. They had no weeks. They had cycles of 260 days. The cycle was made up of twenty names taken from their animistic world view. Such names as tiger, deer, serpent etc. Each name appeared 13 times in each cycle. .

Years. A year was made up of 18 twenty day cycles of the moon plus five days. Every four years an extra day was added. The months of the year were not named but the years were divided into seasons based on agriculture: time to plant corn, time to plant beans, time to harvest corn, time to harvest beans, etc. Since the Mixe people live in a tropical zone there is no clear distinction between summer and winter. There is a time of the year which might be titled monsoon season, a time of heavy rains.

As you can note their concept of a years time was very accurate. Their concept of twenty day cycles makes more sense than our thirty day months. Our dividing a month into weeks is entirely arbitrary. For the Mixe people the day

name was very important. When a child was born it was important to record the name of the day the child was born. When a child became ill the curer needed to know the day name in order to make the proper offering to the supernatural. How many of us know the name of the day we were born?

## MIXE LANGUAGE, UNIQUENESS OF SEMANTICS

By semantics we mean meanings of words or usage of words. For the purpose of this paper we are comparing Mixe to English.

Our first comparison is words that express feelings or emotions. In English we have the word “love” which can be used as a noun or a verb in a variety of situations, such as: God’s love for us, the love of a man for a woman, the love of a husband for his wife and visa versa, the romantic use of love as in a song, etc. The closest we can come in Mixe to a word for love is a dual verb phrase meaning “to desire to feel”. This phrase is rarely used in the context of romantic love, illustrating a difference of culture. For example....Mixe men do not romance women in songs or any other way in the Mixe language. It is improper for a Mixe man to date a young lady. He stands by the trail to the well and tries to engage the girl briefly in conversation as she goes by. Marriages are arranged between families. There is no situation where the boy says to the girl “I love you, will you marry me”.

There is another kind of example of the use of the word love. We say that we love God. A Mixe person would say that they respect God.

In English we use the word “heart” to express a lot of emotions, such as “heart felt, with all my heart, soft hearted, heartless, etc.” We draw pictures of hearts to indicate “love”. Emotions are expressed in Mixe by the term “hot” which has two meanings: one meaning is liver; the second meaning is a person’s insides. . This word is used in compound verb stems to express every kind of emotion, such as happiness, anger, pain, sadness etc. The Mixe word for heart is never used to express emotions.

In English we have the word “spirit” which we use in many contexts. We can use it as a noun describing a person as being composed of body, soul and spirit or just body and spirit. We also use the word spirit as a verb in such a phrase as: “He gave a spirited discourse”. In Mixe there are two words used to express “spirit”. One word is the verb which means “to feel”. It can also be modified and used as a noun. The other word is a noun which means “wind”.

The verb “to feel” can be used to refer to the spirit of a living person, but not the spirit of a dead person. When a person dies he no longer has feeling. For English speakers, some of us believe that our spirit lives on after death. For life after death, the Mixe people use the word for “wind” in combination with the Spanish word for soul.

We have an illustration in Bible translation of a semantic problem. Jesus some times referred to himself as the “Son of man”. A literal translation of this phrase in Mixe comes out “a person’s child”; it would be used by a Mixe speaker to refer to somebody’s child meaning that the speaker did not want to identify whose child it was. In the first place when Jesus used this phrase, he was not a child and he was referring to himself. In the Hebrew Biblical context it was intended to be understood as the incarnation of Christ, the God Man. Each Mixe translator has come up with a different phrase for “Son of Man”.

Another illustration of cultural differences is the English verb “to carry”. Where English has this one word the Mixe have several words. It all depends on what is being carried and how it is being carried. Is it being carried in the hands, or on the head or on the back? Is the object round, flat, or long, etc.?

## THE MIXE LANGUAGE; UNIQUE ASPECTS OF THE SOUND SYSTEM

I will begin with a note of explanation. My wife and I are trained as linguists in the science of descriptive linguistics. Descriptive linguistics deals with languages as they are spoken. For example English in its written form has five vowel symbols. Descriptive linguists have eleven vowel symbols for English. Descriptive linguistics is in contrast to historical linguistics which deals with ancient written languages. Descriptive linguistics deal with the may unwritten languages and make them written languages

Many people are curious as to what we use for alphabets for unwritten languages. We have an international alphabet which we use for linguistic papers. But for a practical alphabet we use the alphabet of the national language of the country were we are working and we manufacture letters for new sounds. My wife and I work in Mexico, so we use the Spanish alphabet with some additions. Here I am dealing only with features that are unique to the Mixe languages since a full description would be much too long.

Unique to the Mixe languages are complex syllable nuclei. There are four types of complex syllable nuclei.

One, contrasts of the duration of the vowel sound sometimes referred to as vowel length. Some Mixe languages have as many as three contrasts in vowel length: short, mid and long. Here is an example: pet “climb it”...peet “broom”...peeet “Pedro”. Two contrastive vowel lengths is common, but three contrastive vowel lengths is unusual. It has been reported that, beside Mixe, there is only one other language in the world with three contrastive vowel lengths.

Two, aspirated vowels: for example, pet “climb it” and pehtp “is climbing it”.

Three, vowels affected by the glottis. Some vowel nucleus have the vowel sound interrupted by the glottis. We call these larengelized vowels. For example: tsa’am....“ripe”. Other syllable nuclei have the vowel sound cut short by the glottis. We call these glottal stops. For example: ha’tp “is arriving”

Another feature unique to Mixe languages is the palatalization of the consonants. When the semi vowel “y” occurs before any consonant it has a palatal effect on the consonant. Spanish makes frequent use of palatalized “n”, but only “n”. “Canyon” in English is an example of a palatalized “n”. In Mixe the palatal effect on the consonant differs according to the pronunciation of the consonant but all consonants are affected.

## MIXE LANGUAGES: UNIQUE FEATURES OF THE GRAMMAR

The basic grammatical unit of Mixe languages is the clause. Unique to Mixe languages is alternate clause structures. Every clause has to be structured in one or the other of the alternate clause structures. Every verb has alternate stem forms that are the clues to the clause structures.

Also, unique to Mixe languages is multiple word structures for the subject, the object or the predicate. These phrases are usually dual, but in the case of verbs there can be as many as three verbs in one predicate. Dual noun and verb phrases present problems in making dictionaries, since dictionaries usually are made up of individual words.

The most important part of the clause structure is the predicate. In Mixe languages the predicate structures are very complex. For example, English has a group of words called prepositions. Mixe languages have no prepositions. Mixe languages have verb affixes which do what prepositions do in English and much more.

There is a group of verb prefixes that indicate first, second and third person subject and object. First person is divided between an affix for inclusive plural and an affix for exclusive plural...

There is a group of prefixes that indicate the direction of the action of the verb: up, down, forward and action coming from the rear.

There is another group of prefixes that indicate various ideas, for example the prefix “ko-“, can indicate: “head of”, such as head of the work force”. There is “m+” which we describe as associative. By this we mean that the subject has two persons with one helping the other. There is “yaj-“, which we describe as causative. By this we mean that the subject has two persons with one causing the action. There is “ni-“, which has the idea of “for”. And there is “a-“, which has the idea of repetition.

The indication of tense in Mixe clauses is complex. There is an adverb that sets time as remote from the present. There is an adverb that indicates completed action. There is a verb suffix that indicates action in progress. There is a verb suffix that indicates near past.

Mixe nouns have no marking for singular or plural. The plurality of the subject or object is indicated by a verb suffix.

There are verb suffixes that convert nouns into verbs and visa versa; there are at least three verb suffixes that convert verbs into different types of nouns.

My wife and I, with our colleagues, have been working with Mixe grammar for fifty years and we still do not have it all figured out. We are amazed at its complexity and its completeness.



## MIXE SUPERNATURAL

The supernatural of the Mixe world view is described in Mixe by the word “naaxwiin”. This word literally means “earth-place” or “planet earth”. For the Mixe people planet earth is animated by spirit beings that live in the water springs, the rivers, the caves in the mountains, certain rocks, certain trees etc. The earth and the spirits associated with it have supernatural knowledge of all that is happening. Human beings are connected to the supernatural by companion spirits. Each person can have as many as twelve companion spirits. The companion spirits are ranked. The highest rank would be a companion spirit living in a certain tiger. If the person dies, the tiger dies and visa versa. The lowest rank would be a companion spirit living in an insect. The insect dies the person gets sick. Once we knew of a child who was very ill and not responding to treatment. The diagnosis by a shaman was that the child had a companion spirit living in an insect and the insect had died. Also companion spirits represented power or manliness. We heard of two men who were disputing who were the most powerful. They decided to find out so they went into the woods at night to summon their companion spirits. The younger man’s companion spirit appeared first, it was a serpent. Later the older man’s companion spirit, a tiger, appeared and the serpent left. So the older man said: “OK, your spirit was afraid of the tiger so you see who is the greatest.” We heard of another case where an older man was ill. The diagnosis of the shaman was that the sick man had had an altercation with a younger man. The younger man’s companion spirit had tied the older man’s companion spirit, a buzzard, in a tree. The shaman found the buzzard and released it and the man got well. We heard of another case where an older man’s house was struck by lightening and burned down. A shaman determined that the lightening was the companion spirit of a younger man who was angry with the older man.

At the time that we first went to live with the Mixe people, they had a very sophisticated system of offerings and they had shamans who were able to perform these offerings. The offerings were to appease the spirit beings associated with the planet earth in the case of illness. Sometimes they

were used to gain assistance, for example, when the town of Coatlan was involved in a war with a neighboring village over land. They had a shaman perform some offerings to the supernatural. A whole book has been written about the Mixe system of offerings. The major part of the offerings involved the sacrifice of turkey toms or roosters, eggs, tobacco, candles and bundles of sticks. There was an intricate number system involved in the offerings. Many hours of drinking liquor preceded each offering. All shamans were alcoholics. The religious calendar that gave names to the days was involved in the system of offerings. I will write a separate article on the ancient Mixe calendar system.

## MULE TRAINS

In the nineteen fifties when we lived in Coatlan we saw trains of mules transporting coffee to market. A train of mules consisted of fifteen mules accompanied by a mule driver for every five mules. Each mule carried two hundred-pound sacks of coffee. It was a three day trip over mountain trails to the Isthmus of Tehuantepec where the coffee was loaded on to ox carts and transported to where coffee companies purchased coffee.

Loading coffee sacks on mules involved a lot of work. The mule drivers had to get up about 4 AM to search for the mules and bring them in to where the coffee sacks were stacked. The mules were fed grain and saddled. Then one by one each mule had two sacks of coffee tied on him, one on each side. It took some effort, with a man on each side of the mule, to raise the one hundred pound coffee sack into position and cinch up the ropes. It took an hour or more to load fifteen mules before they could take the trail. When they arrived at a good place with water and pasture for the mules, they unloaded the mules and put them out to pasture. Then they fixed something to eat and bedded down for the night on the hard ground. The next morning the mules were rounded up and loaded again. They traveled another day and spent another night on the trail. The third day they arrived in the flat country of the Isthmus of Tehuantepec where the coffee was loaded onto ox carts. Mule trains often traveled in the rain. Mule train drivers worked hard.

The mule trains no longer exist. Now there are roads to Coatlan and everything is transported by truck.

## MULE TRANSPORTATION

For our first trip to Coatlan we planned to stay about three months. When the time drew near to end our stay, we looked for help to make the two day trip to Jalapa where we could get bus transportation to Mitla, a base for our mission. We were fortunate that a merchant living in Coatlan was originally from Mitla. He had married a Mixe woman and resided in Coatlan. He had a train of mules to bring in merchandise for his store and to transport coffee that he purchased out to where it could be sold. We arranged to travel with this merchant. He loaned us a riding mule for Hilda to ride and set a day to leave. We got up early and prepared to leave, but after waiting awhile we learned that he had been unable to find all of his mules that morning. At night, he put his mules out in the open forest to graze and sometimes they wandered off. The next day the same thing happened again, he could not find all his mules. It happened that his brother-in-law, also a merchant, had a string of donkeys and was leaving that day for Jalapa. So he saddled his riding mule and Hilda and I took off on the trail. We had a late start and the donkey train was ahead of us. One of the donkeys was carrying our sleeping bags and our food. We traveled alone all day, never able to catch the donkey train. The donkey train owner was noted for whipping his animals to make them go fast. Late in the afternoon we arrived in the midway town and learned that the donkey train was about an hour ahead of us. We purchased some hay for our mule and tied it behind the saddle and resumed our journey. We were told that the donkey train was planning to stop where there was a spring of water. The place was called "fire valley". It was located in a desert area. We arrived at fire valley in the moonlight. We found the donkey train and got our sleeping bags. We tethered the mule and gave him some hay to eat. Fortunately, that morning friends had given us some tamales so we had something to eat.

Early the next morning we resumed our journey. The donkey driver had a choice of following the trail over hills or taking the river valley. He chose the river valley. We had begun our journey the day before in cool pine and oak forest some four thousand feet above sea level. We were now traveling in

hot and dry country about 300 feet above sea level. It was hard to walk in the river sand. We arrived in Jalapa about mid-afternoon very tired.

## NARCOTIC PLANTS THAT PRODUCE TRANCES

Knowledge of and use of plants that produce trances goes as far back in the history of the people who populated the American continent as we have records. The catholic missionaries working with the indigenous people learned about the use of these plants. The plants had religious significance and were used for religious purposes. They were used to contact the animistic supernatural related to the earth. The average person would use the drugs probably once or twice in a life time. This is in contrast to our culture where drugs are used every day to get high.

It is interesting that anthropologists studying the indigenous cultures of Mexico overlooked the use of plants that produce trances. It happened that a New York banker had a hobby that was an interest in plants that produced trances. His wife was from Russia and she had knowledge of these plants. The banker began a world wide search for these plants and this led him to Mexico. He found lots of references to these plants by the catholic missionaries. Then he visited present day Mexican markets and found them for sale. This led to a study of present day usage. In the course of his studies he visited the Mixe people with a well known anthropologist and a missionary who knew the Mixe language. The banker has published books about his findings.

The Mixe people had knowledge of at least three different plants that produced trances. This did not include the "peyote" which the indigenous people in the US use, nor did it include marihuana or cocaine. The most well known plants were three species of mushrooms. One of the species was not known to scientists until I collected some specimens. This species was named after me. The narcotic in the mushrooms has been synthesized and is known as LSD.

My wife and I recorded uses of the narcotic mushrooms. To the mixed people they were sacred. When people went out to collect these mushrooms they never openly declared their intentions. Before they were used they were placed on an altar in the Catholic Church for three nights to get the blessings of the saints. The mushrooms were used in pairs which seem to indicate male and female. Some medicine men were called to their profession by taking the mushrooms. Certain people had knowledge of how many pairs made a dose. The mushrooms were taken in the dead of night by the person seeking advice from the Mixe supernatural. Several family members or friends accompanied the person taking the mushrooms. The heads of the mushrooms are eaten and the stems are placed on the altar. The stems are transformed into little men who are spokesmen for the Mixe supernatural. The people present are to take note of what the person says while in the trance. Everybody is to maintain silence. We heard of one instance where a person spit on the floor and this interrupted the trance. We heard of another case where the man was told by the little men that his mother in law was causing his illness. He shot his mother in law. A lady told my wife that she took the mushrooms to determine what the cause of her illness was. While in the trance the little men operated on her heart and removed some tree roots that an enemy had placed in her. She was also told that she should consult a medical doctor who would be coming to the village. A medical doctor did come to aid us for two weeks.

While we were living in Coatlan a man was murdered. The names of the two men who committed the murder were common knowledge. The mother of one of the men took the narcotic mushrooms in order to find out the truth. The little men told her that her son was guilty and that he needed to have a town elder intercede for him in the Catholic Church in order to save his soul. He also was supposed to donate a large sum of money to the catholic saints.

It is interesting that while in the trance after the little men speak a catholic saint appears and confirms all that the little men have said. This makes the narcotic mushroom use legitimately catholic



## NEW YEAR'S RITUALS

When we were living in Coatlan we became aware of rituals associated with the beginning of a new year. On New Year's Eve both the outgoing and incoming officials gather in the town hall. They spend many hours drinking liquor and socializing. In the early morning hours the outgoing town authorities take new canes which they have prepared and each outgoing authority presents a cane to his counterpart of the incoming authorities. The canes are a symbol of authority. After this ritual is performed the new town president closes the town hall. He takes with him to his home items needed to operate as town president. For the next two weeks the town hall will be closed and the new town president will manage town affairs from his home. The town band sets up shop at the new president's home. They play popular dance music. A village elder is chosen to officiate at the ritual prayers to the spirits of the deceased elders and the dedication of the offerings of liquor and tobacco (cigarettes). Beginning with New Year's Day and continuing for nine days these early morning rituals are performed in the Catholic Church by the church cantor, the church musicians and the village elders. The new town authorities also attended these rituals.

One year I decided to stay up all night to see what was happening on the ninth day of the New Year's rituals. On this day the rituals in the Catholic Church took place about midnight. About 3: A.M. all the men gathered in the church courtyard. Some men objected to my presence but others said that it would be OK for me to go. The men took a trail leading out of town. They ended up on a small hill where there was a stone altar. The highest ranking town elder took charge of the ritual. He knelt in front of the stone altar. He first lit some candles and then began to address the supernatural elements associated with the earth. He addressed the lightening, the serpents, the tigers, the crosses, the spirits of the deceased town elders, etc. He petitioned these supernatural elements to give the new town authorities a good year. He broke open some eggs and spread the egg contents on the ground

while he addressed the “earth” and asked her to receive the offering. He also offered cigarettes breaking them in pieces and spreading them on the ground. When he had finished with his prayer he stood up and took a few steps to the north of the stone altar. He began the sacrifice offerings. He called the youngest of the new town authorities to come forward with his rooster. He took the rooster in his hands and pointed it to the north, then to the east, then to the south, and finally to the west. While he was doing this he addressed the spirits of the earth in the mountains around and asked them to receive the offering. When he had finished the prayer he had the person bringing the offering grab the head of the rooster and he, the presiding elder, cut the head off. He tossed the rooster’s body to the north and every body watched which way the headless rooster jumped. If it jumped toward where the sun set it would be a bad omen. If it jumped toward where the sun rose it would be a good omen. One by one each new town authority offered his rooster. The new town president was last and he offered a turkey tom. After the offerings were finished there was a long discussion about what whether or not the new town authorities would have a good year or a bad year. Most of the roosters had jumped toward where the sun sets and this was a bad omen. However the turkey tom jumped toward where the sun rises and indicated a good omen. (In actual fact some bad things happened that year. When they were clearing the trails leading in and out of the town a man was killed by a falling tree.) The roosters and the turkey that were offered were taken to home of the new town president where they were cooked and all the people of the village were invited to the feast. The next day the new town president set up his office in the town hall where he would preside over town affairs for the rest of the year.

## OTHER FACTORS AFFECTING COATAN CULTURE BESIDE EVANGELICAL CHRISTIANITY

In the later half of the 20<sup>th</sup> Century, Public education, radios, cassette players and television sets influenced the culture of Coatlan. In the early years of the 20<sup>th</sup> Century, there were only 1<sup>st</sup>, 2<sup>nd</sup>, and 3<sup>rd</sup> grades in school. By the end of the century, there were six grades and also bilingual education. The students were taught to read and write Mixe as well as Spanish. The influence of the work our mission did with indigenous languages resulted in the government sponsoring bilingual education. In addition to reading, writing and arithmetic, the students were introduced to Mexican history. Mexican History classes introduced them to the Mexican constitution and the National Anthem. School teachers were highly respected because of their education. Book learning was supplanting the words of the ancestors

Cassette players became popular for music. The evangelicals listened to hymns. Non evangelicals listened to the popular music of the city culture which they heard on the radio. I would meet people on the trails carrying their cassette player and listening to music as they walked.

By the later part of the 20<sup>th</sup> Century most families had radios and a few families had television sets. A lot of what they heard on the radio and television they didn't understand very well because it was outside of their cultural experiences and it was in the Spanish language. By the end of the 20<sup>th</sup> Century, the Bible in Spanish, radio and television and public education had profound effects on the culture of Coatlan. More people were becoming bilingual. Their exposure to Spanish expanded their cultural horizons. However Mixe was still the preferred language used by adults in most homes. By this time we were no longer residents of Coatlan and we were no longer able to judge how much the culture was changing, but knew that it was changing. Culture is very much tied to language. Mixe speakers speak from a Mixe world view. When they learn Spanish, they also learn the Spanish speaker's world view. Bilingual adults of Coatlan still use the Mixe language to express things intimate to them, such as their feelings. People with serious illnesses were still coming to visit us at our home in the city of Mitla.

We would accompany them to the doctor. They explained their illness to us in Mixe and we explained it to the doctor in Spanish.

## OUR BATHING EXPERIENCE

Modern houses in the US have bathrooms with hot and cold running water. These types of bathrooms are very private. However I remember that when I was a child we lived in a farm house that did not have a bathroom. We bathed in wash tubs in the kitchen, using warm water heated on the stove.

The people of Coatlan had neither bathrooms nor running water of any kind in their homes. They bathed at the water springs in a very public setting. They would fill a pot or pail with water from the spring. They used a gourd cup to dip the water. They would take their water over to one side of the clearing. They would turn their back to the people coming and going to draw water at the spring. They would bathe in a squatting position using the gourd cup to dip water out of the pail and slosh it over their bodies. They would use soap and then splash water on their bodies to rinse the soap off. They did not use towels, just waited for their bodies to dry. Some times there would be several people bathing at the same time. While they were bathing they would carry on a conversation. This was how the local news was passed around.

Clothes were also washed at the water springs. They would use a method similar to bathing, filling a bucket with water and taking it to where there were some stones. They would slap the wet clothes on the stones to get the dirt out.

I tried their form of bathing. I was never able to do it squatting so I went into the woods for privacy. I dreaded the first splash of water. My wife never wanted to try public bathing at the well so I carried water for bathing to the house. She would close the doors of the house for privacy and bathe in a tub much like I remember doing years ago on the farm.

When the people of Coatlan were traveling they often crossed rivers. When they crossed a river they often took time to bathe. When the women

were picking coffee they often took the family wash with them. On their way home they would take time to wash clothes at the river.

## RELIGIOUS FESTIVALS OF COATLAN

The Mixe religious festivals have thousands of years of history. Most of this history is unknown to us. The present day religious festivals were formulated about two centuries ago when the catholic missionaries were active in Coatlan. Mixe and catholic customs were syncretized. The missionaries built a church building which was something new in the culture. They destroyed the stone idols used by the Mixe people and replaced them with catholic saints. In Coatlan there are festivals for several catholic saints as well as New Year's festivals. The religious festivals have two settings: one setting in the Catholic Church and the other in the home of the majordomo, the person responsible for the festival. For the ritual that takes place in the Catholic Church there are the cantors, the church musicians and the village elders. The cantors are trained to intone rituals in the Latin language. They have books of ritual, a ritual for every occasion, rituals for honoring a catholic saint or for the death of a person. The church musicians have music to accompany each ritual. While the cantors are intoning the ritual the village elders are kneeling in front of the catholic saints and intoning a ritual prayer in the Mixe language.

After the ritual is finished the village elders go out the front door of the church and in front of the door perform a ritual offering of liquor to the Mixe supernatural, especially to the spirits of deceased elders whom they believe are present. The elders then spend the rest of the day drinking liquor. For a major festival there are nine days of rituals in the church. The rituals are usually performed early in the morning and very few people attend the ritual. There is a strong belief that the rituals must be performed but there is no need of an audience.

The second setting takes place in the vicinity of the home of the majordomo. The whole village participates in the activities here. During the heart of the festival activities go on for three days and two nights. The town band plays popular dance music. They try to play day and night, however during the early morning hours some players fall asleep.

During the three days, liquor and food is served to everybody. By the second day most of the band members are drunk. The village elders are seated according to rank on a bench inside the home of the majordomo. The majordomo chooses one elder to direct the activities of the festival according to custom. He sits on a chair just inside the door of the majordomo's home. He is given a bottle of liquor. Four times he pours some liquor in the palm of his hand and after a ritual prayer he throws it on the ground as an offering to the spirits of the deceased elders who are believed to be present. The liquor bottle is passed around and every body is expected to drink some liquor. During the three days of the festival many bottles of liquor are thus dedicated and consumed. A lot of people are drunk. The majordomo has his wife and several other women volunteers prepare food. They feed every body present during the three days of the festival. They purchase liquor in five-gallon tin cans. It is pure alcohol. They add some water and serve it in used beer bottles. After drinking a few sips of liquor each participant wipes the mouth of the bottle with the palm of his hand and passes the bottle to the next person. The second night of the festival a candle maker makes the candles which will be used to burn in front of the saint being honored during the coming year.

A religious festival is a financial burden for the majordomo. The preparations for the festival also take a lot of his time. The festival system is becoming burdensome for the town because they keep adding festivals. While we were in Coatlan a family purchased a saint and held the first festival. After that a new festival was added each year for the new saint. When we were in Coatlan they were celebrating` about 15 religious festivals a year. Apart from these festivals, the government required the town to celebrate such civil festivals as "independence day".



## RITUAL ASSOCIATED WITH DEATH

At The time of death the body is laid on a mat on the floor of the living room with the head close to the house altar that has the images of the catholic saints that the people of this home worship. A candle is burning on the altar. Other lighted candles are placed around the body. A village elder is hired to pray the ritual Mixe prayers and to advise regarding custom. The village elder addresses the dead person by name. It is assumed that his spirit is present and listening. He especially asks the dead person to not be angry with any one of his family. If there are babies in the family the presiding elder holds the baby over the dead body and asks the deceased not to be angry with his or her child. There is an all-night wake. People come to pay respect to the deceased. They bring candles, bread and liquor. The family of the deceased serves coffee, and bread through out the night to all who come to pay respect. By law the burial has to take place in 24 hours. Members of the family of the deceased choose a place in the grave yard and dig the grave with the help of volunteers. For the funeral the church cantor and the church musicians come to the house and recite a Latin ritual. Long poles are positioned under the body and four men pick up the body and begin the journey to the grave yard. At every cross street the procession stops and the cantor recites a ritual. They say that this is to orient the person's spirit so that he or she can find their way back home. At the grave yard after the cantor finishes his ritual the body is lowered into the grave. Family members throw handfuls of dirt on the body. They have a custom of saving cut hair and cut finger nails to be buried with the body at the time of death.

After the burial the family returns to their home. For four days they are not to bathe or wash clothes. The village elder that they had hired returns home with them. Liquor is served. The village elder dedicates each bottle of liquor by offering four handfuls to the spirits of the deceased village elders.

On the seventh day after the death of a woman and the ninth day after the death of a man a wooden cross is prepared and placed on the living room floor where the deceased had lain. The village elder returns to preside over the Mixe ritual. It is assumed that the spirit of the dead person is present. There is another all night wake. In the early morning hours (3 A.M.) The village elder offers a rooster to the Mixe supernatural associated with the earth. He addresses the spirit of the dead person and asks him not to be angry with any member of his family. The rooster is cooked and family and friends partake of a feast. After the feast a procession takes the cross to him grave yard and places it at the head of the grave.

## ROMANCE IN COATLAN

When we established residence in the village of Coatlan in the 1950's we had a view of the culture as it had existed for centuries. Romance, the attraction of a boy for a girl, was evidenced as it had been for centuries. To be sure, boys were attracted to girls and girls were attracted to boys. However, no dating was allowed as culturally acceptable. No girl was ever to be seen alone with a boy. Girls were always escorted where ever they went. Little girls would always be with their mother. Teen age girls when they were not with their mother were escorted by sisters or by girl friends.

How then did boy meet girl and romance develop? In Coatlan what might be called streets in the town center became trails on the town's outskirts. Teen age girls would travel trails on errands. The boys knew what trails the teen age girls traveled. One trail the girls traveled was the trail to the town water well. In Coatlan this was a large spring of water that came out of the side of the mountain. This spring had been dammed to form a kind of tank of water. The women went to the well several times a day. Corn which had been cooked for tortillas was washed at the well. People bathed at the well. Water was carried from the well to their homes for use in the home. The boys would position themselves by the side of the trail and try to engage the teen age girls in conversation as they walked by. If a girl was interested in a boy she would pause and have a brief conversation with him. Romances developed from these contacts. The boy would have his parents take gifts to the girl's family and ask them to consent to have their girl marry their son.

## SLASH AND BURN AGRICULTURE

Slash and burn agriculture probably dates back to the early history of human beings existence on earth. At first human beings sustained life by hunting, fishing and gathering fruit and edible plants. In time they learned how to plant seeds and grow crops. This led to slash and burn agriculture. They learned that the ashes left after the burning acted as a type of fertilizer and aided plant growth. In time the people invented tools to cultivate the land and thus increase production of food. It is interesting that in today's world of sophisticated agriculture that employs sophisticated machinery, fertilizers etc. There are still some cultures that practice slash and burn farming. Traveling in Mexico you can see the plots of land on the slopes of the mountains where slash and burn agriculture is still practiced.

There are several draw backs to slash and burn farming. The farmers who practice it usually produce only enough food to feed their own family. If they have a poor year the family will suffer hunger. In some areas in Mexico slash and burn farming is practiced in the rain forest. It is destroying the rain forest which has been producing such trees as the mahogany trees used for building furniture. When the tall trees of the rain forest are cut down and burned the farmer gets about two crops, then bushes and vines take over and this is the end of the rain forest. Slash and burn farming at best is an inefficient use of farming land. The land only produces crops about once every six years unless it is land where river floods replace the soil every year. The people of Coatlan where we lived had some of both types of land.

Why don't the slash and burn farmers change their method of farming? One of the major problems is that they lack capital to invest in machinery. Slash and burn farming needs only a few hand tools, a machete, an axe and a hoe. Most Mixe villages are in the mountains where there is very little land that can be cultivated with modern machinery. Some cultures farm mountain slopes with terraces. I have seen pictures of terrace farming in the Philippines. A missionary with our mission tried to introduce terraces to a village located in the mountains. There was a year when this village was

short of corn so he purchased corn and had it flown into the village by missionary Aviation Fellowship. He made a deal with a few farmers to build some sample terraces in exchange for corn. The following year he had these farmers plant corn in the terraces`. He gave them some fertilizer for plant growth to replace the ashes of slash and burn farming. The result was that the corn in the terraces produced very well. This example even though it was successful did not result in lots of farmers building terraces. In another village a government agency paid farmers to build terraces. But they did not follow through with appropriating money for an agriculturist to work with the native farmers to plant and fertilize the corn and so the terraces were never used. In a few Mixe villages farmers have oxen and use a style of plow used in ancient Egypt. The capital needed for this type of farming is much less than for farming with a tractor.

The Mexican government partially solved the problem of slash and burn farming by creating what they called ejidos. This is a type of communal farming. The government furnished the capital to purchase modern machinery. Also the government appointed the managers of the project. The work was done by members of the commune and the produce was shared. The ejidos were formed in the valleys where tractors could be used. There are no ejidos in the mountains. Some of the ejidos plant and harvest sugar cane. The farmers had to change their way of life to belong to an ejido. They did not have plots of land of their own.

## STUDYING MIXE GRAMMAR

Studying the grammar of an unknown language is an adventure of discovery. There are some grammar basics that are common to all languages. Every language has words and words have categories such as: nouns, pronouns, verbs, adverbs, adjectives, prepositions, etc. All languages have clause constructions that make use of words and word clitics (affixes). Clauses have subjects, objectives and predicates, plus supporting features such as time and location.

Even though there are some characteristics common to all grammars every grammar differs from every other grammar. With over 6,000 languages spoken in today's world there are over four thousand grammars. Languages within a language family tend to have similarities in their grammatical systems.

Since English is my native language, I will discuss how Mixe grammar differs from English. In the category of words Mixe has no prepositions. Mixe has some verb affixes that do what prepositions do in English. Mixe nouns are either singular or plural depending on the grammatical context. They are not marked for singular or plural. Plurality in a Mixe clause can be non specific or specific. To make it specific they use numbers such as "one or two", or adjectives such as "many" or a plural affix on the verb indicating plurality. Clause structures determine whether or nor the subject or the object is plural. Speaking of plural, Mixe has words that distinguish first person plural inclusive and first person plural exclusive.

In an English clause, the predicate will have one noun for subject and one word for verb action. Mixe often has noun doublets for the subject and doublets or triplets for verb action.

Mixe verbs have alternate stem forms. Which verb stem form is used depends on the clause structure. In Mixe there are two types of clause structure which determine which verb stem form will be used.

Mixe has verb prefixes that indicate first second and third person.

Mixe is very different from English in indicating past present and future.  
Mixe has an adverb indicating distant time past or future.

English has more or less free word order. Mixe has a great variety of clause constructions each with its own word order.

## SUBSISTANCE FARMING

For thousands of years prior to the Spanish conquest of the land now known as Mexico, the indigenous people lived by subsistence farming with hand tools. Each family farmed small plots of land and lived off the crops that they produced. There were no companies, no stores nor government agencies that bought and sold farm products. When the crops were poor they suffered hunger. When we went to live with the Mixe people of Coatlán they were still living by farming small plots of land with hand tools. This is because they lived in a mountainous region that did not lend itself to the use of machinery.

The principal tools of farming are the machete, an axe, a type of hoe and a six foot hardwood pole with a point on one end. The machete and the axe are used to cut the vegetation growing on the land. It takes considerable skill to use a machete. I tried it and found out that I lacked the skill. The cut vegetation is left to dry and then burned. Shortly after the burning of the cut vegetation the corn is planted by using the six foot pointed hardwood pole to make holes in the ground. The holes are spaced about two feet apart. Five kernels of corn are dropped into each hole and they follow up by scraping dirt into the hole with their feet. If all five seeds in one hole germinate, that is too many to grow successfully. I suggested that they put a smaller number of seeds in the hole. But the belief that five seeds to a hole are necessary is firmly entrenched. After the corn is sprouted and growing they some times plant squash between the plants of corn. The hoe is used to clean the weeds out of the cornfield. The second major crop is black beans. On the mountain slope corn is planted in May and black beans in June.

The success of growing corn on uncultivated ground depends on the ashes from the burned vegetation. That is why the land that they plant this year has to be left idle for about five years for new vegetation to grow to produce enough ashes.



Coatlan is fortunate to have some river bottom land. When the river floods then new earth is deposited and the river bottom land can be planted each year. River bottom land is planted in the fall after the rainy season is past.

Bananas are planted in stream beds or on river bottom land. Coffee groves are planted on the mountain slopes or near the river. Coffee trees need shade. Coffee groves are started by transplanting young trees that are found in old coffee groves.

Crop failure is always a possibility. If there is too much rain the corn crop will suffer. If there is a lack of rain the crops will suffer. A lack of rain when the beans are flowering means a poor crop. This is also true of the coffee trees. The major problem with coffee is the price. On the international market coffee is over produced and coffee buyers drive the price down to where the coffee growers can't make money on the coffee crop.

## SYSTEM FOR ASSIGNING TOWN RESPONSIBILITY

The system for assigning town responsibility for each male citizen of Coatlan is known as the ladder system because assignments are alternated between religious responsibilities and civil responsibilities and the degree of responsibility progressed with each assignment. The first duty was errand boy for the Catholic Church. The top of the ladder the last duty was town president. The system that was operating when we came to Coatlan had been established when the catholic missionaries were active in Coatlan and had been in effect for more than two centuries. The town elders supervised the system and every male citizen was obligated to participate. Citizenship was determined by birth in Coatlan to a resident family.

At the beginning of each year the town elders meet and review all the assignments of previous years and they determine who is due for assignments this year. The town elders are responsible only for religious duties. About a dozen men are assigned to religious festivals. The elders summon each man that is to be given an assignment. Some times a man may ask to be excused. He gives his reasons for being excused. If the elders accept his reasons for asking to be excused his assignment is postponed until next year and the elders look for a replacement. If any man refuses an assignment with out good reason then the elders turn him over to the town president. The town president will put him in jail and fine him. Each New Year the incoming town president in consultation with the town elders will choose the men due for civil duties.

At a certain date each year all boys of about 14 years old will participate in a ceremony to demonstrate that they have become men and that they are eligible for assignments to town duties. This initiation ceremony is an all night affair. The boys are introduced to the drinking of liquor. They ceremoniously sweep the town center. The boy's first town duty is a religious duty; he is an errand boy for the Catholic Church. Their second assignment will be a civil duty, errand

boy for the town president. The men are allowed a years rest between assignments. Religious duties are alternated with civil duties. Each man is required to host at least three religious festivals. One of which is to be a major town festival.

## HELP OF TECHNOLOGY IN LANGUAGE LEARNING

When we began learning the Mixe language the tools available to us were paper and pencil and a typewriter. Not long after we started language learning, tape recorders became available. The first recorders used large reels of tape and they were powered by electricity. We purchased one of these machines and we purchased a small light plant to power it. By this time Missionary Aviation Fellowship was servicing us with their airplanes. They transported our tape recorder and light plant to the airstrip in the river valley about two hours walk from our house. We got help carrying these machines up the mountain to our house. In the village of Coatlan the tape recorder and light plant became quite an attraction. Some of the men became interested in story telling, including an elderly man who was the village story teller. Every time that I started up the light plant, the noise would attract an audience. Some of the story tellers didn't understand what was happening. I was playing a recorded story when the story teller commented: "This man tells the story as good as I do". One elderly man was listening to a story about a tiger when he was heard asking the tiger: "how many cubs do you have?" Some years later battery powered recorders became available. They are very useful for recording stories and conversation text.

The invention of computers was a great help for language learning and for translation of texts from one language to another. Computers and printers replaced typewriters. With a computer corrections can be made easily with out retyping the page. Also corrections can be made on hundreds of pages of texts at one time. It is amazing how rapidly computers can scan hundreds of pages of text to make corrections or find words or even parts of words. Computer programs have replaced our shoe boxes for filing word lists. We have a specialized dictionary program that we call shoe box. This program literally saves years of work. Every thing needed to make a bilingual dictionary is done by computer. The computer alphabetizes the word list. The computer formats the dictionary.

The American Bible Society developed a computer program called “paratext” which does every thing we need to do with Bible translation including formatting the text. Computers now have a storage capacity that can store whole Bible texts. Corrections or changes can be made involving the whole Bible in seconds and minutes.

The internet has become a valuable tool for giving the whole world access to information about languages. My Coatlan Mixe bilingual dictionary is available on the internet. In addition to using the internet as a kind of library of linguistic information linguists can communicate intercontinental by the internet. I read of a recent instance where a Bible translator who happened to be in the U S when she needed to participate in a translation checking session taking place in Peru. Our mission technicians at our mission center in North Carolina were able by using two computer programs designed for intercontinental communication to facilitate the translator’s participation in the Bible checking session in Peru while she was in North Carolina. The two computer programs used are called “internet streaming” and “Skype”.

## THE 260-DAY RELIGIOUS CALENDAR

When the catholic missionaries began evangelizing the indigenous people of Mexico, they discovered that the indigenous people had a system for giving each day a name. They soon learned that this day name was a very important in the every day life of the people. The people were animistic and the day name was important in relating the people to the supernatural associated with the earth. When a person was born, the shaman day counter registered the name of the day and the day name became part of the person's name. For all of this person's life anything that happened to him that involved a shaman, the shaman needed to know the day name in order to make the proper offering. Also it was prestigious to have a name like tiger one. This meant that that person's companion spirit was a tiger. A tiger is a powerful animal and it was a good omen to have it for a companion spirit.

The 260-day calendar was composed by having twenty names with numbers one to thirteen. Each name appeared thirteen times in one 260-day cycle. For example, the first time in a 260-day cycle that the name tiger appears, the day will be called "tiger one." Anthropologists have done a lot of speculating about whether or not a 260-day cycle fits into a larger system such as a 50-year cycle.

The catholic missionaries became very aware of the importance of the day naming calendar, so they substituted a catholic calendar where the names of catholic saints were assigned to each day and they required that the indigenous people name their babies according to the catholic calendar. We knew of one young man who decided not to follow custom, so he gave his child a name not on the calendar. When he tried to register his child's birth at the town hall the

town president refused to accept the registration. The town president chose a name from the catholic religious calendar and renamed the baby.

## TRADITIONAL MIXE HOUSING

When we build a house here in the US we have in mind comfort, privacy, shelter, sanitation and cost, etc. We have choices to make, such as type of material (block, or wood), and type of furniture for the house. In contrast, when a Mixe family builds a house, they are thinking primarily of shelter and a place to call home. They know of only one house style, a simple one room structure made with a grass roof and mud walls. The only cost involved is the work to gather the materials, the cost of food for the construction crew, and the cost of a turkey tom for the dedication sacrifice. The only tools needed are an axe, a machete, a shovel and a pick. No hammer or nails are required.

For building a native house the first task is to search for and cut the poles and the corner posts. Corner posts have to be a type of wood that will last at least 15 years or more in the ground. The second task is to cut the grass for the roof. The grass has to be cut when it is mature. While cutting the grass it is tied into bundles, then stacked and given time to dry. Bark is stripped from balsa trees and the bark fibers are used to fasten the roof poles together and to tie the bundles of grass to the roof structure.

Since the Mixe region is mountainous, houses are built on hillsides that require some excavating to prepare a house site. When the materials are gathered and the excavating done a date is set for building the house. Family and friends join in the house building venture. The building is done in two stages. First the corner posts are planted, the house is framed and the roof is put on. This takes about three days. A second date is set for mudding the walls of the house. The walls of the house have no windows. However there is room between the top of the walls and the roof for ventilation. When the house is finished they have a dedication ceremony. An elder of the village will offer a prayer to appease the spirits associated with the earth and he will sacrifice a turkey tom or a rooster. The head of the turkey tom is buried in the center of the floor of the house. Some blood is sprinkled on the door posts. The meat of the turkey is cooked and the building crew is treated to a meal.



Furnishing the house is very simple. A bed is built for the head of the family and his wife. It is a raised platform covered with small bamboo like poles. A straw mat is placed on the poles. Straw mats are spread on the floor at night for the children to sleep on. A clothes line is stretched across a corner of the house and everybody's extra clothes are slung over this line. Privacy is when a member of the house hold turns their back to every one present and proceeds to change clothes. It is done very modestly.

Separate little houses are built for kitchens. A fire place is built with mud with a place for a clay griddle. Cooking is done with an open fire. Oak is the preferred fire wood because it gives a good beds of coals. Meals are served in the kitchen on the floor. People sit on stools made from balsa wood. Balsa wood is light and also can be shaped with out splitting. The principal daily food is tortillas and bowls of black beans. The tortillas are in a basket and covered with a cloth. Women get up about 4 AM to make the tortillas for the day. The corn has been cooked and washed the day before.

## TRADITIONAL NATIVE CURERS

In the town of Coatlan there were different types of curers. There were women who helped pregnant women prepare for the birth of a child. They knew how to massage the expectant mother's abdomen and how to position the baby in the womb. They were not always present at the time of the birth. Grandmothers were present at the time of birth. Nearly everybody knew something about herb medicine. Some older men claimed that the "supernatural" had empowered them to be curers. This was determined by taking one of three narcotic plants that put them into a trance. I collected some samples of narcotic mushrooms and gave them to a plant scientist who named one new species after me. The narcotic mushrooms were believed to have the power of healing. One woman told my wife that she took the narcotic mushrooms. In the trance the mushroom stems became little men who represented the supernatural associated with the earth. While she was in a trance the little men operated on her heart and removed a root of a plant that an enemy had implanted supernaturally. I will write a separate article on the narcotic plants and the "supernatural".

Some men became professional curers and traveled from village to village charging for their services. These men could be described as "witchdoctors" but a better term would be "medicine men" or "shamans". They received their calling from the supernatural by taking the narcotic mushrooms or some other narcotic plant. They were believed to have the power to work evil as well as good. To give an idea of how they worked I will relate a case that I heard about. Wilford was a young man who became very ill. The family had tried all the herb remedies with out success. So when a shaman came to town the family contracted for his services. In addition to the money they had to find a rooster, eggs, liquor, tobacco, candles, etc. for the offering to the supernatural. After drinking liquor for several hours the shaman examined the sick man. The diagnosis was that Wilford had been frightened while fording a flooded river and one or more of his spirits had been captured by the spirits living in the river. Since the boy was too sick to travel, the shaman took his shirt off his back and carried it to the spot where it was believed that Wilford had been frightened. The

shaman was accompanied by members of the sick man's family who brought the things needed for the offering. The shaman presented the offering to the spirits of the river and requested that they release Wilford's spirits. The shaman carried the lost spirits back to the house in the sick mans shirt and ceremonially put them back in the body of the sick man.

## TUBERCULOSIS

Recently tuberculosis has made headlines in the news papers, so I thought that I would write about some of our experiences with tuberculosis in the village of Coatlan. It happened that the first family who came to us for help with medicines was a family where the grandfather was dying. It turned out that he had tuberculosis. The family had contacted all the known curers in the area with out success. As a last resort they came to us. We went to the home where the sick person was. It did not take long to determine that the man had tuberculosis and he was near death. We had medicines with us for TB so we began treatment. The treatment in those years consisted of injections twice a week and pills to take every day. We began by giving the man an injection and giving the family the pills with instructions on how to take the pills. I went every day to check on the patient. The first thing I learned was that they were not giving the sick man the pills. We learned that in their culture the curer was believed to be gifted by the supernatural with certain powers and only he could administer the medicine. So I began going every day to visit the sick man and give him his pills. They also had questions about the compatibility of the pills with the food the man was eating. We treated this man for several months. He got up from his deathbed and actually planted corn again. My going everyday to this man's home worked to our advantage. We became friends with the family. We tried to talk to them about the danger of others in the household getting this disease. They had no concept of what we were talking about when we talked about germs, microbes, viruses, etc. Since the sick man was spitting blood, he combed his memory for a time when he had had a chest injury. In this case it was a time when he was trying to bring a steer home that he had purchased to butcher to have meat for a religious festival. They could not understand the concept of microscopic beings. Some years later a doctor who had a microscope spent a couple of weeks in the village with us. Some of the young people began to believe when they saw some microscopic animals in the microscope.

We had quite a bit of success treating people with tuberculosis. We treated dozens of tubercular patients. The local curers had no success with

tuberculosis. Occasionally quack doctors visited Coatlan. When they came to town they would visit the people gravely ill and offer to cure them for a large sum of money. They would give all the sick people who produced the required sum of money a couple of shots. After a few days they would move on to another town. In one case we heard of the quack doctor came to place with a man dying of tuberculosis. I do not know what medicine he gave the patient but it wasn't TB medicine and he ordered the patient to fast. In a few days the patient died.

We took one young man with TB to the TB hospital in Mexico City. When I went into the reception area with the patient they handed him some forms to fill out with questions about his medical history. He couldn't understand the questions because he had no knowledge of the names of diseases in Spanish. They would have refused him if I had not interceded with them for him. They did do the operation on his lungs and it was successful. We failed to diagnose two cases where the patients had TB of the brain. We took them to a doctor who did make the diagnosis. Unfortunately he sent one of these patients to a clinic in Oaxaca City. The clinic failed to make the right diagnosis and the patient died.

## VILLAGE ELDERS

When the able bodied men of Coatlan reached the age of approximately 60 they were required to apprentice for three years to a practicing elder in order to learn the ritual prayers and how to perform the offerings to the Mixe supernatural. After their apprenticeship they joined the group of elders serving the village. They were relieved of all civil duties and dedicated themselves to religious duties. The elders were considered the wise men of the village. With their many years of experience they had learned all the customs of the village. They had also acquired all the oral knowledge available.

At the beginning of each year the elders meet to determine the religious duties expected of each of the men of Coatlan. Each man that the elders determine has a religious duty is required to present himself where the elders are assembled. Some times a man will have reasons to refuse an assigned duty. If the elders accept his reasons he is excused for the current year. If the elders do not accept his reasons the elders notify the town president and the man has to pay a fine.

The village elders were available to perform religious duties for the village and for individual families. When rituals were performed in the Catholic Church the village elders were required to be present to perform the Mixe part of the rituals. They recited ritual prayers in the Mixe language in front of each catholic saint in the church.

Individual families contact an elder to perform the Mixe ritual associated with death, or marriage, or religious festivals etc. For example at death the family acquires the services of a village elder. This elder comes to the home of the deceased and stays there day and night for four days. He advises the family about custom, that is what to do. He offers prayers addressing the deceased. He dedicates to the earth supernatural each bottle of liquor served

When we arrived in Coatlan the village elders were curious about us. They suspected that we might not be Catholics. It was their duty to enforce religious custom and there was a rule that no Protestants should be allowed to live in Coatlan. They would some times come to our house when they were drunk. We had a tape recorder and they had problems understanding what was going on. One time an elder was listening to a story about a tiger on a tape recorder. He tried to ask the tape recorder some questions about the tiger such as did she have cubs. He was upset when the tape recorder did not respond. Eventually we were able to establish friendships with each one of the town elders.

All Mixe rituals require the offering of liquor to the spirits of the deceased elders. Since the village elders were involved in some ritual at least one or two times a week they were rarely ever sober.

## VIOLENCE IN INDIGENOUS COMMUNITIES

There is a popular myth that indigenous communities live in harmony with nature and that they are peaceful people not given to violence. The most famous indigenous communities in Mexico are the Lacandon communities. They lived deep in the rain forests where even the catholic missionaries had been unable to establish missions among them. They had preserved a pure Mayan indigenous culture into the 20<sup>th</sup> century. Many people have studied their culture including a missionary named Phil Bear. Phil did a study tracing all the lineages of the families living in the community where he lived. He was surprised to find a rather high rate of homicides, especially among the men. He discovered that there was a lot of feuding and feuds often ended with the murder of one party in the feud.

We found this also to be true with the Mixe people. One time two young men came to us. They wanted to accompany us out to a village culture. They were students at Harvard University. They were tired of the stress of life at a university and with US culture in general. So they had come to Mexico to experience life in a peaceful community integrated with nature and with out stress. I found a village for them to live in close to Coatlan where we lived. The town secretary, who was also the political boss, was their host. After they had been there a few weeks, I went to visit them and let them in on a little secret. The town secretary, their host, had murdered at least five people. I told them that they were in no danger unless they got involved in a family feud.

The town of Coatlan where we lived averaged about a homicide a year before there were evangelicals in the community. With the conversion of some members of the community to evangelical Christianity, the number of homicides was reduced. A probable reason there was a lot less drunkenness. When a person was murdered, every one knew who did it except us. The ones who knew would not say who it was. When a person committed a murder, he would leave town and go to a neighboring community in order to escape punishment. The authorities in



the neighboring community would not try the man for murder because the crime was committed in another town. The state police or the army that represented state and federal authority sometimes intervened when the victim's family solicited help and was able to invest money in their cause. Most of the people who murdered someone got away with the murder. Wherever you are, where there are human beings, there is some violence and some stress.

## WAYS OF CARRYING THINGS

In our culture getting something from one place to another involves picking it up and putting it into a car. We pick it up in our hands and carry it to the car. The Mixe people during the time that we lived in their villages did not have cars or trucks. Some of the people had mules. We learned that it takes a pack saddle, a lot of rope and a lot of experience to secure a load of things on the back of a mule and transport them from one place to another over mountain trails.

Most Mixe people did not have mules and transported things either on their head or their back. Only women transported things on their heads. This takes a lot of practice and women began learning to balance loads on their heads while they were little girls. The women carry things on their heads in clay pots or in baskets. For carrying pots they wrap a small towel around the base of the pot to hold the pot upright. For carrying on their backs men use a tumpline. A tumpline has a six-inch leather strip with ropes tied to each end. The tumpline fits across the forehead. The forehead carries the weight of the load which is on the persons back. Experienced carriers carry loads of fifty pounds or more on mountain trails and travel several miles a day.

I learned a lesson about carrying water. When we lived in the village of Coatlan, our water source was a water spring about half a mile down the mountain. I tried carrying a bucket of water in each hand. My hands and arms soon tired and I had to make several rest stops. I saw the native men carrying water using a three foot long pole with a rope tied on each end of the pole with a bucket of water on the end of the rope. The pole was carried across the shoulders with each hand steadying a bucket of water. Using this

method I was able to use bigger buckets of water and make the trip up the mountain non stop.

The Mixe language is rich in verbs used for carrying things. There is a separate word for each method of carrying. For example, carrying a cup of tea has a different verb from carrying a plate. Everything depends on the shape of the thing being carried and how it is carried.