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William R. Holland

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Mexican-American Medical Beliefs: Science or Magic?

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Dr. Holland

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An engaging documentation of the traditional medical concepts and practices of the Mexican-American population of Tucson.

INTRODUCTION

THE Mexican-American population of Texas, New Mexico, Colorado, Arizona, and California frequently presents a perplexing problem to Anglo-American medical practitioners unfamiliar with their cultural background.^{1,7}

Only partial acceptance of modern medicine has resulted in the generally poorer health and shorter life expectancy of the Mexican-American. A multitude of typically Mexican disease concepts survive among them which often come into conflict with those of modern medicine. As a result this minority, maintaining its faith in the traditional beliefs and remedies of its Mexican antecedents, has long resisted the inroads of the scientific medical practices of Anglo-Americans.

This paper attempts to measure the degree of adherence of Tucson's Mexican-American popu-

lation to these traditional disease concepts and curing practices.

Tucson's 35,722⁸ Mexican-Americans constitute 16.7 per cent of its total population. Most trace their origins to isolated ranches, villages and towns in northwestern Mexico where some 5,575 were born.

The majority, however, are either first or second generation Americans, descended from families that migrated from Mestizo rather than Indian communities in Sonora. Those who originated in other states of the Southwest or the states of Chihuahua, Durango, Nayarit, Sinaloa, and Baja, California are less numerous.

The antecedents of only a small minority originated elsewhere in Mexico, in other Latin American Countries, Spain, or Europe in recent times.

The forebears of most Mexican-Americans were rural peasants or poor villagers or town-dwellers who had little or no formal education. The former farmed and ranched their lands as cooperative extended family units, while the village and town-dwellers were generally members of the poorer classes who made their liv-

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Previous research by Dr. Holland, a cultural anthropologist, is given in NOTES, No. 2, page 101.

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ing by unskilled and semi-skilled labor. Probably not more than one per cent were large landholders, merchants, professionals, or belonged to other segments of Mexico's small, relatively well-educated upper class.

THE Socio-economic class position of Mexican-Americans on the whole is much higher than that of the Mexican peasant and poor classes but significantly lower than that of the Tucson population in general.

According to the last census in 1959 their medium income per family was only \$4,735 as compared to \$5,703 for the city as a whole.⁹ The 8.1 median years of school completed by Mexican-Americans over 25 was decidedly lower than the 12.1 years of the total population.⁹ Eighty per cent of the Mexican-Americans have less than the median years of education in Tucson.

This ethnic subgroup is slowly abandoning its Mexican ways and adopting its Anglo-American counterparts. Conservative, transitional, and highly assimilated groups can be distinguished as phases in this process of culture change.

At one extreme the conservative group retains strong social and cultural ties with Mexico, and would be characterized by Lewis⁵ as typifying the culture of poverty. Members of this group are generally unskilled workers and have the lowest income and educational level.

They retain basically north Mexican peasant culture including small adobe houses, a high degree of dependence on family and kinship ties, preference for neighborhoods of dense Mexican-American population where the Spanish language is predominant, a world view in which magic and religion assume great importance, and strong faith in traditional medical beliefs and practices.

On the other extreme, the highly-assimilated group has much in common with Anglo-Americans. Their educational and income levels approach the medians of the total population. Their homes are undifferentiated from those of other members of the middle class. Nuclear families predominate and kinship ties assume secondary importance in comparison to those formed through the economic, educational, and religious institutions of the wider society. English is preferred to Spanish even in the

home. Magic and religion decline and empirical knowledge assumes greater importance in some aspects of their world view. Faith in traditional cures is largely replaced by reliance on modern medicine.

Most Mexican-Americans, however, occupy an intermediate position between the conservative and highly-assimilated groups. This transitional group is usually composed of semi-skilled or even skilled laborers who are often first and second generation Americans. The culture of this group is a very heterogeneous mixture of north Mexican and southwestern Anglo-American traits.

TRADITIONAL MEXICAN MEDICINE

Traditional medicine is the principal system for classifying and interpreting illness known to the majority of Mexico's peasant population, town-dwellers, and urban poor.

Unlike modern scientific medicine, it is the creation of the common people, the end-product of knowledge of herbal cures and magico-religious assumptions which they share. It is the wisdom of the forefathers handed down from generation to generation through which the layman perceives and interprets experience related to illness.

Traditional medicine is most prevalent where modern medicine is absent.

The supernatural is of primary importance in the world view of Mexican peasants. The influence of the Catholic church emanating from urban centers is relatively weak in rural Mexico where formal church doctrine has long since been re-interpreted and integrated into the world view of local peasant and Indian groups. In isolated areas of Mexico seldom visited by priests, local religious beliefs and practices often retain their autonomy and function independently of the formal Catholic church.

CATHOLICISM in rural Mexico is a "miracle-oriented" system of magico-religious beliefs and rituals for achieving greater control over anxiety-producing life circumstances.

In this system the Catholic saints, synonomous with the forces of good, are the omnipotent creators and preservers of all life. The devil and his human advocates, the witches, symbolize the

destructive forces of nature and death itself. Life is a constant struggle between the forces of good and evil.

Disease concepts are closely bound to this magico-religious belief system. Good health and prosperity are maintained when man sustains the delicate balance between the forces of good and evil. Ill health and misfortune ensue, however, when this equilibrium is upset and the wrath of the deities is brought down upon him.

Many illnesses are heavenly punishments for transgressions of the social mores, while others are capriciously inflicted by devils and witches. The threat of illness is a strong social control among Mexican peasants and conservative Mexican-Americans. Traditional medicine is primarily supernatural and only secondarily rational.

Traditional diagnosis and curing is largely in the hands of lay *curanderos* (curers) whose role closely approximates that of shamans. Curanderos utilize a large pharmacopeia of herbal remedies for simpler afflictions and a wide variety of magico-religious rituals for more difficult illnesses.

IN rural Mexico neither formally-trained physicians nor public health programs have made significant inroads. Most illness is treated by curanderos. Although many diseases such as smallpox, measles, whooping cough, malaria, and so forth are well known, Mexican peasant culture has assimilated relatively little modern medicine.

Formally-trained physicians usually limit their practices to the middle and upper classes of the larger towns and cities, giving little attention to the inhabitants of rural areas.

Traditional medicine has retained its importance among conservative Mexican-Americans. A wide variety of curanderos and magico-religious healers, ranging from specialists in medicinal herbs to palm readers, serve Tucson's Mexican-American population. Older women frequently fill the role of herbalists, serving both relatives and neighbors for nominal sums. Numerous curative plants are stocked in pharmacies owned by Mexican-Americans. One on South Stone has a supply of over 80 herbs, while another on Meyer Street has over 200. Additional supplies are brought from Juárez, Chihua-

hua and Nogales, Sonora where other specialists import them from all over Mexico. Reference books such as "Yerbas Medicinales de México" by Máximo Martínez are kept on hand for frequent consultation by these store owners.

Most Tucson curanderos are older women whose knowledge of traditional cures and medical abilities become well-known in the neighborhood where they live and even beyond. For many curing becomes a part-time specialty for which they charge small sums of money, especially when dealing with non-relatives. Those who develop extensive practices often try to extract much larger sums for their services.

FELIX LUCERO who built the Garden of Gethsemane under Tucson's Congress Street bridge during the 1930's, also acted as a curandero among his people. He is reputed to have gathered a wealth of information on traditional medicine which he put at the disposal of both Mexican and Anglo-Americans alike. People are said to have come great distances to receive the benefit of his medical wisdom.

Both for his religious fervor and his extensive curing practice, he was undoubtedly looked upon as a symbol of traditional Mexican life in Tucson, as indeed other curanderos may still be today.

Many Mexican-Americans patronize Gypsy palm readers and faith healers for solutions to their physical and emotional problems. Spanish-speaking Gypsy women sometimes set up headquarters in a Mexican-American neighborhood and then proceed to go from house to house reading palms, telling fortunes, and giving advice.

One such man and wife team have openly run a thriving palmistry practice on South Sixth Avenue for over a decade and recently opened a downtown branch on Congress Street. They have advertised over a local Spanish language radio station for several years. Most of their clientele are of Mexican-American origin.

THE role of religion in traditional curing cannot be overestimated. As Foster² found in Spain and Latin America, each Catholic saint has a special favor to concede. At time of crisis

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these deities are placated for miraculous help with offerings of penance. San Francisco of Magdalena, Sonora; San Francisco of San Xavier del Bac near Tucson; the Virgin of Guadalupe; the Virgin Mary; San Martin; San Antonio; Santo Niño de Atocha, and so forth all can be of assistance in curing illness.

Many Mexican-American homes contain religious alters where devotions are carried out before the statues and images of saints. Similar rituals are performed in the many Catholic churches throughout the city.

Vows of penance are offered to the deities in return for their commendation. As in Spain,² novenas of nine hours, nine days, or even nine weeks are common penances carried out for curing the sick. Vows (Sp. *manda*, *promesa*) to attend mass regularly, abstain from favored foods, say the rosary daily, don a religious habit, visit the shrine of a saint and travel part of the distance on foot and part on the knees are typical penances.

Conservative Mexican-Americans even make pilgrimages to shrines in Mexico such as that of San Francisco in Sonora; the Virgin of Zapopan, Jalisco; and the Virgin of Guadalupe in Mexico City as part of their vows.

Three types of traditional disease are considered here: diseases of dislocation of internal organs, diseases of emotional origin, and diseases of magical origin. The causes, symptoms, and cures of two diseases of each type are described below.

Diseases of Dislocation of Internal Organs

A. Caída de la mollera is a disease of infants which occurs when the fontanelle of the parietal or frontal bone of the cranium falls and leaves a "soft spot" which sometimes vibrates during breathing. It usually happens during breast feeding or as a result of a sudden fall. The baby is usually spoon-fed during the illness.

Treatment consists of putting salt into the fallen fontanelle and allowing it to stay there for three days. As this is done the curer presses against the roof of the baby's mouth to raise the depression. If not successfully treated it can lead to the "drying up" and death of the infant. Normal feeding cannot be resumed until the fontanelle has been raised to its normal position.

B. Empacho is an infirmity of both children and adults alike which occurs when food particles become lodged in the intestinal tract and cause sharp pains.

To treat this illness the person lies face down on a bed with his back bared. The attending curer lifts a piece of skin from the waist and pinches it, listening for a snap from the abdominal region. The nature of the illness established, this is repeated several times along the spinal column in hopes of unseating the offending material.

Preparations of herbs such as *chichipaste*, *cáscara sagrada*, *ajenjible* (ginger), and rhubarb as well as drugs like *desempacho* are administered orally to penetrate, soften and crumble the chunk of food. Empacho is generally not a serious infirmity and is well enough understood so that prayer is not mandatory in the curing process.

Diseases of Emotional Origin

THE mind-body dualism of modern medicine does not exist in traditional medicine. Interactionism is a basic premise in the Mexican scheme of human nature. As a result, a great many physical diseases are traced to emotional origins and treated psychosomatically.

C. Bilis or bile is a concept brought to Mexico by the Spanish, but ultimately of Greek origin.² Originally it was based on the ancient belief that the body was composed of four humors or bile. However, few contemporary Mexicans are certain about the exact number.

This belief maintains that the bile must remain in balance for a person to enjoy good health. Any highly emotional experience such as anger, fear, and so forth may cause the bile to become upset and flow into the blood stream, giving rise to a wide variety of illnesses. In her study of Mexican-Americans in California, Clark states:¹

The term "bilis" is not always used to indicate a disease; sometimes it means simply that a person is nervous or upset about something. In its medical sense, however, bilis is a disorder which is diagnosed and treated like any other illness. Adults are said to be particularly susceptible to it. The illness always comes on after a person becomes very angry, especially if he flies into an uncontrollable rage. A day or two after this fit of anger, the attack occurs. The disorder produces symptoms of acute nervous tension, chronic fatigue and malaise.

Bilis is ordinarily treated with herbal remedies such as *negrita* and *sauco* drunk in the form of teas. Less severe cases are not treated.

D. Susto is another emotionally caused illness very common in Mexico. All indications suggest that the concept is Indian rather than Spanish.

Practically any disturbing or unstabilizing experience such as an unexpected fall, a barking dog, a car accident, and so forth may be sufficient to cause *susto* or fright sickness if part of the self becomes separated from the body. In describing the onset of *susto* Mexican-Americans in Tucson typically say, "sele fue la tripa" (his intestine left him). In south Mexican Indian groups where this concept exists in a more aboriginal context, *susto* is attributed to a spirit loss.³

In the early stages *susto* is usually accompanied by stomach-ache, diarrhea, high temperature, vomiting, and several other symptoms. The person loses his appetite and his intestines slowly desiccate and will not allow food to pass through them. If not cured in the early stages he suffers long continuous periods of languor, listlessness, and loss of appetite.

As the disease progresses he is forced to withdraw from active participation in normal family and social activities and remain in bed. *Susto* is sometimes fatal.

Traditional curers generally resort to a combination of herbal and magico-religious devices to treat *susto*. Among Mexican-Americans in Texas⁴ and in virtually all Mexican Indian and peasant groups the practitioner calls the spirit back into the patient's body to affect the cure. In Tucson this illness is treated by inserting a piece of garlic into the anus on nine consecutive nights. If they are absorbed and disappear it is assumed that the diagnosis was correct and that the patient was really suffering from *susto*. Relief is expected only after the ninth night. This treatment is often accompanied by prayers and burning candles before the images of saints either in the home or in church.

Diseases of Magical Origin*

E. Mal Ojo: "evil eye" is assumed to be the magical origin of many illnesses, especially those of children. The Tucson belief is similar

to that of other Mexican-American^{1, 6} and Latin American groups and is undoubtedly of Spanish origin.²

According to this belief, some people are born with *vista fuerte* (strong vision) with which they unwittingly harm others with a mere glance. One of every set of twins inevitably possesses this power. The glance of a pregnant woman may cause an infant to become ill with fever because the "heat of the pregnancy" damages its tender spirit.

An infant with *mal ojo* sleeps restlessly, cries for no apparent reason, vomits, and has fever and diarrhea. *Mal ojo* can be fatal.

F. Daño or witchcraft plays an important part in traditional Mexican disease concepts. Those with close ties to Mexican Indian and peasant culture are generally credited with more knowledge of witchcraft than more assimilated Mexican-Americans. Witches are described as people who sell their souls to the devil in return for the power to harm others magically.

Mrs. López, a conservative Mexican-born woman from West Tucson, envisions the process of becoming a witch as follows:

He who desires to become a witch must leave his home at midnight and go to the top of the highest mountain. Upon arriving there he calls forth to the devil in a loud voice, "Come and take me, my soul is yours." Three tests of his courage must be made before he can become a witch. First a lion appears which springs on the person unexpectedly. If he survives the first ordeal the lion disappears. The devil soon returns in the form of a snake which wraps itself around the person's body. If he sustains the second trial the snake disappears, and the devil returns as a tiger to carry out the third and final test. Surviving all three ordeals, the person is endowed with the magical power to harm others and becomes a witch.

Witchcraft is closely bound with religion in the culture of conservative Mexican-Americans. Images and statues of saints such as San Antonio, San Judas, and San Blas are often wrapped with rags or papers together with a photograph of the victim placed face down in front of the religious object. Heavy weights are frequently placed on the statue in order to force the saint to grant the favor.

After lighting candles before the saint, the witch prays that the saint punish the person in question for his misdeeds. These ceremonies are

*See NOTES, No. 3, page 102.

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inevitably carried out in the privacy of the home in order to protect the identity of the witch.

RELIGIOUS amulets and rituals are commonly employed as counter-witchcraft measures. Religious medals worn around the neck, hung in cars, and so forth serve as protection against evil. A sign of the cross made in time can often save one from the *daño* of an enemy.

When Mrs. López was certain that she was about to be poisoned by a magical potion slipped into her beer by an enemy, she saved herself by making a timely sign of the cross under the bottle.

She recommends holy water surreptitiously removed from a Catholic church as protection against witchcraft. A saint's image turned to face the home of a hostile neighbor is adequate protection from malevolence emanating therefrom. Houses should be safeguarded with many images and statues of saints.

Mexican-born curanderos frequently compile catalogues of prayers effective in warding off (and sending) witchcraft. In recent years, however, these have become increasingly rare in Tucson because of the opposition of the Catholic church.

THERE are many forms of witchcraft known to Mexican-Americans. One very common technique is that of torturing effigy figures made to look like the victim.

The witch sticks pins in a doll (Sp. *mono*; monkey) and prays to a saint that the person experience a pain in the corresponding part of his body. The magic is especially powerful when a photograph of the victim is placed over the doll's face, and it is secretly hidden near the victim's house. Every Friday noon old pins are either driven in further or replaced by new. If the victim is fortunate enough to find the doll, removing the pins will counteract the magic and cause the instantaneous death of the witch.

Mrs. Gómez, a conservative, 44-year-old Mexican-American mother of twelve from West Tucson recalls:

When I was a child we thought that my half-brother was bewitched. His wife was very domineering and she used to scold him all the time. He was so afraid of her that he would deliver his paycheck to her in full. He did whatever she wanted. My mother tried to find a curer for him but was unsuccessful. Then one day a small effigy of him was found on top of the house. It was filled with pins and everyone was sure that she had bewitched him in that way. The pins were removed immediately and soon he began to recover his health. He later divorced her.

Some Mexican-Americans believe that foreign objects can be magically introduced into a victim's stomach. Worms, snakes, hair, and so forth are the most common materials. Diarrhea and vomiting are the principal symptoms, and when the body produces ambiguous objects, these beliefs are strengthened.

MANY witches transform themselves into various types of animals such as lizards, snakes, wolves, dogs and roosters as well as ghosts, spirits and whirlwinds. They assault their enemies in any of these forms by night when their figure appears ambiguous to their victim. The frightening experience of encountering a witch of this type is a principal cause of *susto*. This belief, widespread among conservative Mexican-Americans, probably originates in the ancient Mexican Indian concept of *nagualism*, the belief that witches transform themselves into a variety of animal forms.^{2,4}

Other witchcraft is traced to a wide variety of magical potions which are referred to as *sal* (salt). Table salt taken from seven houses and then unwittingly blessed by a priest forms a very powerful magical potion. The ground-up bones of people who expired without confessing their sins and powdered rattlesnake skins are others. Those desirous of acquiring the latter often travel to Nogales, Sonora where they can be bought from specialists.

Witchcraft curses are put on families by secretly sprinkling a potion on the doorway or making a circle around the house so that contamination will occur on contact. The luck of a family so affected takes a sudden turn for the worse.

First, the economic situation becomes critical and their money no longer is sufficient to satisfy their needs. The family begins to experience hunger and even starvation. The husband drinks

more than usual, stays away from home for long periods, and denies responsibility for his family.

THE type of illness that results depends on where the magical potion touches the victim's body. When the stomach is affected a wide variety of intestinal disorders may result. When the chest is contacted tuberculosis and other pulmonary disorders ensue. Magical potions which reach the head cause emotional illness and behavioral disorders of all types.

Mrs. López describes her sister's experience with a magical potion as follows:

A few years ago my sister became very ill with convulsive seizures followed by long periods of lethargy. She was sick for so long that she spent all her money trying to cure herself. I always believed that her husband was responsible because he tricked her into marrying him by giving her a love potion in a cigarette. One day when she was very ill I found a small bottle of ground-up human bones under her pillow. I threw it out immediately and accused him of putting it there. He didn't even bother to deny it.

One day I went there to treat her while he was out. I made the sign of the cross and prayed while she was lying in bed. Suddenly she turned to me and asked, 'Josefina, what have you done? I feel wonderful.' I decided to cure her myself, regardless of her husband. I began by cleaning her head with a towel. Suddenly, a great abundance of yellow puss came out of several deep infectious sores. Afterwards I washed her entire body with romero. Soon she began to feel better and has been well ever since. Her husband has diabetes now. God is punishing him for his sins.

Emotional problems and behavioral disorders such as chronic alcoholism are generally considered the result of this sort of witchcraft. Mrs. Gómez is married to a man who has become an alcoholic in recent years, to the complete neglect of his familial duties and responsibilities. A bricklayer by trade, he now works infrequently or not at all. The \$65 per week that his family receives from the Pima County Welfare Department is its sole support.

The husband does anything to get money for drink, even selling household articles such as hammers, kitchen utensils, flat irons, and so forth. One time he even intercepted their welfare check, cashed it, and spent the money on liquor with no consideration for his family. His wife only hopes that he will leave the house permanently so that she will at least be assured of receiving the welfare support. Although her

husband spends an occasional night at the home of a married son who lives in the neighborhood, he refuses to leave home permanently.

Mrs. Gómez first sought the miraculous guidance and favor of San Francisco at the San Xavier mission near Tucson. In her words:

A few years ago my son Mike drove me to the San Xavier mission so that I could pray to San Francisco. I did penance by walking from the door of the church to the statue of San Francisco on my knees. He was covered with religious medals and amulets and even small photographs that others who had sought his favor had placed there. First I lifted his arm very slowly. Its lightness I took as a sign that he liked me and would concede my favor. I put a large white candle on the altar and lit it. In my prayers I begged San Francisco to intervene in my behalf and stop my husband from drinking so that he might once again think of his family. I even promised to visit him every month for the next year, which I did. But San Francisco did not answer my prayers and my husband kept on drinking. Now I pray to the Virgin of Guadalupe.

Recently Mrs. Gómez was relating her tale of woe to Mrs. López who lives about five blocks away. She described her husband's drinking problem in great detail to the older woman, tracing its origin to be about ten years ago when, as an independent contractor of some affluence, he spent large sums of money on the *muchachos* in Nogales, Sonora.

Upon hearing the evidence Mrs. López immediately hypothesized that one of those women had put salt on his head so that he would lose his faculties and be easily separated from his money. If that were not the case it then might have been some Tucson enemy who spread a ring of salt around the Gómez house on which the victim had unwittingly stepped.

The diagnosis now seemed clear to both women. Mrs. Gómez prevailed upon her friend to "cure" her house of the curse. The following Friday was set aside for the ceremony.

MRS. LÓPEZ arrived at the Gómez home at 11 a.m. on the appointed day. She was carrying a specially prepared concoction of seven herbs: *ruda*, *romero*, *mirra*, *laurel*, *cáscara sagrada*, *berbena*, and *hoja de olivo* which she had bought and ground into fine pieces the previous day.

After greeting the Gómez family warmly, the

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curandera went through the house and into the yard. She began to build a fire in the open wood stove where the family's *tortillas* are made. As the flames subsided and the wood turned to embers, she put several on an iron tortilla maker and went into the house and stood before the large crucifix in the living room.

At the stroke of 12:00 she carefully poured the concoction on the embers. A pungent fragrance rapidly spread through the room. Mrs. López and Mrs. Gómez bowed their heads side by side and said an Our Father in unison and then crossed themselves.

Mrs. López then proceeded to go through the whole house fumigating it with the magic potion in her left hand and passing the several branches of *romero* in her right hand over the walls. During this ritual she repeated the following encantation several times:

Casa de Jerusalem donde Jesucristo entró,
House of Jerusalem where Jesus Christ
first appeared,

el mal al punto salió,
the place where evil was vanquished,

por este sahumerio,
with this incense burner,

yo pido a Jesus también
I ask Jesus also

que el mal se vaya de aquí
that He send evil away

y que el bien venga para nosotros,
and bring goodness for us all,

Amen.

When the house had been "cured" completely in every room, the older woman sat down to talk with Mrs. Gómez. During the course of their conversation she suggested that every member of the family should bathe in *romero* as added protection against the curse. Upon leaving about an hour later she reminded Mrs. Gómez to light a white candle of La Santísima to ward off evil.

Mr. Gómez did not drink for several weeks thereafter, causing his wife to hope that some positive effect had been achieved from the cur-

ing. After about a month however, he resumed his habits as usual and his wife's aspirations were again destroyed. She is now considering a vow of penance to the Virgin of Guadalupe.

ONE of the most common diagnostic and curative techniques used in both Tucson and Mexico² is called *limpiada con huevo* (cleaning with an egg). In October 1961 the author became the patient of Mrs. Martínez, a Tucson curandera, in order to learn more about this technique.

The curandera was an elderly monolingual woman who lived in a run-down house in a poor neighborhood near the Freeway. Her three-room house was in desperate need of repair, and without lights, hot water, heat or inside toilet. I was taken to her by Mike Gómez, an elder son of the Gómez family.

The afternoon we arrived she was out in the yard burning trash. She was friendly to Mike and after a few introductory remarks invited us into the house. After several minutes of talking with Mike, she finally turned to me and asked me what my trouble was.

I complained of having been ill recently and having lost a great deal of weight. I casually mentioned that several months before I had had an unfortunate relationship with a woman who was probably angry because I broke it off without marrying her. I turned to the old woman and asked her if this woman could not be at the bottom of my trouble.

She thought for several minutes without giving a definite answer. Finally she said, "I can only promise to try and learn the truth. You must have faith in me and what I do or else I cannot help you."

MRS. MARTÍNEZ began her diagnosis by asking me to sit on the stool in the center of the floor. Then she took an egg out of a carton next to three quart canning jars half filled with water.

Standing directly behind me, she began to pass the egg over my head, starting at the hair-line and rubbing back and forth over the crown,

down my neck, back, around my stomach and chest, and up to my chin.

After this thorough "cleaning" she took the egg over to the table. Slowly she prepared a small jar partly filled with water into which she began to break the egg very carefully so as not to crack the yolk.

As the shell broke, she directed the white into the jar of water. Having separated the white from the yolk, she then put the latter in another half filled jar of water.

The old woman then took some of the water from the larger jars and put it into the jar with the egg white, nearly filling it. As the amorphous membrane rose and sunk aimlessly in the water, the curandera studied the patterns it formed. After several minutes of careful deliberation she announced that I was bewitched; the egg white had told her so. But she did not know by whom.

Mrs. Martínez then dumped the egg yolk into another jar and filled it with water as she did the first time. It suddenly broke and turned the contents of the jar pale yellow.

THE next phase of the divination was carried out when Mrs. Martínez concentrated on each of the water jars for several minutes as she ran her hands across the top of each.

Arriving at the last one after about twenty minutes, she quite suddenly announced, "I see the figure of a woman." She turned to me and asked if I did not also see it. I reassured her that I did.

She then inserted a 4-inch stick into the jar in order to differentiate the body parts and appendages of the floating mass. "It's a woman with long hair, here are her arms, legs, and head," she added.

When I pressed her for a positive identification she only became evasive and said she did not know the woman in question. All she would say was that I was definitely bewitched by a woman.

"Can you cure me?" I queried. She reassured me that she could if I returned and allowed her to treat me on several occasions until she had entirely removed the disease.

I returned several times thereafter and was

cleaned with an egg on each occasion.

The most important factor in this sort of curing is the patient's faith in the curandera.

She opened a drawer in the table where she was seated and took out a small box that contained several photographs of people each wrapped in a small white napkin or tissue.

"I can cure people with just their picture," she boasted. "If they live out of town it's not necessary that they come in person."

ALL of her patients appeared to be Mexican-Americans. Some were from Glendale, others were from Nogales and other towns in Southern Arizona. The old lady pointed with pride to several letters from her patients, living testimonials of their faith in her. A small, well-worn account book recorded each one's name and balance of payments. Two-five, ten and even twenty dollars were common figures. Her practice was small but provided a steady income to supplement her welfare payments.

STUDY

This study attempts to measure the degree of adherence to the three types of traditional disease concepts of 250 Mexican-American families in Tucson, Arizona. This group was chosen as a representative sample of the city's more than 6,700 Spanish-name families reported in the last census.⁹

A combination of area and cluster sampling was used in selecting the sample. First, percentages of the total Spanish-name population in the city living in each census tract were computed.⁹ Secondly, sampling quotas were established for each tract based on these percentages. For example, if 10 per cent of the total Spanish-name population lived in a given census tract, the same proportion of the sample was selected from there.

Households were selected for the sample in the following manner. First, a given tract's quota of city blocks was chosen from the census map of the city using a table of random numbers. Secondly, all Spanish-name households were listed on each block. Thirdly, a specific household was selected for interview from the table of random numbers.

The 40-minute interview covered the follow-

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ing socio-cultural information: length of residence, family composition, ethnic origin of spouses, income, language, material culture, living conditions, cultural preferences, and strength of belief in traditional disease concepts. Interviews of heads of households were conducted in either Spanish or English and data were recorded on a 10-page questionnaire.

Belief in traditional disease concepts was graded into five mutually exclusive categories: (Fig. 1)

- A. Family member has had the disease
- B. Believe in it
- C. Doubtful as to its existence
- D. Do not believe in it
- E. Never heard of it

FIG. 1

Frequency of Belief in
Traditional Disease Concepts*

CATEGORIES	A.	B.	C.	D.	E.	
Caída de la mollera	83	60	39	59	9	250
Empacho	108	56	26	52	8	250
Bilis	45	97	44	49	15	250
Susto	44	95	57	43	11	250
Mal Ojo	9	62	39	126	14	250
Daño	6	49	38	139	18	250
TOTAL ANSWERS	295	419	243	468	75	1500

The total number of informants denying belief in each disease concept was computed by adding the first two columns. The number of strong believers was found by totaling the last two columns (Fig. 2). Strength of belief in each type of disease concept was then calculated (Fig. 3).

FIG. 2

Strength of Belief in
Traditional Disease Concepts

	Strong Belief	Doubtful	No Belief
Caída de la mollera	143	39	68
Empacho	164	26	60
Bilis	142	44	64
Susto	139	57	54
Mal Ojo	71	39	140
Daño	55	38	157

*See NOTES, No. 4, page 102.

FIG. 3

Strength of Belief in
Traditional Disease Concepts by Type

	Strong Belief	Doubtful	No Belief
Diseases of Dislocation Emotional	307 (62%)	65 (12%)	128 (26%)
Diseases Magical	281 (56%)	101 (20%)	118 (24%)
Diseases	126 (25%)	77 (15%)	297 (60%)

DISCUSSION

Tucson's Mexican-American population entertains traditional and modern medical concepts simultaneously. Many traditional beliefs and practices survive and function in spite of the apparent availability of modern medicine. Generally speaking, as new insights into the underlying causes of illness are acquired, the assimilative integration⁸ of traditional and modern medicine takes place in Mexican-American culture. In this process of change the latter tends to replace the former in predictable and uniform patterns of change determined by the over all similarities and differences of the original systems.

TRADITIONAL and modern concepts of organic disease are predicated on vaguely similar conceptions of human physiology. In the former little more is known about the human organism than the names of some of the most important organs while even less is understood about their respective functions.

By contrast, modern medicine is rich in knowledge of the human body. Nevertheless, enough correspondence exists so that Mexican-Americans frequently make transferences between the two conceptual schemes. It is possible that for this reason 62 per cent of the sample retain strong belief in diseases of dislocation of internal organs, presuming that these illnesses existed and that in some cases the informants or members of their families had suffered from them.

Caída de la mollera was quite accurately

equated with dehydration by many informants, while empacho was thought of as another term for constipation, upset stomach, indigestion, and other minor stomach disorders. Twelve per cent of the informants were doubtful about the existence of diseases of dislocation of internal organs. Twenty-six per cent denied belief and even knowledge of them, professing to have entirely assimilated their modern counterparts.

Psychic and emotional illnesses exist in both traditional and modern medicine, but are probably more prevalent in the former system for which the classic mind-body dualism of Western culture has never existed.

Fifty-six per cent of the sample expressed strong belief in bilis and susto. In drawing parallels with modern concepts, bilis or bile attacks were frequently equated to upset stomach, gall bladder, jaundice, ulcers, nervousness, and intestinal trouble in general. Susto on the other hand is often thought of as the same as shock or severe nervousness.

A CONSERVATIVE Mexican-American woman traced the "nervous" condition for which she became a patient in the State Hospital in Phoenix to a susto which she sustained several months before upon learning of her son's death in an auto accident.

Twenty per cent of the informants were doubtful as to the existence of these traditional diseases. Twenty-four per cent denied belief but almost all admitted to having heard of them.

Belief in magically-caused illness has declined significantly in Tucson's Mexican-American population. Traditional magico-religious disease concepts have few counterparts in modern medicine and tend to be replaced by rational explanations in Mexican-American culture.

One probable reason for this is that the rural peasant variety of north Mexican Catholicism in which myriad diseases are interpreted as either punishment of God, acts of the devil, or witchcraft is being assimilated by the more formal urban American version of that religion which has modified and abandoned many of these medieval beliefs.

The inevitable consequence of the decline of these supernatural disease concepts in Mexican-American culture is the deterioration of the

traditional system of social control in which the threat of illness plays a central role in exacting conformity to social norms.

TWENTY-FIVE per cent of the informants expressed strong belief in magical diseases nevertheless. Fifteen even believed that they or members of their families had been bewitched in the past.

One woman described how her sister had died of mal ojo. Another was convinced that a relative's schizophrenia was ultimately traceable to witchcraft.

Fifteen per cent of the group was very doubtful about the existence of magical diseases. Sixty per cent denied these beliefs, stating that they were superstitions contrary to Catholic doctrine to which only the older generations adhered. Many expressed the opinion that no good Catholic could accept the possibility of witchcraft. Another concluded, "I don't believe that God would let witchcraft happen."

When ill, Mexican-Americans oscillate between traditional and modern cures according to the relative strength of their faith in either system. Members of the older generation who are still closely bound to Mexican ways often have the strongest faith in traditional medicine. At times of sickness they chose the curing system with which they have had the most experience and are the most familiar. They consult the person in whom they have the most faith, speaks their language, puts them at ease and is most qualified in their terms. A knowledgeable relative or neighbor is suffice in some cases, while a curandero or Gypsy fortune teller fills the need in other instances.

CURANDEROS usually pass considerable time socializing with their patients as a regular part of the treatment session. Many of these relationships in which sufferers receive solace and reassurance undoubtedly have considerable psychotherapeutic value.

The experience of consulting a traditional healer as a rule is more satisfying for conservative Mexican-Americans and certainly costs less than the mechanistic treatment of a hurried,

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often unsympathetic Anglo-American physician, regardless of the latter's superior professional skills. When modern cures are sought, Mexican-American or even Mexican pharmacists and physicians are generally preferred because their cultural background better allows them to interpret traditional disease concepts into modern diagnostic terminology. Many Mexican-Americans regularly travel to Nogales, Sonora for medical consultation for this reason.

Conservative Mexican-Americans by and large remain skeptical of the ability of Anglo-American physicians to understand and treat traditional diseases. Many draw a dichotomy between traditional and modern diseases, logically concluding that each class of illness can only be treated successfully by practitioners of that respective class.

Doctors treat "natural" illnesses while only curanderos possess the knowledge to attend sufferers of traditional illnesses. Prolonged illness the etiology of which is traced to witchcraft (daño) must necessarily be brought to the attention of curanderos for modern medicine is of little value in treating such cases.

MRS. LÓPEZ remembers a man who went to the hospital with a disease that the doctors could neither diagnose or treat. After leaving, the man came to her for help. She judged him to be bewitched, and after receiving treatment from her for several months he made a slow recovery.

She also tells of a young woman who spent several years in a sanatorium suffering from what was falsely thought to be tuberculosis. It was really witchcraft, however, that had made her ill. In spite of all their attempts, the doctors were powerless to help her and the girl died.

Mrs. López believes that curanderos understand much which is still unknown to modern medicine. In her opinion:

These American doctors who waste so many years in school studying would do better to spend their time learning traditional medicine. . . . they could cure so many more people. What fools!

Mrs. Pérez, a monolingual Mexican-born nurse's aide at a local Catholic hospital, learned curing in her native country and maintains basically traditional beliefs in spite of her daily contact with modern medicine. Like other con-

servative Mexican-Americans, she believes that doctors are unable to treat traditional illnesses, especially those of magical origin.

When patients of her ethnic group suffer from these afflictions she often quietly informs them of her diagnosis and recommends that they see a curandero after leaving the hospital. Far from abandoning Mexican beliefs, she still carries on a curing practice at home.

Transitional Mexican-Americans have generally adopted more modern medical concepts than the aforementioned group. Although they continue to perceive illness in traditional terms they submit to modern medical attention more readily. The two systems are more closely assimilated in the culture of this group.

Diseases of dislocation and emotional diseases often elicit modern counterparts. Belief in magical diseases has declined significantly and become doubtful at best. This group oscillates freely between traditional and modern cures, as the behavior of Mrs. Gómez in a recent illness verifies. She describes the origin and treatment of her ailment as follows:

One day some boys were fighting out in front of the house. I went out to stop them and all of a sudden they came into the yard. I told them to stop fighting and go home. One of them hit me on the jaw and I fell backwards, struck my head on the pavement, and lied there unconscious for several minutes. Someone called an ambulance and I went to the hospital.

I had a violent pain in the stomach, felt very tired, and couldn't walk far. The doctors told me that I had suffered shock and developed pneumonia as a result. They gave me 11 shots in 24 hours.

After I was released from the hospital and came home, an old woman in the neighborhood told me I had susto and that I should cure myself by putting pieces of garlic in my rectum for nine nights. I was skeptical but after the ninth night I began to feel better. It took both treatments to make me well: the shots to cure the shock and pneumonia, and the garlic for the susto.

Once recovered, I made a vow of penance to Our Lord to wear a religious habit every day until it was completely worn out.

Highly-assimilated Mexican-Americans have adopted most modern medical concepts and maintain only weak belief in traditional medicine. The former system is rapidly replacing the latter, as this group seeks modern medical treatment for an ever greater number of illnesses.

DISEASES of dislocation and emotional diseases have ample modern equivalents and are sometimes denied entirely. Modern disease

classifications are widely preferred to traditional terminology, although the latter is well known to practically all members of this group. In spite of their strong belief in modern medicine, highly-assimilated Mexican-Americans not infrequently revert to traditional curing if the former system fails to produce the desired result.

CONCLUSIONS

1. Most of Tucson's Mexican-Americans adhere to both traditional and modern medical concepts simultaneously. The former medical system is slowly being assimilated into and replaced by the latter. The three phases in this process of culture change are represented by a conservative group of about 25 per cent of Tucson's total Mexican-American population, a transitional group of approximately 50 per cent, and a highly-assimilated group composed of the remaining 25 per cent.
2. In the conservative group, belief in the three major types of traditional illnesses, diseases of dislocation, emotional diseases, and magical diseases, is strongest.
3. In the transitional group, belief in diseases of dislocation and emotional diseases remain important but sometimes become doubtful; modern equivalents are frequently sought. Belief in the existence of magical diseases declines significantly and either becomes doubtful or is entirely denied.
4. Diseases of dislocation and emotional diseases are generally known to the highly-assimilated group, but belief in them is weak or non-existent. Belief in the existence of magical diseases is denied as contrary to Catholic doctrine.
5. In the process of cultural assimilation, faith in the magico-religious belief system of traditional medicine is gradually weakened by the empirical premises of modern medicine as more information about the latter system becomes available. As a result, Mexican-Americans oscillate between traditional and modern cures according to their relative faith in either system.
6. Conservative Mexican-Americans have greater faith in herbal remedies and curanderos than in their modern counterparts. Members of this group are usually skeptical of modern medicine's efficaciousness in dealing with traditional diseases, especially those considered to be of magical origin. Anglo-American practitioners of all types — healers of both physical ailments and emotional problems alike — are approached with apprehension and uncertainty. Modern medicine is sought in many cases only after other means have failed.
7. The faith of transitional Mexican-Americans is usually more evenly divided between traditional and modern medicine. Members of this group oscillate between the two systems and perceive many of their illnesses in both terminologies simultaneously. In many cases they consult curanderos and doctors alternatively, and attribute success to the one with which relief is most closely associated.
8. Highly-assimilated Mexican-Americans have adopted most modern medical concepts and maintain only weak faith in traditional medicine. Their preference for modern medicine is clearly predominant. Nevertheless, when relief is not forthcoming from scientific treatment, they not infrequently revert to herbal remedies and curanderos.

NOTES

1. This research was carried out by the Department of Psychology of the University of Arizona in collaboration with the Southern Arizona Mental Health Center on Grant OM-544 of the National Institute of Mental Health, Dr. Arnold Meadow, director. The author would like to thank Dr. Robert Shearer, Director of the Center; Dr. Roland G. Tharp, Dr. Edward Dozier and Dr. Robert Hackenburg of The University of Arizona; and Mrs. Marianne Dozier for their helpful criticisms and suggestions.
2. The author, a cultural anthropologist, has carried out previous studies with Mexican-Americans in Tucson and with Mexican Mestizo and Indian groups in the states of Durango, Oaxaca, Chiapas, and Mexico City, Mexico.
In 1956-57 he studied at the National School of Anthropology and History in Mexico City as an exchange student.
In 1959, 1960 and 1961 he carried out a study of the Mexican government's attempts to introduce

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modern medicine to the Tzotzil (Maya) Indians of the highlands of the State of Chiapas. This work, entitled "Highland Maya Native Medicine: A Study of Culture Change," will soon be published by the National Indian Institute of Mexico.

In March 1963 he left Arizona and returned to Mexico City as a visiting professor of anthropology at the National School of Anthropology and History on Pan American Union Project 104 for training Latin American students in the applied social sciences.

With Dr. Raymond H. Thompson, associate professor of anthropology at The University of Arizona, he was awarded a 2-year National Science Foundation grant to continue his studies of Maya culture in Mexico, Guatemala, and Honduras, to which he will devote his efforts after February 1964.

3. One aspect of the Department of Psychology's research at the Southern Arizona Mental Health Center is involved in trying to better understand how traditional medical beliefs affect the psychopathology and psychotherapy of Mexican-Americans, and to evolve more effective treatment procedures.
4. These data were originally reported and analyzed in Tharp, Roland G., William R. Holland, and Arnold Meadow, "Differential Change in Folk-Disease Concepts," ms. in preparation.

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