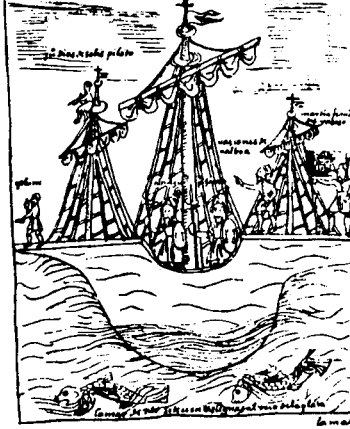


Bernard Ortiz de Montellano

Syncretism in Mexican and
Mexican-American Folk Medicine

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Syncretism in Mexican and Mexican-American Folk Medicine

Mexican (and by extension Mexican-American) folk medicine is a combination of elements derived from Indian, European, and to some extent biomedicine. Because a full discussion of this mixture is well beyond the scope of this paper, we will focus on the discussion of the existence of a "hot-cold" concept of illness and on three culture-bound syndromes – *susto* (fright), *caída de mollera* (fallen fontanelle), and *mal de ojo* (evil eye).

Foster (1953) pointed out in a classic paper that both Indian and *mestizo* groups use a "hot-cold" dichotomy to classify food, illness, medicine, and human physiology. In this scheme, man is conceived as a being who has to be in a state of equilibrium in order to be healthy. When altered, there is a need to restore equilibrium by ingesting the appropriate balancing elements. Because of the widespread occurrence of these beliefs in former Spanish colonies, Foster proposed that this ideological system was derived from the Hippocratic-Galenic humoral theory prevalent in Europe at the time of the Conquest. This theory was predicated on the existence of four qualities – dry, wet, cold, and hot. These qualities, in turn, combined to form four elements (earth, fire, air, and water) which compose all matter. Human physiology was described in terms of four humors (blood, phlegm, yellow bile and black bile). These displayed the qualities of matter in pairs, i.e., blood was hot and moist, phlegm was cold and moist, yellow bile was hot and dry, and black bile was cold and dry. Food and medicine, as well as other substances, were all characterized by pairs of these metaphorical qualities: that is, they could be hot or cold and wet or dry. The classical system even specified degrees of these qualities along the continuum from one extreme to the other. In the New World, however, the wet-dry dimension is absent, thus, the four-fold classification no longer exists. Foster (1978a) subsequently attributed the loss of this attribute of the humoral system to the difficulty non-literate people have in remembering too many variables.

Foster (1953) proposed that the "hot-cold" system of classification, as well as the *caída de mollera* and *mal de ojo* syndromes, were derived exclusively from the Spanish tradition without Indian contribution. This explanation became generally accepted, and was routinely incorporated into all descriptions of Latin

American folk medicine. Both López Austin (1971; 1988) and Ortiz de Montellano (1980; 1986), among others, have challenged this consensus. They have proposed that, at least in Mesoamerica, the "hot-cold" concept of disease was a syncretic mixture of elements taken from both Spanish and Aztec ideology.¹ Foster still denies that Aztec theories of disease have any relevance to Mexican folk medicine (1986):

...I believe that humoral theory, beliefs, and practices found in contemporary Latin American (and Christian Philippine) popular medicine are directly descended from classical Hippocratic-Galenic humoral pathology, essentially unaffected by Aztec and other indigenous Hot-Cold theories. Indigenous New World herbal and other remedies, of course, have been incorporated into the humoral framework and continue to be widely used. But this incorporation is unrelated to pre-Conquest theories.

This stance is unusual because Mexican culture has many aspects which are syncretic mixtures of the Spanish and Indian tradition. These range from food and language to religious ideology. Syncretism is facilitated when two cultures in contact have beliefs which are congruent; there is less dislocation when concepts from one are transferred or adapted to the other. In the area of religion, syncretism was facilitated by characteristics of both Aztec and Catholic religions. The Aztecs easily incorporated deities from other religions into their own. Before the Conquest, and as the Aztec Empire expanded, images of the gods of conquered peoples were brought to Tenochtitlan's Main Temple where they were cared for and worshipped (Soustelle 1970: 16). After the Conquest, the Aztecs were quite willing to add the Christian God to the list because he had demonstrated his superiority to their own deities.

The multiplicity of Catholic saints fitted in very well with the Aztec pantheon. Catholic saints were often patrons of cities and towns; an idea which was congruent with the Aztec *calpulteotl*, a deity linked to towns or political subdivisions. Catholic saints were

¹ We use *Aztec* to refer to the Mesoamerican world view which existed even before the Aztec presence and which extended to areas dominated by other cultures. The world view of the Aztecs, however, was representative of the Mesoamerican world view (Coe 1981), and we have a fuller documentation for this culture than for the others.

specialists who could cure particular diseases, as St. Valentine cured epilepsy or St. Fiacre cured hemorrhoids. They could also sponsor professions, such as St. Barbara, the patron saint of artillerymen (Gordon 1959: 459). Aztec deities had similar functions, as is the case of Xochipilli, who caused and cured hemorrhoids, and Xipe Totec, who was the patron of goldsmiths.

This congruence facilitated syncretism. Mexican Catholicism today is such a mixture of indigenous and Christian elements that Madsen (1957) described the folk religion as "Christo-Paganism." Sahagún recognized this blend and, in the Appendix to Book Eleven of his *Historia general*, warned that heresy was taking place. His warnings were not successful; the actions he warned against thrive today. Sahagún decried the fact that the hill of Tepeacac, where the Virgin of Guadalupe was worshipped, and still is today, used to be a shrine of the Goddess Tonantzin, the mother of the gods. He pointed out the similarity of attributes and functions between the two, and that the Indians also called the Virgin, Tonantzin ("Our Mother") (Sahagún 1956: vol. 3, 352). The Virgin of Guadalupe is today the patron saint of Mexico and is still called Tonantzin by the Indians. In the same way, a temple of the Aztec goddess, Toci ("Our Grandmother"), was replaced by a church dedicated to St. Anne, Christ's grandmother (Sahagún 1956: vol. 3, 352-353). Sahagún enumerated a number of similar "heretical" practices.

In their efforts to convert large numbers of Indians, the missionaries demonstrated a flexible attitude toward native practices and forms of worship. Religious ceremonies before the Conquest were very lengthy and had involved large crowds in open spaces. The "open chapel" architecture of a number of churches, such as Actopan, Otumba and Coixtlahuaca, is peculiar to New Spain and clearly an adaptation to the Aztec style of worship. This architectural style involved the construction of a large enclosed church courtyard with small chapels on the corners of the courtyard, and a large niche cut into the side of the church where a true chapel with its altar was placed (Ricard 1966: 165-267; Phelan 1972: 76). Celebrating mass in this chapel allowed the Indians to view the ceremony while standing in the open air. The religious service was extended to a satisfactory length by Aztec standards by also celebrating masses at each of the corner secondary chapels.

The missionaries also saw the expediency of adopting the Aztecs' use of pictorial manuscripts to teach religion. They prepared their own depictions of Christian doctrine using these conventions. These documents were called Testerian writing, after Friar Jacobo de

Testera, one of the earliest missionaries to New Spain, and included the Ten Commandments, the Seven Sacraments and the Articles of Faith. Pedro de Gante even composed an entire catechism in pictures (Ricard 1966: 104). The priest would stand next to the visual aids and used them to illustrate the lessons. The method turned out to be an effective pedagogical tool.

As a result, Mexican Catholicism is distinct, particularly in Indian communities, and clearly distinguishable from European Catholicism, or even from that practiced in South America. Given this fact, it seems unusual to claim that this type of syncretic process is completely absent in the area of medicine; concepts of illness and health are part of the world view which also encompasses religion. Why would the Aztec world view clearly influence Catholicism while Spanish medicine would remain impervious to Aztec physiologic and medicinal concepts? A more likely explanation, at least for Mesoamerica, is the one proposed by Madsen (1955: 138):

the Hippocratic system was intimately compatible with the ancient Aztec concept of the universe ordered on a system of balancing opposites. This compatibility between the pre-existing Indian configuration and the introduced European complex undoubtedly favored the acceptance of the Hippocratic system by the Indians. The European hot-cold complex was meaningful to the Indians because it could be fitted into the familiar Aztec complex of eternal war between hot and cold... In the process of assimilating the Hippocratic system the Indians were eclectic. They did not attempt to imitate the Spaniards by taking over the new complex intact but rejected parts of it such as the wet-dry classification which evidently was not referable to Indigenous belief...

Rather than deal point-by-point with the many arguments raised by Foster (1987), which would require more space than is available, we will deal with a few issues which are crucial and determinative.²

² Although Foster makes a great deal about the existence of the "hot-cold" concept all over Latin America, this point is not crucial to our argument. What we are proposing is that "hot-cold" concepts in Mesoamerica today are to some extent syncretic mixtures of Aztec concepts with Hippocratic-Galenic theories. Local historical and cultural influences would have differed in other regions so that it is not possible to make sweeping generalizations that cover all of Latin America. If a claim is made that modern humoral theory in all of Latin America derives solely

The main arguments used by López Austin (1971a: 21-41; 1986: 303-317) in support of syncretism are that: 1) there are mentions of the system in very early Colonial sources; 2) the "hot-cold" polarity is not limited to the areas of health, illness, and medicine but rather extends to the whole cosmos; and 3) many concepts in folk medicine or in Aztec beliefs described in the sources are not explicable by, or are contradictory to, classical European theory.

Beliefs about a "hot-cold" system show up in the earliest of Colonial sources. Hot and cold medicines and illnesses are mentioned in Sahagún's works, in the *Badianus Codex*, and in the works of Francisco Hernández. For example, Hernández, referring to plants called *totoncaxihuitl* ("hot herb"), mentions (1959: vol. 1, 344) that "... they call *totoncaxihuitl* sometimes those plants which fight against heat but more frequently those which are hot in nature." In his work, Hernández often classified plants according to Hippocratic-Galenic principles. Of the fifteen plants in this section, he classified five as "hot" and ten as "cold." Therefore, because the Aztecs classified all of these as "hot", the criteria used by the Aztecs to classify these plants must have differed from those of classical Hippocratic-Galenic theory. More importantly, it shows that they *did* have such a classification.

Foster (1978a; 1978b; 1986) rejects examples such as the above on the basis that the Colonial sources are contaminated by European influence because the Indian scribes and translators who wrote these documents had been trained in the European tradition, as shown by references made to Pliny in the *Badianus Codex*. According to Foster, this training makes all sources suspect and unreliable guides to authentic Aztec belief, including those written in Nahuatl. This is an important point because, if Foster is correct, much of the evidence supporting syncretism is invalidated.

Carrasco (1982: 11) points out that the "hermeneutics of suspicion" must be used when using documents classified as primary sources in pre-Columbian cultures. Before relying on these sources, the question of the nature, reliability, and intention of the material itself must be addressed. Pre-Columbian writing was hieroglyphic and pictorial; therefore, scribes had to be trained by the Spanish to render

and exclusively from European sources, it is sufficient for opponents to disprove the claim in any one locale. It is not incumbent upon us to disprove the existence of Spanish influence (since all that is proposed is syncretism), nor to prove universal syncretism in Latin America. That is a matter of empirical case-by-case study by experts in the cultures concerned.

Nahuatl as a written language. The primary sources, even those written by the natives, have inevitably been touched and modified by Spanish culture. The question is to determine the extent of contamination, the nature of the contamination, and how much confidence one can have about the authenticity of the information contained in the given source. Our discussion will focus on three primary sources: the works of Bernardino de Sahagún, of Francisco Hernández, and of Martín de la Cruz, which are essential for understanding Aztec medicine. In order to place these works in context, it is necessary to briefly describe the intellectual climate of sixteenth century Mexico where a power struggle was going on between the secular clergy and the religious orders.

Part of the ideological power struggle was centered on the *encomienda*. In this system, a group of Indians was assigned to a colonist who was charged with teaching them Christianity, and in return he could use them as virtual slaves. The colonists, who were interested in exploiting the Indians and who were supported by the secular clergy, disparaged Aztec cultural achievements. The more savage and uncivilized the Aztecs could be shown to be, the easier it was to justify the *encomienda* system.

The main opponents of this viewpoint were the religious orders. The Franciscans, in particular, believed that the Indians were the Ten Lost Tribes of Israel and that their conversion would bring about the Millennium (Phelan 1972). According to this view, the Aztecs were rational and intelligent and had cultural achievements rivalling those of the Greeks and Romans (Keen 1971: 77). Thus, the organization of society under the Aztecs was considered to have been an excellent model and well suited to the nature of the Indians, whose morals deteriorated under Spanish rule. They believed that prior to the arrival of the Spaniards, the Devil had led the Aztecs into sin and idolatry but that once they had been converted to Christianity, a great society could be reconstructed using some of the organizing principles of pre-Columbian society (Sahagún 1956: vol. 3, 157-168). It was this attitude towards Aztec institutions that led to Sahagún's ethnographic investigations. These were aimed at preserving information about the knowledge and customs of pre-Columbian society with the hope of restoring worthwhile practices in the future (Keen 1971: 92-104, 110-120).

In accordance with these principles, the Franciscans established a school in 1536, the College of the Santa Cruz. This school was designed for Aztec noble children and it trained them as scribes and translators of Nahuatl, Spanish, and Latin. The purpose of the

training was to enable them to assist the friars in their missionary efforts and in compiling ethnographic documents. By 1552, the school was in trouble because of the enmity of those Spaniards who felt that the Indians were inferior and should not be educated. They lobbied in Spain against the school. To counteract this lobbying, Francisco de Mendoza, the son of a former Viceroy, proposed that an herbal be prepared to be given to Charles V in order to obtain the king's support for the embattled institution (de la Cruz 1964:199). This herbal would demonstrate that Indians were humans who were capable of being educated and who possessed a worthwhile culture. The herbal was written in Nahuatl by an Aztec doctor, Martín de la Cruz, and translated into Latin by Juan Badiano, an Indian professor at the school. The herbal was tailored to meet European cultural standards. It was translated into Latin because that was the standard language of cultured persons and needed to be intelligible to Europeans. Familiarity with European culture was to be demonstrated by including citations of Pliny and by including contemporaneous European medical practices, such as the use of animal bezoars, gem stones, complex mixtures of substances, and coprotherapy.

These efforts to show that the Indians were conversant with European culture are precisely what diminishes the value of the Badianus as a primary source about Aztec medicine. It is not clear what aspects are authentic Aztec and which are European or distortion to fit European theories. The use of bezoars, inorganic solids usually found in the alimentary tract of animals (del Pozo 1964: 340), and citations such as Pliny on the use of *alectoria*, a stone found in the crop of roosters, to alleviate thirst (de la Cruz 1964: 169) are clearly European. Many magical remedies cited in the *Badianus Codex* contrast strongly with the medical sections in Sahagún's works. Since both the Europeans and the Aztecs believed in magic, the origin of particular remedies has to be determined on the basis of congruence with the different world views. The *Badianus Codex* is best used with caution and is most useful when used in conjunction with other sources such as Sahagún.

The crucial and most important sources of information about Aztec culture are the works of Bernardino de Sahagún, a Franciscan friar born in 1499, who lived in Mexico from 1529 until his death in 1590. He became an expert on the language and culture of the Aztecs. The Superior of his Order commissioned Sahagún to write a compendium describing Aztec religion accurately and fully in order to teach future missionaries about disguised idolatry. He was also to

develop a full record of the organization of Aztec society so that, in accordance with the Franciscan view of the Aztecs mentioned above, it could be reconstituted to its previous splendor but under the aegis of the true God. Sahagún developed an ethnographic approach far advanced for its time, in which native informants were interrogated in Nahuatl by bilingual scribes and their answers were written down in that language. The process was repeated three times with different sets of informants and resulted in a series of documents that culminate in the *Florentine Codex* (Sahagún 1950-1969).

One of the advantages of Sahagún's work is its depth and breadth. These are not equalled in any other source, and they allow to cross-check and amplify the meaning of concepts by looking at parallel passages in the different versions of the work or in descriptions of the same phenomena in other sections of the same work. There are two types of information about illness and medicine in these texts. Much information about physiology, illness, and healing emerged spontaneously in response to questions on other topics. The sections specifically devoted to Aztec medicinal information are completely different from the rest; these are the only sections where the native informants are mentioned by name. There is also evidence that there was both censorship of supernatural illnesses by Sahagún, and self-censorship by the informants, who were aware of the objections of the friar (López Austin 1974: 210). The result is that illnesses which were totally magical or religious in origin were omitted or deleted, and the complex holistic etiology of disease evident in the rest of the work was simplified. These efforts by Sahagún were due to the change of intellectual climate which led to the establishment of the Holy Inquisition in Mexico in 1570, and which suspected the religious orders of heresy because of their efforts to record native concepts in their own language (Anderson and Dibble 1982: 36). Sahagún's response was to add appendices to the *Florentine Codex* denying the validity of texts concerning Aztec religion, and further censoring of supernatural attributes, particularly in medicine. He was not completely successful, because there are many examples of illnesses connected to the animistic forces described below, and many examples of magic are scattered throughout the text. The crucial point to be made is that Sahagún's sins are sins of omission, that is, deletion and censorship of Aztec beliefs, rather than sins of commission, that is, introduction of Spanish concepts and practices. Therefore, Foster's denial of the authenticity of this source on the grounds of Spanish intrusion is invalid, and our basic approach will be to use Sahagún as the first

and most valid source of data and as a touchstone for the accuracy of other sources.

A great advantage of this work as a primary source is that it is written in Nahuatl and thus allows the use of linguistic analysis of the names of diseases as well as the description of symptoms and remedies. López Austin (1988: vol. 1, 21) points out that the characteristics of Nahuatl itself make it possible to use linguistic analysis to understand ideology to a greater extent than for many other languages. Foster (1978a; 1978b; 1986; 1987) claims that the presence of Spanish loan words such as *xerencatica* (jeringa-syringe) or *trigo* (wheat) are evidence of Spanish corruption. The presence of loan words does not indicate deep cultural influence. Karttunen (1985: 54) states that it took a century of contact before there was intensive borrowing of Spanish nouns, and borrowing of other parts of speech was even slower. Those words that were borrowed consisted primarily of terms for objects or concepts that were not native, such as *cauallo* (*caballo* - horse) or *angelome* (angel). More important, as López Austin (1988: vol. 1, 279) points out:

the weightier proofs are of a deeper character: words whose etymology reveals the existence of a system; concepts of dichotomy which widely exceed the narrow limits of health and illness; logical correspondences of elements within a taxonomic system and a cosmovision.

Examples of this approach will be covered later.

Francisco Hernández's *Historia natural de la Nueva España* differs from the other sources because it was not generated by the controversy over the nature of the Indians, and because the author was a physician trained in the classical Hippocratic-Galenical tradition. Hernández spent the years between 1570 and 1577 collecting data and doing research on the medicinal plants of Mexico, and produced the most extensive compilation of medicinal plants of the period. Hernández's training in Galenical theory distorted his gathering of data and impeded his understanding of Aztec medicine. In his compendium, Hernández classified all plants according to classical principles. This makes it difficult to learn how the Aztecs themselves classified a particular plant in terms of the "hot-cold" dichotomy, unless Hernández provides a native classification and then disagrees with it. There are dozens of examples of this, such as:

Memeyas. They are almost all of a hot and dry nature, even though after the milky juice is squeezed out they don't show a trace of heat, but the Mexicans still claim that they are cold and useful against fevers (Hernández 1959: vol. 1, 323).

The advantage of Hernández's work is its comprehensiveness and its scope; it includes 3076 plants (del Pozo 1964: 337). Because of the large number of examples provided, it can be used, with proper precautions to exclude European influence or bias, to extend or confirm concepts derived from Sahagún.

Evidence cited here and much more extensive discussion elsewhere (Ortiz de Montellano, in press) proves that with some precautions, primary sources, particularly Sahagún, can be used to elucidate authentic Aztec concepts in the area of humoral medicine. The existence of a "hot-cold" dichotomy in the pre-Columbian world view is supported by the description in these sources of a number of beliefs, such as "animistic forces." These extend far beyond the realm of food and medicine and are completely foreign to the Spanish view, but form a coherent and interconnected system.

The Aztecs, in common with many New World peoples, believed in the existence of multiple souls or animistic forces. These were called *tonalli*, *teyolia*, and *ihiyotl*. *Tonalli* was located in the head and provided a vital force essential for life and for growth and development. The word *tonalli* comes from the root *-tona*, which means heat, and is also found in *Tonatiuh*, the Solar God. *Tonalli* has various meanings: irradiation, solar heat, astrological sign of the day, fate of a person, and soul or spirit. *Tonalli* is related to the concept of heat and cold in native ideas about physiology and health. Linguistically, this involvement is clear. A number of examples illustrate some effects of "heat" and "cold" on the human body which are alien to the European mind but which can be explained by the concept of *tonalli*. The heat of the sun contributed to a baby's *tonalli*, but new born babies were too tender to expose directly; therefore, for four days after birth a fire was kept burning continuously next to the baby to provide *tonalli* until exposure to the sun was possible (López Austin 1988: 211). *Tonalli* functioned as a thermostat: its loss caused a fever, and exercise also increased its temperature (López Austin 1988: vol. 1, 216). Thus the verbs to rest-*cehuia* (*nino*) and to cool down hot things-*cehuia* (*nite*) have identical roots, and the expression, to rest someone who has been walking *tonalcehuia* (*nino*) literally means to cool the *tonalli* (López Austin 1980: vol. 1, 291-293). Spanish chroniclers of the time expressed amazement that

the natives insisted on drinking alcoholic drinks and resting *before* working, which would be unreasonable by Spanish standards, but consistent with precooling the tonalli prior to exertion (López Austin 1980: vol. 1, 292; Serna 1953: 285).

The Aztecs had a number of beliefs concerning twins in this context. In the proximity of twins, steam baths would not heat properly, food would not cook well, and the color red would not dye evenly (López Austin 1988: vol. 1, 256-257). Twins were considered to be "cold"; this lack of heat was explained as the result of having to divide tonalli between two beings in the womb and therefore neither having their full share.

The concept of tonalli explains a diverse number of beliefs about physiology, as well as concepts such as the right of nobles to rule, the reason to be moderate in sexual activity, and the symbolism for capturing enemies used in hieroglyphs. The range and extent of use of tonalli in the religion and world view of the Aztecs as well as its parsimonious explanatory power makes it clear that it is a purely indigenous creation. It is illogical to claim that tonalli is a valid explanation for everything else except when applied to heat and cold in the areas of food, medicines and health. Even Foster (1953) agrees that the culture-bound syndrome, *susto*, which is found all over Latin America both among Indian and mestizo populations, is of pre-Columbian origin. *Susto* is due to a loss of soul (tonalli) caused by a frightening experience (Rubel 1964). Foster (1986; 1987) makes much of the fact that the names for folk therapies and diseases are preponderantly Spanish in both Indian and mestizo groups and cites this as evidence for his thesis of solely Spanish origin. However, *susto* is an unequivocal native concept, yet the Spanish word is the predominant term used. Thus the use of a Spanish term does not necessarily connote a Spanish origin. Some viral warts are called *mezquinos* ("misers") in Mexico today. Foster (1985; 1987) cited this name of Arabic origin as evidence for influence of Spanish medicine. López Austin (1988: vol. 1, 23) points out that these warts were also called *tzotzocatl* ("miser") in sixteenth century Nahuatl. Madsen's (1960: 167) study of Tecospa, an Aztec village near Mexico City, provides an etiological explanation. According to Tecospans, warts are of a cold nature and are caused by selfish feelings. People who have them want to get rid of them so that their selfishness will not be revealed. In this case, a native origin is very credible; the evidence is more compelling than that of the mere use of a particular label.

Even cases in which folk diseases are attributed to a "hot-cold" etiology do not guarantee a Spanish origin. Ortiz de Montellano

(1980; 1986) points out that a number of diseases which today fit into the "hot-cold" humoral mold are really Aztec diseases formerly attributed to the Rain God, Tlaloc. These diseases are still treated with the same herbs, *yauhtli* (*Tagetes lucida*) and *iztauhyatl* (*Artemisia mexicana*), that were used in the pre-Columbian period. In this case, even the use of herbs of European origin (rue, rosemary) is not conclusive of Spanish origin because there is evidence that these herbs were gradually substituted during the Colonial period as "generic" equivalents for the Aztec herbs. This study, in addition to providing evidence for the existence of an Aztec category of "cold-wet" diseases, makes the point that extensive longitudinal studies should be conducted before making facile conclusions about the nature and origin of modern folk medicine. The mechanism illustrated in this case – Aztec remedies still being used for illnesses of Aztec origin, but with an intervening loss of Aztec etiology and its replacement by a mechanical cause – may apply generally. The case of the culture bound syndrome, *caída de mollera* is another example of this mechanism.

Caída de mollera, or fallen fontanelle, is a culture bound syndrome associated with small babies. Belief in this syndrome is still widespread among Mexican-Americans, and in Mexico, Guatemala, Honduras, and parts of El Salvador (Ortiz de Montellano 1987). Folk etiology attributes this ailment to a fall or to a sudden withdrawal of the nipple while feeding. This, in turn, causes the palate to fall, pulling down the still soft fontanelle and impeding feeding by closing the throat. Other symptoms are crying, restlessness and failure to eat (Rubel 1960). Clinically, these symptoms describe severe dehydration. Believers in the syndrome use a variety of remedies in their attempt to restore the palate to its position. Most commonly, the palate is pushed up with the finger or the child is held upside down and shaken to return the fontanelle to its former position. Foster (1953), on the basis of the organ displacement analogy and its mechanical treatment, postulated that *caída de mollera* was derived solely from a Spanish tradition. Foster describes three similar ailments, *espiñela* (bones in the pit of the stomach), *paletilla* (bones between the shoulder blades which could fall due to violent exercise or coughing), and *calleiro* (fallen stomach). *Caída de mollera* was not a specific Spanish folk disease, but is postulated to derive from this tradition because of the mechanical analogy. If, as Foster proposes, *caída de mollera* is exclusively Spanish in origin, one would logically expect to find evidence for the following: 1) a fairly even distribution of the belief throughout contemporary Latin America, and 2) a pre-

dominance of the Spanish treatment for the condition. Neither of these conditions are met.

Foster argues that the wide distribution of the “hot-cold” concept shows that the concept is of Spanish origin, although *susto*, which is also widely distributed, is clearly not. Following Foster’s logic, one would expect to find *caída de mollera* in all of Latin America, particularly in Peru and Chile, because Foster (1953: 215) states that more Spanish folklore and folk medicine persist in these countries than in any other in Latin America. However, the belief is completely absent in these places. The standard source on Peruvian folk medicine (Valdizán and Maldonado 1922) does not mention *caída* although there are descriptions of other folk syndromes such as *susto* and *ojeo* (evil eye).

The essence of Foster’s proposals is that folk medicinal concepts, such as the culture bound syndromes and humoral medicine, are what used to be Spanish academic medicine several hundred years ago. Margarita Kay (1977; 1979; 1987) has proposed that the principal vessel for this transmission was Juan de Esteyneffer’s *Florilegio medicinal*, first published in 1712 and widely reprinted thereafter. Foster agrees with Kay:

The similarities between Esteyneffer’s account and the popular medical systems described in Mexico and Latin America are so marked that ever since I encountered the work many years ago, I have always felt it *must* have played a major role in making humoral medicine common knowledge in Latin America (1987).

If Esteyneffer and other Spanish sources were the sources for beliefs concerning *caída de mollera*, one would expect the treatment prescribed by him to still be the remedy of choice today. His remedy for fallen fontanelle follows:

If the fontanelle of the child is fallen, the mother should put breast milk in the fontanelle itself and she will see it visibly rise. Or put the child’s head into a vessel of lukewarm water to the depth of the nose, avoiding getting water into the nose and lift out suddenly repeating it several times with which the water will suck the fontanelle out. After this treatment, put a plaster on the fontanelle made out of incense powder... or from “copal”, made into a paste with a good bit of beaten

egg white and placed on a cloth. It should be applied lukewarm (Esteyneffer 1978; vol.1, 441).

A survey of the literature on *caída de mollera* (Ortiz de Montellano 1987) as well as a large survey of Mexican-Americans in the Southwest United States (Trotter 1985) show that Esteyneffer's treatments are not the preferred modalities today. Mother's milk and incense or copal poultices are not cited in the survey at all. Dipping the head into water is cited by less than three percent of Trotter's sample, while an egg poultice is recommended by five percent of the informants. The remedies used in the overwhelming majority of cases in Mesoamerica – pushing the palate up or turning upside down and shaking or both – are not mentioned in Esteyneffer.

There is an explanation which would satisfy the requirements of proof defined above. The Aztec concept of *tonalli* can explain both the geographical distribution and the predominant treatment modalities. According to the Aztecs, *caída de mollera* was due to a loss of *tonalli* in children, who were particularly susceptible to this condition because their fontanelles were not yet fully closed (López Austin 1980: vol.1, 224). A very early document collected by Sahagún describes the role of the "healer of the fontanelle":

The TEAPAHTIANI thus cures little children: she hangs him upside down, she shakes his head from one side to the other and she pushes on his palate. Some of them attract [the spirit] with their breath –and also push the child's palate with cotton which they stuff in. Some get well with this, others don't (Garibay 1943-1946; 242).

The geographical distribution of belief in this folk illness is coterminous with the generally accepted boundaries of Mesoamerica. The Aztec world view is only the last chapter of a broader Mesoamerican ideology which extended over the area and which had roots in past civilizations (Coe 1981). An Aztec origin for *caída de mollera* would explain why it is found in Mesoamerica but not in countries like Chile which did not share that world view. Clearly *caída de mollera* is pre-Hispanic with little Spanish contribution. As in the case of diseases associated with Tlaloc, folk medicine retains the Aztec disease and the Aztec cure, but the etiological connection to Aztec religion has been replaced by a secular, mechanical etiology.

Mal de ojo (evil eye) represents a different level of syncretism in which there is clear evidence that the syndrome derives primarily

from European sources. The concept of evil eye began in the Middle East in antiquity and disseminated widely from that source (Maloney 1976: xi). Children and babies are at risk of contracting the ailment, which is caused when a person with "strong vision" looks at the child, or when someone looks upon the child with envy (Rubel 1960). The symptoms of this illness include fever, constant crying, and diarrhea. The remedies applied are primarily of a magical or religious nature, rather than empirically derived. Diagnosis is done by passing an egg over the child's body and breaking it into a glass of water. The shapes formed by the egg are used in the diagnosis. Cures often involve a "limpia" (cleansing) with another egg or with herbs, particularly rue.

Amulets are used as preventive measures and often involve the color red. Children wear necklaces or bracelets of seeds from the coral tree (*Erythrina corallodendron*), as well as red clothing to ward off the ailment (Cosminsky 1976: 167). Red is also the color used by Jews and in Mediterranean countries, and rue is used in Italy to ward off the evil eye (Moss and Cappannari 1976: 7-8). In this case, as opposed to the Latin American beliefs about "hot-cold" or *caída de mollera*, the causal chain is clear. Belief in the evil eye is documented in Europe prior to the Conquest; the ailment is found in all of Latin America, and both the causes and the cures for the ailment are the same in Europe as in the New World. Therefore, an European origin is clear, but in the case of Mesoamerica syncretism was facilitated by beliefs, such as *ihiyotl*, which were congruent with the etiology of the evil eye. *Ihiyotl*, which resided primarily in the liver, was another animistic force. It provided humans with vigor, passions and feelings such as desire, envy, and anger. Physically it was thought of as a gas which humans could emit involuntarily after committing sexual sins.

Several expressions about the liver give an idea of the range of functions served by *ihiyotl*. To be lazy was to "lack a liver"; while to have a swollen liver was to be angry. A person whose interior forces were in harmony had a *cemelli* (an united liver). Virtuous people had a clean liver while immoral persons had a dirty one. Sins, particularly sexual sins, harmed the liver and made it emit *ihiyotl* involuntarily. This emanation could harm innocent bystanders; it could cause crops to blight, or business deals to go sour, but more importantly it caused harm to weak beings such as young turkeys or babies (Sahagún 1950-1969: Book 4-5, 191). These diseases were collectively called *tlazolmiquiliztli* (garbage diseases) because metaphorically to sin sexually was to "cover the tonalli with garbage." The concept of someone being able to harm babies at a distance is clearly congruent with the etiology of the evil eye. Ingham's (1986) study of the

Mexican village of Tlayacapan demonstrates how these two concepts have evolved in complementary patterns. Beliefs about mal de ojo follow the pattern described above: 1) children are the principal victims; 2) the causative agent is an envious glance; 3) diagnosis is made by rubbing the patient with an egg, breaking the egg into a glass of water and looking at the pattern; 4) red amulets such as sea coral are used to ward off the disease (Ingham 1986: 164-165). A parallel illness is caused by *aire de basura* (garbage air) which is emitted by prostitutes or people who have had sex recently. *Aire de basura* is similar to the offending agent in evil eye sickness. *Aire de basura* sickness is treated by some people in the same manner as evil eye sickness. Ingham ties both of these ailments together:

Belief in evil eye sickness may be part of a constellation of beliefs about *aires*. *Aire* illness, evil eye sickness, and harm from anger are all similar. Presumably, in evil eye sickness, the adult's eye made hot by passion of sex or envy expels an *aire* or, alternatively, attracts an *aire* and then becomes a vehicle for transmitting it to the child [...] Eggs are used to diagnose and cure evil eye sickness and the various *aire* ailments [...] both evil eye sickness and *aires* affect the victim's eye – usually the left – and indeed have a special attraction to eyes, which no doubt accounts for the popularity of the deer's eye [*Thevetia sp.*] as a charm against the evil eye. In support of this interpretation, it may be noted that in Medieval Europe evil spirits were thought to enter and leave the body through the eye (Ingham 1986: 165-166).

Conclusions

The process of syncretism of Aztec and Spanish medicine which has produced Mexican folk medicine is not as simple as previously conceived. There is no universal pattern and cases must be dealt with individually because there are various degrees of mixing of these two traditions.

1. *Susto*. This folk syndrome is clearly of pre-Columbian origin with no European influence other than a shift to Spanish in the name. In the case of mestizos, the soul that is lost is not the native *tonalli* but one more analogous to the European concept.

2. *Caída de mollera* is also pre-Columbian in origin with little Spanish influence. There has been a shift to a mechanical model of

causation, but so far there is no evidence of when and where this etiology replaced loss of tonalli.

3. "Hot-cold" concept. There is a clear European presence, especially in the concept of treatment by opposites, but there is also a substantial pre-Columbian component. This is shown by a duality pervading the Aztec world view which facilitated syncretism with "hot-cold," but which did not encompass a "wet-dry" dimension, and by the case of Tlaloc's diseases where both the cure and the disease today are the same as the Aztec concept but the intervening etiology is derived from humoral theory. The process included the generic substitution of European herbs such as rue or rosemary for the original Aztec remedies.

This does not dispose of the question of "hot-cold" in the rest of Latin America, but the premise that the "hot-cold" concept of disease is exclusively Spanish with no native influence anywhere in Latin America is untenable. The extent of native syncretism, if any, elsewhere in Latin America, will require investigation of the particular historical and cultural circumstances by specialists in the area (see Colson and Armellada 1983; Bastien 1985).

4. Evil eye. This is the clearest case of Spanish influence in both symptoms, etiology, and cure. The existence of this ailment in Europe before the Conquest and at present is proven. Even here, however, facile acceptance of the syndrome was facilitated by the existence of congruent beliefs among the Aztec in diseases afflicting children that could be caused by invisible emanations.

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