

WIFE

Title: Foster, Supplement  
on Hot-Cold

p. 41-68

## CHAPTER 3

### Humoral Theory in Tzintzuntzan: Disease Causality

In chapter 2 we examined the basic principles of humoral theory as they are understood in Tzintzuntzan. We noted the importance of distinguishing between the two domains of temperature – the metaphoric and the thermal – and we described the cues that usually make this possible. Health, we saw, is present when the body temperature is in an equilibrium state, slightly on the warm side. Illness results when this equilibrium is upset by hot or cold insults. In the present chapter we examine in greater detail the sources of these insults, the ways in which they lead to illness, and the kinds of illnesses the several insults are believed to cause.

#### THE SOURCES OF HOT AND COLD INSULTS:

Since in all humoral medical systems hot and cold insults are believed to be the cause of illness, published accounts of such systems might reasonably be expected to contain detailed explanations of the sources of heat and cold that constantly threaten the body. This is not the case. A high percentage of humoral discussions, in Asia as well as America, emphasize food, and its relation to health, to the exclusion or near-exclusion of other aspects of the humoral system (e.g. In America, Cosminsky 1977; C.H. Brown 1972; Mazess 1968; Wiese 1976. In Asia, E. Anderson 1980; Hasan 1971; Wandel et al. 1984). Other treatments of the topic are primarily concerned with the criteria that determine why a particular food item or medicinal herb is classified as Hot or Cold (e.g. H.F. Mathews 1983; Molony 1975; Foster 1979b; M.F. Brown 1976).<sup>1</sup> In both cases most authors give little or no systematic attention to precisely what they mean when they speak of hot and cold illnesses, or of illnesses caused by heat and cold. Humorally Hot and Cold foods are, of course, causative factors in all humoral systems, and when a person falls ill recent diet is reviewed to see if food or drink may be implicated. Yet the

*calidad* of a particular food item is but one among a great many possible sources of the heat or cold that may have caused an illness. In fact, as pointed out in chapter 2, in Tzintzuntzan thermal temperature is cited far more frequently as the precipitating factor leading to illness than is the humoral value of food or drink. With respect to therapy, the opposite is true: thermal temperatures of remedies are far less important than are their humoral *calidades*. Because of the relative lack of attention that has been given to the variety of hot and cold threats to health found in humoral medical systems, I propose to describe the situation in Tzintzuntzan in considerable detail.

### El Frío and El Aire:

But before discussing in detail these threats, it is necessary to clarify the meaning of two common Spanish nouns that occur continually in discussions of health and illness: *el frío* ("the cold") and *el aire* ("the air"). The terms are related, but not identical. *El frío* is the more comprehensive of the two terms: it is a thermal characteristic, an essence of a number of substances and places such as cold water (metaphorically Hot), a tile or cement floor (especially if freshly laid or recently mopped and hence still damp), the ground beneath a shady tree, and damp shoes, or shoes unworn for some time. *Frío* also is an attribute of *aire*. The presence of moisture, while not essential to the definition of an object or place as *frío*, is in fact the single most commonly cited explanation of why cold is present. For example, recently washed clothing and sheets, dry but still hanging on the line, are thought to be *frío* because moisture somehow still clings to them. Not until they are ironed (thus removing the moisture) is it thought safe to wear the clothing or sleep on the sheets. Because of the effort of hand-ironing sheets and the fear of their *frío* if this is not done, many people still refuse to use bedsheets.

*El frío* is present both outdoors and indoors; in contrast, *aire* usually is found only outdoors, although occasionally it is named as a threat to a sick person in bed in a closed room. Sometimes *aire* can be felt, in the form of a breeze; at other times, especially at night, when it carries a greater cold load than during the day, it cannot be felt, but it is known to be there, dangerous, and to be avoided at all costs. *Aire* is viewed both as a single, all-pervasive substance and as a multiplicity of specific entities. *Aire*, anyplace, is a general threat to an overheated body: it may or may not strike. But when it does strike it is *un aire* (an air), as in *Me pegó un aire* ("I was struck by an air").

In spite of the fact that *aire* may be present but not directly sensed, and take both general and specific forms, it is viewed as a natural phenomenon without supernatural dimensions. No dangerous spirits ride the breezes or

permeate the still night air; it is the thermal cold, the *frío*, inherent in *aire*, like the thermal cold of many other substances, that threatens the health of the unwary. Since all *aire* is cold, but all cold does not take the form of *aire*, *aire* is the less inclusive concept of the two. Since *el frío* is a thermal characteristic, it can have no *calidad*. Opinions differ as to whether *aire* has a quality, but most informants, after pondering the direct question, decide that it does not.

### HOT INSULTS TO HEALTH:

There are, as should be clear by now, two types of hot insults that threaten health: thermal (real) heat, and metaphoric (humoral) heat. These hot insults may strike the body from within (they are "internally generated"), or from without (through "external contact"). A hot insult affects the body in one of two ways: 1) more often than not, it places the organism "at risk," making it vulnerable to additional hot or cold insults; 2) less frequently, hot insults lead directly to illness. A few hot insults are (or were) thought either to place a person "at risk" or directly cause illness, according to circumstances. For example, the sun's heat may heighten a person's vulnerability to many of the common hot and cold insults; and, formerly, it was believed that smallpox (always a childhood disease) was the result of excessive exposure to the sun.

Table 2 outlines these general principles. Column 1, Sources of Heat, lists the most common hot threats to health, grouped according to type (thermal and metaphoric) and locus (internal vs. external). In column 2, Places Person "At Risk," an "X" appears opposite those threats that heighten a person's vulnerability to subsequent hot or cold insults. An "X" in column 3, Causes Illness, indicates that the hot insult can lead directly to illness; when only one specific illness is caused, that illness is named (e.g. *bilis* from anger or fright, and *chipil* from jealousy). Column 4, Principal Threats, indicates the hot and cold insults that threaten people "at risk" from the activities and experiences listed in column 1, and, by implication, the exposures one should seek to avoid. In a few instances a person is at such a high degree of risk due to excessive body heat that therapeutic action must be taken. Words in parentheses indicate the type of action thought necessary (e.g., [patient applies a] Hot poultice; [pregnant woman puts] Steel in sash).

Table 2. Hot Sources Causing Illness or "At Risk" State

Source of Heat	Places Person "At Risk"	Causes Illness	Principal Threats
Thermal Heat:			
Internally - Generated:			
Digestion	X	—	Thermal cold & heat
Sleep	X	—	Thermal cold
Exercise, work	X	—	Thermal cold
Illness	X	—	Thermal, Metaphoric cold
Broken Bones	X	—	Thermal cold, (Hot poultice)
Heat buildup	X	X?	Thermal heat (bathes)
Pregnancy	X	—	Thermal heat (bathes)
Emotions:			
Anger, fright	X	<i>bilis</i>	Thermal cold & Metaphoric Heat
Jealousy	X	<i>Chipil</i>	—
External Contact:			
Hot Objects:			
Sun's Heat	X	small pox	Thermal heat, cold (cold poultice)
Smoking	X	—	Thermal cold
El Cáncer	—	X	Blood on body
Envy	X	evil eye	—
Eclipse	—	harelip	(Steel in sash)
Vapores	—	X	—
Metaphoric Heat:			
Internal:			
Hot food, drink	X	X	Thermal & Metaphoric heat & cold
Biomedicines	X	—	Thermal heat, cold Metaphoric Hot drink
External Contacts:			
With Hot things	X	—	Thermal cold

The "X" means ✓ / this kind of heat does "place person at risk"

## Thermal Heat: Internally-Generated:

The sequence of sources of hot insults found in Table 2 will guide the following discussion of the topic. There it will be noted that the most common internally generated sources of heat that place a person at risk are digestion, sleeping, exercise and work, illness, broken bones, "heat buildup," pregnancy, and emotional experiences.

## DIGESTION:

As pointed out in chapter 2, opinions differ as to whether the heat of digestion comes from the Hot bile that falls, a drop at a time, into the stomach, or from the "substance" of the food itself. Metaphorically Hot foods, such as honey, chocolate and mole sauce, and thermally hot foods such as soup and coffee (whatever their *calidad*), contribute to, but are not essential to, the heating effect of eating. Whatever their views about these points, everyone agrees that eating heats the stomach and, to a lesser degree, the entire body, causing it to *trasudar*, to perspire lightly. This places the diner at risk for an hour or so from several forms of cold and, to some extent, hot insults but does not in itself cause illness. The cold threats are largely but not entirely thermal, and begin with the meal itself: many people will not drink water immediately prior to or with a meal for fear its inherent cold will interfere with the stomach's "cooking" of what is being eaten.

External contact with water, in the form of bathing and swimming, and exposure to *aire* are considered to be the greatest threats to a recent diner. Micaela once put Mary and me in our place by commenting on our bad habits: "You dress, you undress, you bathe, you do *everything* after eating. Not us! We say that after eating the body is hot, sweating, it's *trasudando* from the food, and one must neither undress nor bathe." I have heard cases of facial paralysis explained as due to an *aire* striking the head of a recent diner. Following eating the stomach is considered especially susceptible to *aire*: elderly women still tighten the stomach sashes they have worn since adolescence, and men are careful not to change their clothing or lower their trousers to defecate. Natividad Peña explains the proper precaution to take in these words: "Someone is eating, and his body receives the food that has its heating effect. For this reason one should wait a bit to cool off before going outside to 'face the four winds of the air'." Some people say that metaphorically Cold food on a full stomach is also a minor threat that may lead to *sofocado* (heartburn or a feeling of surfeit). Recent diners also avoid additional heat by not immediately engaging in physical exercise, nor using the eyes for close work.

work. They justify the later by quoting the aphorism, *Despues de comer, ni un sobre escrito leer* ("After eating, don't even read the address on an envelope").

### SLEEP:

To sleep out of doors, unprotected against the *aire* of night and the intense cold of *el sereno* (see p. 63) is considered the height of folly. Consequently, nearly everyone sleeps in a tightly closed room, windows (if any) shuttered and doors barred. The warm bodies of several people in the same room, under blankets, and often in the same bed or on the same *petate* (reed mat) on the floor, are conducive to a sleeper experiencing a thermal heating effect. As long as a recently awakened sleeper remains in a closed room, he is in no danger (unless he steps barefoot on a cold tile or cement floor, thus risking *calor subido*). He is at risk only if he precipitously goes outside where an *aire* or other cold threats may be lurking. Other cold threats include bathing immediately upon arising, drinking cold water (which may cause bronchitis), or eating thermally cold food such as ice cream. Metaphorically Cold food apparently is no longer considered to be a threat to a recent sleeper, but I have mentioned (see p. 21) the incident I observed 25 years ago when Micaela warned her recently awakened granddaughter not to eat a banana (Cold). When possible, upon awakening people linger in their rooms a short time until they feel that their temperature has approached its normal level.<sup>2</sup> The heat of sleeping differs from most other heating experiences in that not only does it not lead directly to illness, but that no form of additional heat, either thermal or metaphoric, places the person at risk. Cold is the only source of danger.

### EXERCISE AND WORK:

Physical exertion, including normal work, and *agitándose*, scurrying around and "working up a sweat," heat the entire body. Hands are heated by such activities as writing, sewing, giving a massage, and milking a cow, while eyes are heated by any kind of close work, including embroidering, watching television, writing and - as the following field note illustrates - reading.

Field note (7/26/59).

I woke up this morning with a headache, which I took pains to announce at the breakfast table to see what the diagnosis would be. I suggested that I had been reading and typing until late at night and probably had strained my eyes. But the family would not buy this simple explanation, since they had a more

obvious way to account for my condition. Reading, and other close work, they explained, "heats the eyes." "Did you," they asked, "go out into the night *aire* immediately after reading?" Yes, I had gone to the latrine just before going to bed. Ah, that was it! The sudden shock of the cold night air on my hot eyes was more than they could stand. I should have known that I risked a headache from my reckless behavior. Next time, stop reading a few minutes before going to the latrine.

Since most close use of eyes occurs indoors, people who have been reading, sewing, or watching television try to wait a few minutes before exposing themselves to outside air.

Feet are heated by walking, especially in heavy shoes or boots. Men whose feet are hot from walking wait until they cool before removing their shoes. I have also been advised to do the same.

Field note (3/29/81).

For Micaela, the need to show due respect to Hot and Cold dangers is as strong as ever. Last night I returned to the house about 8 P.M., feet hot and tired from wearing boots all day. I said to Micaela that I would take off my boots and put on some comfortable loafers and then come to the kitchen for the customary pre-supper drink. "Don't do it, Doctor. Don't do it," she almost pleaded. Knowing the answer, I nevertheless asked why. "You're going to be struck by cramps," she replied. I stood irresolutely, trying to decide whether to laugh it off for comfort's sake, balancing this urge against her feelings if I went against her advice. While I was trying to decide, she again begged - and it was with real pleading in her voice - "Don't do it, Doctor. Please don't do it." With that I gave in and said I would not change my boots until after drinks when my feet would have had time to cool to a normal temperature.

The hands of *curanderas* who massage patients are heated, both from the physical effort involved, and from the Hot oils often used. Celia Peña once told me of her husband's ire at the risk she was taking in massaging: "Here you are curing, and then you come home and wash your hands; they're hot, you wet them, and it's bad for you. And they give you only \$10 pesos, or \$5 pesos, and sometimes nothing; no, that's not good."

Some years ago Natividad Peña told me she had just about given up treating *empacho* and *caída de la mollera* (fallen fontanelle), culture-bound syndromes that involve strenuous massage. Why? Rheumatism, she replied. The physical effort of the massage, plus Hot oil for *empacho* and Hot alcohol for *la mollera* would heat her hands and arms. Then she would return to her work making pots, and over the years the Cold clays did the damage.

Whenever the body is at risk from heat, whatever the source of that heat, it is considered dangerous to change clothing. Fear of being struck by *un aire* is the usual answer given when the anthropologist asks why.

The principle threat to a person "at risk" from physical exertion is cold, largely thermal, rather than heat: *aire*, water (e.g. taking a bath, washing hands or face, or being caught in a rainstorm), and chilled food and drink. Iced drinks and cold food may cause coughing or, worse, lead to *dolor de costado* (pneumonia). *Congestión de lleno* ("congestion from a full stomach," i.e., a mild stroke) is explained as an attack of air on a replete diner.

Metaphoric Cold and Heat, it may be noted in passing, usually are not considered to threaten a person heated from exercise, although I have heard stomach ache attributed to eating Cold food, and skin rash and constipation to eating Hot chiles.

#### ILLNESS:

All illnesses - even those classified as "cold," such as colds, asthma and other bronchial problems - raise body temperatures above the equilibrium point. Since some degree of fever accompanies most symptoms it is not unreasonable to draw this conclusion.

But how can a person who is already ill be "at risk" of illness? Such a person is at further risk primarily in the sense that violating the rules pertaining to a healthy body at an above-normal temperature will aggravate the illness or cause it to develop into something worse. Thus, one often hears that pneumonia, and even death, come from *un catarro mal cuidado*, from a cold not properly treated. Most proscriptions on behavior during illness are intended to protect the sufferer from such a fate by reminding him of the dangers inherent in thermal and metaphoric cold: Avoid *aire*, don't bathe, don't get wet, stay away from cold, humid places, don't sew (a steel needle is Cold), avoid Very Cold foods, and above all, don't drink cold water or eat ice cream. The consequences of such an imprudence were still being illustrated, a decade after the incident, by the explanation of the death of Don Pancho Barriga, as told in the following note by Amparo Rendón and her husband Adolfo Peña.

Field note (9/8/77).

**Amparo:** It began as a simple gripe, nothing more, a slight fever. Then Don Pancho went outside, and in two or three days he was dead. That's true (addressing Adolfo), is it not?

**Adolfo:** Yes.

**Amparo:** He came down with bronchitis in his chest, then pneumonia, and he died immediately.

**Adolfo:** He felt perfectly well. Then he bought a popsickle and ate it. He was thirsty. Then in the night his fever returned, and in scarcely three days he died.

**Amparo:** It was the popsickle that did the damage. He strolled to the corner, saw the vendor, and had a strong urge to eat a popsickle. And by evening he had a high fever, and was *agonizándose* (dying) when the doctor arrived.

As for the danger of bathing while ill, so strict is the prohibition that the traditional way a patient assures his friends that he is fully recovered is to say, *Ya me bañé* ("I have bathed"). The following vignette gives some sense of the emotional intensity of this belief.

Field note (3/11/78).

Night before last Mary came down with a bad case of gripe: sore throat, and head and body aches. Yesterday she was no better. This morning, unbathed for two days, she felt she must at least wash her face, and asked me to bring a basin of warm water. When I relayed this request to Micaela, she was aghast. She couldn't believe her ears. She knows that Mariquita (as Mary is called in Tzintzuntzan) does things that she - Micaela - considers to be foolhardy in the extreme, like drinking cold water when she has a fever, but washing in her present condition was going too far. *La mugre no mata*, said Micaela, *El agua, sí* ("Dirt doesn't kill, but water does"). This is the only time I can remember when Micaela has not acceded to a request from Mary, however outrageous she may have thought it to be. But she stood pat; nothing would change her mind. So Mary quietly washed her face in cold water before we set out for Morelia and the doctor.

For Micaela, whether the water was warm or cold was not relevant: the danger lay in Mary exposing herself to *el frío*, the cold inherent in the water. Even exposure to high humidity frightens Micaela. On one occasion I was taking it easy in my room because of a bad cold. Virginia, Micaela's younger daughter, proposed mopping the tile floor of the room. Her mother was shocked: the cold humidity rising from the floor would certainly do me harm, and the mopping must be postponed until I could be out of the room for an hour or two.

When ill, most people do not change clothing for, in the words of an elderly *curandera*, "*aire* enters the pores of the body and can be bad for you." However, she adds, it is safe if one keeps the clean garments in bed all night, to warm them up, and then changes under the bed covers. In the same vein Micaela tells about the time when, as a small girl, she was ill with smallpox;

her mother would wash her hands in alcohol (Very Hot) and then hold each clean garment in front of a candle flame to warm it before dressing her.

#### BROKEN BONES:

Parts of the body may also be heated by injury. Broken bones and strains and sprains must, because they are hot, be protected until they heal against cold in the form of water or *aire*. Strains and sprains are bandaged, not primarily for support, but to keep out *aire*. The widespread Mexican belief that if broken bones cool, knitting will be long delayed, is shared by all Tzintzun-teños. Hence, in addition to splints a broken bone treated by a *huesero*, a bonesetter, is bound up in a Hot poultice of such things as turpentine, cloves, pepper and rosemary to keep the break warm so that it will heal quickly. The following note illustrates this belief.

Field note (7/30/82).

Bonfilio, the village baker, showed up in the patio this morning, his left hand in a cast and sling. Two weeks ago he was in a bus that crashed, and his wrist received a bad blow. Hoping for the best, he ignored the pain, and only when his finger tips began to turn black did he go to the doctor. X-rays confirmed a broken bone, hence the cast. How long would he have to wear the cast, I asked? At least two months, he replied, longer than if he had had the break set immediately after the accident, "because the bones got cold."

#### HEAT BUILDUP:

Continued increments of heating experiences, both thermal and metaphoric, and minor in themselves, contribute to a gradual buildup of heat in the body that can be very serious unless remedial action is taken. The exertion of work, exposure to the sun, hot pottery kilns and cooking fires, and the ingestion of Very Hot foods in excess - everyday experiences that cannot be avoided - gradually raise body temperature levels to a danger point known as *calor encerrado* ("enclosed heat"). For many people *calor encerrado* is considered to be an illness itself, perhaps marked by a slight fever, while for others it is a hyper-"at risk" point that, if compounded by still more thermal heat, leads to more serious illnesses such as *angurria* ("strangury", i.e. difficulty in urinating), constipation, malaria, smallpox, kidney problems, and the like. Oddly, and at first glance inconsistent with the usual rules, no form of cold is considered to be a threat to a person suffering *calor encerrado*. To the contrary, both those who view it as real illness, and those who view it as an

extra dangerous "at risk" point, agree that regular bathing will keep the heat load of *calor encerrado* from rising to the point where it may turn into a really serious condition. Among members of the older generation bathing often is looked upon as preventive medicine, desirable not so much for reasons of cleanliness as for its property of keeping body temperatures within safe limits. The fact that heat buildup is often classed as an illness helps to explain (as discussed in the next section, "Pregnancy") how bathing, far from threatening, is under the circumstances the logical thing to do.

In addition to risking *calor encerrado*, a man who fails to bathe fairly frequently becomes hot in body, and develops strong *humores* ("humors"). A man who visits a prostitute also may exude humors. Not surprisingly, in view of long stretches between baths for many men, humors are also described as body odors, an explanation that semantically confuses *olor* ("odor") with *humor* (the Spanish "h" is, of course, silent). Some people also confuse *humor* with *calor* ("heat") as when, for example, in earlier years barley water baths (barley is Cold) were used to "lower the humor of the body" of feverish smallpox victims. The term *humor* is also used in the sense of "predisposition." Of a person who suffers frequent recurrences of the same illness, such as inflamed tonsils, it is said *El tiene humor para las anginas* ("He is predisposed to tonsillitis"). Although they reflect an above-optimum body temperature, humors generally are not feared as a serious threat to health. The term, however, is interesting if only because it is a vestigial linguistic survival of the terminology of ancient humoral theory.

#### PREGNANCY:

With respect to health care and precautions, pregnancy has much in common with heat buildup. A gravid woman's temperature gradually rises because of retention of warm blood normally lost during her menses, and from the growth of the hot foetus, which owes its *calidad* to the father's Hot semen. The increase in heat is gradual, as with heat buildup, although the cycle, of course, is longer. As a heating experience, pregnancy also reveals important similarities both to eating and sleeping in that (for adult women) it is a normal body function; unlike eating and sleeping, however, it is spoken of as an illness, an important point as will become clear in the following paragraph. A pregnant woman is *enferma de la cinta* ("ill at the waist"). Pregnancy also differs from eating and sleeping, and resembles heat buildup, in that heat rather than cold is the principal threat. Consequently, to prevent an excessive rise in her body temperature a pregnant woman is expected to bathe frequently and to avoid additional increments of heat by not sleeping too much,

nor getting too close to a hot pottery kiln. The anomaly of bathing a pregnant woman or a man experiencing heat buildup - the worst threat imaginable to people whose heat level has been raised by digestion, sleep, or exercise - disappears if we view these two conditions as illnesses, to which the rules for therapy, and not prevention, apply. For a person "at risk" from heat or cold, the basic rule is to *avoid* further aggravating the condition, and to allow time for the body to regain its normal equilibrium. But for illness, *therapeutic action* is indicated. Hence, the principle of opposites, the basic guide to humoral curing, takes over in the case of heat buildup and pregnancy, and cool water, to counteract the heat of a patient, is the logical treatment. The role of foods in the care of a pregnant woman is described in chapter 5.

#### EMOTIONAL EXPERIENCES:

Strong emotional experiences such as *coraje* (anger), *susto* (fright), *celos* (jealousy), and *envidia* (envy) are thought to heat the body by producing a surge of bile (whose humoral quality is *Irritante*) that overflows from the liver-gall bladder into the stomach and bloodstream. Following such an experience the blood is often said to be "irritated" (i.e. extremely hot).

#### Anger and Fright:

Moderate degrees of anger and fright place the body at risk from cold, in the form of bathing and drinking thermally cold water, and from additional heat from Very Hot food or drink, particularly alcohol. The following vignette illustrates the danger of alcohol.

Field note (3/10/79).

Last night Jesús Calderón, who often has a pre-supper tequila with me, stopped by but, to my astonishment, declined the invitation to drink. I asked him why. Because of *coraje*, he said, his "anger." His third daughter had run off with a young man of whom he disapproved, and he was so outraged he feared the alcohol would bring on an attack of that well-known Mexican folk illness, *bilis*, whose symptoms suggest hepatitis.

While extreme anger and fright can immediately cause *bilis*, people so affected hope for a grace period during which, if they act rapidly and drink a *bilis* remedy, a bottle of which is kept in many households, catastrophe can be averted. The married daughter of good friends was once rushed in labor to a doctor in Pátzcuaro where she nearly died in childbirth. Her husband and

parents were in such terror waiting to know the outcome that they sent a son who had accompanied them back to Tzintzuntzan to bring the *bilis* remedy. Mother and infant survived, and no one fell ill; for the latter, the efficaciousness of the remedy received the credit. *Bilis* is the most likely product of fright or anger, but these emotions may also cause such things as vomiting, diarrhea and sciatica. Thermal heat and *aire*, oddly, appear not to threaten an individual who has received a strong emotional shock.

#### Jealousy:

The danger of the heat of jealousy is most apparent in the belief in a classic Mexican culture-bound illness known as *chipil*. It is widely assumed in Mexico, and certainly in Tzintzuntzan, that the knee child senses that its mother is again pregnant, and resenting competition for her affection from the forthcoming sibling, responds with *chipil*, the symptoms of which (whining, inconsolable crying, grasping the mother's apron, etc.) suggest protein-calorie deficiency as well as sibling rivalry. *Chipil*, it may be noted in passing, is a pre-Columbian Mexican belief that, through its incorporation into a hot/cold explanatory framework, illustrates the flexibility and adaptability of the humoral system.

#### Envy:

The heat of envy works in a very different fashion from most emotionally-based illnesses. The person emotionally-affected is not endangered, but rather she endangers a second person, the object of her envy, by casting *mal de ojo*, the evil eye. From the standpoint of the victim, the heat threat is radiated from outside. I therefore discuss the evil eye with other external, radiated threats (see pp. 57-58).

#### Thermal Heat: External Contact:

As Table 2 shows, there are fewer externally than internally generated sources of heat that raise body temperatures above optimal levels. These sources differ, too, in that proportionately more of them directly cause illness than do internal sources. The most common form of thermal hot insults in this class include radiated heat from, or direct contact with, hot objects such as the sun, electric or charcoal clothes irons, stoves or cooking fires, tortilla griddles,

and hot pots from a cooling kiln. They also include sources many of us would consider to be imaginary: the evil eye, an eclipse, and *el cáncer*.

## HEAT FROM HOT OBJECTS:

### The Sun Rays:

The sun's rays are an ever-present threat to the unwary. They may directly cause illness, but more frequently they merely put a person at risk. Formerly, as previously noted, it was believed that children playing in the sun were apt to be struck by smallpox. Today, while an overheated state known as *fogueado* is attributed to exposure to the sun or a hot fire, radiated heat usually is thought merely to place a person at risk from *aire* or *frío* in any of their usual forms. *Fogueado* resembles *calor encerrado* (from heat buildup) in that it can be sufficiently intense as to require therapeutic action. *Fogueado*, however, differs from other conditions requiring cooling therapy: rather than bathing a patient in cool water, a stomach poultice of Cold substances such as lard, ashes, bicarbonate of soda, and the herb *tepuza* is applied, or an enema of cold water in which Cold herbs have been steeped is administered. These treatments, conforming to the principle of opposites, are believed to draw out the heat, which is thought to have concentrated in the stomach.

The sun also can cause illness indirectly; a person who sits on a hot rock risks hemorrhoids. But for the most part people who are *fogueado*, or simply very hot from exposure, rest in a cool, shady place and avoid both thermally and metaphorically hot and cold food and drink, *aire*, and bathing until they have cooled off. *Aire* is believed to strike most readily if a man, hot from working in the sun, immediately removes his hat in the shade of a tree or a cool *corredor* (the open porch facing the patio of most houses) before his head has time slowly to cool. Since wedding and baptismal dinners are served on long tables set up in these shaded porches, prudent men usually are half way through the meal before they remove their sombreros.

The danger of cold, and particularly cold water on a part of the body heated by direct contact with a hot object, is illustrated by the following case.

Field note (8/1/59).

This afternoon I talked with Micaela in my room. Her daughter, Virginia, was ironing. Presently she came in and sat down, obviously in a good humor. Her mother noticed her hands were damp and asked, "Have you washed your hands while they were still hot from ironing? Here, let me see them." Without waiting for an answer she reached for Virginia's hand and slapped it smartly,

obviously upset, and outraged as well, at this flagrant violation of a basic rule to avoid illness.

### Smoking:

Tobacco is Hot, and it can communicate this heat to other substances. Informants are uncertain about the humoral value of unburned cigarette paper, except that they know it is not Hot. But the paper of a cigarette butt (called *la viejita*, "the little old woman"), heated by the burning tobacco, is thought by all to be Very Hot. Formerly it was used as a *chiquiador*, a patch stuck to the temples to relieve headache due to *aire*.

But, although Hot, tobacco does not communicate metaphoric Heat to the smoke it produces, which is merely thermally hot from the fire. Cigarette smoke heats the chest, making it inadvisable for a recent smoker to drink cold water or go outside into the night air. Thermal cold on a heated chest may lead to a condition known as *pecho pasmado*, or *hoguío*, bronchial and asthmatic conditions. Additional thermal or metaphoric heat does not threaten a smoker. In one situation, at least, heat is desirable: a man smoking a cigarette who is called outside at night is wise to continue to smoke, to protect his lungs against *aire*.

### El cáncer:

A corpse is considered to be very dangerous because of the pestiferous heat it exudes. This heat, called *el cáncer* (a concept unrelated to tumors), is described by informants as the normal body heat (hence a thermal heat), the *humor* of a living person that is now *despidiéndose*, saying "good-bye" to the body that has sheltered it. At a wake the thermal heat of the cancer is intensified by the metaphoric Heat of the large beeswax candles that surround the bier. Some people, upon entering a room with a corpse, insist that they can smell the cancer. Healthy people, however, are not in serious danger, and at most they feel a burning sensation around the mouth. If they believe they are more-than-ordinarily sensitive to *el cáncer* they sometimes take half a lime (Very Cold) to a wake, periodically daubing their lips with it to counteract this burning sensation.

The threat of *el cáncer* is primarily to people who have, or who recently have had, blood on the surface of their bodies: menstruating women, new mothers, recent surgical patients, infants whose navels have not completely healed, and people who have a fever sore, a skin abrasion, a nosebleed - even a hangnail. The heat of cancer strikes open wounds causing festering and severe infections. The fear of *el cáncer* is so great, even today, that "at risk"



people scrupulously avoid wakes unless, as the following episode illustrates, they have no option.

Field note (7/2/83).

Recently Amador Zacapu had a wart that grew until it dropped off, leaving a festering wound on his hand. At this inauspicious moment one of his *comadres*, a co-godmother, the wife of a close friend, suddenly fell ill and died before Amador and his wife, Lucía, were able to reach her bedside. This greatly distressed the two, who recognized their obligation to give a final *abrazo*, a ritual embrace, to a dying *comadre*. When *compadres* fail to arrive in time, they are given a second chance: they embrace the corpse at the wake. Amador was faced with a dilemma: criticism if he failed in his duty, and *el cáncer* if he carried it out. After much thought he went to the health center and explained his problem to the doctor, who assured him neither he nor Lucía were in danger. So, gritting his teeth, he went to the wake, embraced his deceased *comadre*, and suffered no ill effects.

Everyone with whom I have discussed the matter agrees that *el cáncer* is attracted by surface blood. Some informants, in addition, say that pregnant women, especially in the last months, are endangered by the heat of *el cáncer*, which can further raise their already high temperature level. Many informants believe it is unwise to attend a wake immediately after bathing, which "opens the pores" thus making an individual especially susceptible to the heat of the cancer. The latter belief formerly was so strong that people did not bathe during the last three days of Easter Week, when the *Santo Entierro*, the larger-than-life-size image of Christ crucified, lies on an open bier in church, threatening worshippers with its cancer.

*El cáncer* has a characteristic that sets it apart from all other sources of heat: it can stick to the clothing of a mourner who, if she comes into contact with a vulnerable person, can pass along the heat. In earlier years the husband of a post-parturient was expected not to go to a wake lest he bring the infection home on his clothes. On one occasion Mary's principal linguistic informant stopped by to say hello on her way home from a wake. Learning that Mary was suffering from a cold, she refused all entreaties to enter our room. An hour later she reappeared at the door. She had gone home, bathed, and changed her contaminated dress and, knowing that she was now no threat to the patient, had come back. Another example from my field notes further illustrates this fear.

Field note (7/7/66).

When we arrived in Tzintzuntzan three days ago we found Pomposa Rendón, an adult daughter of Don Trinidad Rendón, staying in Micaela's house,

recovering from a recent apendectomy. How come? On the Thursday preceding our arrival her father's brother, Jesús, had died. Her father and mother, of course, had to help with the wake, and be in contact with the corpse. Had Pomposa stayed at home, even avoiding the wake, she explained, she would still have been threatened by the cancer since it would obviously stick to the clothing of her parents, who would thus carry it home to infect her. She did the prudent thing and simply got out of the house for the nine days until, after the *novena*, a final prayer session in the house of the deceased, her parents would bathe and wash their clothing.

At wakes a *chilacayote* squash (Very Cold) is split open and placed beneath the bier to draw as much cancer as possible. The squash is believed to be "cooked" by the cancer's intense heat. It turns black (so it is said), and after the corpse has been removed from the house the *chilacayote* is dropped into an abandoned well or buried in a remote spot. For *angelitos*, infants and young people who die in a state of innocence, the abundant flowers that surround the corpse are also thought to *chupar*, to suck the cancer, thus reducing the threat to young mourners.

#### Envy:

The heating threat of envy, which causes *mal de ojo*, the evil eye, differs greatly from that of other emotionally based sources in that the object the envier desires - usually an infant or small child - and not the envier (and not the mother of the child, the person envied) is placed at risk and usually falls ill. This heat, while internally generated insofar as the envier is concerned is, from the point of view of the victim, an external source. *Mal de ojo*, whose symptoms are constant whimpering, a "sad" face, one eye smaller than the other, and sometimes vomiting and diarrhea, is the only illness caused by envy. In the common pattern a woman admires or compliments a child, thereby "irritating" its blood (heating it to the highest possible point), and the evil eye quickly follows unless quick action is taken. But why do admiration and compliments threaten a child? Because at some level they are sensed to express envy (in this case of the mother), with implied aggression toward the desired object: the admirer symbolically says "I want the child," and if I can't have it, it will suffer (Foster 1972).

There is one way, however, that people can admire an attractive infant or child and still foil the evil eye: they slap the child lightly on the face or buttocks, thereby symbolically disavowing their admiration and eliminating the heat. Since no one can be sure whether she or he is cursed with the "eye," it is always good manners to engage in this symbolic act. This is impossible, of course, if unknown to the mother someone silently admires the child.

from afar. Table 2 indicates that envy places a person at risk. But this is quite different from the usual at risk state in that a second insult is not required to produce illness. Once "eyed," a child will fall ill unless the admirer takes the action described above. To some extent *bilis* follows the same pattern, for usually it automatically follows a bad fright unless the *bilis* tonic is quickly drunk.

### Eclipse:

Formerly it was believed that a solar or lunar eclipse occurred when the two astral bodies "fought." Since fighting implies anger, an emotion that produces heat in human beings, it is reasonable to conclude that an eclipse radiates a very great heat. Opinion is divided as to whether an eclipse exudes a metaphoric Heat; some say yes, while for others the heat is thermal. Whatever its form, this heat threatens life and possessions in two ways: It "burns" the buds and blossoms of fruit trees, so that the fruit does not develop, and it "eats" the lip of a foetus, causing a child to be born with a harelip. To protect fruit trees, when a forthcoming eclipse is announced on the radio, many people still string red ribbons or yarn through their trees as protective amulets. Friends who do this assure me that the protection is perfect!

In earlier years, to protect their unborn children from the threat of a harelip pregnant women bound a small piece of steel (Cold) - a knife blade, key, safety pin, or nail - in their abdominal sashes to counteract the heat of an eclipse. Elderly female friends tell me that this custom was universal during their child-bearing years.

### Vapores:

"Vapors" are analagous to *el cáncer* in that they represent natural but pestiferous heat leaving a body, in this case that of mother earth. By the end of the dry season in late May the earth has become very hot from the heat of the sun. With the first rains this heat, conceptualized as *calor encerrado*, as in a human being with heat buildup, begins to be released in the form of hot vapor, continuing until the earth is again cool. A person exposed to the steaming effects of rain on parched earth risks asthma, fever, pneumonia and similar ailments. Some elderly people refer to this dangerous period, especially at the height of the summer rains in July and August, as *las canículas*, as the canicular days, the dog days, and it was believed that this was a particularly unhealthy time of year. *Vapores*, like an eclipse, do not place a person at risk: they lead directly to illness.

For at least one elderly Tzintzuntzeño the threat of *vapores* is as great as ever.

Field Note 9/3/92

Micaela and I were sitting on the upstairs porch, enjoying the late afternoon sun on the clouds and mountains. The day had been hot - above 80 degrees Fahrenheit - and then it had lightly rained. The concrete floor of the terrace in front of us had baked in the sun, but, cooled by the rain, it had dried off. Micaela's 16-year old granddaughter, Brenda, just beginning nursing studies in Pátzcuaro, to which she commutes daily, threw herself face down on the terrace, books in front of her, to study her lessons. In great alarm Micaela told her to get up immediately, *para que no te entren los vapores*, "so the vapors don't enter you." Brenda, comfortable where she lay, hesitated. Micaela, more urgent than ever, ordered the young woman to get up immediately, lest the vapors, which she was sure were rising from the concrete, cause bronchial problems. Brenda, knowing when not to pursue an argument, quietly arose and seated herself at a small table under the porch roof.

### Metaphoric Heat:

#### INTERNAL CONTACT:

Metaphoric heat, whether internal or external, affects the body only by direct contact; unlike thermal heat, it never radiates. The following are the most common forms of internal metaphoric heat that either raise body temperatures or lead directly to illness.

#### Ingestion of Very Hot Food and Drink

Very Hot foods include such things as chocolate, peanuts, honey, wheat, alcoholic drinks, turkey in mole sauce, and tripe, the last two rather more because of the Hot spices used in preparing them than because of the intrinsic nature of the meat itself. When these foods and beverages are consumed in immoderate quantities, and unless balanced with Cold foods at the same time, a diner is likely to *foguear* his stomach, raising its heat to the point where he is at risk from thermal and metaphoric forms of heat and cold. Thus, exposure to the hot sun or a pottery kiln threatens diarrhea and strangury, while consumption of additional Very Hot foods (e.g. honey with alcohol) may cause typhoid fever. The thermal cold threats are *aire* striking the stomach, bathing, iced drinks, and Very Cold foods such as watermelon. A major

overload of Very Hot foods can also lead directly to both diarrhea and constipation.

#### Biomedicines and Remedies:

Most physicians' prescriptions, both oral and injected, and most over-the-counter drugs, such as aspirin, are deemed to be Hot, thus putting the body at risk both from cold and additional heat by raising its temperature to the at risk level. People taking doctors' "*medicinas*" (which are semantically distinguished from the *curandera's* "*remedios*"), are advised to avoid thermally cold food and drink, to stay out of reach of thermal heat such as the sun or cooking fires, and to avoid alcoholic beverages, which are hot. So rigorous and widely accepted is this latter proscription that the standard way of refusing the offer of an alcoholic drink without insult is to say "I am taking medicine." Yet with respect to bathing, informants are equivocal. Some say one should avoid bathing, while others report that physicians prescribe bathing for their patients. While physicians doubtless are thinking of cleanliness, the local interpretation of this advice is to reduce the heat occasioned by Hot therapies. This conforms to traditional practice: when a patient has made use of Very Hot herbal remedies such as Spanish broom or marrow, it has been the custom to quickly bathe.

#### EXTERNAL CONTACT:

##### Contact with Hot Substances:

While contact with metaphorically Hot substances places a person at risk to thermal insults, principally cold, it does not in itself lead directly to illness. A woman who massages another person with alcohol, Ben-Gay ointment, or the herbs *artemisa* or *chicalote* (all Hot), must not wash her hands for 24 hours or more. The person massaged must also observe the same rule. Natividad Peña massaged her husband Vicente with Ben-Gay for some days after he fell and badly bruised a shoulder. One afternoon when I dropped by it came out that she did not plan to massage him that evening. Why? He was to take his weekly bath the following morning so, of course, a Hot massage was out of the question. Baptism heats the body of an infant because of the heat of *los santos oleos*, the holy oil with which it is anointed. The infant must be carried carefully bundled up against *aire*, and not bathed for a day or two.

Like wheat grains, wheat straw is Very Hot, and people who have taken to weaving straw figurines in recent years sometimes worry that they are threatening their health when they dip the Hot straw in water to make it pliant. The death of Don Plácido Pablo is widely attributed to this dilemma.

Field note (8/13/78).

This afternoon I talked with Fidel Ramos about our mutual friend, Don Plácido Pablo, who had died since my trip earlier this year. Don Plácido, a pure-blooded Tarascan Indian, had contributed mightily to the economy of Tzintzuntzan, first more than 30 years ago by introducing ornamental *petate* mats woven of tule reeds and then more recently by introducing figures woven of wheat straw (*popote*). Of what had Don Plácido died, I asked? From weaving wheat straw constantly, which must be continually dipped into water to keep it supple, replied Fidel. Wheat straw, of course, is Very Hot, and the repeated thermally cold insults on his hot hands caused Don Plácido to suffer terribly from rheumatism, and this finally killed him. He was in no danger as long as he stuck to tule reeds. These are Cold, as are most aquatic plants, so wetting his hands in cold water constituted no threat. It was only when he switched to Hot wheat straw that the trouble began.

Candlemakers must follow the same precaution, keeping cold water off their hands, since not only is beeswax Very Hot, but the heat of the fire that keeps it liquid for pouring further adds to the danger.

#### COLD INSULTS TO HEALTH:

The experiences that cool a body are considerably fewer than those that heat it. They can be looked at in two ways: both as loss of heat, from any experience that removes blood from the body, and as the invasion of cold from external sources as, for example, from wet feet. As with thermal heat, thermal sources of cold insults are more varied and greater in number than are metaphoric sources. Cold sources are striking in that a majority lead directly to illness, while a minority only place a person "at risk" of further insults. No major source of cold does both. This pattern is essentially a mirror image of heat sources, in that only a small minority of the latter lead directly to illness, while the great majority place a person "at risk," and several are capable of doing both. Table 3 lists the cold insults that place a person "at risk" or lead directly to illness. The columns follow the same sequence as described for Table 2.

Table 3. Cold Sources Causing Illness or "At Risk" State

Source of Cold	Places Person "At Risk"	Causes Illness	Principal Threats
Thermal:			
<i>Frío, Aire</i>	—	X	—
<i>El Serno</i>	—	X	—
Bathing, getting wet	X	—	Thermal heat
Cambio de tiempo	—	X	—
Cold food, drink	—	X	—
Loss of blood:			
Child birth	X	—	Thermal cold, Cold food; <i>el cáncer</i>
Menstruation	X	—	Thermal cold, Cold food; <i>el cáncer</i>
Accidents and surgery	X	—	Thermal cold, <i>el cáncer</i>
Metaphoric Cold:			
Pottery glaze	<i>alfarecía</i> nursing	for child	(mother washes hands)
Cold food, drink	—	X	—

### Thermal Cold:

#### FRÍO AND AIRE:

Earlier in this chapter the relationship between these two terms was discussed. *Frío*, it was pointed out, is the more comprehensive concept, always present in *aire*, but also present in the world in general. *Aire*, in contrast, is simply a carrier of *frío*, one of the many ways in which cold can strike a victim. However, as threats to health, as agents that place a person "at risk" from below-optimal heat levels, they can be examined as a unit. *Aire* and *frío* differ largely in how and where they strike. *Aire* radiates, while *frío* enters the body through direct contact. *Aire* always, and *frío* never, strikes the head, causing such things as *punzadas* (shooting pains in the eyes), earache and headache. Toothaches may also be caused by the entry of *aire* into the mouth; this is one reason why people when outdoors at night or in the early morning

hours are careful to cover their mouths and noses with rebozos or serapes. *Aire* can strike the lungs through the shoulder blades, and it can strike the bare stomach of a recent diner. In all these cases it is of course cold that causes the damage, but *aire* is the vehicle of the cold, and when an explanation of the cause of an illness is given, the terminology almost always is *aire* and not *frío*.

On other exterior parts of the body *frío* strikes directly, in the form of cold water on the skin, of a cold tile or cement floor in contact with a bare foot, or from a pool of water that wets the feet. For aches and pains in the limbs and lower torso, one says "It's from cold." But for most pains in the head and upper torso the culprit is *aire*. It is almost as if *aire* and *frío* have agreed to divide the human body, the former claiming the top and the latter the lower half, and rarely does the one poach on the other's territory.

*Aire* and *frío* differ in still another way. *Aire*, as radiation, can only attack the body from outside. *Frío*, in contrast, can also threaten the body from within, in the form of a drink of thermally cold water, ice cream, or food taken directly from a refrigerator.

#### EL SERENO:

The word translates into English in straight-forward fashion as "dew", hardly a health threat. But to the Tzintzuntzeño *el sereno* is a mysterious, mist-like, icy-cold essence that falls from the sky on cold, clear nights. No one has seen *el sereno* fall, but people point to morning dew as evidence that it must have fallen, since there is no other way to account for moisture on vegetation out of a clear sky. *El sereno* does not place a person "at risk"; it directly harms. The intense cold of this early morning essence can cause headaches, and if a drop of the moisture falls in the eye of someone so careless as to sleep outdoors, without shelter, a cataract or even blindness will follow. The frosty blind eye of one elderly woman is attributed to having in her childhood slept on the porch of her home where, in spite of the roof over her head, *el sereno* had found her.

#### BATHING, GETTING WET:

Water and moisture constitute a double threat in the Tzintzuntzan humoral system. As has been pointed out earlier in this chapter, for a body "at risk" from above-normal temperature, caused by such activities or conditions as eating, exercise, or illness, exposure to water in many forms is a principal precipitating episode that tips vulnerability into real illness, or aggravates already existing illness.

But water also, in the form of bathing, a soaking in a rainstorm, wet feet from a puddle of water, dampness from the chill of a raw, cloudy day, or from working with potter's clay (Cold because of its moisture content), can also cause illness directly, or place one "at risk" by lowering one's normal body temperature. All bathing, whether in cold water (metaphorically Hot) or in hot water (metaphorically Cold) "refreshes" and cools the body by "opening the pores," thus placing it at risk from thermal heat (in the usual forms of the sun's heat, a hot pottery kiln, or a cooking fire). Almost all "breaking out" illnesses, whether on the skin or in the mouth and throat, such as German measles, hives, warts, erysipelas, sties, fever sores, and tonsillitis, may be attributed to exposure to radiant heat after bathing. A person chilled by wet clothing stays away from a hot kiln or cooking fire lest their heat produce the same kind of hot *vapores* that pour out from the hot earth when it first rains. *Fogazos* (fever sores) and *hervor de sangre* (goose pimple-like skin eruptions) frequently are cited as evidence of the consequences of ignoring this stricture. Cold invades the body through the lower extremities when a person gets his feet wet outdoors or steps barefoot on a cold tile or cement floor; the normal evenly distributed body heat is compressed into the chest, neck and head, to produce the condition known as *calor subido* ("risen heat"). This is one of the most frequently cited of all explanations of illness. Sore throat, tonsillitis, abscessed teeth, earache, pains in the eyes, fever sores — to name a few — are all attributed to it. The healthy respect people hold for *calor subido* is illustrated by the following two vignettes.

Field note (9/22/64).

This morning I quizzed Natividad Peña about various aspects of Hot and Cold as she sat molding pots. Two small granddaughters played nearby. It began to rain, and Margarita, the elder, took off her shoes to splash in the pools of water that were forming. In considerable alarm, her grandmother interrupted our conversation to shout at Margarita, "Put on your shoes, put on your shoes *para que no te suba el calor*," so that "the heat doesn't rise on you."

Field note (1/1/85).

This morning I called on Nati to ask ethnomedical questions. We decided to sit near her kiln, which she had begun to fire. She brought out two little chairs, and in front of mine she placed a small reed mat, a *petate*, under my feet. Although the ground seemed perfectly dry to me, Nati insisted that it was "because of the humidity." She didn't want me to run the risk of *calor subido*, of "risen heat."

Yet for the younger generation today, "risen heat" probably is no longer viewed as a threat, as the following observation indicates.

Field Note (9/9/92)

This morning I stood with Sara Villagomez at the door of her home. It had rained heavily in the night, and the unpaved street in front of the house still held pools of water. A half dozen children, ages five to ten, wearing plastic sandals, splashed happily in the water. I remarked that *calor subido* no longer appeared to be a threat to health. Sara laughed, and replied, "This water must be very medicinal." Why? Because it had fallen from the sky, with heaven implied, hence was blessed and would do no harm. Sara is 54 years old, knows a great deal about traditional medicine, yet is willing to accept the fact that *calor subido* apparently does not cause upper respiratory and other problems.

### CAMBIO DE TIEMPO:

In the absence of more obvious explanations, symptoms often are attributed simply to *un cambio de tiempo*, a "change in the weather." Cold is more commonly cited than heat, when speaking of a "change," but heat also plays a role. One summer Mary experienced a series of colds and gripe. Friends were concerned, and often asked how she was, at the same time speculating as to why she should be suffering. I was impressed by the frequency with which the words *cambio de tiempo* were uttered as an explanation. Since her indisposition was obviously a cold, it was reasonable to blame it on the cooling effect of daily downpours, particularly on the part of those who knew that, as a coastal Californian, she was unaccustomed to summer rains. When the cold winter days, often with light rains, turn hot in the spring, a time of "change in the weather" is ushered in. March to May was the usual period when smallpox epidemics broke out, every four or five years, and "such very hot weather" was assumed to be responsible.

### COLD FOOD AND DRINK:

As with thermal heat, so are there sources of thermal cold that usually lead directly to illness rather than placing a person at risk of further insults. Cold food and drink are the principal culprits. Iced drinks, ice cream, food directly taken from the refrigerator, and cooked food that has cooled are thought to lead directly to stomach and intestinal troubles. The strength of this belief for one villager is illustrated by the following vignette.

Field note (12/22/83).

Last night with drinks we broke out the Gouda cheese Mary and I had brought from Berkeley, and kept in the refrigerator for several days. Lola cut

it in bite-size pieces and placed them on a plate. I passed the plate to Micaela, who has been suffering from a cold, with a congested chest. Lola was horrified and said that her mother could not eat the cheese because it was *frío*, which I assumed to mean metaphorically Cold. To make sure I asked Lola the *calidad* of the cheese. To my astonishment she replied, "It doesn't have a quality." She in turn was surprised when I said I believed fresh cheese is Cold, to which her mother agreed. I then asked Lola if it was "because of the cold temperature of the cheese" that her mother could not eat it, and she said "yes," that since it came directly from the refrigerator obviously it was cold. If her mother waited until the cheese reached room temperature she could eat it without danger.

Most people believe that the major part of every meal must not only be cooked, but be thermally-hot as well. Consequently, left-overs from earlier meals, including meat dishes, vegetables and tortillas are always reheated prior to serving. An intense stomach ache aptly named *miserere* ("misery") is blamed on eating cooked fish that has been allowed to cool. Friends have expressed amazement that Americans routinely make entire meals of salads and cold sandwiches; they wonder why we do not fall ill because of this all-cold diet. The rationale for the caution shown with respect to cooling food and drink (both thermal and metaphoric) is that the natural heat of the stomach will be insufficient to "cook" what has been eaten. Diners who fear they have been indiscrete in eating cold or unwarmed food may drink teas of Hot herbs to augment stomach heat, thereby aiding digestion.

#### LOSS OF BLOOD:

Since a good supply of blood is believed necessary to maintain optimal body warmth, quite logically loss of blood during childbirth and menstruation, and from accidents and surgery is assumed to cool the body. Significant loss of blood puts a person at risk from a number of threats, but it does not *per se* cause illness (short of bleeding to death).

#### Childbirth:

Childbirth is described by informants as both a heating and cooling experience: heating "from the perspiring of labor," and cooling because of loss of blood and the hot foetus. Whether one prefers to view childbirth itself as predominantly cooling or heating, it is clear that the post-partum 40-day *cuarentena* is believed marked by below-optimum body temperature, for most of the care during this period is designed to maintain and restore heat to the mother's body. Traditionally, new mothers were kept bundled up against *aire*, unbathed for two weeks. They were further protected from

additional chill by a proscription against Very Cold foods such as *chilacayote* squash, mutton, and turkey, unless tempered by mole sauce or other Hot condiments. Post-parturients also did not sew because the Cold of the steel needle threatened their eyes: *se acaba la vista*, the eyesight gives out, is the way the danger is expressed.

Special dishes thought to be metaphorically Warming but not "Irritating" were — and still are — favored: hen's broth, toasted tortillas, dry cheese, beef jerky, and *champurrado* (chocolate mixed with *atole blanco*, a bland maize gruel). Very Hot foods such as peanuts and wheat products, except for day-old bread, are prohibited. They do not harm a new mother, but they so heat her milk that the newborn develops *chincual* (diaper rash) or breaks out with *eczema*. *El cáncer* is the principal form of heat that threatens a new mother.

#### Menstruation:

Formerly women did not bathe during their period for fear of *frío en la matriz*, a cold womb, generally thought to be the reason a woman does not conceive, and they avoided thermally cold food and drink, and ate cautiously of metaphorically Cold food. Some did not sew because of the Cold steel needle. As with a new mother, *el cáncer* is the principal heat threat to a menstruating woman.

#### Accidents, Surgery:

In contrast to post-parturient and menstruating women, patients who have lost blood from accidents or surgical operations are more threatened by heat, especially thermal, than by cold. They should avoid both the sun and hot pottery kilns lest they be struck by *disipela* (erysipelas), they should not "agitate" themselves by undue physical exertion nor, as previously pointed out, should they risk the heat of *el cáncer* by attending a wake. A few metaphorically Hot foods, such as chiles, are to be avoided, but very cold food and drink, both thermal and metaphoric, are considered to be a greater hazard.

#### Metaphoric Cold:

That cold as a health threat is primarily a thermal condition is illustrated by the paucity of metaphoric Cold insults recognized in Tzintzuntzan: the principal ones are *greta* (pottery glaze), and Cold food and drink.

## GRETA:

Pottery glaze - a yellow-red litharge - is considered to be one of the Coldest of all substances. Grinding glaze on a metate chills a woman's hands and body, and the fine dust invades her lungs, cooling them and the milk they produce. She herself is not threatened, but her Cold milk is thought to give her nursing child epilepsy-like attacks (*alfarecía*). Since today glaze is purchased in pulverized form, and mothers are spared several hours a week of close contact with the dust, *alfarecía* is now said to be rare. Formerly nursing potter mothers were advised before picking up their child to wash their hands and rub them with alcohol (Very Hot) so their touch would not chill the infant. They also drank chocolate mixed with rue (both Very Hot) to warm their milk.

## COLD FOOD AND DRINK:

The metaphorically Cold foods that appear most frequently in my notes as threats to health, and the conditions which they are reputed to cause, are turkey without Hot mole sauce (surfeit, colic), *tuna* cactus fruit (constipation), watermelon (*alfarecía*), broad bean soup (surfeit, vomiting, constipation, and even death), *pulque* beer made from maguey cactus sap (pneumonia), and *mescal de maguey*, the roasted heart and stalk of the cactus, (violent diarrhea). Other Cold foods considered dangerous if eaten to excess are lamb, goat, fresh cheese, pears, peaches, *chilacayote* squash, and the *acúmara* lake fish.

My notes indicate that metaphorically Cold food and drink do not place a person "at risk;" they lead directly to illness. If a diner is already at an above-optimal heat level, because of exposure to a hot pottery kiln, or the sun, even small amounts of these Cold foods are dangerous. If the diner is at a temperature equilibrium, more can safely be eaten.

end  
"Supplemental..."

threat to pregnant women. Logically, metaphoric heat would seem also to be a threat, but no one has suggested that this is the case. Most informants feel that Cold food and drink are not threats during pregnancy, but one woman insists the opposite, that they *are* dangerous. Obviously, just as there are variations in individual opinions about the humoral qualities of most foods and medicinal herbs, and even differences in the answers of a single person from one occasion to the next, so are there variations in individual views of the health consequences of different heating and cooling experiences.

From this composite picture a major conclusion can be drawn: Hot and cold sources that influence body temperatures and cause illness play very different roles. *The great majority of thermal and metaphoric hot threats simply place the body "at risk," without actually causing illness.* By compounding these insults, one can of course bring on illness. Relatively few heat sources directly cause illness, and most of those that do also place a body at risk. In contrast, *a majority of sources of cold, both thermal and metaphoric, directly cause illness, and only a minority place an individual at risk.* In the total picture of illness, the consequence of heating experiences is to prepare the body for cold strikes which, then, are the primary cause of illness. Hot insults to cold bodies strike largely in one situation only, when a person has bathed, or been caught in a rain storm.

Turning to etiologies, the most remarkable thing about illness causality concepts in Tzintzuntzan is that almost all illness is attributed to natural causes, and not to supernatural or magical sources. This characteristic, of course, marks humoral medical systems in general, and it stands in striking contrast to the etiological beliefs found in tropical South America, indigenous North America, Africa, palaeoarctic Siberia, and Oceania, where witchcraft, soul loss, object intrusion, possession, breach of taboo, and the ghosts of ancestors are the most frequently named causes of illness. Although some Tzintzuntzeños believe in witchcraft, and seek out *curanderas* who divine with playing cards and use non-humoral treatments, the vast majority of illness episodes I have recorded, and informants' accounts of cause and treatment in general, ignore sorcerers, witches, ghosts, angry deities and the like. Supernatural beings do not cause illness.

When, for example, the saints are addressed it is not to placate them, it is as advocates who will help with healing. Nor are Tzintzuntzan views about causality particularly a reflection of a taut social fabric, of interpersonal stresses and strains. In a few illnesses, including *bilis*, believed caused by anger or fright, *nervios* ("nerves"), and the evil eye, which reflects fear of envy, interpersonal problems may be involved. But, unlike those traditional medical systems I have called "personalistic" (Foster 1976), in Tzintzuntzan people (insofar as illness is concerned) are far more concerned with their