

Burying the Umbilicus: Traditional Medicine on the West Coast of Mexico

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*Tourism is a poison if it is not controlled;
look at Acapulco.* — Alberto¹

After giving birth, indigenous women in rural West Mexico traditionally bury the umbilical cord underneath a tree on their land. This ritual symbolizes the planting of roots for their child in the land and in the community, thus reaffirming the child's cultural connections. It is this people/land connection that passes from one generation to the next, demonstrating the essence of human culture. It is easy to see this relationship in the word itself. Culture (*cult*, meaning worship and *ure* meaning earth) links the land and its life-giving benefits to the health and well-being of the family and reinforces daily activities and rhythms of nature in women's lives. It is in a peoples' traditional medicine that we see the fullest expression of culture. The México of the 21st century is a place of many cultures created and recreated in response to changing human and environmental forces, yet it retains the profound cultural connection between the peoples and the land exemplified in traditional medicines and healing practices. In its complex cultural geography México is richly rewarded with a diversity of traditional medicines used to treat illness and restore health by urban and rural families alike.

There is a considerable body of conventional scientific research conducted over the last 50 years that documents and evaluates México's medicines and healing practices. The traditional practices of rural West Mexico derive from indigenous peoples' customs and traditional spiritual beliefs that they have in recent times blended with Greco-Roman methods, re-

ligious beliefs, and materials introduced by the Spanish. These practices historically represent an important body of women's knowledge and power, and an essential part of rural Mexico's health and healing system.

Peoples of *comunidades indígenas* along México's west coast construct and reveal identities at many levels. Their cultural reality reflects the created and recreated dynamics of community life and the practice of healing traditions. The research I conduct in West México centering on women's practice of traditional medicine acknowledges this diversity and the "hidden histories" among people living in México.

On the west coast, traditional birth attendants, *sobadores*, *curanderos/as*, and *herbalistas* are a part of the common social reality. *Remedios caseros* are also widely employed in households. While these leading practitioners in the healing system continue to serve the population, rapid social and economic changes in West Mexico since the late 1970s have affected—in many instances adversely—the practice of traditional healing. What women healers think and how they feel about these changes, what it means to them personally and collectively, and whether their knowledge remains a part of the sustaining community knowledge in the face of rapid social and economic change has not been closely examined and is, therefore, not well understood. This essay is aimed at revealing the context and practice of traditional healing in a Mexican community as seen and explained by healers who continue to carry the responsibility for treating the ill and restoring health to families and communities.

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1. A local resident given a pseudonym to protect his identity.



Figure 1. Yelapa Hillside, photograph by Robert Harper (1958).

The Land

Cabo Corrientes is a *municipio* in the state of Jalisco. It encompasses mountain towns in pine forests at 600m altitude and villages in a verdant sub-deciduous tropical forest that lies along the Pacific coast. It is 100% rural and subsistence oriented: 60% of the working population is made up of laborers, farmers, and fishers. Cabo Corrientes has one of the least developed infrastructures of all municipalities in Jalisco and México as a whole, with 50% of the population without potable water, electricity, or phone service (Instituto Nacional de Estadística y Geografía, 1999). As development planning commenced in 2000 electricity became available in the remote community. A large infrastructure project to develop the coast is now underway; with a large dam, Presa Los Panales, planned to bring water to the coast—ostensibly all designed to promote high-end (eco)tourism development of the last virgin land in the region.

The region is a microcosm of rural Mexico's growing chronic health problems with diabetes, heart disease, arthritis, and pain. The bi-directional migration pattern of Mexico's sons and daughters immigrating to the United States, and US retiring "snowbirds" flocking to



Figure 2. Yelapa Hillside, photograph by Meredith Parr (2009).

the south significantly changes the rural economy and culture. There is a moderately large spectrum of dependence on tourism activities as well. The villages, towns, and comunidades of the municipio share in common proximity along the corridor between Puerto Vallarta, Tomatlan, and Manzanillo, that is now planned as the next stage of infrastructure and land development along the west coast.

Cabo Corrientes and most of western México is mountainous with active volcanoes to the south in the state of Colima and to the north in the state of Nayarit. The region contains a complex of variable niche climates, highland jungle, rivers, and streams. The Sierra Madre mountain range slices through the region pressing against the coastline as it slopes to the southeast. Agriculture and food gathering are controlled by the changing seasons, ranging from a mild and sunny winter to a hot and dry April and May, followed by a hot, rainy and humid summer and fall.

As with other regions of Mexico, the area in and around Cabo Corrientes is under intense development pressure. West Mexico is experiencing several intersecting social-historical changes, which have a profound effect on the psycho-social-cultural health of rural

families and communities and are relevant to the focus of this study. These changes are best understood when viewed through an interdisciplinary lens. These changes include:

1. The exponential growth of development implemented by consortia of government agencies and the private sector and supported by university-based research with a special emphasis on the promotion of sustainable growth and eco-tourism;
2. The acceleration of land ownership settlements and jurisdictional relationships between comunidades indigenas, ejidos (communal land used for agriculture), and the federal government resulting in increased land sales to private interests;
3. A multi-sector effort to recognize and promote indigenous and rural peoples' life-ways and their contributions to local culture in the region; related to the growth of sustainable tourism and the trends toward "culture-based vacations;"
4. The recent federal designation of Natural Resource Protected Site in the Cabo Corrientes region (among the richest in natural resources in the country and moderately depleted from extraction);
5. The growing availability and use of complementary and alternative medicine often integrated with traditional medicine and allopathic medicine, and;
6. Concurrently, an aging population and epidemic rates of chronic illness that demands public health innovations to address the care of under-served populations.

While there is an extensive body of literature on the scope of traditional medicine

throughout much of Mexico, rural West México has been the focus of relatively little traditional medicine research. None of the extant research has improved our understanding of native women and men's views as traditional practitioners in the context of their personal meaning-making systems. There has been competent archaeological and ethnobotanical research in this region. Ynes Mexia arrived by boat in 1926 and took a canoe to Quimixto, identifying the plant *hierba de arlomo* (*Euphorbia mexiae* Standl.) which was named in her honor. Joseph Mountjoy has conducted archeological investigations in the region, shedding light on material culture and practices.

In the modern age, the practice of traditional medicine has long been the practice of poor people and thus if it is not entirely invisible, the surrounding metropolitan society does not widely celebrate traditional health systems. In recent years, however, Complementary and Alternative Medicine (CAM)*, coincides with growing official recognition of traditional practices by government agencies. Homeopathy is a major CAM integrated into the national health system of Mexico. As noted earlier, traditional birth attendants, sobadores, curanderos/as, and herbalistas continue to serve rural communities even as remedios caseros are still serving households in Cabo Corrientes. Yet as is evident in the US among traditional healers, research and empirical data in México suggest a significant tendency of patients and their physicians failing to communicate effectively about their use of herbs or products. Not only does this tendency continue the invisibility of traditional practices, but failing to mention the ingestion or use of traditional medicines potentially poses drug-herb-nutrient interaction problems. Even as traditional medicines and healing practices remain pressed into the shadows, the availability of powerful pharma-

* in many respects a field that may be considered "secularized" traditional medicine, or denuded of their cultural context)

ceuticals are being used (and abused) for mild or common conditions in rural areas, with and without a physician's care.

México's aging population is rapidly growing. Diabetes is the leading cause of death in Mexico among adults ages 55-64. The incidence of chronic disease generally—including physical and mental illness—is increasing, placing greater burdens on the public health system. An estimated 17 million cases of mental disorders in the year 2000 reflects a 62% increase over the previous 15 years. Depression is co-morbid in numerous somatic diseases (both as a marker and a risk factor); it also figures bi-directionally in chronic pain, diabetes, and cardiovascular disease. Mexican health care reformers recognize the need to integrate physical and mental health services more effectively. In some regions, the integration of traditional medicine practitioners is already coordinated with *Instituto Mexicano del Seguro Social* (IMSS).

While there is widespread use of traditional medicine in the coastal region of western México, there is little understanding of this so-called informal health system, nor of the effect that rapid social and environmental change has on its practice. Women who are traditional medicine practitioners and healers are marginalized and the young do not receive encouragement to use traditional healing systems. Many of the region's young are disproportionately represented in migration north, thus precipitating the loss of young people who may follow in their mother's (or father's) path to replenish healers. There has not yet been a systematic effort to integrate the fairly large number of women community health providers into the system of rural health. These rural healers are poised to play an important role in the care of individuals for whom self-care is the key to quality-of-life, a key to successful treatment of chronic diseases which require daily health

promotion and community support for self care. These providers represent a significant source of practical and empirical knowledge that can complement public health efforts. Additionally with the attendant growth of "cultural tourism" and popular interest in traditional medicine it is likely women in this region will actively and increasingly participate in the role of providing care for or educating visitors. A cost effective method for providing support for chronic care can be realized by supporting (and thus empowering) community healers. Such an effort must also promote the sustainability of natural and cultural resources that provide sources for healing (traditional plants, animals, and foods, for example). This approach also encourages cultural continuity and sustainability of environmental diversity so central to the health and well being of rural citizens.

Location

The culture of the Comunidad has its roots in the 2,500-year influence of what modern scholars now refer to as the Teuchitlán Tradition and the 400-year dominance of the Purépechas in the eastern part of west Mexico. The Teuchitlán Tradition is said to have begun in BCE 1,500 in the lake-beds area to the west of what is now Guadalajara.

The region may have been influenced by the Olmec culture in southeastern Mexico and from a 3,000-year trading relationship with what is now the west coast of Ecuador. Trade between the peoples of the Teuchitlán tradition (in what is now central Jalisco State) and later the Purépecha (in what is now Michoacán State) with the peoples of what is now coastal Ecuador (Mantéña in Manabi Province) is confirmed by the evidence of textiles, metals fabrication, pottery, and burial shaft practices for the dead as well as the presence of foods originating in both places. Constructing a

centralized chieftain-ruled society in round palapas and circular cities on the lakeshores, the culture emphasized civic ritual and ceremony, ancestor worship, and organization of personal power around the practice of accumulation and ceremonial give-away.

The civilization of western México is different from societies in the Valley of México or from the Mixé, Zapotecan, and Mayan regions to the south, while ritual, ceremonial, calendric, mathematical, and many agricultural and social practices place western México's evolving cultures in the broader civilization of what we know as Mesoamerica. West coast trade included the acquisition of the beautiful *Spondylus* oyster shell off the coast of present-day Colima, south of Jalisco. The shell of this oyster was so prized by the peoples of the Andes in Peru that great effort was expended to acquire large quantities for use to make pendants and finely ground shell to dust the pathway for the Quechua-speaking Inca royalty seated on a platform attended by four to six carriers. The trade included alpaca wool textiles worn as garments and as blankets; pottery for placement in burial shafts; dried beans, maize, and hairless dogs carried by balsa wood sailing rafts over the 6,440 kilometer north-south open sea shipping route; and technological knowledge (including smelting of copper and silver) as well as fish hooks, sewing needles, and jewelry. The relationship continued until 1529 when the invading Spanish disrupted the Toltec and Mayan-based civilizations in Mexico and, two years later, the civilizations along the Andean mountain spine. The devastation brought on by the advance of small pox, influenza, typhoid, cowpox, mumps and other bacteria and viral epidemics, combined with military actions made easy by such diseases, led to economic, cultural, and social collapse in 1521.

Around the time when complex societies

all over the Americas were experiencing stress and collapse, the Teuchitlán Culture came to a stop about 700 AD. In a relatively short time, the Teuchitlán Culture was transformed (beginning about 1300 CE) into the Tarascan State, which was fully formed by 1350 CE. The Tarascan Empire ruled much of Western Mexico before and contemporaneously with the Aztec Empire. It was located in the high valley of what is now the state of Michoacan with its primary location of power in Tzintzuntzan on Lake Pátzcuaro, south of the city of Guadalajara. The so-called Tarascan Empire reigned for 175 years and came to an end in 1525 when Spanish invaders seized Tzintzuntzan.

Despite its intense military culture, the México of the Aztec Empire in the Valley of the Moon failed to invade Tarascan territory and consequently were blocked from seizing control of Tarascan territories that eventually included most of Michoacán, parts of Jalisco, Guerrero, and Colima. The Tarascans were slowly subdued by the Spanish, though the Tarascan culture remains a strong influence in Michoacan to this day. After three hundred years of rule by the Spanish Crown, the United States of México was declared in 1820, producing a mixture of strong and weak influences in western México over the last 185 years.

The government of the United States of México in México City, Federal District recognizes the *Comunidad Indigena de Chacala* as a semi-legal entity with a standing that predates the formation of the Mexican state in 1821. The Jalisco state government and the Municipio government in Tuito have less inclination to recognize the political standing of the Comunidad.

Comunidad Indigena de Chacala

The Comunidad Indigena de Chacala, and indeed the whole region of Cabo Corrientes

and precincts in Colima, Jalisco, and Nayarit are at their roots steeped in a rich culture quite distinct from other parts of Mexico². Only a few researchers in the last one hundred years have looked at the culture of western México³ and little public acknowledgment was granted until the late 1990s. The culture is characterized by self-reliance, militant protection of access to land, community property ownership, and individual identity associated with community identity. The peoples here have a strong sense of ancestor worship, social ceremony, and ritual associated with maintaining civil unity, and enacted rituals associated with stellar, lunar, solar, and planetary events. They have traditionally balanced the use of domesticated and wild plants and animals as well as shared wealth connected with feasts in a system of wealth redistribution.

Unlike most other parts of Mexico this culture has not been exploited for commercial benefit, nor has the dominant Hispanic population confiscated the culture. Indeed, the Hispanic population—whether Spanish-born or Creole—has nearly disregarded the culture of this region altogether. Because no great archaeological discoveries in the form of grand monumental architecture had been made in the region, the general attitude of government, scholars and tourists has been that there is no culture in western Mexico, and, indeed, there are no longer any Indian peoples except the fiercely independent, but heavily commercialized Huichols (Wixárika, as they know themselves). Though not exploited in this way, the culture of Mexico's west coast (generally including the states of Nayarit, Jalisco, Michoacan, and Colima) has suffered from intense

externally initiated and motivated pressure to impose an Hispanic æthos for the historic culture. Despite metropolitan efforts to proclaim western México and the Comunidad Indígena de Chacala culturally dead and *terra nullius* in terms of an indigenous population, the region is quite rich with both culture and indigenous peoples.

The *Municipio de Cabo Corrientes* was founded in 1944 and Señor Coronel J. Encarnación Ahumada Alatorre was elected the first president. The municipio integrates 14 ejidos, 42 localities, and 2 delegations. The head of the municipio is in El Tuito and it integrates 5 comunidades indígenas (de las Guasimas, de Llano Grande de Ipala, de Sta Cruz del Tuito, de Chacala, and Del Refugio). Señor José Claro Ramos Chavarin, from the village of Chacala, was elected the first president of the Comunidad Indígena de Chacala in 1945 (Doña Alicia Arraiza, personal communication, June 12, 1996). Election was a *pro forma* process of selecting for elective office the same people who would normally govern under the system of ruling family heads. Since there was only one political party (the Institutional Party of the Revolution [PRI]), there were no party politics. Dons ruled the Comunidad complemented by the conduct of decision-making through village or Comunidad *asambleas* until 1985 (A. B. Cruz, personal communication, January 27, 1999). With the introduction of “party elections” in the 1980s, decision-making authority shifted away from traditional community decision-makers to those elected officials who represent the PRI, PAN, PRD, and PT—all of whom have their ideologies formed in México City. What had been a system of

2. Adela Breton, a British artist, arrived in Guadalajara in 1895 with an interest in antiquities and became the first serious scholar to inquire into the substance of western Mexico's ancient cultures. Because of her work researchers began to express more interest in western Mexico in the 1950s and finally a major (and singular) publication was issued in 1998 as a part of an exhibit at the Art Institute of Chicago. The book, *Ancient West Mexico, Art and Archaeology of the Unknown Past*, edited by Richard F. Townsend was published by Thames and Hudson.

consensus politics became “majoritarian politics” resulting in the formation of divisions in the community and ideological splits occurring within and between families.

Economic and social pressures introduced into the Comunidad from the rapid growth of Puerto Vallarta in the last twenty-five years have had a significant impact on the level of self-sufficiency, self-esteem, absenteeism, and the growing use and abuse of alcohol and drugs. As the economy, external development, and political influences became apparent in the 1970s, Puerto Vallarta became an economic focal point for developers and investors. During this period (1960-1990), the population grew from 30,000 to more than 300,000, transforming a relatively inaccessible area into an international tourist center in less than twenty years, and more particularly in the 1980s.³

Until the late 1980's one political party dominated Mexican politics: the Institutional Revolutionary Party (PRI). Under substantial pressure from the United States and with the aid of the Republican Party in the United States, the National Alliance Party (PAN) was created out of members of the PRI—particularly members who were close to business, developers, banking, and agriculture. Soon after the Democratic Party for the Revolution (PRD) and the Labor Party (PT) became more organized and visible and the Comunidad Indigena de Chacala, like other indigenous communities, became suddenly divided by the introduction of the divisive political ideologies as represented by the multi-party system. Where it was possible to function in relation to the PRI without disturbing the internal cohesiveness of the Comunidad (PRI politics did not require majoritarian approaches to getting

solutions), it became impossible to gain cooperation and consensus in the Comunidad's *asambleas* when four competing political ideologies replaced families as the central political reality. This was especially pronounced when it became apparent that the ideologies were fully formed in Mexico City and Guadalajara, but had no roots in the Comunidad. The well-defined roles held by men and women in the Comunidad began to change. Community members express dismay when they consider how the roles of men, women, and the young have changed as a result of economic changes. Santiago Cruz (personal communication, March 2, 1999) gave this assessment:

*The young do not work like the old. The old put more effort into it; they feel more attachment to the Earth. The young work to work, without love; they spend unwisely, and the bad thing is that now to work the land, the old are no longer needed, but rather only the young.*⁴

The entry and growing dominance of a cash economy that undermines the extended family and promotes the nuclear family have distorted traditional roles in the community.

The class divisions are increasingly apparent while the existence of such distinctions was virtually non-existent before the last twenty years. Those who are participating in the tourist economy, participate in the drug transfers, have received money from family members in the US, or have gone to the United States of America themselves for extended periods, fare much better than those (most of whom live up river) who re-

3. The rapid development of Puerto Vallarta reached its peak in 1985 with the result that new pressures for development expanded to other communities around the Bahía de Banderas. Yelapa has received particular attention because of its large, protected beach.

4. Village of Yelapa, Comunidad Indigena de Chacala

main living in more traditional economic/ consumption patterns. The economic gap between haves and have nots has increased overall tensions among people who before had at least subsistence.

Reflecting on the time before this accelerated change Yelapa-born, 64 year old José Garcia Lorenzo (personal communication, January 28, 1999) made this observation during an interview for the study:

Now if you have money you eat, if you don't have money you don't eat. Everything is more difficult. Now the people are maintained only by tourism. The beach is very small and everyone wants a business there and everyone is competing. There is a lot of envy and a lot of gossip all over.

The growing dependence on the cash and market economies proffered by developments in Puerto Vallarta have dramatically affected the livelihood of people in the Comunidad. Families living in all five villages of the Comunidad maintained gardens from which they fed their members and when other goods were wanted people traded with neighbors or between villages.

Hernando Cortez made a single overland and sailing expedition up the West Coast in 1529. He apparently did not enter the Bahía de Banderas. In 1797, the Spanish Navy armada D. Juan Matute made a sailing visit into the bay where the coastal maps used noted the locations of Yelapa, Quimixto, Tomatlán, Mismaloya, and Los Arcos. The Spanish Crown and the Roman Catholic Church were apparently the main modern outside influences other than neighboring indigenous communities until December 12, 1851 when the village

of Las Peñas (later renamed Puerto Vallarta) was founded at the east end of the bay. The government of México authorized the use of 19,311 *hectáres* of land to be developed for mining exploitation in the area. Silver, mined for at least 1000 years by the indigenous peoples, was the primary motive for this effort⁵. Of note, the center for exploitation of silver, San Sebastian del oeste, recently became designated as a biosphere reserve as part of the coastal plan to set aside historic of environmentally fragile land. The Secretaría de Medio Ambiente y Recursos Naturales (SEMARNAP) is the federal ecology agency charged with this process, however the agency disregarded the indigenous peoples during this process in the south, in Michoacan and throughout the west coast.

The Comunidad Indígena de Chacala has a stable population of about 1,800 people according to the census. This region is geographically at a confluence of mountains and sea that has received visitors from north and south (and less so from the east), for thousands of years. The vast majority of Comunidad members are descendants of indigenous peoples from western Mexico, most notably the Purépecha. As many as 100-200 people from the United States, Canada, and Europe are temporary or semi-permanent residents (primarily in the village of Yelapa) in the Comunidad. The main villages include Yelapa, Quimixto, Chacala, Las Animas, and Pizota and smaller ranchos including Tecuani, Guayabo alto, El Algodon, and Mascotita. The Comunidad was originally formed by 750 *comuneros*. The Comunidad is located southwest of Puerto Vallarta, served by one road to the village of Chacala (four hours walk from Yelapa), and by daily water taxis to and from Puerto Vallarta. The speed of changing development is often

5. Cronica del Tiempo, 1851-1997. The community now claims its specific and unique status by original right of occupation right granted by the Spanish Crown.

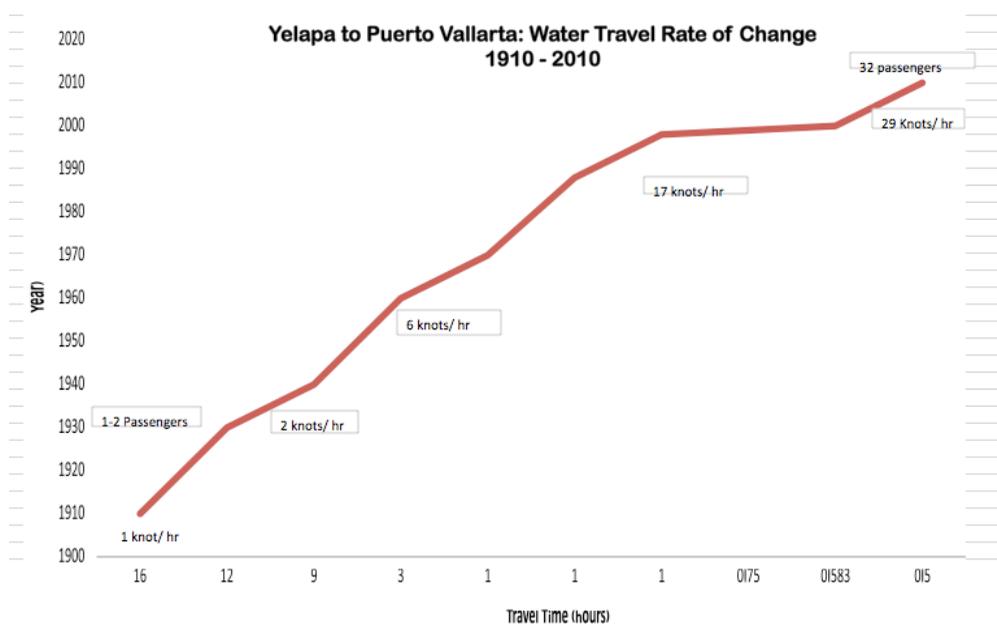


Figure 3. Water Travel Rate of Change, by Rudolph Rýser and Leslie Korn (2010).

linked to the stress of development. Thus the pace might be viewed in the context of the time in which it takes an individual to traverse the bay by boat from the village of Yelapa to Puerto Vallarta. In 1925, one sailed in a small canoe with a sail. By 1970, a 40 horsepower motor propelled a small panga over the waves in about 2 hours and by 2000 the journey went from 2-3 hrs to 35 minutes (see chart above).

The Comunidad is partly self-governing, though much of the authority for governance is increasingly being assumed by the Municipio de Cabo Corrientes at the town of Tuito (eight hours walk along the Rio Tuito from Yelapa).

In 1982, I sat down with Rosolio Lorenzo García, who was 82 years old when he told me his story about the village of Yelapa:

It was in 1910 that we peopled the village. There were but sixty-five inhabitants alto-

gether. No one but absolutely no one else was here. I was then ten and I am now 80 or 82. It's been 72 years since that happened. Our living was made from fishing and a little bit of [coconut] oil. That was the source of income for our parents and as their children we continued to work on the same thing. Everything was so cheap. Oil was five centavos a kilo and men were paid twenty-five centavos for a days wage. Maiz was a peso for sixty kilos. It was unbelievable. We went to San Blas in sailboats when the wind was favorable; if not, just sheer oars. Life was indeed tough at that time and this was our way of life until the agrarian world came in. When that happened a wealthy landholder snatched a rich piece of land from us. There was a war from 1914 to 1918 and after the war there was peace for ten years. But it was difficult because people would not buy our products

and livelihood was even tougher. In 1928 the government took the land away from the landholders and gave it back to the campesinos, and all of that was my lot.

And another storyteller whose father was one of the founding members elaborates:

In 1935 Yelapa was a ranchito of about 13 houses. About 13 families “founded” Yelapa. There was not much work except making coconut oil from the small coconuts. Agriculture consisted of beans, corn, coffee, and squash. It took anywhere from 4-24 hours to go to Puerto Vallarta, depending upon the wind and it took about 5 hours by horse to go to Ciudad Tuito. Tuito was a large center (not like now). Yelapa was always a refuge for shrimpers. The first foreigners began to arrive in 1947 or 48. By 1950 there were about 75 people living in Yelapa in about 25 houses. The majority of foreigners began arriving after 1960 and the tourists began to arrive in the mid-1970s and 1980s” (A. B. Cruz, personal communication, January 27, 1999).

Yelapa

Yelapa, one of the main village settings for our research, is a small village in the state of Jalisco, located between a maximum latitude of 20°30' and minimum latitude of 20°15' and a maximum longitude of 105°30' and a minimum longitude of 105°15'. It hugs the southern shore of the Bahía de Banderas (Bay of Flags), approximately 40 minutes by boat southwest of Puerto Vallarta at the mouth of the Rio Tuito. It is part of the tropical sub-humid zone. Yelapa is in the heart of the tropical forest. In Yelapa, rainfall amounts to 1,200 to 1,400 mm between May and October and from



Figure 4. Author's home, photograph by Leslie Korn (1976).

50-75 mm during a dry period of five months between November and April. Temperatures can range from 20-28°C (60° to 85° F). Tucked away on the foothills of slopping volcanic fingers stretching from higher mountains, Yelapa lies within an extension of tropical dry forest that has a medium-size height canopy. It is part of the sub-deciduous tropical forest that lies along the west Pacific coast.

The sub-deciduous tropical forest, (also known as semi-evergreen seasonal forest, moist semi-deciduous forest, or tall tree tropical deciduous forest) occupies approximately 4% of Mexico's territory and prospers in altitudes from sea level to 1,300 meters. Atmospheric humidity is usually high, and the most important factor in the evolution of this type of forest is the distribution of rainfall throughout the year.

The dispersal of this type of vegetation is difficult to map since it forms complex mosaics with the tropical deciduous forest and other types of vegetation. The sub-deciduous tropical forest can neither be classified as evergreen nor as deciduous; rather, it lies between these two types of forest. From a physiological and structural perspective, the sub-deciduous forest is more similar to evergreen forests, while from



Figure 5. Capomo (*Brosimum alicastrum*) trees, photograph by Leslie Korn (2001).

a phenologic perspective, it is more similar to the deciduous forest. During the months of rainfall vegetation is green, though during the drought season half of the trees in sub-deciduous tropical forests lose their leaves and go dormant, while other trees remain green or only lose their leaves for a short period of time.

The sub-deciduous tropical forest is dense with species whose height ranges between 15 and 40m. One tree typical of this forest is the *Enterolobium cyclocarpum*, known as the Guanacaste or Parota (Spanish). It is used traditionally for making sea-going canoes and furniture. Its seeds are roasted whole, ground for food, and considered “excellent” when whole seeds are grilled with molasses. Its sap from under the bark is chewed as gum and the Parota bark was often used for fishing (when crushed and dropped into a river it poisons the fish, ren-

dering them easy to catch). The understory of smaller trees (5—8m), below the canopy, covers approximately 50% of the forest and is usually made up of evergreen plants. Palm trees are common along the coast. In the sub-deciduous tropical forest, many tree species, usually no more than five, share dominance. However, sometimes only one tree species is dominant. For example, in Cabo Corrientes the Capomo (*Brosimum alicastrum*), which can grow to 35m tall, formed dense communities before extensive clear cut logging and other forest assaults later led to the development of a shrub layer. Drainage is fast in the forest, although there can be flooding. Clear cutting the forest has contributed to increased flooding when the seasonal rains come. Milk cows and steer dominate the open landscape; and introduced crops including corn, beans, sugar cane, sesame seed, rice, orange, limes, mango, and pineapple crowd against the jungle.

The forest is as rich with insects and animals as it is in plant life. In the forest of Chamela, just south of the Comunidad, 288 species of bees, bumble bees, and wasps have been identified. Before the African bees invaded the region from South America the local bees’ honey, especially the coveted white honey, was an important remedy used for eye diseases. The largest diversity of scorpions is found here, along with the “red-knee tarantula,” *Brachypelma smithi*. The up to 7.5 centimeter-long centuroides scorpion (*Centuroides vittatus*) is commonly seen trolling along in cool damp areas with their young on their back while eating spiders, centipedes, flies, and beetles; their sting has been known to kill infants. The vigilant enemy of the centuroides scorpion is the *cancle* (pronounced “konk-la”)—the long legged, broad-body Tailless Whip Scorpion; always quietly waiting in dark, hidden moist places. The *cancle* is also called *madre de alacran*, looking quite ferocious with

its long legs, but they are indeed gentle and harmless to humans. There are varied and complex traditional treatments for scorpion stings and of course the sometimes helpful, but often problematic anti venom. Lucio Rubio Garcia, now in his late 50s, (personal communication, Dec. 12, 2009) tells a story revealing his grandmother's treatment:

My grandmother used to heal scorpion bites with horse excrement. She placed the excrement in water—the fresher, the better—and an antidote against scorpion is produced. Squeeze out the water and drink it as an anti-scorpion serum, the actual anti-scorpion serum is produced with horse blood. One night [when] I was 2 years old [I was] with my parents as they prepared for a canoe trip into Vallarta. I was stung and she got word and she traveled all night gathering plants along the way and then prepared a drink in which she soaked fresh horse dung in water, strained it well, then she gave it to me to drink. She saved my life that night.

There are many plants and animals identified and used for scorpion stings. For example, it is common following a sting, to slice open the belly of the scorpion and lay it on the sting. Jose Garcia Lorenzo told of cooking the *quichi* (also known as iguana negra, garrobo, and spiny-tailed iguana [*Ctenosaura pectinata*]) and drinking the broth to treat stings, especially if accompanied by fever and numbness. The plant called Chaya (*Cnidoscolus aconitifolius*) is also used as both a tea and a poultice to treat stings. The leaves are rich in antioxidants and minerals like calcium, phosphorus, magnesium, and iron; Vitamins A, B, and C; and chlorophyll, which may account for its powerful anti-inflammatory effects. The common plant often growing outside the home, Te Li-

mon (Lemongrass, *Cymbopogon citratus*), is used as a tea to treat the “espinas,” or the numbness resulting from the sting. Blanca Alvera makes a tea from the *Papelillo* (*Bursera simaruba*) bark and adds *Canela* (cinnamon). The ubiquitous red-barked *Papelillo*, also known as Gumbolimbo, is purportedly used by *brujas* for both good and evil, though no one dares speak how. It is also called “gringo tree” because the bark looks like the skin of a tourist who has stayed too long in the sun.

Along the Cabo Corrientes coast there are 87 species of amphibians and reptiles including toads, frogs, salamanders, axolotls (an aquatic salamander), and cecilians (a legless amphibian often mistaken as a snake). In forests, toads and frogs emerge to sing otherworldly mating songs during the rainy season. The Marbled Toad (*Bufo marmoratus*) is commonly heard warbling. It is no wonder that they are both messengers of environmental change for local people as well as helpers in traditional medicine. Of this, Santiago Cruz (personal communication, June 30, 1983) tells this story:

All I can do is speak a little bit of what I know, of nature. If we speak of the language of animals they too can speak like we can. We have a dialect, a form of speech, and they have theirs. And just like we can learn our dialect if we set ourselves to the task, we can also learn their dialect, their means of communication. There is an animal that always announces itself to me when the waters (rains) are going to come. That animal is the frog. There are many kinds of frogs all the way from the biggest to the smallest. When the waters are going to come the little ones utter a sound that is like sst! That's her sound. When the rain arrives there is another kind of frog called Gasparroca. It is a frog which is striped, like gold nails on the

body. These frogs live in openings of wood, in sticks, and they utter these sounds when the rain comes. Their sound is a little different. My grandfather would tell me that there is this big plant that grows near where these frogs make their habitat and when there is a drought you cut up a piece of this plant from near where the frog sits. There you beg for rain and invariably the rain does come. This is a sacrifice. The sacrifice is to be done only when there is a real need—then the rain comes.



Figure 6. Doña Alicia, photograph by Leslie Korn (2009).

The *sapo* has been used traditionally in the Comunidad to treat a common skin infection, erysipelas. Alicia Arraiza (personal communication, May 12, 1997) describes it this way:

Clean sapo (referring to the frog, the Rana del Sabinal, Leptodactylus Melanonotus) very well with soap and put some aceite rosado or olive oil and rub over the disipelas. After you are done, clean the frog with soap and water and let it go or the infection will affect the sapo and it will die.

Traditional Medicine

An often threatening, stressful, and traumatic environment has for millennia challenged indigenous peoples. In response to challenges well beyond their control different peoples developed through cultural practice various ways of coping, healing, and responding to disease, poisons, and both accidental as well as intentional violence enabling them to survive productively in spite of the threats to life. The healing practices and plant and animal remedies we now call traditional medicine also include family and community connection, physical closeness, the use of hot and cold water, stones and drinks, laughter, massage, foods, fungi, and medicines from the land and sea. Indeed, medicines or healing powers may also include the helper spirits that assist and guide in times of difficulty.

The real meaning of traditional medicine across all cultures is found in the dictum that **nature cures**. Many long-established forms of medicine and healing restore balance by way of the nervous system and thus help to heal. Human beings are gifted with the capacity to heal themselves and others, and nature provides the methods and the medicines. This is part of the order of nature.

In the traditions of many native peoples the different members of a community possessing supernatural powers serve to mediate between the seen and unseen realms. Individual community members' nervous systems are tuned acutely and transformed by trance to receive spirit medicine. The animals that give their bodies so their brothers and sisters can be sustained are also healers helping others survive the potential traumas of nature's extremes. The role of such healers is crucial to healing the community.

The normal antidote to loss of control engendered by development is to take control: control of land, resources, and political and

economic structures. The antidote to traumatic stress, whether it is at the individual or the community level, is to strengthen social supports, reclaim control over one's knowledge of the natural world, talk with each other about the pain, enlist the elders, take action, and most importantly, gain control over one's own health, the nervous system, and thus, behavior. Accomplishing this requires distinguishing between medicines that heal and those that just kill pain. Most important are the healing traditions and celebratory rituals that served the ancestors. These rituals may still initiate young ones into the knowledge of the unseen world, where to remain in control of the rivers of one's own nerves, one can guide whole communities to safety.

Hispanicization and Devaluing Traditional Medicine

Individuals migrate from one community to another and may acquire another identity from resettling, but often this is not the case. As the Hispanics colonized various regions of Mexico they reorganized the local and then the regional economy to siphon wealth away from indigenous peoples and into Hispanic hands (Carmack, Gasco, & Gossen, 1996). To achieve an effective transfer of wealth the Hispanic populations defined México's indigenous populations as out of existence by declaring their status as *mestizo*.⁶ The "mestizociza-

tion" of the indigenous populations in central Mexico was particularly pronounced, but widely practiced throughout México. By redefining indigenous peoples as *mestizo* it became possible to eliminate what few rights they had as Indians—particularly their collective control over land. The result has been a direct outflow of wealth from indigenous communities into the Hispanic society and a net inflow of Hispanic control over indigenous lands and resources. This process has resulted in cultural dislocation within the indigenous populations and a devaluation of traditional medicine and healing practices.

While legally recognized as indigenous, but popularly identified by Mexico as neither Hispanic nor as an indigenous society, the people of the Comunidad Indígena de Chacala nevertheless retain a deep sense of group identity. Accelerations of development and external intrusions have recently divided the population along economic lines and begun, through the educational system and use of television in the schools, to separate the younger population from the older. The Chacala culture remains strong in perhaps the most fundamental way: the peoples' relationship to the earth through plant and animal medicines. Individuals have possession of vast stores of knowledge and traditional practices which continue to inform the community, and so even with the pressures of "Hispanicization" the practice of traditional

6. The Spanish Crown and later the Mexican state maintained a heavily stratified society in Mexico dividing the population into privileged and less privileged classes. Peninsulars (born in Spain) are the highest and most privileged class followed in rank by the Creols who are Spanish, but born in Mexico. Well below the status of Creole is the class of mestizos. People of this class are born usually of a Spanish father and an Indian mother. Heavily discriminated against, mestizos were prohibited from holding certain public offices and they were not generally allowed to enter the priesthood. Historically, only a few people of the mestizo class could achieve higher rank and only if they had a conquistador as a father. Otherwise, mestizos were mainly poor and uneducated. The succeeding governments used the designation mestizo to alter the population demographics of Indian populations as an indication that the Indians were disappearing. Mulattoes, the offspring of Spanish and African parents held a lower position than the mestizo. Indians are considered the very bottom of the class system, and anyone with a drop of Spanish blood would cast a disapproving eye at an Indian person. While Indians were the lowest on the social ladder, they were considered by the Spanish Crown wards of the Christian Church and of the Crown to be protected, where possible, from the unscrupulous. Under Spanish and Mexican laws Indians were (and are) recognized to have the right to govern themselves in their own communities, maintain community ownership of land, and they are exempt from prosecution for religious crimes.

medicine, though devalued, retains a strong presence in the community.

Traditional Medicine, Development, and Climate Change

Traditional medicine practices in Cabo Corrientes have evolved in intimate connection with the climate and environment in particular because the primary modes of healing derive from plants, foods, and animals. The use of animals—for example, their food or fat—has diminished sharply over the last 40 years, due in part to the effects of development, driving wild animals deeper into the *selva* (jungle) and more recently since the invocations of state and federal laws against hunting. When I arrived in Yelapa in 1973, it was common to see (and shoo out of the house) armadillo, tlacuache, tejón, skunks, snakes, and all kinds of iguanas. But ten years later, all but the iguanas were rarely seen...except deep into the *selva*. As early as 1982, some individuals offered their observations that the climate was changing; however now it is on everyone's mind, affecting the cycles of fishing and crops in particular. The increased use of cement and cobble stones on formerly dusty dirt paths, and the use of pesticides have reduced the numbers and variety of plants that were used daily for health and illness prevention.

In 1982, Santiago Cruz (S. Cruz, personal communication, July 7, 1983), age 73, shared with me his views about the medicines of the community:

We are living in a gold mine. If we looked for the properties of medicinal plants, we would leave more valuable things for the future of the people. Also the medicinal animals because they eat medicinal plants.

We are losing the iguana and armadillo whose fat helps cure bronchitis. The animals feel the vibration of the people. Now there is a lot of cancer and diabetes in Yelapa. The nopale [cactus] helps arthritis, the kidneys, and diabetes.

Like many of his peers and many others who are younger, Santiago demonstrates in his appeal for strengthening the knowledge of medicinal plants a strong knowledge of medicines in the Comunidad. It is very likely that anyone walking along a path in the Comunidad could approach a resident and ask about the name and uses of a particular plant, then be treated to a lecture and perhaps a demonstration of the healing properties or dangers of a plant.⁷ Even when individuals say that the knowledge is lost, they often call up a piece of knowledge as an example. José García Lorenzo, at 74 years old (personal communication, January 28, 1999) illustrates this point when he said:

“Before, we cured with home remedies (medicinas caseras). Much of the use of the plants and knowledge of the properties has been lost. I remember that the quichi (a type of lizard) served to cure scorpion stings.”

A few weeks later Jose brought a bottle of *raicilla* (alcohol derived from the *Agave maximiliana*) steeped with chocolate and *cuastecomate* (*Crescentia alata Kunth*) to me as a gift. I felt this was a clear message; he valued my interest, had not forgotten our conversations, and was pleased to share an unusual and traditional beverage, which he explained was used for a sore throat and to keep warm on a cold winter

7. Students from the Center for Traditional Medicine were asking each other about a particular plant near the waterfalls above the village of Yelapa, and as they spoke a resident approached them and immediately began explaining the importance and key features of the plant. Community members are often quite eager to share their knowledge of medicinal plants and animals.

morning.

Many younger members of the community express dismay when they consider the loss of medicinal plant knowledge. Owing to their own disconnection from the knowledge of their parents and grandparents, younger members know less and often know very little about the use of local medicines. In the case of Antonio Reyes Saldaña (47 years old), this experience is quite pronounced. Antonio spent sixteen years living in the United States of America, but returned after he experienced a sense that life was more meaningful in the Comunidad than in the United States. His mother is a very knowledgeable herbalist. He asserted, "Now, very few people use medicinal plants. My mother and grandmother used plants to cure, but now much of that is lost" (A. R. Saldaña, personal communication, January 29, 1999).

The sense of loss is obvious when many more youthful members of the community talk about medicines and their role in the culture. When older women discuss the benefits of various medicinal plants, younger women often turn to them asking that the older women teach them about the plants.⁸ The combined weight of views expressed and the enthusiasm among the Yelapa women strongly suggests the importance of emphasizing key cultural knowledge such as the role of medicinal plants and animals in the lives of community members as a measure to strengthen the capacity of the community to deal with trauma and stress. It is clear that plant and animal medicines are considered a deep and valuable part of the culture over which members of the community have control. But social pressures as well as environmental changes conspire to undermine traditional medicine's use and application in

everyday life.

In 1982, Santiago Cruz (personal communication, August 4, 1983) spoke of the changing weather:

This year we will have greater and greater amounts of rain and no problem with the trees. Ordinarily trees blossom but one time a year. This time they blossomed two times. Never in my life did I see this before. That's a sign that there is a shift in the presence of the water. Perhaps it means that the ordinary dry season this year will be a wet season. But the change only occurs gradually. Nature does not reverse its pace so suddenly, never. I sometimes think also of the destruction, the destruction of all the species; we are destroying species—for example, sea species. We're finishing them! Last year I went to Punta de Mita, where there used to be lots of oysters. I had gone there for the past seven years and had eaten a lot of oysters. But when I went back this time I couldn't even find a teeny tiny one. Those of us who do business and make our money through these animals we do not even become aware of what we are doing or how we are destroying them. At present the government itself is not aware of these things and its actually collaborating on the destruction by setting up all along the shore everything that can destroy them. Already in the last two years we've been having difficulty in catching fish. Fishing boats go out at night and in the morning and they have put out chinchuras and fish are scared of them so they go off some place else. All the shores are presently filled with these chinchuras² animals that are very good to

8. During the Women's Traditional Medicine gathering held at Casa Xipe Totec on 23 Enero 1999 where 37 women from the village of Yelapa participated, several teen women expressed eagerly their desire to learn about the natural medicines and wanted to work on a project to document the medicines for themselves and their children.

Burying the Umbilicus: Traditional Medicine on the West Coast of Mexico

our organism. They give us rich vitamins to nourish certain parts of our body. With them, too, we will finish and when we are done with that, then we will finish with one another, ourselves, perhaps eating each other up.

By 1999, four years of El Niño and 2 years of la Niña had led to changing climate patterns that have led villagers to observe that they can no longer rely on the weather. The winter of 1999 was unseasonably warm, leading to an increase in mosquito habitat, and an outbreak of dengue, and poor fishing in an already depleted market. A number of the fishermen spoke about how they used to fish for a few nights and make enough for the week. Now, a few nights wouldn't even cover their expenses. The winter of 2000 was unseasonably cool and led to a cool summer. These climate patterns together with ecological deterioration throughout Mexico and Central America result in irregular rainfalls in which there is flooding or drought. In Jalisco alone there were between 200-400 floods since 1960 (Trujillo, Ordonez, & Hernandez, 2000, p. 17). Deforestation is accelerating and estimates suggest 260,000km² of land are in an advanced state of desertification (Trujillo, Ordonez, & Hernandez, 2000, p. 23). Among these are the sierras of the Comunidad. Desertification of this magnitude leads to soil erosion, increased use of agro chemicals, pollution, and increasing rates of stress and disease patterns linked to persistent organic pollutants.

In 2010 Lucio (personal communication, May 20, 2010), spoke of his village in the mountains at 1,500 feet above Yelapa:

We have never seen the Chicla plant near my ranch, and now they are growing about 12km away from the ocean shore; that means that the earth has heated up. Other

species are disappearing for this same reason, we are starting to see plagues in oaks; before the oaks didn't have any plague and now these plagues are killing some oaks.

The weather of 2009 was reversed from the norm: winter of 2009 brought rain and the summer of 2009 brought drought to the mountains, Bertha (personal communication, December 14, 2010) describes:

As well, now some plants have vanished due to lack of rain water. We don't have that much rain anymore; there are few years that it does not rain like that. We didn't get any corn this year; all the field was dry and it didn't rain during all September. It has rained more during November; even the world has changed. I don't know what is happening; we plant corn but it gets dry and every year is worse, less rain, or the rains arrive when we can't do anything else.

A few months after her comments, the summer of 2010 brought record rains and floods; the rural areas lost their crops and the cities, which were not equipped to absorb the rushing waters; bridges washed out, and homes were lost. The winter of 2010-11 followed with record low temperatures.

Health of the Community

"The woman needs more support. She is always working inside and outside the house to get things for her family but it is never enough. And the worst thing is for women who don't have a husband or a man to help take care of the children. There are a lot of lazy men and egotistical men that don't like to help. If women

do not respect themselves, who is going to respect them?"

—Ana Maria, Feb. 18, 2001.

I undertook a review of the traditional medicine clinic records over a 4 year period (1997-2002) and conducted community based health surveys in 4 villages of the Comunidad, working with the help of local informants. The majority of primary illness complaints in the Comunidad were of chronic pain disorders and chronic diseases that arise out of “nexus of stress” effects including autonomically-mediated dysfunction in the nervous, digestive, circulatory, and immune systems and lifestyle (development-related) changes in nutrition. Chronic pain at 40% and chronic disease at 31% are the two highest ranked primary complaints. Accidental injuries and falls are also dominant, some due to occupational hazards, yet many are alcohol related. Domestic abuse is also a complaint associated with alcohol. The women of the village of Yelapa consider alcoholism among the men to be one of the most serious problems in the community.

One woman said, “The majority of the women are oppressed. There is a lot of family abuse generally because the men are drunk. Alcoholism is the biggest problem in the community” (M. S. Ramirez, personal communication, February 9, 1999).

While stress has long been known to cause common dysfunctional responses in organs under the control of the autonomic nervous system, another woman, herself a victim of domestic violence, holds on to some hope:

There are still those women whose husbands still have them under their soles, but actually many are opening their eyes.

They say “I can,” “I do,” not like before, because not one woman could work. Since some five years back, the women have been stronger. Before, they were afraid of working due to machismo. Now the men do not reject their help. It is even convenient, or simply they have no other choice” (E. A. Rodriguez Araiza, personal communication, January 15, 1999).

Alcoholism and domestic violence are complex problems. When viewed from a Fourth World⁹ post-traumatic stress perspective we need to understand and analyze the changes wrought by colonialism, an antecedent to the development of alcoholism among native peoples. This analysis includes understanding the historical role of alcohol use among indigenous peoples of Mexico; the loss of community rituals that reinforced the non-addictive use of alcohol and other consciousness-altering substances; the physiological effects of alcohol on Indians (in particular, alcohol as a stressor on psychobiological function); and finally the role of alcohol as a drug for self-medication against the pain of cultural dislocation and psychic despair.

There are also links here to the nutritional changes arising out of development pressures that have increased refined-food consumption that in turn reinforces glucose metabolism dysfunction. This constellation of problems is witnessed up and down the coasts of North and Meso-America among native peoples. Fish and all manner of foods from the sea—turtle, limpets, oysters, abalone, and lobster were abundant. Now the supply is depleted and it is rare to see turtles sunning themselves on the ocean surface as before. Small gardens, banana, papaya and coconut groves, avocados,

9. “Fourth World” refers to a social and political conceptual framework under which indigenous peoples fall. While this term has various geopolitical meanings we use the term here as interpreted by Chief George Manuel (1929-1989) of the Secwepemc who served as the founding president of the World Council of Indigenous Peoples.



Figure 7. Doña Clementina, photograph by Leslie Korn (2009).

and other foods planted near families' houses and the pigs, cows, and chickens were commonly kept and maintained in the village as well as outside the village. The groves and gardens have now been covered by houses and cement to make space available for renting property to North Americans who pay cash. In the 1980's, the government tourism department pressured people into tying up their pigs that before roamed freely, serving as food for village members each week in a ritual slaughter. Now, it is rare to see pigs. Recently the cattlemen have been told not to drive their herds through the village as they travel from one village to another searching for additional grazing grounds. Members of the Comunidad (and certainly within each of the outlying villages) were largely interdependent for their livelihood until the middle 1970's. Men produced the foods needed either as farmers or as fishermen on the coast and the women maintained fruit gardens and foraged, supplementing their food supplies from the city. Where corn was grown, ground and made into tortillas, it is now shipped in along with tortillas from factories, with only



Figure 8. Doña Gorgonia, photograph by Meredith Parr (2010).

the poorest people grinding and making their own. Those with money make sandwiches from white bread. The ongoing challenges to the cash economy persist in practice and in the minds and hearts of even the young. One day not long ago a young man was brought to the clinic for treatment, writhing in pain from a particularly severe reaction to scorpion sting. While he was being treated with ice and high dose vitamin C he gasped: "I can't die now, I need to make money."

Some of the women also express the view that absenteeism by community men is a serious problem. Between 150 and 300 of the men in Yelapa alone live in San Jose, California, United States and as far northeast as North Carolina. Many of the men who remain resident in Yelapa suffer from alcoholism and have limited work opportunities that would earn money for their family.

I¹⁰ define "community trauma" as events that overwhelm a community's capacities to function in stable and generative ways. Traumatic stressors include (but are not limited to) the examples of war, rape, or natural disasters.

10. Refers to a definition established in "Community Trauma and Development" by Leslie Korn, Ph.D., M.P.H, presented at The World Conference on Violence and Human Coexistence, Sponsored by University College, Dublin and the Center for World Indigenous Studies, Olympia WA., U.S.A. August 1997, Dublin, Ireland



Figure 9. Don Margarito, photograph by Meredith Parr (2010).

Most patients who came to the traditional medicine clinic in the Comunidad originally sought help from iatrogenic episodes resulting from treatments by one or more allopathic physicians. Of these, 13% of the women patient visits reported or exhibited adverse consequences including, (a) additional suffering resulting from misdiagnosis, and (b) over-medication using costly, useless or inappropriate medicines leading to secondary and tertiary complications. This indicates that a significant number of community members were paying for, but not receiving, adequate medical care. Almost all but the very few who could afford private health care received care at the social security hospital or from the intermittent on-site physician who performs a year of social service in the village under the auspices of the state or federal government. Most people who came to the clinic often did not know what condition had been diagnosed, did not know why they were taking a medicine, what the medicine was, how much to take, or for what length of time. One of the striking discoveries from documented patient treatments was the degree of stress that occurred as a result of iatrogenic causes. Usually, these were severe secondary health problems resulting from mis-



Figure 10. Don Matilde, photograph by Meredith Parr (2010).

diagnosis and misapplication of pharmaceutical drugs. A sizable proportion of patients exhibited pathologies and symptoms directly associated with misdiagnosed and mistreated conditions. For example, a fourteen-year-old girl with Bell's Palsy arrived at the clinic with severe cushnoid features resulting from prolonged, over-medication with Prednisone. A young mother appeared with a severe rash arising out of a shot of penicillin for a cold. She asked about whether she should take her 5-day prescription (obtained in Puerto Vallarta) for cortisone. A man brought in his 73-year old wife. She fell the year before and had been in pain and received injections of painkiller into her hip every few days. The pain hadn't improved and she developed digestive problems and became chronically constipated due to the medication.

The indiscriminate use of antibiotics remains high in this population. Community members may purchase an injection of an antibiotic for 60 to 100 pesos merely by contacting a person on the beach. Nearly any kind of drug can be procured on the beach by simply paying for it. If a person has a cold, penicillin may be available and injected even though there is no relationship between the drug and

the condition. Steroids, antibiotics, and assorted other pharmaceuticals are consumed without diagnosis by a medical practitioner, in the same manner one would buy jewelry or chewing gum. It appears that the incidence of misdiagnosed cases represents a tendency in Puerto Vallarta and Guadalajara toward medical malpractice (there is virtually no practical recourse to medical malpractice in Mexico). One must conclude that the levels of trauma and stress among individuals and whole families increase and are often exacerbated by the irresponsible actions of medical practitioners. Whether physicians or self-medication are the source, pharmaceuticals represent a much more severe health hazard than a remedy for members of this community.

There is a palpable shift from infectious disease to chronic disease. Whereas people in the rural subtropics are subject to sanitation-based disorders such as intestinal parasites, typhoid fever, dengue, hepatitis A and non-A, and the usual flus, colds, and pneumonias, the chronic conditions of heart disease, stroke, cancer, high blood pressure, diabetes (adult onset), persistent pain, and stress are increasing. Remarkably, all the patients seen at the clinic were dehydrated. Cultural proscriptions against drinking quantities of water appear to have arisen out of sanitation problems. However traditional *agua frescas*, made from local fruits and berries, anthelmintic herbs, and plants that traditionally took the place of plain water also have increasingly been replaced by Coca Cola and sugared juices. Smoking, which was not seen in the village among teen boys and girls less than 20 years old, has become increasingly evident. Alcohol and drug consumption in these age groups also increased.

Plant Medicine Use

México is one of the most biologically diverse regions in the world, with over 30,000



Figure 11. Teens in the plant medicines group, photograph by Leslie Korn (1999).

species of plants, an estimated 5,000 of which have some medicinal value (Toledo, 1995). Plants have been used extensively for medicinal purposes throughout North America, including México (Moerman, 1998). Many of these are hypoglycemic in action and also support metabolic (Davidow, 1999), cardiovascular, lymphatic, and kidney function for a person with blood glucose dysfunction (Marles & Farnsworth, 1996).

The Comunidad is rich in natural anti-diabetic plants and there is a history of using these plants medicinally and particularly as a food. The most common of these plants include cundeamor (*Mormordica charantia L.*) (Sarcar et al., 1995), zabila (Aloe vera) (Bunyapraphatsara, Rungpitarangsi, Yongchaiyudha, & Chokechaijaroenporn, 1996; Ghannam et al., 1986; Yongchaiyudha, Rungpitarangsi, Bunyapraphatsara, & Chokechaijaroenporn, 1996), ajo (*Allium sativum*) (Day, 1998), canela (*Cinnamomum verum*), capomo (*Brosimum alicastrum*), and linaza (Enig, 2000; Erasmus, 1993; Fallon, 1995; Michael & Pizzorno, 1997).

Yet, the Comunidad, like much of the indigenous world, is currently caught between the degradation of local habitat containing



Figure 12. Bitter Melon (*Mormordica charantia* L.), photograph by Meredith Parr (2010).

indigenous medicines and the resultant loss of traditional knowledge. Many of these plants, like *mormordica charantia* L. (cucurbitaceae), which grew alongside the dirt paths, were all but gone from the village by the 1990's. Others, such as nopale prickly pear cactus (*Opuntia* sp.), while still grown are decreasingly utilized. Still other plants—like breadnut (*Brosimum alicastrum*), which, along with chaya, was a diet staple—are poised to become the next “designer food” for import into the U.S. The breadnut or capomo, as it is known in the Comunidad is rich in amino acids (Brucher, 1969) and used traditionally as a beverage and food for human nourishment to increase lactation in humans and animals alike.

In addition to capomo the local practice of drinking canela (cinnamon) tea every morning, a practice known to lower blood sugar, is all but gone except among some elders and people living in the small ranches of the Comunidad. The Comunidad harvests a variety of products from the *Coco nucifera*, and a tree called the “coquito”, the Cohune Palm (*Orbygnia guacuyule*) not a true coconut, which provides a rich palm oil similar to coconut. Coconut—whose value as a source of essential fatty acids cannot be overestimated (Enig, 1999)—is

left on the trees and is ignored except for its value to tourists. Coconut fat is an especially significant food source since it has served as a major source of high quality fats, rich in lauric and capric acid (Enig, 1999), for indigenous peoples of coastal Mexico. Traditionally the people of Chacala use coconuts as a source of protein and energy, and medicinally for the treatment of protozoal infections. The use of coconuts by indigenous peoples over the millennia has been protective against high blood lipids (Enig, 1999) and cardiovascular inflammation, leading us to wonder how the decline in its use contributes to diabetes and cardiovascular disease (Enig, 1993; Fallon, 1995).

Development and Changes in Traditional Medicine Practices.

There are conflicts and challenges presented by development and the changes in the medical system. Bertha A. (personal communication, January 9, 2010) begins by sharing a bit about her life and use of herbs as the herbalist for her village and also her status as a community health worker, charged with delivering injections when necessary:

I am 63 years old. I learned about plants from one of my husband's aunts, Ricarda in Talpuyequé. She was very good at using pure plant remedies. She was a midwife; she helped with my children. Felipe was born in her hands. Felipe, Norma, Etelevina, Bere, all of them were born with her. In order to clean my uterus when I was going to have my kids, she cooked aguüilote; two or three berenjéna leaves and added a spoonful of white honey. That is what she cooked for me instead of pills or antibiotics. You know, doctors give you antibiotics to clean, but she gave me a good tea before breakfast, before having meals. First, she brings your tea in a little jarrito:



Figure 13. Castor bean flowers (*Ricinus communis*), photograph by Meredith Parr (2010).

"Here, drink it," she used to tell me. I'd say: "Hey Ricarda, this tastes terrible and repugnant." Then she told me, "Go on, drink it because it will clean your uterus and it will be clean, ready for the next baby." I learned a little bit but it has been helpful. After giving birth to Felipe, Simón (my husband), and my compadre Mariano, went to take some beehives. They brought some huge bottles like this, full of white honey and I am telling you that I had some drinks with that. They used to call it "fat bee" from [the] fat beehive. White honey is very medicinal. We can't find it anymore because the African bees have killed all our bees.

In Talpuyequé there are about 40 persons and only a few people and I use herbs. They say: "Cook estafiate tea" and when kids have a cold, we cook it. I put on them hen fat, for coldness and then ruda, albaca—very good for colds or flu. I place



Figure 14. Gaho (*Hura polyandra*), photograph by Meredith Parr (2010).

ruda, albaca, and chicken fat; all that must be fried in a pan and once the fat is boiling, add the herbs, boil it and that's it. Then place it here and here on the sick kid and the illness goes away. It is a natural remedy.

Ricarda used to give massages and she told you how your baby was. If she was fine, if she wasn't—she knew a lot. There is nobody now. Now everybody goes to the doctor as the government insists that ladies must give birth with the doctor. Before, there were no doctors. Then we had to go with midwives. That is why I am telling you that things have changed a lot.

Here, as Bertha speaks she becomes animated and angry:

The government interferes in everything, in everything, because there is no other



Figure 15. Doña Bertha, photograph by Amber Cole (2009).

help but now there are a lot of doctors. Things have completely changed. Everything changed in a short period, about 20 years. Yes, because with me—Felipe, Lalo, Norma, Etelevina, Berenice—Ricarda helped me with all of them. Then the rest; Emerio too. But I had Francisco Javier and Gustavo at the hospital. When I first went to the doctor, they performed a c-section on me as they said that I could not have my children naturally any longer. I told the doctor: “Hey doctor, but I have had my kids in a natural way with a midwife,” and he said that unfortunately this can’t happen any longer. “You will have c-section.” And they did c-section. Six years later, I had Gustavo and they performed a c-section on me again. We feel so bad with the c-section. Doctors don’t want to wait for a natural birth to happen. I had all my kids in a natural way, except those two last ones. I could not and my feet weren’t useful anymore after the spinal

injection. I feel that the spinal injection hurt me a lot. I had been a mom already 6 times. The midwife wasn’t there anymore and I needed help and I said: “Well, the doctor” and I thought that I was going to give natural birth too.

Bertha and her *comadre* Alicia, while separated by a village a few hours away, carried the influence of Ricarda who taught them both. Alicia was assisting her daughter during *cuarentena* (quarantine), which is rarely practiced now in Yelapa, appearing to have stopped about 1995, whereas it was commonly practiced just as late as 1987. During the post partum period of 40 days the mother and child are isolated and are considered subject to poor health or supernatural influences if they are unprotected. After giving birth, mother and child normally enter a period of isolation and protected activities while women care for them. The new mother limits walking for the first 3 days except to go to the bathroom. During this time Alicia A. (personal communication, April 13, 2010) explained:

One starts the morning by drinking a tea of aguilote, berenjena, hierba del golpe, and a little salt. This procedure is designed to clean the uterus. One then eats masa with some cinnamon and panoche (unrefined sugar) and makes small tortillas and drinks atole (a gruel made from fresh masa, water and flavorings—one of the oldest food preparations in México) or champurrado (to support milk flow), taken for nine days. One can also drink capomo (the bread nut roasted, ground, and steeped in hot water), but it is more difficult to find in the lowlands since the trees grow high in the mountainous jungle. The woman does not take a bath for the first three days



Figure 16. Yelapa Beach, photograph by Leslie Korn (2001).

after giving birth. She covers her head and forehead because the skin pores are open—the covering protects lest punzadas (stabbing pain) from developing behind the eyes or in the ears. The woman does not eat eggs or pork because ingesting those foods causes a bad smell in the body. Only eat meat—carne asada, machacada fried. One does not eat beans so the infant does not develop empacho [indigestion]—it will be healthier.

One is in cuarentena for 40 days and during the 3 days puts on medias (thick stockings), and does not have sex. No one practices it now. Now they say if you have [sexual] relations you get empacho. For



Figure 17. Yelapa Beach, photograph by Robert Harper (1958).

treatment of empacho, immediately following birth, mix a little sugar into manteca de puerco and massage it into the roof of the infants mouth.

Conclusion

There is no question that Cabo Corrientes is poised for the next wave of development. The construction of the dam located near Tapulyeque promises to bring water to what is expect to be a sizable influx of foreign populations. That hydroelectric dams inflict environmental havoc is uncontested. If the past predicts the future then a potent period of development investment and sales of land will ensue. Coastline residents did finally accept *Zona Federal* in 2009, which taxes indigenous land ownership. Thus far, the indigenous communities of Chacala and Guasimas have rejected the proposal to develop a biosphere, which was perceived as an incursion into their sovereign rights. Of this, Lucio said:

I met Dr. Puga [Luz Maria Villarreal de Puga] when she was already very old and she said to me: 'You are very rich; you have over 3,500 flowering plants but your

crime is to have kept and preserved all this.' Now, with the proposal for the biosphere they want us to leave in order to bring irresponsible people to finish this.

In Manantlán [referring to the reserva Biosfera de Manantlán] people are starving due to the government's mishandling. I asked the government to give me an example of the biosphere decree where people have been removed from their community. Tourism is a poison if it is not controlled, as in the case of Acapulco. That is why operational norms must be established under which certain circumstances people can be allowed in.

Even as some community members have indeed buried their umbilicus in Cabo Corrientes, its peoples and villages will continue to be buffeted by major development pressures creating even greater demands for traditional healing and traditional medicines. Development, however, will cause the loss of those resources if they go unrecognized and unprotected.

Acknowledgements

I would like to extend deep appreciation to Dr. Rudolph Ryser who contributed to the section on the political history of the region of west Mexico and whose thoughtful review of this paper enhanced it immeasurably. Dr. Fabio Germán Cupul Magaña of the University of Guadalajara for providing generous assistance in sorting out some of the Latin binomials and for his good cheer and support; to Dra. Esperanza Vargas Jimenez who hosted me at the University of Guadalajara, Coastal Campus in Puerto Vallarta, and to The Fulbright Foundation and La Comisión México-Estados Unidos para el Intercambio Educativo y Cultural (COMEXUS) in Mexico City for

providing me with the opportunity to conduct my research during 2009-2010 and do so with the support of profoundly giving colleagues. I would also like to extend my warmest *agradecimientos* to my colleagues, informants, and friends in Cabo Corrientes, whose generosity of spirit welcomed me into their lives, and who were so forthcoming and trusting in sharing their ideas and feelings.

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