



## **The Angel in the Gourd: Ritual, Therapeutic, and Protective Uses of Tobacco (*Nicotiana tabacum*) Among the Tzeltal and Tzotzil Maya of Chiapas, Mexico**

Author: Groark, Kevin P.

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## THE ANGEL IN THE GOURD: RITUAL, THERAPEUTIC, AND PROTECTIVE USES OF TOBACCO (*NICOTIANA TABACUM*) AMONG THE TZELTAL AND TZOTZIL MAYA OF CHIAPAS, MEXICO

Kevin P. Groark

*In this article, I document contemporary highland Maya use of traditional tobacco (*Nicotiana tabacum*) preparations among the highland Maya (Tzeltal-Tzotzil) of Chiapas, Mexico. Among the Ancient Maya, *Nicotiana* was considered a sacred plant, closely associated with deities of earth and sky, and used for both visionary and therapeutic ends. The contemporary Tzeltal and Tzotzil Maya of Highland Chiapas are bearers of this ethnobotanical inheritance, preserving a rich and varied tradition of *Nicotiana* use and folklore. The entire tobacco plant is viewed as a primordial medicine and a powerful botanical “helper” or “protector.” Depending on the condition to be treated, whole *Nicotiana* leaves used are used alone or in combination with other herbs in the preparation of various medicinal plasters and teas. In its most common form, fresh or “green” leaves are ground with slaked lime to produce an intoxicating oral snuff that serves as both a protective and therapeutic agent. Despite its historical and cultural significance, traditional tobacco use is declining in favor of smoked tobaccos. The article closes with a discussion of the social transformations responsible for this decline, reviewing research that suggests tobacco powder snuffs may be less dangerous to health than smoked tobaccos, despite their addictive potential.*

**Key words:** *Nicotiana*, ethnomedicine, Maya, oral snuff, picietl

*En este artículo, documento el uso tradicional de varias preparaciones del tabaco (*Nicotiana tabacum*) entre los Mayas contemporáneos de los Altos de Chiapas (México). Entre los Maya antiguos, la *Nicotiana* se consideraba una planta sagrada, vinculada con las deidades de la tierra y del cielo, además usada con fines visionarios y terapéuticos. Los tzeltales y tzotziles de Chiapas son herederos de esta tradición etnobotánica, y mantienen así una tradición rica y compleja de prácticas y folclor relacionada al uso del tabaco. La planta, en su totalidad, es considerada como una “medicina primordial” y con cualidades botánicas para “ayudar” o “proteger.” Dependiendo de la enfermedad que se trate, las hojas enteras de tabaco se usan solas o en combinación con otras hierbas para elaborar emplastes e infusiones de tés medicinales. En su preparación más típica, las hojas frescas o “verdes” se machacan con cal para producir un rapé oral intoxicante, que sirve como agente terapéutico y protector. A pesar de su importancia histórica y cultural, el uso “tradicional” del tabaco ha disminuido. El artículo concluye con una articulación de estas transformaciones, repasando datos que sugieren que los rapés de tabaco molido pueden ser menos peligrosos para la salud que los tabacos ahumados.*

“The taking of tobacco in every form permeated Indian life in ancient Middle America. The attitude of noble, priest, and commoner was imbued at times with something approaching mysticism, as when tobacco was personified or even deified or when it was accepted as an ally fighting beside man to overcome fatigue or pain or to ward off so many of the ills of human flesh. There is deep beauty there which we, in our materialistic world...are unable to share or even to perceive” (Thompson 1970:122–123).

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Kevin P. Groark, University of Southern California, 1540 East Alcazar Street, CHP 133, Los Angeles, CA 90089-9003, USA (e-mail: kgroark@gmail.com)

## Introduction

Throughout the Mayan region, tobacco (*Nicotiana*) has long been regarded as a supernaturally powerful plant. Both ancient and modern Maya employed tobacco in various forms: as an intoxicant, a stimulant, a medicine, and a potent magical agent—a sort of “botanical helper” or protector (de Smet and Hellmuth 1986; Elferink 1983; Janiger and Dobkins de Rios 1973, 1976; Robicsek 1972; Thompson 1946, 1970). In the Chiapas Highlands of southern Mexico, traditional tobacco preparations continue to play an important role in the therapeutic, religious, and ritual life of the Tzeltal and Tzotzil Maya. Whole leaves are boiled, wilted, mashed, and bruised to prepare medicinal plasters and teas. Fresh leaves are mixed with slaked limestone and ground into a green mash, yielding a potent oral snuff that is used as a medicine, a stimulant, a protective agent, as well as an intoxicant. This same preparation is also used as a sort of all-purpose charm, conferring protection against snakes, meteorological phenomena, demons, and witches. Although tobacco in all its forms is inherently valued and respected, the oral snuff preparation represents the plant in its most powerful and highly respected form. This mixture, stored and carried in small polished gourds, is the embodiment of an unbroken tradition of Mayan oral tobacco snuff use spanning more than a thousand years.

Despite the plant’s manifest cultural importance, to date it has not been the subject of focused ethnographic study. The research for this article was conducted over a 17-year period (1992–2009) in an effort to document Highland Maya tobacco culture before it disappeared, and to reconstruct what I could of the historic roots of this ethnobotanical tradition. Following an overview of highland Maya tobacco ethnotaxonomy and nomenclature, I examine the process of oral snuff production, exploring its use in therapeutic contexts as well as its quasi-magical use as a “protector” or “helper.” Integrating ethnographic interviews conducted in the Tzotzil-speaking community of San Juan Chamula with the broader ethnographic and ethnohistoric record for the region, I present an overview of the cosmological and mythological significance of tobacco within the highland Maya worldview. Owing to both its chemical potency and quasi-magical power, Tzeltal and Tzotzil Maya attribute to the plant an ability to overpower a wide range of illnesses and supernatural threats. Indeed, controlled nicotine ingestion—particularly in the form of oral snuff—generates a range of positive psychological and physiological effects, supporting the local belief that tobacco is, in fact, one of the primordial “powerful substances” in the pharmacopoeia of the highland Maya. The paper closes with a discussion of recent transformations in local tobacco culture as a consequence of religious evangelization and the availability of commercial cigarettes, exploring the potential health impacts of a shift from oral to smoked tobaccos. I present an overview of recent research suggesting that, despite its addictive potential, oral tobacco snuff may be less dangerous to health than introduced smoked tobaccos.

## Ethnobotanical Description

*Nicotiana tabacum* L., referred to colloquially as “tobacco,” has been well described in the botanical literature (Breedlove and Laughlin 1993:242; Good-



FIGURE 1. Tobacco, *Nicotiana tabacum* L., growing wild under the eaves of a house in San Cristóbal de Las Casas, Chiapas, Mexico. Photograph by Kevin P. Groark.

speed 1954:372–75). Based on genetic and distributional data, *Nicotiana* appears to have spread to the Central Mexican highlands from its origin in Andean South America (Goodspeed 1954:8; Wilbert 1987:2). Cultivated and semi-cultivated forms are common among horticulturalists throughout Southern Mexico, where the plant is used widely for medicinal and recreational purposes. In Chiapas, *Nicotiana* grows wild in disturbed soil in house gardens and along trails (Figure 1). Wild plants are often left alone when weeding, and seedlings are sometimes collected and transplanted to house gardens, placing it firmly in the category of semi-cultivar (Breedlove and Laughlin 1993:242). Belief in the plant's ability to repel malevolent entities makes it a desirable "protective" botanical in house gardens, while ensuring a ready source of leaves for the preparation of tobacco snuff and medicine (Breedlove and Laughlin 1993).

### Tobacco Nomenclature

Tobacco is generically referred to as *moy* in Tzotzil and *may* in Tzeltal, the two principal languages spoken in the region. This name refers to the living *Nicotiana* plant, the harvested leaves, as well as the ground tobacco-lime chewing tobacco preparation referred to in local Spanish as *pilico* ("tobacco powder" or snuff).

In addition to this generic name, a number of more expressive metaphorical names (referring principally to prepared tobacco snuff) are also in circulation. In

both Tzotzil- and Tzeltal-speaking communities, tobacco is referred to as “elder brother” (*bankilal*) or “angel” (*anjel*). Less common names for tobacco in Zinacantán include “great old man” (*muk'ta mol*) for chewing tobacco, and “lord” (*ojov*) when mixed into a curing salve to treat supernaturally-induced aching and swollen legs (Breedlove and Laughlin 1993:242). Similarly, tobacco is called “holy man” (*ch'ul winik*) in Venustiano Carranza (Berlin et al. 1990:99).

### Nicotiana Ethnotaxonomy

Two folk varieties of *Nicotiana* are locally distinguished based on the color of the flowers, which occur in both pink and white forms. In the Tzotzil community of Chamula, the pink-flowered variety known as “male tobacco” (*vinikil moy*) is considered to be strongest, and is the only one used for medicinal or protective purposes. The white-flowered “female tobacco” (*antzil moy*), in contrast, is said to “lack strength” (*mu'yuk yip*), and to “be of no use” (*mu xtun*) or “to be ineffective” (*mu sbalin*). Breedlove and Laughlin (1993) described a similar pattern of use in the nearby Tzotzil township of Zinacantán.

While discussing the difference in potency between the two *Nicotiana* varieties, one of my Chamula Tzotzil collaborators, an *j'ílol* or traditional curer, explained:

There are two kinds of tobacco: white-flowered (*sak snich*) and pink-flowered (*tzoj snich*). The pink-flowered one comes from Our Father in Heaven [the Sun-Christ deity]. It's much better [because] it has color, it has strength. As for the white flowered one, it's “women's tobacco.” It's white because the woman [Our Mother in Heaven, the Moon-Mary deity] handled it long ago... she planted this one, she had her own tobacco back then. But the flower [of her tobacco] was white, not pink. It has strength, but really just a little, it seems. [This is because] the woman had less power. But Our Father, he had much more strength. It's the same with tobacco—the female has less strength... Now we only use the pink-flowered one.

This short narrative frames the genesis of the two varieties—as well as the variation in their power or strength—in terms of the gendered differences between the progenitor deities said to have cultivated the first tobacco plants. Like human beings, they consider the “pink” male tobacco to be stronger and more effective than its “white” female counterpart.

### Preparation and Use of Oral Tobacco Snuff

Among traditionalist Maya in the Chiapas highlands, tobacco use centers on the ingestion of a coarsely ground mixture of raw tobacco leaves and slaked lime. While knowledge of tobacco preparation and use is distributed universally throughout the highlands, the eastern Tzeltal-speaking communities (particularly Tenejapa, Oxchuc, Chanal, and Cancuc) preserve the most vigorous traditions of tobacco use. In more distant parts of this region, old men still carry tobacco gourds and use snuff in both secular and ritual contexts. In the western Tzotzil communities, in contrast, tobacco use has become much more restricted; while it

remains central to many rituals and therapeutic practices, daily use as a stimulant is now rare.

### Preparation of Tobacco Snuff

In the Tzotzil-speaking community of San Juan Chamula, the production of tobacco is limited to men, who prepare it for personal and family use; although women can use tobacco, they do not usually prepare it. This gender-restriction is not universal; in the Tzeltal communities of Chanal and Oxchuc, widows and older unmarried women prepare their own tobacco. In all communities, however, both men and women use the same locally preferred variant, usually the pink “male” variety. Preparation of the mixture is limited to Monday, Wednesday, Friday, or Saturday (the days when the saints and other protective deities are guarding the earth from malign influences). Preparing the mixture on other days is said to yield a tobacco without strength, or worse yet, one that will sicken the user.

The preparation process, as documented in San Juan Chamula, can be divided into five general stages:

1. Leaf Collection—Fresh *Nicotiana* leaves (*yanal moy*) are harvested as needed from the pink-flowered, male tobacco (*vinikil moy*). They are left to cure in the shade for a day or two, allowing much of the moisture to dissipate, thereby concentrating the chemical constituents in the leaves. Processing the leaves without this “laying back” period reduces the potency (*yip*) of the snuff, since much of the plant’s bioactively rich liquids are squeezed out and discarded during preparation. Approximately 18 medium leaves produce enough snuff to fill an average tobacco gourd.
2. De-Veining—The leaves are cleaned and carefully de-veined. The lamina is stripped out from between the coarse veins and stem, and collected in a basket or on a cloth (Figure 2A). The veins and stem, too fibrous and moist to be ground into a palatable chewing tobacco, are generally discarded.
3. Pounding—The lamina is pounded into a moist pulp (Figure 2B). Once reduced to a coarse mash, it is ground with a stone to medium coarseness, similar in texture to ground oregano leaves.
4. Addition of Admixtures—Slaked limestone (*tan*) is added to the coarse mash as an alkalizing agent, and processing continues (Figure 2C). Commercially produced lime (*kaligra*) is sometimes substituted. If the resulting mixture is too piquant, its “heat” is reduced by adding more tobacco leaves. Other ingredients (such as camphor or orange rinds) are sometimes added. Camphor is said to make the snuff “hotter” (*mas k’ixin*), as well as producing a more agreeable flavor (*mas lek smuil*). Others maintain that lime is the only acceptable admixture and that adulterated tobacco preparations, while tasty, will not protect the user from supernatural threats.
5. Storage in Tobacco Gourd—After the tobacco has been pounded to the desired coarseness, it is packed into a small, highly polished gourd container (*tzual moy*, tobacco gourd) for easy storage, transportation, and use (Figure 2D).

During preparation, tobacco and its admixtures are referred to only obliquely, to avoid weakening the snuff’s potency. In Chamula, tobacco is called





FIGURE 2. Preparation of tobacco snuff, San Juan Chamula 1998: (A) de-veining fresh *Nicotiana* leaves, (B) pounding the lamina, (C) adding slaked limestone to the pounded tobacco, (D) filling the tobacco gourd (*tzual moy*) with freshly-prepared tobacco. Photograph by Kevin P. Groark.

*takivaj* (tamale) and the slaked lime is called *ich'* (chile pepper) or *yich'il* ("it's chile pepper"). Once prepared and in its gourd, the snuff is sometimes referred to as *ja'as* (zapote) or *k'anasté* (yellow zapote). The mixture cannot be sold; rather, it must be shared freely. Should the recipient of gifted tobacco express thanks, the tobacco will be ruined. Rather than curing and protecting the user, the plant will now inflict diarrhea and bloating. These prohibitions on the exchange of tobacco suggest that, in the past, ritualized sharing may have been integrated into everyday social exchanges to a greater extent than at present.

### Tobacco Ingestion and Physiological Effects

In everyday use, a small quantity of snuff is poured into the palm, then tossed into the mouth, where it is held either on the tongue or between the cheek and the jaw for an extended time (Figure 3). The juice from the tobacco quid is allowed to run down the throat or is swallowed. In both Tzeltal and Tzotzil Maya, this form of tobacco ingestion is described not as chewing or sucking, but as "eating" (*-lo'*).

Anyone who has used freshly prepared green tobacco can attest to its potency: swallowing the juice produces a marked burning sensation in the nasopharyngeal region, often accompanied by a burning constriction (*-tzukilan*) in the upper chest, leading to shallow respiration and shortness of breath (*suk o'nton*), and sometimes mild fits of hiccupping (*jik'ubajel*). Soon after, as the nicotine enters the bloodstream and gains access to the brain, mild vertigo begins,

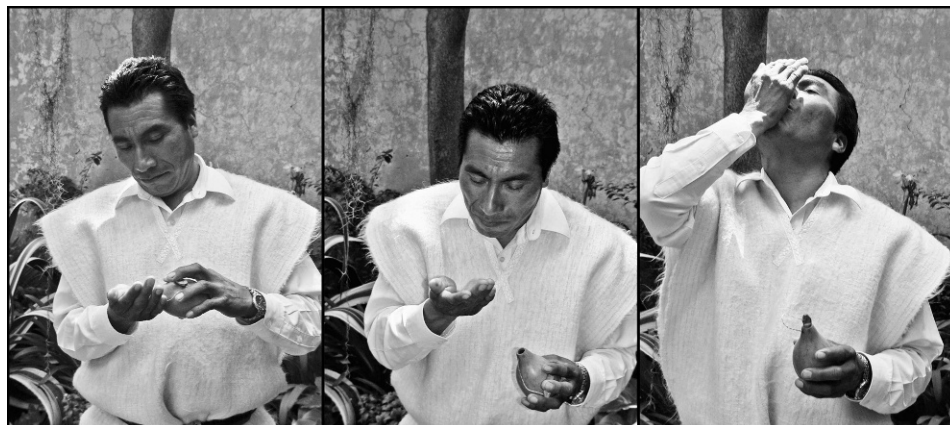


FIGURE 3. Chamula man taking tobacco snuff, 2003. Photograph by Kevin P. Groark.

lasting 5 to 10 minutes. The Tzotzil refer to this as “becoming drunk on tobacco” (*-yak’ub ta moy*), or “to be rendered dumb” (*-bolibtas*). Indeed, freshly prepared tobacco snuff is sometimes referred to in Tzotzil as a “stupefier” (*bolibtasobil*; Breedlove and Laughlin 1993:582). Generalized piloerection is typical soon after ingestion. Several informants reported that their “head grows large” (*-mukib jol*), referring to tingling of the scalp when the hair follicles feel as though they are standing on end. Following this, a feeling of calm, stimulated focus predominates.

According to Wilbert (1987:137), oral administration when little or no tobacco juice is expectorated maximizes enteric absorption of nicotine—the principal alkaloid in tobacco—through the buccal cavity, the stomach, as well as the small and large intestine (see also D’Orlando and Fox 2004). Indeed, nicotine absorption from tobacco quids is two to three times greater than that obtained from smoked tobaccos (Benowitz et al. 1988). Absorption rates depend on the size of the quid, fineness of grinding, the length of time the quid is retained, its relative movement within the mouth, and the presence of alkalizing agents such as lime; but under optimal conditions, total absorption is possible (Wilbert 1987:137). Since the nicotine alkaloid is miscible in salivary secretions, rapid diffusion across the epithelium and vascular barriers provide ready access to the heart and circulatory system, thereby elevating blood levels of nicotine (Wilbert 1987:137–138).

Traditional tobacco use offers many benefits to people who spend much of their lives working outside. At controlled doses, nicotine reduces fatigue and pain, eases hunger, reduces the skin’s surface temperature, and produces marked central nervous system stimulation, memory-enhancement, elevation of mood, and an increase in attentional focus (Badio and Daly 1994; Benowitz et al. 1990; McGehee et al. 1995; McGehee and Role 1996; Newhouse et al. 2004).

### The Tobacco Gourd (*Tzual Moy*)

In past times, most highland Maya men carried in their shoulder bag a small, highly polished gourd filled with prepared tobacco. Made from one of several



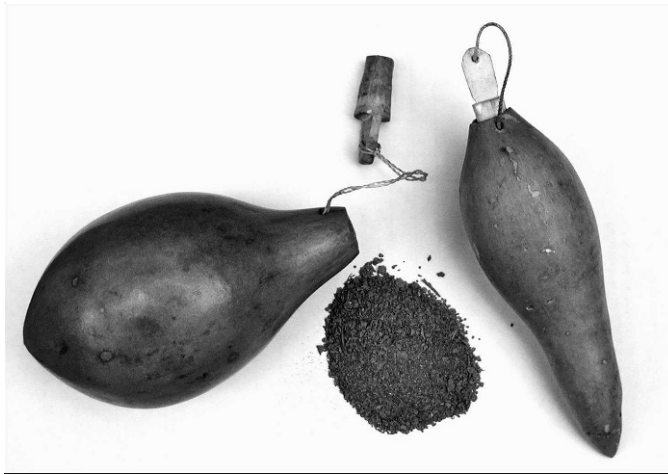


FIGURE 4. Female" (left) and "Male" (right) gourds with prepared tobacco snuff, San Juan Chamula. Photograph by Kevin P. Groark.

forms of *Lagenaria siceraria* (Mol.) Standl (Cucurbitaceae), these simple undecorated gourds are known as *tzual moy* ('tobacco gourd'), or more literally, *yavil moy* ('tobacco's place/vessel'). While tobacco gourds are rarely carried nowadays, they remain the universally favored container for tobacco snuff. In fact, they are the only containers suitable for freshly ground tobacco; porous vessels (such as those made from ceramic) draw the juice or "power" out of the tobacco, and fresh snuff quickly rots in non-porous containers such as bottles or plastic containers, ruining the flavor and potency of the preparation.

The typical tobacco gourd is 100–130 mm in length, with a maximum width of 75–100 mm. Suitable specimens are sold in regional markets but are quite expensive; a typical container with no stopper costs about \$10 pesos, roughly 20% of a man's daily wage. New gourds are matte honey-yellow, but gain a deeply polished red-brown patina through many years of use and storage in smoky dwellings. Like the tobacco plant, gourds are identified by gender. "Male gourds" (*vinik tzu* or *stot*) tend to be shaped like large chili peppers, and are distinguished by their long, pointed "tail" (*neil*). "Female gourds" (*antzil tzu* or *sme*), in contrast, are rounded or tear-shaped (*volvol*), and are said to resemble a breast (Figure 4). The use of tobacco gourds is generally restricted to men (and female curers), who carry either male or female gourds, depending on personal preference.

In a number of Tzeltal communities, tobacco gourds were traditionally paired with a long deer bone spatula or needle (*sbakel stzual may*, 'the tobacco gourd's bone') attached by a thin cord of leather, cotton, or henequen fiber (Figure 5). This bone spatula was used to break up the hard ball of tobacco that forms inside the gourd as the moist tobacco dries. Gourds with bone spatulas appear to have been used throughout the Tzeltal area (especially in the communities of Tenejapa, Cancuc, Oxchuc, and Chanal), but are now quite rare. To my knowledge, Tenejapa is the only community in which bone tobacco dippers can still be found, albeit rarely. In most Tzotzil communities, a simple



FIGURE 5. Antique tobacco gourd with bone spatula, Tenejapa. Photograph by Kevin P. Groark.

stick (referred to as *sjotz'obil moy*, “tobacco crusher”) is used as needed, then discarded.

### Ancient Maya Tobacco Vessels

This tradition of personal tobacco containers appears to extend back to the Ancient Maya of the Classic period (A.D. 250–850). Carlson (2007b:11) identified a class of small ceramic vessels common during the Middle to Late Classic (A.D. 550–850)—often referred to in the literature as “poison bottles” or “pilgrim’s flasks”—that may have served as containers for tobacco. These are typically flask-shaped: discoidal, with a flat base and lateral handles for suspension. Many feature codex-style scenes and inscriptions, and some display tobacco leaf or deity motifs. The presence of enema scenes and specific inscriptions identifying the flasks as “the dwelling place for tobacco” (*yotoot u may*) support the claim that these vessels were used as containers for various forms of tobacco, including snuff, tobacco juice, or enema liquids derived from tobacco leaf infusions (Carlson 2007b:12; Houston et al. 2006:114). Indeed, according to Carlson (2007b:11) these small flasks represent “the oldest known tobacco snuff bottle tradition in the world” (see Houston et al. 2006:105, 114–116 for an extended discussion of these flasks).

During the Late Classic period (A.D. 600–850), these bottles were traded throughout the Maya region, suggesting not only exchange of vessels, but also their contents (Houston et al. 2006:116). While the contemporary highland Maya store and transport tobacco snuff exclusively in the small gourd containers described above, it is interesting to note that an Early Classic ceramic “poison bottle” executed in the form of a gourd was recovered from Uaxactun (Smith 1955 cited in Houston et al. 2006:114). Similarly, Deal (1998:199) identified antique ceramic containers shaped like gourds from Chanal, reporting that, while no longer manufactured or used, these vessels served as temporary containers for, among other things, ground tobacco. The use of gourd-shaped ceramic flasks

for tobacco storage in the eastern Tzeltal region suggests a line of continuity between ancient Maya ceramic tobacco bottles, ceramic gourd vessels, and gourd containers typical of the contemporary highland Maya described in this article.

### Tobacco as Primordial Medicine

In a world dominated by the use of commercial tobacco, we are quickly losing our connection with both the positive physiological effects and the powerful mind-altering powers of traditional *Nicotiana* preparations. Among the contemporary Tzotzil and Tzeltal Maya, however, awareness of the physio-transformative power of tobacco remains strong. Indeed, native tobacco is regarded as a prototypical medicine or “powerful substance” (*poxil*), offering a range of therapeutic and protective benefits.

Maffi (1996) argued that the proto-Tzeltal-Tzotzil term for medicine (*\*pox*)—which she glossed as “powerful substance”—referred prototypically to the medicinal use of tobacco. Today, the word *pox* refers almost universally to locally produced cane liquor; yet entries in Colonial dictionaries consistently link *pox* to various medicinal substances, most of which were smeared or rubbed on the body, a form of tobacco administration that remains common in the Chiapas highlands (Maffi 1996). Contemporary Zinacantec Tzotzil verb forms derived from the word *pox* retain this close connection to tobacco; the intransitive verb *-poxin* means “treat self with tobacco, anoint body” while the transitive form *-poxta* is glossed as “administer medicine, prepare chewing tobacco by adding lime” (Laughlin 1975:286 cited in Maffi 1996:33). Similarly, the derived term *jpoxtavanej* (herbal curer or “one who cures with powerful substances”) remains in circulation throughout the highlands.

In highland Maya ethnomedicine, a key element in therapeutic strength is the ability to “attack” or “overpower” an illness, a quality usually associated with bitterness (*ch’a*) and piquancy (*ya*), both of which are attributed to tobacco (Brett 1994). It is generally expected that a person who consumes powerful medicines will feel a range of adverse physical effects and that the patient may well feel worse as the medicine struggles with the illness (Brett 1994). Tobacco ingestion, particularly in liquid forms, can readily produce symptoms of mild nicotine toxicity: racing heartbeat, sweating, nausea, stomachache, and vomiting. When understood in terms of highland Maya ethnopharmacognosy, these “toxic” effects are not viewed negatively; rather, they serve as manifestations of tobacco’s inherent therapeutic “power,” *-ip*, and “heat,” *-k’ixin*, (Berlin and Berlin 1996:299).

### Therapeutic Uses of Tobacco

Depending on the condition being treated, tobacco is administered therapeutically in the following forms: *jaxbil* (‘rubbed on body’), *lo’bil* (‘eaten’), *k’ixnabil* (‘wilted by fire’), *atinbil* (‘bathed in’), *uch’bil* (‘drunk’), *tub’tabil* (‘sprayed from mouth/spit out’), and *pak’bil* or *lambil* (‘applied as a bandage or compress’). In many cases, the leaves are pounded along with ash or slaked lime, added to water or cane liquor, then drunk as a tea. Warm tobacco leaves are also commonly applied as plasters or compresses, sometimes with admixtures. The

plant is always administered fresh, and the leaf is the only part of the plant that is used.

Throughout the highlands, tobacco is the most common remedy for a wide range of gastrointestinal ailments (Berlin and Berlin 1996:297). To treat stomachache, ground tobacco is drunk with warm water. Berlin and Berlin (1996:301) recorded that the principal admixtures used to treat abdominal pain include garlic cloves (*axux*; *Allium sativum* L.), the leaves of *Baccharis vaccinioides* Gardn. (*mes te'*), and the leaves of *Lagascea helianthifolia* H.B.K. (*papan te'*). In Zinacantán, dried chile peppers are added to the decoction to increase its "heat" and therapeutic potential (Breedlove and Laughlin 1993:243).

A number of tobacco-based remedies serve to alleviate painful abdominal bloating (*pumel*, *t'imel*): the juice from chewing tobacco is swallowed, the powder rubbed on the belly, or mixed with water and drunk. To cure "wind" or *aire* (*ik'*), ground tobacco snuff is "eaten," drunk as a warm infusion, or rubbed on the affected body part. In Zinacantán, people drink a tobacco-garlic-urine mixture to treat constipation and urinary stoppage (*makel*), and they apply tobacco leaves to the stomach in the form of a cross to eliminate intestinal worms (Breedlove and Laughlin 1993:242–243).

To treat supernaturally-induced swelling and/or aching of the foot and leg (*poslom*, *potzlom*), a mixture of tobacco, garlic, and women's urine is massaged onto the affected body part following therapeutic bloodletting (Breedlove and Laughlin 1993:243). More simply, the limb may be rubbed with tobacco, alcohol, and garlic, and then wrapped in a cloth. Poultices of fire-warmed wilted leaves are also used. In Oxchuc, people apply warmed poultices of tobacco leaves, sometimes mixed with leaves from *Brugmansia*, to broken bones, sprains, and bruises. They do this in the family steambath, where the warm, moist heat of the bath combines with the "heat" of the herbal remedy to relax tensed muscles, facilitating therapeutic massage or other manipulations (Groark 1997, 2005).

In both Oxchuc and Chamula, tobacco leaves are used in the treatment of a form of aggressive madness known as *chuvaj*. Following therapeutic bloodletting from the forehead—intended to expel the "stupid blood" (*bol ch'ich'*) that precipitates the condition—raw tobacco leaves are used to wipe the blood away from the small wounds. In Chamula, a mixture of ground tobacco and garlic cloves in a base of warm cane liquor serves the same purpose. The juice and odor of the tobacco repels the evil forces that might invade the patient's head in the form of "*aires*," thereby preventing the condition from recurring or worsening.

Breedlove and Laughlin (1993:243) reported additional uses for tobacco in Zinacantán: a mixture of tobacco and warm water is drunk as a purgative to "vomit up" tuberculosis (*sak obal*); taken with cold water, tobacco serves as an abortifacient; the worm that is said to cause toothaches and dental caries can be killed with tobacco juice, and the same juice can be dripped in the eye to cure yellow spots that sometimes appear in the sclera; dermatological ailments treated with tobacco (often mixed with garlic) include gangrene (*mos*), mange (*sep'*), and boils (*chin*).

Commenting on its diverse therapeutic applications, a Tzotzil-speaking man from Chamula concluded, "It's a strong curer, this [tobacco], a strong medicine" (*ep jpoxtavanej li'e, ep poxil...*). The use of the term "curer" (*jpoxtavanej*, "one

who cures with medicines/powerful substances”) in this context is instructive; this term is normally used for people who cure with herbal medicines, and applying it to a plant suggests an inherently curative potential, one that exists apart from the skills or “gifts” of the person who administers it.

### Magico-Protective Uses of Tobacco

Throughout the Chiapas highlands, tobacco is accorded great respect as a personal protector. While tobacco in all forms is considered to be “medicine” (*poxil*), once the leaves have been mixed with slaked lime (or other admixtures, such as garlic) it becomes a “magical protector” (*metz'tael*), often referred to in Spanish as *secreto* or *secret*. The tobacco snuff preparation is said to “defend” (*-poj*) the user: curing illness, repelling evil forces, blinding witches and earth lords, paralyzing snakes, dissipating storms, protecting from lightning strikes, ransoming captured souls, and conferring an afterlife of rest and repose. Along with candles, incense, and rum, tobacco also serves as one of the primordial foods of the deities, offered to them during fiestas and rituals through proxy ingestion by religious officeholders (Figure 6).

Based on its unique protective potential, Page Pliego (2005:143) described tobacco as occupying an “intermediate position between deity and amulet.” Similarly, Holland (1963:107) reported that the Tzotzil of San Andres Larrainzar regard tobacco as a sort of quasi-deity; one that requires no worship or offerings, but acts as a protector by its mere presence, so long as it is shown respect. Breedlove and Laughlin (1993:242) also highlighted the protective uses of the tobacco-lime mixture, which confers the ability to “stupefy, paralyze, blind, and drive away adversaries of all kinds.” Indeed, such therapeutic and apotropaic uses are at the forefront of contemporary highland Maya tobacco use and figure prominently in many stories and anecdotes. Summing up its cultural significance, Breedlove and Laughlin (1993:242) concluded, “No other plant... is accorded the magical power, both for good and evil, as that assigned to tobacco. Although this power is focused on chewing tobacco, it is also present in the mere leaf.”

The most common method of protecting oneself with tobacco involves rubbing (*jaxbil*) tobacco powder over the body, covering the abdomen, forelimbs, and crown of the head. This is particularly common when traveling at night, or after coming into contact with some dangerous force. The quality most closely associated with tobacco’s ability to protect the user from supernatural threats is its strong odor (*ik, smuil*), a quality shared by garlic. People in Chamula say that the tobacco-lime mixture “glows” in the presence of danger, producing an intense green-yellow light that repels evil entities such as witches and demons, and “burns” (*-k'ak'*) them should they try to touch the protected person. A curer explained to me, “Now that you’re all covered [with tobacco] you have your light. It’s just like electricity—[the evil ones] don’t want to touch it because it will give them a shock. [Covered with tobacco] your body is just the same as a live electrical cable, nothing will come to molest you...”

The tobacco gourd, like the tobacco plant itself, is closely linked to protective powers, particularly the ability to safeguard the owner during travels away from



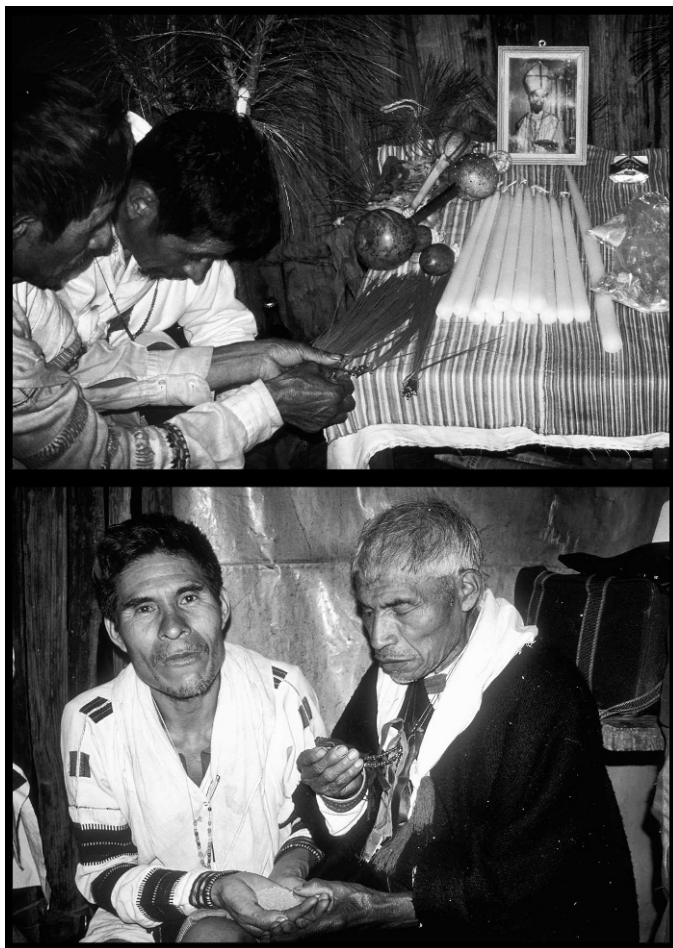


FIGURE 6. Tobacco gourds and cigarettes on altar during fiesta (top); religious officials blessing tobacco with rosary (bottom), Santo Tomás Oxchuc, 1992. Photograph by Kevin P. Groark.

home. Indeed, tobacco-filled gourds continue to serve as general protective talismans and are often stored on the home altar. Several people I spoke to explained that the gourd gains its strength from the constant absorption of concentrated tobacco juice, which gradually infuses the container with the same power as the plant.

Like tobacco, the gourd is said to “glow” or emit light when dangerous forces draw near or when its owner is in need of assistance. In a tale from Zinacantán reported by Breedlove and Laughlin (1993:242), Tzotzil men working on a lowland coffee plantation slept with tobacco gourds next to their heads. When the evil-intentioned plantation owner looked in upon the workers, he saw flames dancing on the ground next to the gourds, signaling the approaching danger. Describing the Tzeltal community of Tenejapa, Maffi (1996:42) recounted a widely-held belief relating to the protective role of the tobacco gourds, “...should one become lost somewhere along a path away from home, especially

while drunk—and maybe even pass out and fall in a ditch—the small gourd would begin to shine brightly, revealing one’s location to rescuers. Older Tenejapans... still [swear] to having witnessed this phenomenon.”

For analytic purposes, the protective uses of tobacco can be arranged into three broad classes: 1) When used to paralyze or neutralize some immediate threat, tobacco is referred to as *syaluobil* (“that which lowers something”); 2) when used to repel the attack of witches and protect a person’s soul or possessions from the unwanted attention of malevolent forces, tobacco is known as *makobil* (“that which closes off or blocks”); and 3) when used to protect or “cure” animals or property from supernatural attack, it is called *metz’tael* (“that which magically protects”). Each of these apotropaic uses is discussed below.

### **Yaluobil: “That Which Lowers”**

Tobacco’s magical ability to incapacitate or neutralize threatening entities or forces that are immediately present is referred to as *syaluobil* (“that which lowers or neutralizes something”). Given the close relationship between chewing tobacco and the deities of earth and sky known as “angels” (*anjeletik*), tobacco powder protects from the dangers posed by these supernatural forces and the diverse creatures and phenomena under their control. Prepared tobacco is widely appreciated for its defense against meteorological threats; when rubbed on the body, it protects one from lightning strikes. A man pursued by a sickness-causing rainbow can neutralize it by scattering tobacco powder on the ground (Breedlove and Laughlin 1993:243). Similarly, tobacco juice spat toward an approaching storm will divert the winds, driving away the horned serpent (*xulub chon*) said to ride inside these destructive tempests. Indeed, spitting tobacco juice at snakes of all types—said to be the “dogs” of the *anjeletik*—can paralyze them; and should one be bitten, a paste of chewing tobacco neutralizes the venom.

### **Makobil: “That Which Closes or Blocks”**

When used as a prophylactic to prevent supernatural or ordinary illness, tobacco’s ability to “block” (*-mak*) the affliction is emphasized. For example, tobacco is referred to as *smakobil chamel* (“the thing which closes off or blocks illness”) when used to prevent supernaturally inflicted illness, and protective tobacco rubs or baths are the final stage in many shamanic curing ceremonies. Ground tobacco and garlic, mixed with cane liquor and rubbed on the head, forearms, and calves during certain curing ceremonies, protects the curer and any observers from being “seized” (*-tzakvan*) by the sickness that is expelled from the patient’s body. Warm baths of tobacco water (usually sprinkled on the head) also serve to prevent malign forces from returning to afflict the patient during the recovery period. In addition, ground tobacco sprinkled in the form of a cross in the doorway and along the walls of the house seals it from evil influences, repelling witches and the sicknesses they bring. Tobacco powder rubbed on the body also prevents excessive dreaming, which is linked to assault by witches.

Should a person slip and fall near a waterhole, river, or cave (many of which are inhabited by “angels” or “earth lords” who may snatch the soul of the person), shock-induced soul loss can be prevented by promptly rubbing tobacco

on the body. And if, by chance, the soul is taken captive “there where the earth has its owner,” tobacco powder serves as a ransom. A small quantity of tobacco, along with other “replacement offerings” (*k'exolil*), is buried at the precise spot where the person fell in exchange for the soul. During the soul retrieval, all members of the curing party rub tobacco and garlic on their bodies in order to protect their own souls from being seized.

A Chamula curer explained that they use tobacco in soul collecting rituals because the place where the person fell is “living earth” (*kuxul banamil*), controlled by an earth deity (*anjel*) who acts as its “owner.” Since tobacco is also called *anjel*, “the two angels talk together” in order to affect an exchange. Another man explained that tobacco’s strong odor distracts the earth lord’s attention from the captive soul, causing him “to forget [the victim] completely in both head and heart” (*ta sch'ay yo'nton, ta sch'aybe sjol*), thereby allowing the curer to retrieve it. In reference to this distractive potential, in Zinacantán tobacco is sometimes called *makob ssat balamil* (“closer of the earth’s eyes”), *makob jak' chamel* (“witch stopper”) or *makob utz kolo'* (“evil stopper”; Breedlove and Laughlin 1993:582). It is interesting to note that Chamula folklore holds that earth lords enjoy only smoking tobacco; the rank odor of chewing tobacco repels them.

### Metz'tael: Magical Protection

Tobacco is also used as a general protective talisman (*metz'tael, sekreto*), shielding the user from the sickening effects of strong emotions in others. In Chamula, parents protect their babies from “hot eye” (*k'elsat*)—a sickness caused by the benign envy of an admiring person—by tying tobacco, garlic, and chile peppers around the infant’s belly before it is carried about in public. A pregnant woman can also protect her unborn fetus from attack by the “heat” of other infants (an illness known as *ti'el*, “a biting”), by wrapping this same tobacco-garlic-pepper talisman around her own belly.

In addition to protecting people, tobacco is used to magically guard objects, animals, and crops against damage or molestation (a procedure known as *metz'tael ta moy*, “protection with tobacco”). People rub a mixture of tobacco, cane liquor, and garlic on the bellies and flanks of horses before ritual racing in the town center of Chamula. Common belief holds that invidious people send pathogenic wind or “aire” (*ik'*) into the horses’ bellies, causing them to fatigue quickly or stumble. The tobacco rub confers greater “heat” and speed upon the animals, while protecting them from these malign influences. The same mixture rubbed on sheep’s bellies similarly eliminates intrusive “aires.” In Zinacantán, Breedlove and Laughlin (1993:243) reported that tobacco powder and garlic are sometimes sprinkled around cornfields to protect crops from marauding raccoons.

Tobacco is also used to combat a class of stinking supernatural animals known as *potzloom*. These animals, which are said to take the form of a small fox-like animal, are variously said to be witch transformations or their malevolent representatives. Should one of these creatures approach a house at night, the owner must undress and rub his body with tobacco, a process thought to render him invisible, before confronting the animal. If the man succeeds in killing it, he throws ground tobacco, garlic, and cane liquor on the corpse to prevent it from reanimating (in this context, tobacco is considered a *syaluobil*). Vigilantes

traditionally protected themselves with tobacco rubs when killing witches, lest the maleficent soul of the evildoer pass into the body of one of his assailants at the moment of death.

Similar protective applications are used on objects. In the past, shotguns for killing both witches and *potzlom* were “magically empowered” or “cured” (*metz'tabil*) by rubbing the barrel with “hot” substances such as tobacco, garlic, and male pubic hair before the attack. During religious ceremonies, ground tobacco is rubbed on cooking pots to protect them from witches or demons; if not “cured” in this way, the pots may fracture during cooking, spilling their valuable contents into the fire. Tobacco is also applied to tamale pots to ensure that the food turns out well; if not, it is said that half of the tamales will come out well-cooked, while the other half remains raw.

While tobacco offers great protective potential here on “the face of the earth,” it is of even greater importance as a sign or indicator (*senyail*) of virtue in the Tzotzil underworld. Frequent use of tobacco snuff is believed to leave an invisible and indelible green stain in the center of the palm, blessing the user with an afterlife of ease and repose. A Chamula man explains:

If you know how to eat tobacco, it can be of use to your soul as well. There will already be a sign on your palm (*oy xa senyail ta ak'ob*), your hand will be green, really green [right in the center where you place the tobacco]. This is because when you were alive, you ate tobacco. So, if you die or if something happens to you, the tobacco [mark] is there on your palm. You will sit resting in the shade of a tree [in the underworld] while the other people work in their fields. If you didn't eat tobacco, you would be given some kind of bad thing [as punishment]... So, it's really much better if you know how to eat tobacco, then there is no torment [after death]—you've got the sign there on your palm...

Depending on the informant and context, there is some variation in the application of these terms. For instance, when using tobacco to paralyze a threatening animal, I have heard it referred to as both *syaluobil* and *metz'tael*. Similarly, tobacco used to prevent nightmares can be either a *syaluobil* (if its therapeutic effect is focused on “lowering” or eliminating an existing condition), or *makobil* (if it is employed primarily as a prophylactic measure to “block” dream affliction).

### Cosmological Associations of Tobacco and Gourd

In order to understand tobacco's significance as a quasi-supernatural therapeutic and protective agent, we must examine more closely its place within local cosmology and mythology, both past and present. Although Ancient Maya cosmological beliefs surrounding tobacco remain obscure, ethnographic and ethnohistoric investigations shed some light on pre-Columbian tobacco ideology and practice. Similarly, recent interpretive advances in the fields of Ancient Maya iconography and epigraphy have deepened our understanding of contemporary Mayan tobacco use and associated beliefs. In this section I review these data in order to contextualize highland Maya tobacco culture within broader temporal and regional patterns.

### Tobacco as “Old God L” and “Elder Brother”

John Carlson argues that the Classic Maya “Old God L” (most famously depicted as an old man smoking a large cigar in the Temple of the Cross in Palenque) is “the personification of tobacco itself, in all of its forms” (Carlson 2007b:11; see also Carlson 2007a; Miller and Taube 1993:112, 147, 169). Based on extensive epigraphic and iconographic research, he suggests that God L was referred to as both *May* (“tobacco”) and probably *Ch’ul May* (“Holy Tobacco” or “Holy Medicine”). Interestingly, tobacco is referred to in Zinacantec Tzotzil as “great old man” (*muk’ta mol*), perhaps reflecting a survival of this close connection between Old God L and tobacco. This deity is the “First Shaman” or “First Priest,” and was the principal deity associated with medicine and curing. Along with *Chac Chel* (“Old Goddess O”), the patroness of midwives and healers, he forms half of the “Primal Ancestral Pair,” perhaps linked to the cults of the Sun and Moon. Old God L is often depicted facing God K (“Smoking Lightning Axe”), a deity related to the Mayan Storm God complex.

This association between tobacco and deities of storm and sky can still be found in fragments of contemporary highland Maya cosmology. In many communities tobacco snuff is referred to as “Older Brother” (*bankilal*). This name indexes local cosmological beliefs in which Tobacco is explicitly identified as the elder brother of Thunderbolt (*chauk, anjel*). It is said that Older Brother Tobacco scolded Younger Brother Thunderbolt for striking people, and that tobacco now serves to protect people from meteorological disturbances such as destructive “thieving winds” (*j’elek’ ik’*), lightning (*chauk*), and sickness-giving rainbows (*vaknabal*). A Tzotzil man from Chamula explained the relationship:

Thunderbolt is younger brother of tobacco. Tobacco has power over storms because he is the older brother of lightning and thunder. If the wind and thunderbolts come, tobacco dissipates them. The two talk together—Thunderbolt up above and Tobacco here [in the gourd]. They talk with each other and the storm calms. Since tobacco is the older brother, he has more power. He diminishes the power of his younger brother, thunder and lightning. That’s why [tobacco] is called “elder brother”...

Based on similar ethnographic data, Carlson (2007b:11) speculated that the aforementioned Old God L (“Holy Tobacco”) and God K (“Smoking Lightning Axe”) are related to one another as elder and junior brother, paralleling precisely the contemporary Tobacco-Thunderbolt/Elder Brother-Younger Brother association.

### Tobacco as “Angel”

In Chamula Tzotzil the favored name for prepared tobacco snuff is *anjel* (“angel”). This term references the same network of associations as the “older brother” appellation, emphasizing the connection between tobacco and a class of celestial and earthly deities. Among both Tzeltal and Tzotzil speakers, *anjel* refers principally to thunder and lightning, as well as tobacco. The name also refers to the various “earth lords” (*yajval vitz*) that inhabit local landforms (such as waterholes, mountains, and caves), all of whom are closely associated with the



production of both nourishing rains and destructive winds (Mendelson 1967; Thompson 1970:267–270). Owing to its relation as “elder brother” to Thunderbolt, tobacco exercises control over these “angels” and the elemental forces with which they are associated. This senior-junior (*bankilal-itz’inal*) relationship explains tobacco’s ability to defend against dangers posed by these potentially malevolent forces of earth and sky.

Köhler’s (1995) ethnohistoric work on the relationship between the rain gods, earth lords, and “angels” illuminates some of the cosmological underpinnings of highland Maya tobacco belief. During the Colonial Period, tobacco appears to have become associated with San Miguel Arcángel, the most powerful of the Christian angels. In the Yucatan, the name *canjel* is used in reference to San Miguel, as well as various elements and phenomena associated with the rain gods, such as thunder, lightning, and storms (Redfield and Villa Rojas 1934:116 cited in Köhler 1995:123). Köhler (1995) argued that *canjel* derives from a contracted form of San Miguel’s title “*Arcángel*” (archangel) perhaps also explaining why he was regarded by the Yucatec Maya as the most “senior” (or *bankilal*) of the local *chaacs*, or rain gods. Here we find yet another likely historical connection explaining the origin of both the “senior/elder brother” name, as well as the close association between tobacco and “angelic” protective power. Drawing on the work of Lehmann (1949), Köhler (1995:125) pointed out that the story of San Miguel Arcángel played an important pedagogical role in the evangelization efforts of early missionaries, who emphasized that many of the beings worshipped by the Maya as gods (such as “earth deities”) were actually fallen angels defeated by San Miguel and banished from Heaven. This evangelical account of a battle in the sky between warring angelic armies connected the Christian “angels” to the thunderous rain gods of the ancient Maya, and the iconographic representations of San Miguel brandishing a flaming sword readily associated him with the forces of lightning and thunder. This association persists in contemporary highland Maya beliefs linking tobacco to protection from meteorological disturbances such as lightning strikes, hailstorms, and destructive winds.

### Syncretic Christian-Mayan Tobacco Lore

As this discussion suggests, tobacco has been deeply integrated into the syncretic Christian cosmology of traditional Mayan Catholics. As a “traditionalist” from Chamula explains, the protective power of tobacco was recognized during the First Creation by Our Father in Heaven (*jotitk ta vinajel*) the Sun-Christ deity, the primary protector of humanity and the first person to plant and use tobacco:

A long time ago, Our Father walked like a real person—like us, he walked the earth. And tobacco, well he carried it with him as he walked about. That’s why tobacco remains on earth and continues to serve the people. You know why? Because Our Father carried it with him, he had his tobacco a long time ago. He chewed tobacco and used it whenever he went walking about....That’s the way they say it was long ago with Our Father. He always carried his “helper” (*skoltaob-ba*), he had a helper to augment his own power...

Tobacco served as a powerful ally even during the First Creation, protecting the Sun deity himself during his travels on the face of the earth. Owing to its

protective potency, in Chamula Tzotzil the protective tobacco mixture is sometimes referred to as “helper” or “assistant,” a powerful botanical ally that augments the bearer’s strength or “power”:

Tobacco is called *koltaob-bail* (“helper” or “assistant”) because it has power (*’ip*), it has strength (*pwersa*). When we prepare chewing tobacco and put it in the gourd, Our Father blesses it. It has power and strength because Our Father used it long ago. Just as you might carry it with you, so he carried it about with him. If you go out walking now, you take it with you, because it has power. Nothing will happen to you as you walk down the trail, even at night. If there’s a demon (*pukuj*), he won’t approach, because [the tobacco] you are carrying with you has much stronger power. The demon doesn’t have power like that. If all you’ve got with you is a cigarette you’ll die really quickly because a mere cigarette can’t defend (*-poj*) you. But if you have tobacco it will drive away the demon, because tobacco has its power. So if you have it with you, you too will have more power...

### The Symbolism of the Tobacco Gourd

Although many of the underlying cosmological associations have been lost, the tobacco gourd also appears to have been rich with symbolic import. A Chamula folktale I collected recounts how the Sun-Christ deity’s tobacco gourd transformed into Hummingbird at the end of the First Creation, explaining both the origin of the hummingbird as well as its unique dietary preferences:

Our Father’s tobacco had its container [its gourd] (*yavil moy*). When he ceased to walk the earth long ago, his tobacco gourd was thrown aside and fell into disuse. It felt sad there where it was left, so it transformed into a bird, it became a hummingbird (*tz’unun*). Now that hummingbird—[Our Father’s] tobacco container—it didn’t know how to eat food, it just sucks the juice of flowers. This is because nothing but [fresh] tobacco was placed in the gourd [when Our Father carried it], nothing else. That’s why it turned into a bird, into a hummingbird. That’s why the hummingbird is called ‘Our Father’s tobacco gourd’ (*stzual smoy jtotik*). The tobacco gourd sprouted wings, spouted feathers. It began to flutter about in the air. So that tobacco gourd, it has a soul, its soul is Hummingbird...

As this folktale fragment indicates, the tobacco gourd is symbolically linked to the origin of the hummingbird and seems to share something of its essence (or vice versa). As the final line reveals, the soul of the tobacco gourd is Hummingbird, messenger of the Sun and protective animal companion of warriors throughout Mesoamerica. After relating this account, the narrator explained that the primordial link between the tobacco gourd and the hummingbird is preserved as a “sign” in the form of the gourd: the body of the gourd (*tzu*) is seen as a hummingbird’s body, with the stopper (*suk stzual moy*) forming its head, the string (*yak’il*) for the stopper suggesting a beak, and the elongated tip (*neil*) of the gourd resembling the hummingbird’s tail. Gossen

(2002:98) noted that in Chamula they metaphorically refer to the hummingbird as “Our Father’s Tobacco Gourd” (*stzu jtotik*), and two species are locally referred to as “little tobacco gourd” (*bik’ital tzu*) and “big tobacco gourd” (*muk’ta tzu*).

This story appears to draw on widespread Mesoamerican beliefs relating to the protective potency of both the hummingbird and the tobacco plant. Gossen (2002:1033) reported that the hummingbird is considered sacred in both Chamula and Zinacantán, and is “associated with the Sun god and tobacco.” Recinos (1961[1952]:105, cited in Page Pliego 2005:146) pointed out that Hummingbird was connected to the ancestral creator deities of the Popol Vuh, acting as their animal soul companion, the “guardian and protector of the people and their souls...” Similarly, Guiteras Holmes (1961:248) reported that in the Tzotzil community of San Pedro Chenalhó, Hummingbird is considered to be one of the most powerful animal souls, possessed only by the *totilme’il* (“father-mothers”), a hidden cabal of supernaturally powerful men who protect the community from illness and other invasive threats. Hummingbird protects peoples’ animal souls from predation by Jaguar, who will kill and consume them should they find themselves unprotected (Guiteras Holmes 1961:134). Alonso Méndez Ton (1961) recounted a Tenejapa Tzeltal tale in which a man is saved from a jaguar by the protective power of a gourdful of “holy elder brother” tobacco (*ch’ul bankilal*). In addition, Hunt (1977) established a close connection between Hummingbird and the Sun, an association reflected in the aforementioned myth from Chamula, in which the tobacco gourd serves as a protective “helper” to the young Christ deity, before his death and resurrection as the Sun.

Myths from Guatemala emphasize a similar Sun-Hummingbird-Tobacco connection. A Mopan Maya folktale reported by Thompson (1970:364) describes an adventure of the young Sun deity who, while attempting to woo a young girl who would later become the Moon, slipped and fell in front of her. As she laughed at him, he transformed into a hummingbird and darted back and forth between the flowers of a tobacco plant, presumably drinking their nectar. After the girl’s father killed the hummingbird with a blowgun dart, the girl took the dead hummingbird into her room where it revived, and they fled together to become the Sun and the Moon. A cognate myth collected among the Kakchiquel Maya indicates that at night the Sun transformed into a hummingbird in order to visit his lover—the future Moon—in a disguised form that would not be noticed by her father (Thompson 1970:365). In a Kekchi version of this same story, the young Sun deity is explicitly identified as *Xbalamque*, Jaguar Sun, establishing a line of continuity with the hero twins of the Popol Vuh (Thompson 1970:364).

Despite the gaps and inconsistencies in these diverse myths and folktales, they allow me to account for many puzzling features of highland Maya tobacco culture, including: the plant’s enigmatic metaphorical names (“elder brother” and “great old man”), its close connection to personal protection (particularly against atmospheric and meteorological threats), as well as various symbolic associations found in both ancient and syncretic folklore fragments. Elucidation of the full cosmological import of tobacco must await further research into Ancient Maya symbolism, as well as additional ethnobotanically-focused ethnographic and ethnohistoric studies.

### Changing Patterns of Tobacco Use and Potential Health Impacts

Unfortunately, this well-developed ethnobotanical tradition of tobacco use and lore is in danger of disappearing due to the availability of commercial cigarettes combined with widespread conversion to evangelical Protestantism, both of which have led to the rapid decline of traditional tobacco ingestion throughout the highlands. While tobacco use continues, the contours of “traditional” practice have shifted, becoming at once more limited and more closely associated with orthodox religious beliefs. Among Mayan Catholic “traditionalists,” tobacco snuff has become increasingly sacralized and is now almost exclusively associated with ritual, medicinal, and protective uses, while its more secular and social functions have been replaced by commercial smoking tobacco.

Commercial cigarettes (*sikarol*), are now commonly used in ritual, therapeutic, and secular contexts. While traditional tobacco remains well known and respected (and is frequently used in rituals and ceremonies of all sorts), its daily use as a stimulant is almost extinct, save for a few old men who still walk around “drunk on tobacco.” In many communities, particularly those dominated by Evangelical Protestant converts, traditional tobacco use has been completely abandoned. The plant is closely linked to the practice of traditional curers, a group that has been rejected by Protestants as morally suspect and possibly evil. As a result, many of the powerful ritual substances associated with traditional curing, especially those with an intoxicating effect, such as tobacco and cane liquor, have also been rejected as corrupt and spiritually threatening.

The replacement of traditional chewing tobacco with commercial cigarettes will likely lead to an increase in tobacco-related morbidity and mortality. Limited data suggest that “smokeless” tobaccos may pose fewer of the health risks associated with burned and inhaled forms (Broadstock 2007; Foulds et al. 2003; Powledge 2004; Roth et al. 2005). Specifically, the use of high-pH, low-nitrosamine, chewing tobacco appears to maximize the desired effects of mild nicotine intoxication while offsetting some of the most common risks associated with commercial cigarettes (Boffetta et al. 2005; Bolinder 1994; Ferlay et al. 2004; Lagergren et al. 2000; Levy et al. 2004; Lewin et al. 1998; Luo et al. 2007; Rosenquist et al. 2005; Schildt et al. 1998). In addition, the addictive potential of chewed tobacco may be lower than that of smoked forms. Recent research suggests that nicotine dependence is related primarily to the speed of nicotine delivery rather than to absolute levels of free nicotine (Foulds et al. 2003; Henningfield and Kennan 1993; West et al. 2000). Although oral tobaccos produce a greater availability of free nicotine, it is delivered to the brain at a slower rate than inhaled form, which may offset some of the addictive potential of higher nicotine concentrations (Foulds et al. 2003).

This is not to say that highland Maya tobacco preparations are without danger. A number of health risks accompany use of “traditional” oral tobaccos: in addition to some level of carcinogenicity, many are linked to periodontal disease and may also contribute to the development of cardiovascular disease, peripheral vascular disease, hypertension, peptic ulcers, fetal morbidity and mortality, and pancreatic cancer (OTRU 2007). Highland Maya tobacco snuff is

informally produced, and thus quite variable. It is made from tobacco plants that may vary widely in chemical content, it employs a range of admixtures (in varying ratios) that may condition its effects on the body, and it is prepared, stored, and used in any number of idiosyncratic ways. All of these variables could potentially increase the levels of carcinogenic tobacco-specific nitrosamines present in highland Maya tobacco preparations, considerably increasing potential health risks (Hoffman et al. 1995; IARC 2007:74–81).

While the particular chemical composition and potential health impacts of highland Maya tobacco snuff use must be directly assessed before any definitive conclusions can be reached concerning intrinsic safety, traditional social norms relating to its preparation, exchange, and use serve to moderate use in ways not applicable to commercial tobaccos, which can be bought and sold with ease, and consumed rapidly and in large quantities. While tobacco abstinence is certainly the healthiest alternative, controlled use of traditional oral tobacco might be considered preferable to smoking in contexts of mixed or habitual use.

### Conclusions

This article documents contemporary highland Maya use of traditional tobacco (*Nicotiana tabacum*) preparations, providing an overview of the therapeutic, ritual, and cosmological significance of this quintessentially Amerindian plant. Among the Ancient Maya, *Nicotiana* was considered to be sacred plant, closely associated with deities of earth and sky, and used for both visionary and therapeutic ends. The contemporary Tzeltal and Tzotzil Maya of Highland Chiapas are the heirs to this ethnobotanical tradition, maintaining a complex tradition of *Nicotiana* use and folklore. The entire tobacco plant is viewed as a primordial medicine and a powerful botanical “helper” or “protector” with uses both mundane and divine. Depending on the condition to be treated, whole *Nicotiana* leaves used are used alone or combined with other herbs to prepare various medicinal plasters and teas. In its most common form, fresh leaves are ground with slaked lime to produce an intoxicating oral snuff that serves as both a protective and therapeutic agent. This mixture, stored in small, highly polished gourds, represents an unbroken tradition of Mayan oral tobacco snuff use spanning more than a thousand years.

Unfortunately, this well-developed ethnobotanical tradition is in danger of disappearing owing to the availability of commercial cigarettes (combined with widespread conversion to evangelical Protestantism), both of which have led to the rapid decline of traditional tobacco use throughout the highlands. A review of recent biochemical research suggests that tobacco powder oral snuffs may be less dangerous to health than smoked tobaccos, despite their addictive potential. When seen in this light, the replacement of traditional tobacco snuff preparations with commercial smoked tobacco products raises a number of health concerns. I hope that this article stimulates further comparative medical-ethnobotanical research into the social significance and cultural history of tobacco use among both contemporary and ancient Maya populations, along with more detailed biochemical assessments of the health impacts of traditional and commercial tobacco preparations. Through such focused research we will come to better



understand the ongoing importance of this primordial medicine in the medical culture and worldview of indigenous Mesoamerica.

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