Ancient Mesoamerica, **11** (2000), 55–75
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CACAO AND CHOCOLATE

A Uto–Aztecan perspective

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Abstract

The origin of the words 'cacao' and 'chocolate' and their use in the reconstruction of the early history of Mesoamerica, remain very controversial issues. Cambell and Kaufman (1976, *American Antiquity* 41:80–89), for example, proposed that the word 'cacao' originated from Mixe–Zoque languages, thus possibly representing Olmec traditions. According to this argument, other Mesoamerican languages, including Nahuatl, borrowed the word as a symbol of prestige and Olmec influence. Other researchers claim the word 'chocolate' represents a more recent neologism, a possible Maya–Nahuatl hybrid, due to the late appearance of the word in central Mexico's Colonial sources. We refute the putative Mixe–Zoque origin of 'cacao' and provide linguistic evidence to propose that 'cacao,' like 'chocolate,' is a Uto-Aztecan term. Analysis of these words highlights general and particular evolutionary trends that originate from the Uto-Aztecan language family. In addition, we show that these two words were initially used as descriptive terms to refer to the shape of the plant's bean and the techniques of drink preparation. Etymological evidence verifies the use of a Mayan term for cacao as early as the Classic period (fourth century A.D.). This early appearance of the term in Mayan and the later diffusion of the Nahua word throughout all of Mesoamerica correlate with additional data to support the conclusion that Teotihuacanos spoke Nahuatl.

Cacao and chocolate, the rich frothy drink prepared from it, have long been the focus of intellectual curiosity both because of their importance in Mesoamerica and as highly valued contributions to the rest of the world. Such interest includes many efforts to identify the linguistic origins of both terms, because those origins carry with them implications of the historical importance of the speakers of the source language. Although both words were borrowed into Spanish from Nahuatl,[1] the facts that the cacao beans come from southern Mesoamerica and not the central Nahuatl area and that chocolatl (/*čokola:tl*/), the written form of the word for 'chocolate' later found more generally in Spanish and Nahuatl documents, does not appear in early Colonial Nahuatl sources from central Mexico, have led linguists and ethnohistorians to look for non-Nahuatl origins for both words.

In this paper, we explore a contrasting hypothesis and consider the possibility that both terms may be bona fide Nahuatl words with Uto-Aztecan etymologies. In doing so, we refer to a methodology that has been fully developed since the nineteenth century. The borrowing of words from one language to another has often been used by historical linguists to provide evidence on the sociohistorical relationships of the different groups involved. Three of the principles used in determining the direction of borrowing are summarized by Justeson et al. (1985:3–4), whose interests center on the same area as ours, and our arguments build on these three principles: (1) morphological transparency in one language, but not in the others; (2) the ability to reconstruct words to an earlier language stage in the linguistic family of one language, but not of others; (3) phonological and grammatical anomalies, in which nonnative forms can be seen to be in conflict with the patterns of native words.

Justeson et al. (1985) provided a fourth principle, which is known to philologists as "Wörter und Sachen, " meaning 'words and the thing they refer to':

> loanwords and material culture. . . . When material objects are diffused from one to another, their original word has the same referent in languages A and B, and the referent is known to have diffused from the area occupied by speakers of A to that of the speakers of B, then the word can also be assumed to have diffused from A to B, barring evidence to the contrary. . . . Nahua speakers borrowed their words for 'cacao,' 'ceiba' (or silk-cotton tree), 'cork tree,' and many other Mesoamerican plants upon arriving in the region [Justeson et al. 1985:4].

Justeson et al. (1985) based their conclusions on the direction of change primarily upon this last principle, citing the cases of 'cacao' and the 'cork tree'; the latter is used for paper making and house construction in the area, but it is not often found in the highlands of central Mexico. Nevertheless, we want to emphasize that the sociogeographical situation last described can also produce other kinds of linguistic change or adaptation. One alternative strategy to borrowing is for speakers to employ productive

[1] In this paper we use *Nahuatl* to refer to the language, including all dialectal variants, and the word *Nahua* to refer to the people whose language was one of those variants, regardless of whether the latter contained *tl* or only *t*.

https://doi.org/10.1017/S0956536100111058 Published online by Cambridge University Press

Table 1. Mixe–Zoquean forms for 'cacao'

Main Division	Subgroup	Language	Dialect	'Cacao'
Mixean	Oaxaca Mixean	North Highland Mixe	Totontepec	*káku*
		South Highland Mixe	Tlahuitoltepec	*kakó:w*
			Mixistlan	*kaká:wa*
		Midland Mixe	Juquila, Jaltepec	
			Puxmecatan	*kɨgá:*
			Matamoros	*kɨgá:w*
			Atitlan	*kagá:w*
		Lowland Mixe	Coatlan	*kɨ'ɨgá:*
			Camotlan, Guichicovi	*kɨgá:*
	[Subgroup = language]			
		Oluta Popoluca		*kaká?w*
	[Subgroup = language]			
		Sayula Popoluca		*kágaw*
	[Subgroup = language]			
		Tapachultec		<*k'ik'u*>
Zoquean	Gulf Zoquean	Sierra Popoluca		*ká:kwa*?
		Ayapa Zoque		*ká:g^{w}a*
		Texistepec Zoque		*ka:k*
	[Subgroup = language]			
		Chiapas Zoque		
			Central dialect	*kakáwa*
			North dialect	*kákwa*
	[Subgroup = language]			
		Chimalapa Zoque		
			Sta. María	*kakáwa*

processes in their language to invent new descriptive terms for material objects they encounter. Part of our argument for the etymologies that follow will be based on a general tendency by Nahuas to create new descriptive terms using Uto-Aztecan processes of word formation for the new entities that they encountered in Mesoamerica. The kinds of evidence considered are both linguistic and ethnographic. Given our understanding that such suggestions may stir some controversy, we anticipate countering arguments and discuss alternative etymologies that have been proposed. We then discuss the implications that the identification of these terms as Nahuatl pose for the history of Mesoamerica.

CACAO

Refutation of an Earlier Hypothesis of the Etymology of Cacao

Perhaps the most widely accepted etymology for cacao, or *kakawatl*, the word as found in Nahuatl, and similar words in other Mesoamerican languages is the one proposed by Campbell and Kaufman in 1976. Although at first Kaufman (1971:97) identified forms of *kakawa* as Nahuatl loans, in this later joint article, Campbell and Kaufman (1976:84) stated that the Nahuatl term *kakawa-* "lacks cognates in other UA [Uto-Aztecan] languages, [and is] not found in the UA homeland," and they argue that the origin of the word is to be found in proto-Mixe–Zoquean **kakawa*. The presence of words similar to their hypothesized form in a host of other Mesoamerican languages, along with the economic and cultural importance of cacao, makes the proposed etymology one of Campbell and Kaufman's (1976) key arguments for identifying speakers of proto-Mixe–Zoquean—at least in part—with the people who were responsible for developing the Olmec civilization (approximately 3000 years ago). Starting with linguistic facts, we will first question the validity of the proposed etymology and then suggest a new one.

Attestations for the word for 'cacao' in Mixe–Zoquean are admittedly suggestive of a proto-Mixe–Zoquean etymon. A proto-form **kakawa*, similar to the one discussed by Campbell and Kaufman (1976), was also reconstructed in Wichmann (1995:cognate set KA#029), although the author expressed his reservations about its validity. These reservations were prompted by irregularities found in some of the descendant forms and the fact that morphemes consisting of three open syllables (CV.CV.CV) are exceedingly rare in Mixe–Zoquean (the only other proto-Mixe–Zoquean morpheme with this structure being **makoko*, 'cockroach'). Let us now take another look at the data, which are reproduced in Table 1.[2]

The main problem faced when trying to account for this data is that several languages (North Highland Mixe, Sayula Popoluca, the three Gulf Zoquean languages, and the North dialect of Chi-

[2] There are small differences from this presentation of the data and that of Wichmann (1995:343). First, the representations of the forms differ slightly from those cited therein: although accent is non-phonemic, it has been marked due to its relevance to the diachronic arguments; furthermore, standardizations of representational conventions that might cause confusion in the absence of explanations have been made, such that Oaxaca Mixean V″ is substituted for V′V and Sayula and Oluta Popoluca contoid /u/ for /w/. Secondly, a Tapachultec form has been added; the form is enclosed in pointed brackets to indicate that it is not necessarily phonemic or, indeed, completely reliable. The form was recorded by Karl Sapper in 1893; we cite it from Lehmann (1920:782). Finally, the language designation "Soteapan Zoque" is substituted for the more widely used "Sierra Popoluca." For references to sources used see Wichmann (1995).

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apas Zoque) show stress or the effects of stress on the first syllable, although the expected proto-Mixe–Zoquean pattern is to have stress on the penultimate syllable (Wichmann 1995:68). If we were to derive the various forms from **kakáwa*, 6 of the 17 Mixe–Zoquean forms cited would come out as irregular. Thus, according to the sound laws established and exemplified in Wichmann (1995:163–205), a proto-form **kakáwa* would yield North Highland Mixe *kaká:w*, Oluta Popoluca *kakáwa*, Sierra Popoluca and Ayapa Zoque *kaká:wa*, Texistepec Popoluca *kaká:w*, and Chiapas Zoque (North) *kakáwa*.

The most plausible alternative scenario seems to be that a word *kakawa* or one close to that in form was borrowed into the linguistic family, but at a time when it was still at an early stage of differentiation, more precisely when we can reckon with two dialect groups formed by speakers of pM and pZ, respectively. In both cases, speakers perceived the word as stressed on the first syllable. We presume that the immediate donor shape was *kàkawá* (see below). A form such as this, with secondary stress on the first syllable and primary stress on the last, would leave Mixe–Zoquean speakers with a choice of stressing either the first or the last syllable in their native adaptation of the term. Both proto-Mixean and proto-Zoquean speakers chose to stress the word on the first syllable. In proto-Mixean this had the consequence of the last syllable being dropped. By this means, the form **kákaw* was arrived at which fits the phonotactic pattern of the proto-Mixean reconstructed language (see parallel forms in Wichmann 1995:128–129, No. 96–111). From pM **kákaw* the descending forms fall out just as all the sound laws established by Wichmann would lead us to expect. In North Highland Mixe the form underwent the development **kákaw* > *kakw* > *kaku*, a development which is completely to be expected (Wichmann 1995:Rules 7.1.2a and 7.2.2). Oluta Popoluca developed a glottal check in the last syllable, which, as many parallel examples lead us to expect, attracted the stress to this final syllable (for a discussion of this phenomenon, see Wichmann 1995:86 and 184–185:Rule 7.9.6). Sayula Popoluca retained the original proto-Mixean form, albeit with a change of the middle |k| to |g|. Tapachultec, a language for which the limited and not always reliable data inhibit elaborate phonological hypotheses, probably behaved like North Highland Mixe, but in addition the identity of the first vowel was affected and, possibly, the velar stops (throughout the source three different kinds of velar stops, symbolized <c>, <k>, and <k′> are exhibited, but it is not clear what the phonetic or phonological differences are—indeed, there may be no phonological differences).

The Oaxaca Mixean languages developed like branches that sprout from a stem as it grows taller. North Highland Mixe was the first language (or "branch") to develop from the proto-Oaxaca Mixean ancestor (or "stem"). The section of the stem just above the place where North Highland Mixe branched off connects all the remaining Oaxaca Mixean languages to their base, and this section would represent the place in time where a differently stressed form of the word for 'cacao' was introduced. In all of the South Highland, Midland, and Lowland Mixe dialects, 'cacao' is stressed on the second syllable rather than the first. Because there are no parallels to such a stress shift, we assume that the word entered or reentered the common immediate ancestor of these languages via one or more non-Mixean neighboring languages. The strongest piece of evidence supporting this hypothesis is the form from the Mixistlan dialect of South Highland Mixe, *kaká:wa*. There is no way that this could be an inherited Mixe–Zoquean form because final vowels are lost in proto-Oaxaca Mixean (Wichmann 1995:Rule 7.1.2a, examples on pp. 123–131).

To account for the Zoquean data we may also assume that a form such as *kàkawá* was borrowed. A slight adaptation of *kàkawá* to **kákawà*—a shape that better fits the preferred phonotactic pattern, although not perfectly—could have given rise to the proto-Gulf Zoquean development **kákawà* > **ká:kwa* with subsequent further reduction in Texistepec Popoluca to *ka:k*. In individual dialects of Chiapas and Chimalapa Zoque the original donor form was modified to *kakáwa*, a form that fits the preferred stress pattern; the form *kákwa* of the North dialect of Chiapas Zoque is the only form left to have retained traces of the original stress pattern. It is not clear whether *kàkawá* was introduced into the Zoquean branch at the proto-Zoquean stage or at a somewhat later stage where the languages were more differentiated. The simplest hypothesis, however, is to assume that the word was introduced in proto-Zoquean times, because this allows us to assume that borrowing into Zoquean was contemporaneous with borrowing into Mixean.

Our reinterpretation of the history of the word for 'cacao' as seen from a Mixe–Zoquean point of view leads to the conclusion that it is not possible to continue to attribute a Mixe–Zoquean origin to it. Instead we argue that the word *kakawa*—most likely pronounced *kàkawá* by its donors—entered from the outside at an early stage of the differentiation of the language family into proto-Mixean and proto-Zoquean.

The time of differentiation can be dated from the convergence of different kinds of evidence. Research into so-called epi-Olmec writing has identified the language of this writing system with proto-Zoquean (Justeson and Kaufman 1993); the calendrical parts of the inscriptions carry dates, the earliest of which is A.D. 32 (Stela 2, Chiapa de Corzo [Lowe 1962]) and the latest, A.D. 162 (Tuxtla Statuette [Covarrubias 1947]).

A word *kakawa* began to spread throughout Mesoamerica some time during the first centuries of the present millennium. As the Appendix shows, it is found today in most Mesoamerican languages.[3] In the following section we explore the question of its origin.

[3] In the Appendix and in the remainder of this article linguistic forms from a large number of languages and dialects are cited. Unless other references are given in the body of the text it is understood that the following sources are used: *Akateko*: Andrés et al. (1996); *Andaluzian Spanish* Munthe (1887, cited in Vigon 1955); *Awakatek*: Kaufman (1969); *Boruca*: Campbell (1977: 114); *Bribri*: Arroyo (1966); *Brunka*: Arroyo (1966); *Cabecar*: Arroyo (1966); *Cahita*: Lionnet (1978a); *Cahuilla*: Seiler and Hioki (1979); *Catalan*: Alcover (1969); *Chamorro—Islas Marias*: Vera (1932); *Chatino—Tataltepec*: Pride and Pride (1970); *Chemehuevi*: Press (1979); *Chiapanec*: Becerra (1937: 239); *Chiapas Zoque—Francisco León*: Engel and Engel (1987); *Chiapas Zoque—Rayón*: Harrison and Harrison (1984); *Chicomuceltec*: Sapper (1968); *Chinantec*: González Casanova (1925:107); *Chinantec—San Juan Lealao*: Rupp (1980); *Chocho—Santa Catarina Ocotlán*: Mock (1977); *Ch'ol*: Aulie and Aulie (1978); *Ch'olti'*: Morán (1935:10) and Barrera Vásquez (1937:13); *Chontal of Tabasco*: Scholes and Roys (1948:366) or Keller and Luciano G. (1997); *Chontal of Oaxaca*: Turner and Turner (1971), Waterhouse (1980); *Ch'orti'*: Mayers (1966); *Ch'orti'—La Union*: PFLM (1972); *Cora*: McMahon and McMahon (1959); *Cuicatec*: Anderson and Roque (1983); *Dorasque*: Campbell (1977:114); *Dutch*: García Payón (1936); *Eudeve*: Lionnet (1986), Anonymous (1981); *Guarijio*: Miller (1996); *Guatuso*: Campbell (1977:114); *Guaymi*: Campbell (1977:114); *Hopi*: Albert and Shaul (1985); *Huave*: Stairs Kreger and Scharfe de Stairs (1981); *Huichol*: Grimes et al. (1981); *Itzáj Maya*: Schumann (1971); *Ixcateko*: Fernandez de Miranda (1961); *Ixil*: Kaufman (1969); *Jakalteko*: Mayers ed. (1966) and Day (ca. 1973); *Jicaque*: Dennis and Dennis (1983); *Kawaiisu*: Zigmond et al. (1991); *Kaq'chikel—Modern*: Campbell (1977); *Kaq'chikel—Colonial*: Vare[l]a (ca. 1600, cited in Campbell 1977); *K'eq'chí*: Campbell (1977); *Lacandon*: Fischer (1973, cited in Dienhart 1989); *K'iche'*: Campbell (1977); *K'iche'—Santa Catarina*: (Tum et al. 1996); *Lenca—Chilanga*:

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A New Etymology for Cacao

Eastern and Western Nahuatl: The early basic split in Nahuatl. It is important to consider the diversification of Nahuatl dialects and the position of Nahuatl in the Gulf corridor, where much of the early interaction between cultures took place. It is our position (cf. Canger and Dakin 1985; Dakin 1999, 2000), based on chronologically ordered phonological changes in the dialects and Colonial-period distribution, that there was an early basic split in Nahuatl which we do not attempt to date. The first groups must have left the Nahuatl homeland, probably located in the Durango–Jalisco region, and migrated into central Mexico, including what is now the eastern part of the State of Mexico, the Valley of Mexico, Morelos, central Guerrero, and Tlaxcala. We call the Nahuas of these early migrations Eastern Nahuas. At a later point some of these Eastern Nahuas moved northeast into the Huasteca and other groups went down into southern Mexico, into the Sierra of Puebla, and down to the lowlands through the south of the present-day states of Puebla and Veracruz, into Tabasco, Campeche, and Oaxaca in the Isthmus of Mexico, into Chiapas, including Xoconusco, and down into Central America. We emphasize it was these Nahuas who first came into contact with the tropical environment of southern Mesoamerica, which contained cacao and the various preparations made from it.

As mentioned above, many of the Nahuatl names for flora and fauna in the southern, more tropical regions of Mexico are descriptive, taking advantage of the rich possibilities in the language to invent new names. For example, the armadillo, whose pre-European contact distribution was limited to the tropics (Alvarez Solórzano and González Escamilla 1987:145), is called *ayo:-to:čin* or 'turtle–rabbit' in Nahuatl because of its rabbit-like long ears and turtle-like shell. The silk-cotton tree, or ceiba, is *počo:tl*. Justeson et al. (1985) attributed this word to Totonac, but we argue that it is a descriptive term that literally means "[plant] characterized by fluffy twigs [fruit]." The root is also found in the Nahuatl verb *poče:wa*, meaning 'to card fiber.' Another example is that of the cork tree, or 'jonote' in Mexican Spanish, a term supposedly borrowed from Sierra Popoluca *¢unuk*. In Mecayapan Nahuatl, the name for this tree is *šo:lo:-¢in*, a name ultimately derived from proto-Uto-Aztecan and associated with canines, but also connected in myths and astronomical formations involving doubling, for example, that of Venus (Dakin 1994, 1997). The literal meaning of *šo:lo:¢in* is "[plant] characterized by splits" (the trunk is formed by multiple growths up from the roots). Gutiérrez Morales (1998) has shown that Nahuatl loans into Gulf Zoquean change Nahuatl /l/ to Zoquean /n/, thus producing Sierra Popoluca (Soteapan Zoque) *¢onot*. Thus, it is our perception that Nahuatl has received very few loans from other languages but rather has resorted to resources of the language to produce new descriptive terms. Because of this, we consider it reasonable that, finding the names used by certain groups inappropriate or difficult, Nahuas should have invented a name in their own language for the cacao bean.

Returning to the diversification of Nahuatl dialects, it was at a much later point in Mesoamerican history that the second wave of Nahua migrations, whom we call Western Nahuas, moved down from the northern homeland. These groups probably would correspond to the Chichimecs described in ethnohistorical sources. They also migrated into central Mexico, where they came into contact with speakers of Eastern Nahuatl dialects. It is because of this mixture that we find evidence of both of the old dialects in the central area. For example, there are forms from both dialects in Molina's sixteenth-century dictionary. Other Western Nahuas moved south closer to the Pacific coast, through Nayarit and Colima, along the coast of Michoacan, into northern Guerrero, reaching even as far south as Pochutla, Oaxaca. It was the Western Nahuas arriving in central Mexico, however, who came to dominate the earlier groups. They in turn sent emissaries south to form Aztec garrisons that came to control the cacao-growing area, so that again we also find some evidence of cross-influences in the Nahuatl dialects spoken in these areas. The contact was less intensive than in the center, however, since the incoming Western Nahua population was much smaller. With this historical setting in mind, we can begin to consider the evidence for Uto-Aztecan etymologies for both the Nahuatl words, and how they may have been lent to the other Mesoamerican languages.

The Cacao Grain and Pod

It is important to consider what the cacao pod and seeds look like (Figure 1). The fruit contains about thirty seeds or grains that are oval or egg shaped. One might wonder whether the Nahuatl word *kakawa-tl* refers to the cacao pod or the seeds, but the following description by Sahagún (1963) confirms that it refers mainly to the seeds:

> motocaiotia cacaoacintli, cequij tlapalcamjltic, cequj azcamjltic, cequi tetexocamjltic: in jiollo injitic ca, in jitic tenticac, iuhqujn tlaolli; ieieh in nemj, in jtoca cacaoatl: inin qualonj, yoanj [Sahagún 1963:119, cited in Díaz Cintora 1998].

> Its name is "cacao ear." Some are reddish brown, some whitish brown, some bluish brown. That which is inside its heart (interior), that are filling it up inside, are like corn kernels; the growing ones are called cacao. These are edible, potable [Sahagún 1963:119, cited in Díaz Cintora 1998; authors' translation].

Lehmann (1920:2:695, 717); *Lenca—Guaxiquero*: Lehmann (1920:2:678); *Luiseño*: Bright (1968); *Mam*: Maldonado and Ordóñez (1983) and Mayers (1966); *Mangue*: Brinton (1886:11); *Mayo*: Collard and Collard (1974); *Mazatec—Chiquihuitlan*: Jamieson and Tejeda (1978); *Mixtec–Chayuco (Jamiltepec)*: Pensinger (1974); *Mixtec—San Juan Colorado*: Stark Campbell et al. (1986); *Mixtec—Santa María Peñoles*: Daly and Daly (1977); *Mixtec—Tepuzcula*: Pimentel (1874–1875:2:452); *Mopan*: Ulrich and Ulrich (1971); *Motozintlec*: Sapper (1968); *Nahuatl—Ameyaltepec*: Amith (1979–1993); *Nahuatl—Classical*: Molina (1571); *Nahuatl—Huastec*: Stiles (1980); *Nahuatl—Huazalinguillo*: Kimball (1980); *Nahuatl—Mecayapan*: Wolgemuth (1981); *Nahuatl—Nicarao*: Oviedo (1851–1855:1:8:Chapter 30, 4::42:Chapter 11); *Nahuatl—Rafael Delgado*: materials collected by David Tuggy; *Nahuatl—Tetelcingo*: Brewer and Brewer (1962); *Nahuatl—Zacapoaxtla*: Key and Key (1963); *O'odham*: Saxton et al. (1983), Mathiot (1973); *Otomí—Eighteenth Century*: Neve and Molina (1863:63); *Otomí—Querétaro*: Hekking and Andrés de Jesús (1989); *Panamint*: Dayley (1989); *Pocomam*: Campbell (1977); *Pokomchi—Colonial*: Barrera Vásquez (1937:13); *Pokomchi—Modern* (Stoll 1888:171); *Popoloca*: Léon (1911:xli); *Proto-Otomanguean*: Rensch (1976); *Proto-Tzeltal–Tzotzil*: Kaufman (1972); *Sayula Popoluca*: Clark and Clark (1974) and Clark (1961); *Serrano*: Hill (1989); *Southern Paiute*: Sapir (1931); *Subtiaba*: Lehmann (1920:2:948); *Tarahumara*: Hilton et al. (1993); *Tarasco—Colonial*: Gilberti (1559); *Térraba*: Arroyo (1966); *Tojolabal*: Lenkersdorf (1986); *Tojolabal (Early)*: Berendt (1870, cited in Dienhart 1989); *Totonac—Xicotepec*: Reid and Bishop (1974); *Trique*: Hollenbach and Hollenbach (1975); *Tubar*: Lionnet (1978b); *Tusanteko*: Schumann (1969); *Tzotzil—San Lorenzo Zinacantán*: Laughlin (1975); *Tzotzil—Santo Domingo Zinacantán*: Laughlin (1988); *Tzutujil*: Campbell (1977); *Xinca*: Campbell (1977:114); *Yaqui*: Johnson (1962); *Yukatek Maya—Colonial*: Pérez (1866–1877); *Yukatek Maya—Modern*: Blair and Vermont-Salas (1975, cited in Dienhart 1989); *Zapotec—Colonial*: Córdova (1886 [1578]); *Zapotec—El Valle*: Anonymous (1793:Folio 31); *Zapotec—Isthmus*: Velma Pickett, personal communcation 1994; *Zapotec—Juárez*: Nellis and Nellis (1983); *Zapotec—Mitla*: Stubblefield and Stubblefield (1991).

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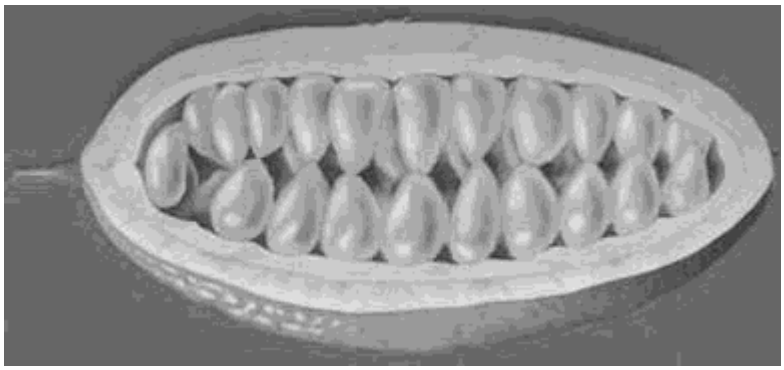


Figure 1. Cacao pod and seeds (photo supplied by Barion®).

When prepared, the seeds are somewhat mottled deep-brown and tan. The early Spaniards compared the seeds to objects from their own experience, such as the almonds they knew in Europe, and noted that the cacao seeds were a little larger. Using a different simile based on their own environmental history, the Nahuas saw the resemblance of the seeds to small mottled bird eggs, and just as the Spaniards compared them to almonds, they perceived the seeds as egg shaped, so that the word for cacao, as found throughout most of Mesoamerica bears resemblance to cognate words for 'egg' in Southern Uto-Aztecan languages (see Table 2).

Although several of the forms cited in Table 2 have the basic shape *kawa*, just as the form from which Nahuatl *kakawatl* would have been derived, the Southern Uto-Aztecan proto-form is actually **ka-pa*, because of the reflexes /b/ and /v/ that are found in the Mayo and Yaqui, Eudeve, and Tubar forms. In Tarahumara and Guarijio, as in Nahuatl, reflexes of proto-Uto-Aztecan *p merge with those of *w as /w/ in this position, but the other languages maintain the proto-Uto-Aztecan contrast between a lenis *p and the sonorant *w.

In addition to the similarity between cacao grains and small bird eggs in their shapes, the prepared cacao seeds also have a thin brittle husk, like a shell, that must be flaked off before they can be ground. In fact, a Nahua speaker from the Cuetzalan region in the Sierra de Puebla explained that the beans were called *kakawat* because of their shell ("se llama así [*kakawat*] por su cascarita"). It must be because of this characteristic that many forms with *kawa-* in the lexicons of Nahuatl dialects derive from a basic sense of 'brittle-shelled pod' rather than from that of 'cacao seed' as can be seen in the examples in Table 3.

Table 2. Southern Uto-Aztecan forms for 'egg'

Language	Form
Tarahumara	*ka'-wá*, 'to lay eggs'
	ka'-wá-ra, 'egg'
Guarijio	*ka'-wá* (noun), 'egg'
	ka'-wa-ní/-má, 'to lay eggs'
Yaqui	*ká-ba*, 'egg'
Mayo	*kábba*, 'egg'
Tubar	*kɔlɔ-*, 'to lay an egg'
Eudeve	*áa-ka-bo-ra'a*, 'egg'

Furthermore, we should note that if the term *kakawa-tl* is a native formation of Nahuatl derived from **kawa*, the term would fit into a pattern of reduplication used in the language to indicate an object that is similar to the referent of the non-reduplicated term (cf. Canger 1981). For example, in the derivation of *kokone:tl*, 'doll,' from *kone:-tl*, 'child,' it is clear that *kokone:tl* refers to an object similar to a real child. A number of these pairs are given in Table 4.

When considering etymologies, one of the kinds of evidence, as noted by Justeson et al. (1985), is that a word can be analyzed in its language of origin as formed by a given derivational process. What we suggest is that when Nahuatl speakers came into contact with cacao in southern Mesoamerica, they saw the resemblance between the shape of the cacao seed and the egg, and named it accordingly, following the productive pattern in their language. Nahuatl dialects subsequently lost the use of *kawa-tl* for 'egg,' drawing instead on one of two other terms, *to:to:l-te-tl*, a compound meaning 'bird-stone,' and *te-k^{w}si-s-tli*, another compound meaning 'stone to be cooked.' In the case of *to:to:ltetl*, the replacement could have been due to the existence in Mesoamerican languages of 'bird-stone' as a common metaphor for 'egg' (cf. Smith Stark 1994:36). Especially given the great cultural and economic importance of the derived term *kakawa-tl*, *kawa-tl* could have also been displaced in order to avoid confusion.

Another important argument for 'cacao' deriving from a native Nahuatl word involves the stress pattern. We argue above that *kakawa* could not have been a proto-Mixe–Zoquean word because a proto-form conforming to the reconstructed stress-pattern would carry stress on the penultimate syllable, whereas several forms among the different languages derive from a form where the stress is not on the penultimate. Instead we suggested that the word **kà-kawá*, stressed on the first and last syllables, had to be a form that entered the Mixe–Zoquean languages after the split into the two main branches, proto-Mixean and proto-Zoquean. The stress pattern of proto-Nahuatl, as reconstructed by Dakin (1991), fits the necessary pattern described in the previous section for the borrowing into proto-Mixe–Zoquen. According to Dakin (1991), in proto-Nahuatl, primary stress fell on the second syllable of the CV.CV root. When, as in the case of **kakawa*, there is reduplication of the initial syllable, the primary stress remained on the root-final syllable, **kà-ka-wá*. In more recent developments, Nahuatl has fixed stress on the penultimate syllable, where it remains today in most dialects. The stress patterns for Mixe–Zoquean and for Nahuatl were worked out by the two authors independently. That the patterns happen to agree was a

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Table 3. Words with *kakawa–* in Nahuatl dialects

Eastern Dialects	Western Dialects	Term
Ameyaltepec		*kakawa-yo,* 'bark (of a tree); rind; eggshell'
Zacapoaxtla		*kaka:wa-t,* 'husk, shell'; *kaka:yo,* 'seed that gives chocolate' (cacao)
Huazalinguillo		*kakawatik,* 'hollow'
Mecayapan		*ta:lkakawa',* 'peanut'
	Tetelcingo	*tutolte-kakawa-tl,* 'egg shell'

discovery that markedly strengthened our trust in the loan hypothesis.

So far we have only considered data from Southern Uto-Aztecan in our discussion of the evidence for *kakawa-tl* as having been derived from a form *kawa* meaning 'egg.' We will now consider the etymology of *kawa*. We show that it cannot be considered a borrowing into Uto-Aztecan from or via a Mesoamerican language because it is a composite form whose analysis would only make sense to a speaker of a Uto-Aztecan language and whose component parts have reflexes throughout Uto-Aztecan. The origin of the form, we believe, is proto-Uto-Aztecan *$*ka^N$-pa^N*, or 'hard pod, shell.'

Both syllables of the proto-form would have carried final features, similar to those found in the Numic Uto-Aztecan languages such as Southern Paiute. Reconstruction of the features is possible, but some variation is found for certain roots. Nevertheless, we can predict that if pre-Nahuatl **kawa* derived from **ka-pa*, the **ka* syllable would have had to end in a vowel or a nasal-final feature in order to permit the spirantizing (lenition) of the following **pa* to Nahuatl *-wa*. The proto-Uto-Aztecan contrast **p*/**w* is reflected intervocalically in a number of Southern Uto-Aztecan languages, including Mayo, where **w* > *w*, but **p* > *b*. Similar contrasts are found in Eudeve and in Tubar. Tepiman languages such as O'odham (Papago) also reflect the **p*/**w* contrast, since **p* went to O'odham *w* and **w* to *g*. Referring back to Table 2, where Mayo, Yaqui, Eudeve, and Tubar forms for 'egg' show the reflection of **p*, we would further restrict our original proto-Southern Uto-Aztecan reconstruction to *$*ka^n$-pa* or **ka-pa*. Let us now look at possible cognates for this reconstruction in other Uto-Aztecan languages.

The evidence shown in Table 5 is relatively slight, but we can add support to the hypothesis by looking at more basic forms. Dakin (1994, 1995) has argued that many Nahuatl CVCV and CVC forms that synchronically are monomorphemic can be derived from old proto-Uto-Aztecan compounds in which the second C(V) is the head and the first CV- a modifying element. In the case of *$*ka^n$-pa* or **ka-pa*, it is possible to reconstruct a root morpheme *$*pa^n$* with the meaning 'pod,' and a modifying element *$*ka^n$-* with 'hard, brittle.' The 'pod' morpheme is found both independently and in compounds with other identifiable elements as seen in Table 6. The nasalizing final feature distinguishes *$*pa^n$* from other nominal **pa-* roots such as **pa'*, meaning 'water, liquid; red,' with a glottalized vowel, and function distinguishes it from verbal **pa-* roots that include **pa-*, meaning 'to go back; repeat' and the adverbial **pa-*, meaning 'on top of.'

It should be added that, whereas proto-Uto-Aztecan **p* > *w* in Nahuatl and *w*, *b* or *v* in some other Southern Uto-Aztecan languages when intervocalic or following a nasalizing morpheme, as noted above, it is retained as *p* in these languages when it follows a glottalized or geminating vowel. The intervocalic *w* corresponds to the lenis intervocalic *p*, phonetically realized as *ƀ* in most Numic languages, whereas *p* corresponds to the fortis geminate *p*. For example, **tapɨ*, or 'sun,' corresponds to Panamint [*tabɨ*] and Nahuatl *(i)lwi-tl,* whereas **ta'-pa-*, meaning 'to break' corresponds to Panamint [*ta'pan-*] and Nahuatl *tlapa:ni*. In the case of Nahuatl, a further change often occurred when the VwV sequence was followed by another derivational morpheme; in these cases, the sequence would coalesce as a long vowel. For example, **tapu*, meaning 'rabbit,' > pre-Nahuatl **tawɨ-ci-* and then to **to:-čin*. Because of these changes, the reflexes of *$*pa^n$* in Nahuatl include *pa-*, *wa-*, or a long vowel.

The forms in Table 7 indicate that the **ka-* element can be reconstructed with a meaning probably closest to 'hard, brittle.'

With this evidence, it seems much more probable that proto-Uto-Aztecan *$*ka^N$-pa^N*, meaning 'hard pod, shell,' rather than proto-Mixe–Zoquean, is the source for *kakawa*. Below we consider the formation of *čokola:tl* because it is also associated with a drink whose origin is in southern rather than central Mesoamerica.

CHOCOLATE

Ethnohistorians and linguists have given a number of different etymologies for *čokola:-tl*. The final *-tl,* of course, is the absolutive noun suffix. Most of the etymologies separate the *a:* as a noun root referring to 'drink' or 'liquid,' since although the narrow sense

Table 4. Examples of reduplication in Nahuatl that show the imitation or diminutive derivations

Language or Dialect	Pairs
General Nahuatl	*naka-tl,* 'meat'; *nanaka-tl,* 'mushroom'
	kone:-tl, 'mother's child'; *kokone:-tl,* 'doll'
Ameyaltepec, Guerrero	*kahli/-kal,* 'house'; *kakahli* 'shelter, awning or canopy; shell (snail)'

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Table 5. Forms from other Uto-Aztecan languages probably derived from **ka–pa–*

Language	Dialect	Form
Numic	Panamint	*kapono*, 'seed basket'
	Kawaiisu	*kovonigwi=*, 'pod'
Takic	Luiseño	*kavá:'a-l*, 'clay pot'
Tepiman	O'odham	*kawad*; *ka*, 'a war shield' ('hard-shelled'?)

of *a:-* is 'water,' it often has 'non-viscous liquid' as a more general sense. We agree with the identification of this part of the word as 'drink.' There has been, however, more controversy in regard to the first part of the word, *čokol-*. Perhaps the most common etymology is that by Robels (1904:430) who derives it from Nahuatl *šoko-*, meaning 'bitter.' Underlying this suggestion is the argument that the original drink was not sweet. Even so, this etymology is unlikely since /č/ does not change to /š/ in any other term in Nahuatl. In the only instances where consonant changes involving /č/ and /š/ are confirmed, the first consonant controls a following one that shares similar features. For example, *čal-čiwi-tl* derives from *čal-*, meaning 'rough surface,' and *šiwi-tli*, meaning 'turqoise; blue, green; green plant,' whereas *č<i:lc<o-tl*, meaning 'green chile,' comes from *či:l-* + *šo-tl* (cf. *e-šo-tl*, meaning 'green bean') and *čihča*, meaning 'to spit,' from **či-sa*, meaning 'spit–come out.' In all three cases, we see the initial *č* affecting a following *š* or *s*. There are no cases besides the hypothetical form *čoko-l-a:-tl* of an occlusive /k/ affecting either a preceding or a following consonant.

As noted in the introduction, it has been pointed out (e.g., William Bright, personal communication cited in Campbell 1977:104) that the term *chocolatl* is absent from central Mexican Colonial sources, an observation which supports a non-Nahuatl etymology for the term. The most common suggestions for another linguistic source have been based on Mayan languages. Santamaría (1959), in *Diccionario de mejicanismos*, wrote that it might be a mixed

Table 6. Uto-Aztecan compounds with **pa*

Compounds	Language	Dialect	Form
Forms with **pa*^{n}, 'pod' > 'pod, seed, round container' as first element with a **-ci* 'diminutive(?),' a **-pV* 'absolutive' suffix or as first element of verb compounds			
**pa*^{n}*-ci* < **pa*^{n} + *ci* 'diminutive'	Numic	Southern Paiute	*pa:c-ci-*, 'seeds of a certain plant'
	Taracahita	Tarahumara	*pa-cí*, 'ear of corn'
		Guarijío	*pah-ci-rá*, 'seed'
		Yaqui	*bá-ci*, 'seed'
	Corachol	Cora	*ha-cí*, 'seed'
		Huichol	*ha-cí*, 'squash seeds'
	Nahuatl	Nahuatl	*a:-č-tli*, 'seed'
**pa*^{n}*-pɨ-nɨ* < **pa*^{n} + *pɨh-* 'absolutive' + *nɨ*			
	Numic	Kawaiisu	*pa-bɨh-nɨ*, 'pot made of pottery'
		Southern Paiute	*pam-pɨn-ni-*, 'bucket, mud or clay basket without handle'
		Chemehuevi	*pam-pɨ-n*, 'pot'
**pa*^{N} + **pV* 'absolutive'	Hopi	Hopi	*paa-pu*, 'pod, string beans, peas'
**pa*^{n} + **coma*, 'to sew'	Tepiman	O'odham	*wa-šomi*, 'a covered basket; a box; a woven storage case'
**pa*^{n} + *pa*^{n} + *tɨ*, 'to be'	Taracahita	Cahita	*ába-: ába-re*, 'to form ear of corn'
**pa*^{N}*-pa*^{N}*-ya'a*	Taracahita	Kawaiisu	*pa-ba-ya'a*
Forms with **pa*^{n} as second element of a compound			
**ki-pa*, 'dwelling pod,' < **ki*, 'dwelling,' + **pa*^{n}	Hopi	Hopi	*ki-va* 'cellar, underground fraternity house, Hopi kiva'
	Takic	Cahuilla	*-kí-va-saw*, 'great spirit, god'
**no'-pa*^{n} < **no'*, 'bird,' + **pan*	Numic	Panamint	*noppoi(ttsi)*, 'habitat, home, nest on ground'
		Kawaiisu	*noppa-pi*, 'egg'
**sa-pa*^{N}, 'brittle covering' < **sa*, 'dry, brittle leaf' + **pa*^{N}	Takic	Cahuilla	*sa-va-l*, 'bark, skin; shell (of eggs, etc.)'
**sɨ-pa*^{n}, 'jojoba' < **sɨ-*, 'green, sprout' + **pa*^{N}	Takic	Cahuilla	*tá-š-pa?al*, 'nuts'
**s-pa*^{N} + *-i*	Tepiman	O'odham	*ho-ho-wai*, 'jojoba' or 'goatnut plant'
**tɨ*^{N}*-pa*^{N} ~ **tɨ'-pa*^{N} < **tɨ̃*^{N} ~ *tɨ'*, 'rock-like' + **pa*^{N}	Numic	Panamint	*tɨ-pa(ttsi)*, 'pine-nut'
	Takic	Cahuilla	*te-va-t*, 'pine-nut'
	Hopi	Hopi	*tɨ-va*, 'nuts (general), nuts of any kind, pine-nuts, pinyon nuts, pinyon trees'
	Nahuatl	Nahuatl	*ta-pa-č-tli*, 'seashell' < *tɨ'-pa*^{n} + *ci*, 'small'
			a:-to:-l-li, 'drink made from ground corn'[a] < **a:* 'water' + *tɨ-pa*, 'nut,' + *ni-*

[a] *Note*: Although no cognates have been found for the compound form, it should be noted that Northern Uto-Aztecan groups used ground piñon nuts and acorns as the basis of gruels similar to the corn-based *atole*.

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Table 7. Uto-Aztecan forms with **ka–*

Language	Dialect	Form
Tepiman	O'odham	*kawk*, 'be hard or solid,' < **ka-pV-k*
Hopi	Hopi	*qa'ö*, 'dry corn'
Taracahita	Guarijío	*kahé* (noun), 'bark, peelings,' < **ka-pa*; *kahe-pú-* (verb), 'to peel, deshell' (e.g., of tree, egg, but not banana)
Nahuatl	Nahuatl	*ka-la:ni*, 'to clank' (a small bell or damaged cacao) < **ka^n-* + *na-*, 'to sound'; *ka-ši-tl*, 'bowl' < **ka^n-* + ?; *ka-ma:-wa* (< *ka-ma'-wa*; **ma'*, 'to grow'), 'to harden' (corn kernels on cob)

etymology from Yucatec Maya *chokol*, meaning 'hot,' and Nahuatl *a*, meaning 'water,' but he gave a long list of earlier suggestions (Santamaría 1959:412–413).[4] Millon (1955:277) cited Becerra's etymology of the Quiché *chokuá* as derived from *chokol*/*chokoul*, meaning 'hot,' plus *a*, or 'water,' an etymology also given by Dávila Garibi (1939) as cited by Coe and Coe (1996:118–119). It seems to us, however, that Nahuatl is the lending language in these cases.

Coe and Coe (1996:119) argued that 'chocolate' was perhaps a hybrid Nahuatl/Spanish introduction by Spanish friars to replace *kakawa-a:-tl* because the first two syllables are a "four-letter word" in Spanish, but we find this unlikely because of the survival of *cacahuate* for 'peanuts,' as well as a number of other Mexican Spanish words borrowed from Nahuatl which have the same sequence.

[4] For additional background, we include the entry by García Icazbalceta (1975:156 [1899]):

> Chocolate. m. Aun no está bien averiguada la etimología de esta voz. El Diccionario la deriva de la mexicana *chocolatl*. Esta no se halla en Molina: Siméon la toma de Clavigero (lib. VII, §64), y también la trae Hernández (lib. VI, Cap. 87). Dado que Ichocolatl sea palabra mexicana, resta saber de qué elementos se forma. El famoso viajero Tomás Gage dice que el nombre en cuestión se compone de la palabra mexicana *ate ó atle*, agua, y de una onomatopeya del ruido que hace el líquido cuando se bate con el molinillo, y parece que repite *choco, choco* (*Viajes*, tom. I, p. 355). Mayans (*Orígenes*, n° 108) dice que es corrupción de *cacahuquahuitl;* pero este es el nombre del árbol del cacao. Monlau, que por lo visto no sabía pizca de mexicano, la saca "de *choco*, que en la lengua indígena de los antiguos mexicanos significa *cacao* [!], y de late, agua [!]: agua de cacao. Otros dicen que viene de *choco*, sonido ó ruido, y *atle*, agua, porque la pasta del cacao se bate con agua hirviendo." (*Dicc. Etim.*) Mendoza cree que se deriva de *xocoatl* ("cierta bebida de maíz." MOL.): de *xococ*, "cosa agra," y *atl*, agua: bebida agria; lo cual, en verdad no conviene mucho a nuestro chocolate; pero téngase presente que los indios le preparaban de muy diversa manera que nosotros, pues mezclaban el cacao con otra cantidad igual de semilla de *pochotl* (ceiba) o de maíz, batieendole hasta levantar mucha espuma. Acaso dejaban fermentar o agriar algo el brevaje, o bien le comunicaban cierta agrura las semillas del *pochotl*. Nada de esto satisface.

Against these other proposals, we argue again for the importance of Eastern Nahuatl and suggest that in the case of *čokola:-tl*, etymologists have begun in the wrong place. The answer can be found in Nahuatl dialects and in the evidence of cultural influence from Nahuatl on other Mesoamerican languages. Instead of looking first for sources of *čoko-l*, we have come to realize that the original shape of the word was *čikola:-tl*, a form found in a number of Nahuatl dialects, as a borrowing into other Mesoamerican languages, and, through Spanish contact, into the languages of the Mariana Islands, various Spanish dialects, and perhaps even seventeenth-century Dutch. Such a word beginning with *či-* has a much clearer Uto-Aztecan etymology.

Dialect evidence is important, since *čikola:tl* is the variant name for the drink that is found in towns such as Ocotepec in Morelos, Ameyaltepec in Guerrero, and Cuetzalan and Rafael Delgado in Veracruz. As noted in the discussion of *kakawa-tl*, by looking at the history of Nahuatl dialects, we are considering a historical division between Eastern and Western dialects as the first major split. We know that the central area of Mexico was one where the older Eastern dialects came into contact with the Western dialects with the arrival of the Mexica and other late migrations. Could it be that the *čikola:tl* form is an Eastern Nahuatl form, perhaps limited to the earlier dialect area? Of the few towns surveyed, the *čikola:tl* form is found in the Cuernavaca area, a region which contrasts with the northern Morelos dialects that reflect greater Western influence. It is also found in central Guerrero, which has obvious earlier ties with Huastecan Nahuatl, and in other Eastern dialects in the Sierra of Puebla and southern Veracruz, a region perhaps on the border of Eastern Nahuatl, and in the Isthmus, one of the defining areas for the Eastern region. On the other hand, the *čokola:tl* forms show vowel harmony also found in the Nahuatl dialects in the Valley of Mexico in other constructions, such as that in the verb prefixes with *ti-* or *ni-*, the third-person singular *-k-*, and the directional *-on-*, so that *ti-k-on-* becomes *tokon-* and *ni-k-on, nokon-*. As is evident, vowel harmony works in the opposite direction than consonant harmony. Such harmony is characteristic of the Western Nahuatl dialects that moved into central Mexico after the earlier migrations. It is not found in Eastern Nahuatl dialects, so *čokola:-tl* is probably an adaptation by Western Nahuas of the older form.

It seems of key importance to us also that forms for 'chocolate' are borrowed into a number of languages and that there are more Mexican languages that reflect *čikola:-tl*, than those that have *čokola:tl*, as seen in the Appendix. Languages in which *či-* rather than *čo-* is reflected are the Mixe–Zoquean language Sayula Popoluca; the Otomanguean languages Mitla Zapotec, San Juan Colorado Mixtec, Tlaxiaco Mixtec, and Chayuco (Jamiltepec) Mixtec; Huave; the Uto-Aztecan languages Cora, Huichol, and Guarijío; and finally Chamorro, a language spoken in the Philippines (Mariana Islands variety), Andalusian Spanish (Munthe 1887, cited in Vigon 1955), Catalan and, surprisingly, Dutch, as spoken in 1660. We should also note that it is possible that the Spanish 'chocolate' has contaminated dialects of Nahuatl and the other languages that originally had *čikolatl*. In fact, on questioning speakers of Cuetzalan Nahuatl and Tlaxiaco Mixtec about the words, they pointed out that the old word was *čikolatl*.

The example from Chamorro is even more convincing. Chamorro is a language spoken in the Philippines that came into contact with Spanish from Mexico, especially as used by speakers from the coast of Veracruz. As can be seen, in Chamorro four different forms of 'chocolate' have been borrowed from Spanish, *čokolate*, *tsokolate*, *čikulati*, and *čokolati*. The form *čikolatl* also reached Europe, since

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it is found in the Spanish dialects of Colunga, Asturias (Vigon 1955) and Catalan *šikolata/šikolate*,[5] and the Dutch form *sekulate* appears to reflect the form we propose—otherwise, one would expect both *o* to appear as *u*: *sukulate**.

Taking the *čo-* forms into consideration, in the case of Isthmus Zapotec *jù'ládì*, the form comes from *čokola:-tl*, but Velma Pickett (personal communication 1996) pointed out that the stress and tone patterns do not follow those of loans from Spanish and instead reflect an older form with a 'low–high–low' pattern, where other more recent loans have 'low–middle–low.'

A Uto-Aztecan Etymology for 'Chocolate'

What, then, is the etymology for *čikola:tl*? In the following section, we develop arguments that *čikol-* refers to the beater stick associated with the rituals in which the chocolate drink is served. Here again we need to give details of the Uto-Aztecan history of the term.

As we saw in the historical development proposed for *kakawa*, Uto-Aztecan words can often be divided into smaller elements that include instrumental prefixes. The form *čikol-* fits into a series of Nahuatl words that begin with *či-* and refer to 'small sticks, twigs' or, more abstractly, 'pointed instruments' as part of their meanings. These include the nouns *či-na:mi-tl*, or 'stick fence,' and *či-kiwi-tl*, or 'straight-sided basket,' as well as the verb *či-ki*, meaning 'to scratch.' The base form for '5,' *čik^{w}a-* may also include this prefix. Nahuatl *či-* reconstructs to the proto-Uto-Aztecan instrumental prefix **ci'*. Thus, we suggest that the term *či-ko-l-* comes from proto-Uto-Aztecan **ci'-*, meaning 'small stick, twig,' plus **ku-*, the proto-Uto-Aztecan root meaning 'tree, pole,' and **-ri*, a suffix found on many derived nouns. Through vowel-loss, **-ri* systematically becomes Nahuatl /-l/ (Dakin 1982). The noun *či-ko-l-* is compounded synchronically with Nahuatl *a:-tl*, meaning 'water' or more abstractly 'liquid,' which derives from proto-Uto-Aztecan **pa'-*, meaning 'water.' In other words, the literal meaning would be 'stirrer–drink.'

The drink is still prepared by beating cacao and other spices in hot water with a special instrument to make the liquid foamy. The beater is typically a wooden stick that has wooden rings on one end, although one still finds simple straight branches with twigs on one end sold for this purpose in Veracruz markets. Drawings of chocolate beaters from the Mitla Zapotec area in the 1930s (Parsons 1936:37) are given in Figure 2.

Parsons (1936) included a description of the carved wooden sticks served with the chocolate in Mitla weddings and mayordomías and noted that "[the stirring sticks] are undoubtedly carved more crudely than the Aztec stirring sticks Sahagún reports as beautifully carved, but the chief design represents the sacrificial bird, a rooster or turkey cock. Here is an old implement used in the old way and, like the pre-Conquest stick, on ceremonial occasions" (Parsons 1936:36). Kelly and Palerm (1952:195–196) described two types of chocolate beaters used by the Totonacs. One is made from a thin wooden wand into which strips of corn husk are inserted (Figure 3a), another consists of the stalk and (trimmed) roots of the plant *tepejilote* (*Chamaedorea tepejilote*) (Figure 3b). Millon (1955) also cited various accounts of the use of swizzle sticks,[6] and Durand-Forest (1967:163), in her ethnohistorical survey of sources relating to cacao, described the chocolate preparation:

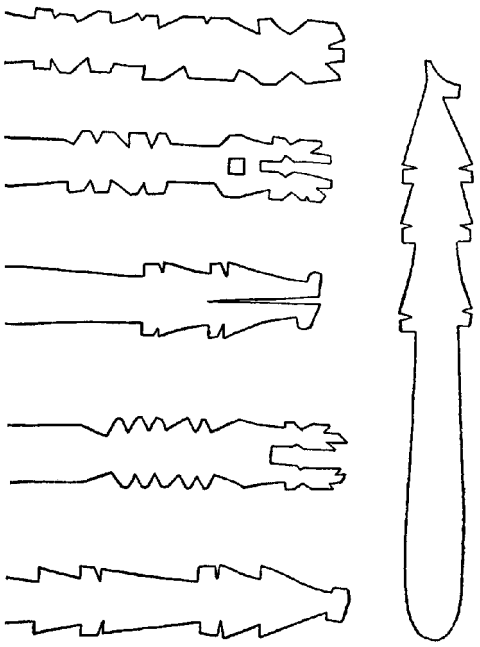


Figure 2. Drawings of chocolate beaters from the Mitla Zapotec area in the 1930s (from Parsons 1936:Figure 3).

[5] The standard Catalan forms for 'chocolate' are *xocolata* and *xocolate*, but dialect forms such as *xicolata* and *xicolate* are also attested (Alcover 1969). It should be noted, though, that our proposal that the latter forms are explained as borrowings from Eastern Nahuatl is controversial since dialectologists of Spanish have sought internal explanations. Thus, Badía Margarit (1951:163, note 5) argued that *xi* derives from *xe* by influence of the palatal consonant, and *xe*, in turn, is a product of *xo* by vocalic dissimilation with the following syllable *co*. Although we cannot reject this internal explanation as a possibility, we do not find it entirely convincing, since Badía Margarit (1951) was able to give but one case, namely *xocolate/a*, as an example of the assimilation of *e* to *o* caused by a following *o*. If a sound change is to be considered regular, it should recur in at least two examples where the contexts are similar.

[6] Millon (1955:165) cited Dahlgren (1923) on modern Nicaraguan cacao drinks:

> Among the Nicaraguans [a maize-cacao] drink, prepared with cold water, sugar and spice, is known as 'tiste.' It is beaten to a froth with a swizzle stick held vertically between the palms of the hands and rapidly rotated with a backward and forward motion. The swizzle stick functions as a primitive and somewhat inefficient egg-beater. It is often cut from a natural branch, forked or with a whorl of small twigs as spokes . . . [Dahlgren 1923:5].

Millon (1955:166) also noted that according to Sahagún (1950–1982:2:1:19:19, 9:8:13:40) the Nahuatl term for these beaters or spoons seems to have been *aquaujtl* or *aquahuitl*.

Millon (1995:268) summarized remarks by Joyce (1916):

> Joyce . . . speculates that knowledge of cacao cultivation may have been transmitted south from Mesoamerica. He points out that it was allegedly introduced into the Nicaragua area by Nahua peoples and suggests that it may also have been brought into northwestern Panama, in the Amirante Bay region, by Nahua peoples living in that area at the time of the Spanish Conquest.

https://doi.org/10.1017/S0956536100111058 Published online by Cambridge University Press

Table 8. Kawaiisu forms for 'to stir' with different instrumental prefixes of proto-Uto-Aztecan origin

Form	Translation
ta-ku-ri-	'to struggle, flail about'
ma-gu-ri-	'to stir with the hand' (*gu-* is an allomorph of *ku-*)
či-ku-li-; či-ku-ri-nɨ-mbɨ (archaic)	'stirrer'

> The cacao powder is placed in special pitchers with a point for pouring; water is added; then everything is beaten altogether *with a spoon*, and then it is poured in a way so that the foam is poured into a special cup [emphasis added].

Durand-Forest (1967:163) further noted that the anonymous conquistador who described it added:

> When they want to drink it, they beat it *with little gold, silver, or wooden spoons*, and they drink it; but in drinking it one has to open the mouth wide, since because it is foam it is necessary to let it go down little by little [emphasis added].

The strong association of the ceremonial drink with a swizzle stick is pragmatic evidence for the etymology suggested.

We now consider further linguistic evidence. The use of instrumental prefixes such as **tɨ^{n}-*, or 'stone, metal'; **ma-*, meaning 'hand'; and **ci'-*, or 'pointed stick,' has been widely described for the Northern Uto-Aztecan languages. For example, in Table 8 we see the Kawaiisu forms for 'to stir' with various instruments.

We have inserted morpheme boundaries into the forms in Table 8 to show how they derive historically. Although *ku-ri* looks much like **ku-ri*, posited above as the proto-Uto-Aztecan reconstruction for 'to stir,' there is not a full relationship between the two. An intervocalic *-r-* in Kawaiisu goes back to proto-Uto-Aztecan **t*, not **r*. Thus, the Kawaiisu forms reflect a proto-Uto-Aztecan form **ku-ti*. The first morpheme, however, is identical to the first morpheme in proto-Uto-Aztecan **ku-ri*, the morpheme sequence which is **ko-l* in Nahuatl today. As noted above, the *-l-* is a common morpheme in noun and verb derivation in Nahuatl.

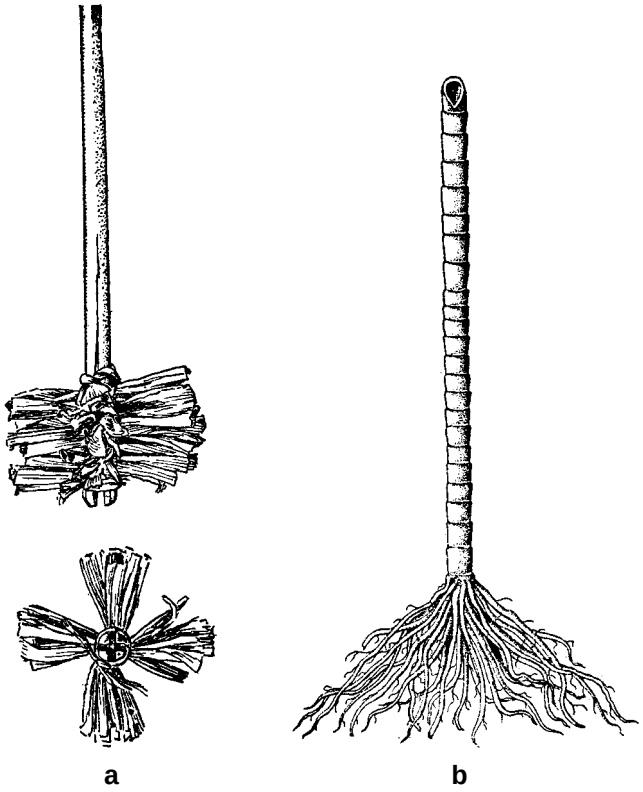


Figure 3. Chocolate beaters used by the Totonacs (from Kelly and Palerm 1952:Figure 29).

There are cognates for **ku-* in other languages as well, as seen under Table 9. In some cases the root combines with reflexes of the same instrumental prefix **ci'-* as recurs in Nahuatl *čikola:tl*

Table 9. Possible (full and partial) Uto-Aztecan cognates for Nahuatl *kol–* < **ku–ri–*

Proto-Uto-Aztecan Reconstructed Forms	Dialect	Cognate
**ci'-ku-r* >	Serrano	*či-kɨ:n*, 'to poke, prick, stab, stick in'
	O'odham	*si-kol-* (adverb), 'around'
**ci'-ku-* >	O'odham	*si-kon*, 'to hoe'
	Panamint	*cikk^{w}a'ah*, 'to stir'
	Cahuilla	*čí-k^{w}a-*, 'to walk with a walking stick'
**ku-ri* >	Hopi	*qö-ni*, 'to turn around'
	Guarijío	*ku-rí-na/-ma* (or *ku'-rína/-ma*)
	Tarahumara	*ku'lí-na* 'to turn, spin'
	Eudeve	*kori-ré én*, *koríwe-n*; *kuriré én*, 'to stir' (in Spanish, *remolinear*)
(*)*ku-ti* >	Luiseño	*qé-li-*, 'to stir'
	Hopi	*qöri*, 'to stir'
**ku-* >	Cora de Presidio	*ku-*, 'element used to indicate any kind of stirring motion'[a]
(*)*ta-ku-ra* >	Cora	*ra'a-kuura-ka'a*, 'he unstuck it' (stirred it?)

[a]Veronica Vázquez (personal communication 1998).

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and sometimes with reflexes of the suffix **-ri* that gave rise to *-l-* in the Nahuatl form. These must be cognate with the Nahuatl forms. Nevertheless, in most cases the morpheme sequence **ci'-ku-ri* is only partially reflected. In the left column of Table 9 we have written out proto-Uto-Aztecan reconstructed forms. Although there is what could be called a common inventory of derivational morhemes for proto-Uto-Aztecan, there is considerable variety among the languages in terms of which ones are employed. When the morpheme sequence in question is not distributed over a sufficiently broad range of languages to warrant a true reconstruction, we have parenthesized the symbol "*."

The *ko-* reflex of proto-Uto-Aztecan **ku* has not been widely discussed in the literature, but it is clearly attested (Alexis Manaster-Ramer, personal communication 1996). It may be that the Panamint and Cahuilla forms with *k^{w}a-* are contractions of *ku-wa*. Proto-Uto-Aztecan **wa* is a morphemic element found in the names of many parts of plants, such as **sa-wa* > Nahuatl *iswa-tl*, or 'corn leaf; brittle leaves in general,' **pwa* > Nahuatl *e-wa-tl*, or 'peel, covering,' and the *k^{w}a* found in Nahuatl *k^{w}a-w-i-tl* is probably the same **ku-wa* sequence as in Panamint. For the Tarahumara–Nahuatl *u*/*o* correspondence, compare Tarahumara *kupí*, or 'that closes the eyes,' and Nahuatl *ihkopi*, or 'to open and close.'

A number of examples of other Nahuatl terms that seem to hold the same root for 'stick' are given in Table 10. They include variants of the term used for the long poles with a hook or small basket on the end that are used for fruit-picking. The poles look very much like large chocolate beaters. The different dialectal use of similar terms for small and large items is like that found in the contrasting reference for *escoba*, which is 'broom' in Spanish and 'toothbrush' in Portuguese.

Molinillo is an alternative Mexican Spanish word for 'chocolate beater.' A Nahuatl etymology, *m(o)-oli:nia*, or 'to move, stir (reflexive),' has been proposed (Santamaría 1959:733), but a noun derived from a reflexive verb should carry the reflexive *ne-*, not the *mo-*, that is, *neoli:ni:lli*, not *moli:ni:lli*. For this reason, we believe this term is rather a Spanish term for the native implement derived from *molino*.

All of the historical and comparative linguistic evidence and arguments cited above support a Uto-Aztecan origin for the word *čikol-li* and the compound form *čikola:-tl*. Motivation for describing the drink as the "beater-drink" seems clear since one of the most marked features described in the serving of chocolate is the use of the beater. This strongly supports the etymology suggested. A further note is that the verb *chicolear* has been cited for Isthmus and Yucatecan-peninsula Spanish to refer to the beating of a liquid, such as chocolate.[7]

There is still a puzzling point that should be resolved, so that we will return briefly to Mayan languages and the term *chukul* 'chocolate beater.' In Table 11, we show the term *čukul*, found at least in Greater Kanjobalan languages and in Mam. There is also a verb root *čuk*, 'to stir.'

The cited forms may seem to suggest that perhaps the word 'chocolate' is of Mayan-linguistic origin after all, since the forms include a transitive verb root *čuk-* and a derived instrumental *čukul*. What is interesting is that on making comparisons, it will be apparent that the forms cited do not follow the expected Mayan sound correspondences in order to be true cognates. Although Jakaltek, Akateko, and Tojolab'al are more closely related, one would expect *tuk* and *tukul* with initial /t/ instead of /č/ in Mam. In addition, the root *čuk* does not have the expected number of derivations in any of these languages that other verb roots have. Both these characteristics lead to the conclusion that the root may be an old borrowing. Given the Mayan language preferences for vowel harmony, it seems possible that *čikol-li* was borrowed into the different Mayan languages probably from Pipil and adapted to the languages by harmonizing the vowel sequence *i*/*o* to *u*/*u*. The resulting *čukul* form fits the native pattern for instrumentals created from transitive verbs. Tojolab'al adapted it further to *čukub*. Although it is unusual for a new root to be created, it was probably because the noun had a form similar to a derived instrumental in Mayan languages; a backwards reanalysis could be made to yield the verb root *čuk-* 'to beat a liquid.' Otherwise, it would be difficult to explain the existence of this single phonetic form in different branches of the family.

The existence of the affect root *tuk-* is somewhat problematic, but it could be onomatopoetic. The possibility that both forms are onomatopoetic exists, since *č*/*k* and *t*/*k* alternations are found in many languages, such as *chaka*, *chaka* for the sound of a washing

Table 10. *čikolli* 'long hooked stick for cutting fruit'

Dialect	Term
Classic Nahuatl	*či[']-ko-l-li*, 'hook'
	kwa-wi-tl, 'tree, pole'
	a:-kwa-wi-tl, 'chocolate beater' (Sahagún)
Mecayapan	*wih-kol-li*, 'hooked pole'
Zacapoaxtla	*čih-kol-li*, 'hooked pole'
Rafael Delgado	*čih-kol-li*, 'hooked pole'
Ameyaltepec	*či-koh-li*, 'long rod or pole with a small crosspiece tied at the end, of a hard material such as otate, and which is used to take down fruit which is high up in a tree'

Table 11. *čuku'*

Language	Term
Jakalteko	*čukul*, 'stirrer' (in Spanish, *molinillo*) (little stick with the stumps of various branches on the end, for stirring)
	čuk-u', 'to stir, mix with a long instrument to dissolve something, with the *čukul*'
Akateko	*čukul*, 'beater, stirring stick'
	čuku', 'to beat, stir with a stick'
Tojolab'al	*čuku*, 'to knock down fruit with a stick'
	čukub', 'stirrer, stick for stirring nixtamal'
Mam	*čukuul tee*, 'stirrer'
	čukeet, 'to stir a mix to dissolve things'
	ikool tee xikeet, 'to carry cups or pots or bins in the hands'
	pa'k, 'beater (*chucul*) for mixing up atole'
	tuka tuka, 'quick, repeated action made with the beater (*chúcule*) to dissolve something'
	tuk, '[sound of] stick in walking'

[7] Individual members of Dakin's 1994 Nahuatl class cited this use from their personal experiences (Seminario de Lengua Nahuatl II, Maestra en Estudios Mesoamericanos, Facultad de Filosofia y Letras, UNAM, 1997).

https://doi.org/10.1017/S0956536100111058 Published online by Cambridge University Press

machine in Mexican Spanish and *chuga chuga* for the sound of a train going up a cline in American English, as well as *tik tok* for the sound of a clock. It is remarkable, however, that in the Mayan languages cited, *čuk* refers to the sound of the beater stick against the sides of the cup. The limits on geographical distribution of *čukul* are still not clear, but we have not found forms in the K'ichean languages that are similar to those found the Greater K'anjob'alan languages and Mam.

Mayan languages are not the only ones to have borrowed the term *čikol-li*. In Chiapas Zoque and Totonac we find the following:

Chiapas Zoque (Rayón dialect)	*xu'kuli*	'swizzle stick, beater'
Chiapas Zoque (Francisco León dialect)	*su'kuy*	'swizzle stick, beater' (*molinillo, batidor*)
Totonac (Xicotepec dialect)	*xkoli'*	'forked pole (for picking oranges high up in the tree) (*garrocha para cortar naranjas muy altas en el árbol*)'

We observed in Chiapas Zoque the same leveling of *i* to *u* as was characteristic of the Mayanized terms; this might lead us to suppose that the words were borrowed via a Mayan language. The final syllable *li* present in Chiapas Zoque and also in Totonac, however, betrays the direct Nahuatl origin of the word. Whereas the Rayón dialect preserves *š*, although this is a very rare phoneme in the dialect, the Francisco León dialect has modified the term such that it looks very native: *kolli* has become *kuy*, which is an instrumental suffix in Chiapas Zoque. The word is actually analyzable as *su'-kuy*, although *su'* does not have Mixe-Zoquean cognates. Thus speakers of the Rayón dialect reanalyzed the word exactly along the same lines as speakers of the Mayan languages discussed above. The former created a new root *čuk*, whereas the latter created a new root *su'*.

CACAO AND CHOCOLATE IN MESOAMERICAN PREHISTORY

Above we suggested that the word *kakawa* entered Mixe–Zoquean during Epi-Olmec times, within the first couple of centuries A.D. If Nahuatl speakers are to be identified solely with the Aztecs, who dominated central Mexico in the period from about A.D. 1350 to the conquest, this would be impossible. Nahuatl was spoken hundreds of years before the Mexica (Aztecs) entered the scene. The Mexica people are responsible, at most, for late dispersals of the words for 'cacao' and 'chocolate' (including the dispersal to European and other non-Mesoamerican tongues).

The chronologization of the dispersal of **kakawa* throughout Mixe–Zoquean is supported by another kind of evidence, namely hieroglyphic inscriptions in the Lowland Maya area. Floyd Lounsbury was the first to identify the word *kakaw* in a Mayan hieroglyphic text. He built his decipherment on occurrences in codices, where it is spelt with three syllabic signs **ka-ka-wa**, to be pronounced *kakaw*. Stuart (1988) found the same word, in a different spelling, on a drinking vessel from Río Azul. In this spelling the "fish" sign **ka** substitutes for the "comb" sign—likewise **ka**—and it is prefixed with two small circles to indicate reduplication[8] to yield **ka-ka-wa**. Chemical analyses later showed that the drinking vessel indeed contained remnants of cacao (Hall et al. 1990). Stuart's (1988) elegant demonstration not only meant a breakthrough in the understanding of the principles of the writing system and of Maya mortuary practices, it also provided us with the earliest attestation of the word *kakaw* in Mesoamerica. Stuart (1988:153) informed us that "[t]he pottery in the burial and the style of the painted walls make it clear that this individual [the one who was buried there] lived and died in the Early Classic period, probably in the last half of the 5th century A.D." This date is reiterated by Hall et al. (1990:141), apparently strengthened by additional kinds of evidence: "Based on comparative information and related Maya hieroglyphic dates, tomb 19 tentatively is assigned to the period from A.D. 460 to 480 (Early Classic Period)."

An even earlier date is represented by vessels from Burial 10 at Tikal. This burial has been identified as that of Yax Ayin 'First Crocodile' (Harrison 1999:82–87). Yax Ayin (or Nun Yax Ayin) appears to have been the son of a Teotihuacano ruler, nicknamed "Spearthrower Owl" (Stuart 2000). He acceeded to power at Tikal in A.D. 379 and died in A.D. 420. Among his grave goods was a blackware cylinder tripod with an effigy figure on the lid from whose legs and hips cacao pods project (Culbert 1993:Figure 20c; Harrison 1999:87). They also include two locally produced, Teotihucan-style cylindrical tripods with dedicatory texts containing the word 'cacao' (Culbert 1993:Figure 19a, b). In both cases the word is written with the fish sign for **ka**, followed by **wa**, and preceded by some dots that seem to be issuing from the mouth of the fish. It is not clear whether these dots are ornamental or whether they represent a precursor to the two small circles used to indicate reduplication.

Since Piedras Negras Lintel 3, which dates to A.D. 749 (for drawing see Schele 1991), appears to be the only stone monument to mention the word *kakaw*, we are left with vessels which mostly lack provenience as evidence for the diffusion of this word. The Tikal and Río Azul vessels are only several examples among more than 100 known Maya vessels which contain the word *kakaw* in their dedication texts. In the majority of cases the word is spelled **ka-wa**. Although we have preferred to interpret this as an abbreviation of **ka-ka-wa**, Alfonso Lacadena (personal communication 1998–1999) suggested that we consider whether there might not have been an alternative form in use which could be related to *kaw* or forms resembling this in several Central American languages (see listings under Boruca, Brunka, Dorasque, Guaymi, Jicaque, Térraba in Appendix). Even if, however, (1) the linguistically attested word *kaw* is an original form and not a reduction of a borrowed form *kakaw* and (2) the spelling **ka-wa** on Maya vessels is not an abbreviation of **ka-ka-wa**, it is still the case that the full-form *kakaw* existed among the Maya, from as early on as the mid-fifth century. So if *kaw* of Central America is to have been the origin of *kakaw*, it is necessary to explain the reduplicated *ka* syllable. This could conceivably have emerged as a popular etymology. Speakers of Nahuatl would have been confronted with a word *kaw* meaning 'cacao' but resembling their word for 'egg.' They would then have reduplicated the form such as to produce a word meaning 'egg-like.' The word *kakaw*, then, still only makes sense as a Nahuatl formation, and we will still have to explain why a Nahuatl word for 'cacao' spread throughout Mesoamerica.

The word *kakaw* was already used by Mayas from as early as around the mid-fifth century A.D.[9] If not already endemic, it certainly became so quite rapidly. We noted above that the word was

[8] If the hypothesis of Stuart (1988) that the two small circles indicate reduplication was ever controversial, it must certainly have gained universal acceptance now that Stuart and Houston (1994:50) and Zender (1999:102–130, 195–208) have presented a large array of other examples in which this principle is at work.

[9] *Kakaw* would be the earliest Nahuatl loanword identified in Maya writing. Later examples, identified by Taube and Bade (1991) and Whittaker (1986), are the deity names Tlahuizcalpantecuhtli, Cactonal, and Xiuhtecuhtli as they appear in the *Dresden Codex* (*Codex Dresdensis* 1975:47–49).

https://doi.org/10.1017/S0956536100111058 Published online by Cambridge University Press

probably in use among Mixe–Zoqueans even earlier, perhaps as early as the first century A.D. If the pan-Mesoamerican word for 'cacao' is Nahuatl, an early form of this language must have been spoken in Mesoamerica quite early, the most conservative estimate possible being around A.D. 400. Although it is unlikely that Nahuatl was the dominant language in the regions that most favored the growth of cacao, the most important among these being the Soconusco region on the Pacific coast of southern Mesoamerica, we speculate that Nahuatl speakers were responsible for perpetuating the importance of the cacao bean as an item of trade, a highly valued luxury commodity. It is reasonable to suppose that the buyers rather than the sellers should have been responsible for the diffusion of the name of the cacao beans. Their own name would quickly spread along the trade routes of Mesoamerica and eventually come to replace earlier terms already existing in the other languages of the region. But who were these powerful and influential Nahuatl-speaking people with such a great interest in cacao?

It is likely Nahuatl was spoken by inhabitants of the city of Teotihuacan. The most widely considered alternative language identification of Teotihuacan is that of Totonacan (Justeson et al. 1985). This identification, however, is weak as it is based on the supposed borrowing of five words from Totonacan to other Mesoamerican languages. In fact, only one of these words ('heart') may, in our opinion (Wichmann 1999), convincingly be interpreted as a loanword, and it does not have nearly the same radius of diffusion as 'cacao.' Alfonso Lacadena (personal communication 1998–1999) called our attention to the fact that some Teotihuacan calendrical expressions have the day numeral coefficient placed below the calendrical sign, as in Otomanguean scripts of Oaxaca (cf. Justeson et al. 1985:40), and he suggested that this might be evidence for an Otomanguean syntactic pattern. The placement of numerals is not fixed, however (cf. Taube 2000:Figure 3b–h), and the reading order may have been variable, with a preference for bottom-to-top as in Aztec writing.

The city of Teotihuacan was located just northwest of present-day Mexico City and reached the height of its dominant role in central Mesoamerican civilization and beyond around A.D. 500. Throughout the early Classic period, the city's influence is noted in a number of eastern Mesoamerican sites, among other places in Chiapas at Mirador (cf. Agrinier 1970, 1975), the Petén at Tikal (cf. Coe 1965a), Belize at Altun Ha (cf. Pendergast 1971), and the Pacific Piedmont at Kaminaljuyu (cf. Kidder et al. 1946; Sanders and Michels 1977). We know that during this period, the Teotihuacanos were well acquainted with cacao because of the representation of the cacao tree identified by Armillas (1949:91, 1951:24, cited in Millon 1955:266) at the Tepantitla Palace, and archaeologists have cited the need to secure cacao resources as one of the explanations for Teotihuacan expansion (e.g., Parsons 1967–1969).

Teotihuacan influence in the Maya area is early enough for us to be able to maintain the hypothesis that Teotihuacanos were responsible for diffusing the word *kakaw*, which occurs in Maya inscriptions. According to a conservative estimate, the beginnings of Teotihuacan influence in the Maya area, noted mainly at Tikal, has been dated to approximately A.D. 400 (Coe 1965b:37). Pendergast (1971) suggested that artifacts found in a cache at Altun Ha, Belize, exhibit Teotihuacan influence at that site dating to as early as A.D. 150–200, but this has been disputed by Pring (1977:626) who claimed that a date at the beginning of the Classic period is more consistent with the ceramic evidence.

It seems likely that Teotihuacan influence in the Maya area was both mediated and direct. Much discussion has been carried out concerning the exact nature of the interaction (Paddock 1972; Coe 1972; Brown 1977; Cheek 1977; Sanders 1978; Ball 1983; Stuart 2000), but none has been conclusive. Nevertheless, it is generally agreed upon that trade is at least part of the explanation for diffusion in the early Classic of various culture traits, such as the use of green obsidian and architectural and ornamental features (Coggins 1983). The site of Matacapan in the Tuxtlas, Veracruz, probably provides the best example of a Teotihuacan-affiliated trading post (Santley 1989). New military institutions also seem to have been adopted by the ruling elite in Tikal from Teotihuacanos as early as A.D. 378 (Freidel et al. 1993:296–303), which suggests that relations may not always have been peaceful.

Regarding the subject at hand, cacao was grown in the Soconusco district,[10] and it must have been in the interest of Teotihuacanos to have some control over this area. One can bring to bear on this contention the fact that the ancestral homeland of the Nahuatl-speaking Pipil was Soconusco (Torquemada 1969:I:331–332 [1723]). What were the Pipils doing in Soconusco and why did they later leave to settle in far-off Nicaragua? Part of the answer could be that some Pipils were originally sent out from Teotihuacan to conquer and dominate the Soconusco area in order to bring the production of cacao under imperial control.[11] Having succeeded, they would have established as trading post, a point of exchange between Teotihuacan and more distant peoples such as the Mayas. The subsequent Pipil migration[12] should be addressed in terms of the waning of the power of Teotihuacan, as well as other social, political, and economic changes during the Terminal Classic period. What we know is that Pipil, as well as other Nahuatl groups, had long been settled at the eastern periphery of Mesoamerica when the Spaniards arrived. As is historically attested (Fowler 1989), the Pipils of El Salvador specialized in cacao cultivation in the Late Postclassic period through A.D. 1524—in spite of the fact that this part of Central America is actually not well suited for growing cacao. Such ethnohistorical information strengthens our hypothesis that cacao production was indeed their main occupation.

The reasons for focusing on the Pipil as the group most likely to have been responsible for the dispersal of the word *kakawa-tl* are historical as well as linguistic. Pipil descends from the Eastern Nahuatl dialect, whose speakers, as we have seen, also created the word *čikola:-tl*. It is reasonable to suppose that these two words share their center of dispersal.

Two problems, however, may refute this hypothesis, but we suggest that neither of them is as serious as they may appear. First, the shapes of the words in the borrowing languages are different in an important respect: *kakawa-tl* is always borrowed without the so-called "absolutive" suffix *-tl*, whereas *čikola:-tl* is often borrowed with it (see Appendix). Rather than searching for an explanation in terms of different stages in linguistic history or dialect difference affecting the pronunciation of the suffix in the source language, both of which hypotheses would require giving up the idea that the two words share their center of dispersal, we opt for seeing this difference as having to do with the nature and use of the suffix. The absolutive suffix indicates the absence of a possessor.

[10] A Classic-period figurine from the Soconusco area which holds a cacao pod in one hand serves as evidence that cacao was already grown in the Soconusco during the Classic period (Barbara Voorhies, personal communication to Gasco 1987:58).

[11] An identical move was later to be made by the Aztecs who reportedly conquered the area some time between 1486 and 1502, during the reign of Ahuitzotl (Gasco 1987:57).

[12] This migration could well have occurred around A.D. 800, the date computed by Jiménez Moreno (1949:1077; see León-Portilla 1996:137–147), although we should be very cautious about taking this date for a fact.

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Once a noun is possessed in Nahuatl—always by means of a prefix—the absolutive suffix is dropped. Thus, the presence versus absence of the suffix in the two forms under discussion indicates that cacao would have been an object more likely to have been spoken of in possessed terms, for example, in terms of 'my/your/etc. cacao,' whereas the chocolate drink is more likely to have been spoken of in non-relational terms. This explanation makes sense because cacao was a trade item and the word must have diffused along trade routes in situations of trade negotiation. The same cannot be said of the drink, which would have been an object of domestic preparation and consumption, not of trade.

This leads us to the second possible objection to the hypothesis that the two words shared their center of dispersal, namely the fact that their geographical distributions as borrowed terms are somewhat different. *čikola:-tl* has been borrowed into the Otomanguean and Mixe–Zoquean languages, as well as into the Uto-Aztecan languages Cora and Huichol to the west of the Nahuas, but not into Maya. *Kakawa-tl* is found in Mayan and Mixe–Zoquean, but clearly not in Otomanguean, where another, perhaps older, term takes its place (see Appendix). The differences in distribution may have to do with the existence of a large variety of local traditions for chocolate preparation. Regional variants existed in cooking, and the term *čikola:tl* may have referred to a specific recipe for the drink not prepared in all areas. Such a situation does not arise in the case of *kakawa-tl*, which first and foremost referred to the bean itself.[13] It may be that *čikola:-tl* originally referred to a specific recipe for preparing the drink with *pochote* seeds and certain other spices as described by Hernández (1942). In Mayan languages we find a number of terms according to the particular way the cacao drink is prepared. It may be that, although the specific drink *čikola:-tl* was carried north from the Soconusco area by the Zapotecs and Mixtecs and eventually reached the Corachol area, where today it is extremely limited in use, it was not one favored by Mayas. Possibly for this reason the Mayas did not borrow the term. Another term in the chocolate complex also borrowed into Oto–Manguean languages was the name of the drinking gourd, or *šikal-li*, borrowed into Spanish as *jícara*. Again, this term does not seem to appear in the Mayan languages. There are thus no serious objections to the view that *čikola:-tl* and *kakawa-tl* share the same center of dispersal.

We have indicated that ancestors of today's Pipils could have been responsible for the diffusion of the two words and that these people were emissaries from Teotihuacan. It would strengthen our case if we had independent evidence to support our proposal that Nahuatl was an important language at Teotihuacan. Until quite recently the evidence we were able to find has been indirect. Berlo (1989), who studied the earliest occurrences of writing in central Mexico, convincingly demonstrated a continuity between Teotihuacan incipient writing and the Aztec pictorial manuscripts. This, however, is not evidence that Nahuatl was spoken at Teotihuacan. Another indirect piece of evidence is the indication that Nahuatl might have been spoken at the neighboring site of Cacaxtla, which flourished immediately upon the demise of Teotihuacan and appears to have been an ethnic melting pot (Baird 1989:106). Berlo (1989) elaborated upon a suggestion by Baddeley (1983:63) that a depiction of teeth is used as a hieroglyphic element. She inferred that this element occurs in what would be place-names and that it is used in a rebus fashion to represent the suffix *-tlan*, which is homophonous with the Nahuatl word for 'tooth.' Baird (1989:105, No. 1) cited estimates regarding the age of the Cacaxtla mural paintings that date these paintings to between A.D. 600–830. Thus, Nahuatl is likely to have been spoken in the area at that time.

[13] The word *kakawa* as it occurs on Classic Maya drinking vessels at first looks like an exception, but it should be remembered that the word never occurs on such vessels without a modifier, part of whose function may have been to change the reference from the cacao substance itself to one of several kinds of chocolate.

CONCLUSION

The cacao fruit became attractive to Nahua settlers in Mesoamerica who left their northern Uto-Aztecan homeland during the first centuries of the present millennium. Struck by the resemblance of the prepared beans to small bird eggs, they coined a descriptive name for the seeds and fruit formed from old Uto-Aztecan roots for 'brittle-shell' and 'pod,' but derived more immediately from the Southern Uto-Aztecan use of the term for 'egg.' At some time, Nahuas became an important power in Central Mexico. It is possible that theirs was the most important language spoken at Teotihuacan; there is suggestive evidence to the effect that the language was represented at certain influential centers, such as Cacaxtla, in the period immediately following the demise of Teotihuacan. We believe that from this central area the Nahuatl word for 'cacao' spread to the rest of Mesoamerica. Just as the control of central Mexican powers over other commodities and—in general—regions and peoples, this diffusion likely was aided by military outposts that turned into trading posts while retaining their military character. We speculate that in order to secure control over the cacao production in the fertile Soconusco region of the Pacific coast of southern Mesoamerica soldiers were sent there. They would have brought what was probably a predominately Mixe–Zoquean population under their control. This would explain why the word *kakawa* turned up early in Mixe–Zoquean and replaced whatever other term existed for this fruit earlier. The word also spread throughout the whole of Mesoamerica. We suggest that the invaders of Soconusco settled and became an organized entity, in their own right, but that they were forced to leave the area after the demise of Teotihuacan. Perhaps these people were the ancestors of the Pipil, who had long been resettled in the easternmost regions of Mesoamerica, when the Europeans arrived in the New World. Fowler (1989:39) wrote

> [e]ven if Nahua was not spoken at Teotihuacan, the economic and political expansion of the Teotihuacan state must have had some impact on the early divergence of the language. And it is possible that Teotihuacan expansion into southern Mesoamerica was responsible, either directly or indirectly, for the first Nahua movements to Central America, but the empirical evidence to support such a premise simply does not exist at this time.

We agree in general with this statement, only now it seems that even if the empirical evidence is still lacking, we have at least produced some new circumstantial evidence.

A revision of the vocabulary of many Mesoamerican languages indicates that there are other loanwords of cultural importance that fit into Nahuatl derivational classes and have etymologies that go back to Uto-Aztecan, although previous studies have attributed them to languages such as Totonac and Mixe–Zoquean (cf. Justeson et al. 1985:27). Among these are *saka-tl*, meaning 'dry corn stalks, grass,' borrowed into Totonac and Mixe–Zoquean; *wah-kal-li*, meaning 'carrying frame,' from *wah-*, or 'plank,' and *kal-*, or 'box'; as well as the earlier mentioned *šolo:-tl*, or 'cork tree,' Mecayapan Nahuatl

https://doi.org/10.1017/S0956536100111058 Published online by Cambridge University Press

šolo:-cin, Gulf Zoquean *šunu-t*, and *ših-kal-li*, meaning 'drinking gourd.' We also find it interesting that the Nicarao Pipil calendar (Léon-Portilla 1972:87) included *tapekat* <Tapecat> as the day name corresponding to Central Nahuatl *tekpatl*, meaning 'flint' from proto-Uto-Aztecan *tɨ?pa-ka*. The fact that this word does not show the metathesis of *p-k* that produced *tekpa-tl* is further evidence of the antiquity of the language in the area. A weighing of the evidence in these cases and others needs to be argued systematically by taking the reconstruction of word classes, detailed sound correspondences for each possible donor, and the geographical distribution of the material objects into consideration. We suggest tentatively that such vocabulary will give additional evidence of early Nahua presence in Mesoamerica.

We would like to make clear that our arguments should be evaluated in the same order in which they appear in this article. The Uto-Aztecan etymologies for 'cacao' and 'chocolate,' which we propose, are the strongest new evidence we are providing. Pressed by our linguistic findings we have forged a historical scenario that might shed light on the circumstances of the origin of these two words and make sense of their temporal and geographical attestations. The historical reasoning is speculative, however, whereas the linguistic reasoning is principled and based on precise and ample data.

RESUMEN

El origen de las palabras 'cacao' y 'chocolate' y su uso en la reconstucción de la historia temprana de Mesoamérica ha sido muy controvertido. Campbell y Kaufman (1976), por ejemplo afirman que la palabra 'cacao' proviene de las lenguas mixezoques, y que representa la tradición olmeca; por consiguiente, sostienen que la palabra es un préstamo en los demás idiomas mesoamericanos, incluido el náhuatl, en donde fue adoptado por razones de prestigio e influencia de la cultura olmeca. Para otros investigadores la palabra 'chocolate' representa un neologismo más reciente, quizá un hibridismo maya-náhuatl, debido a que su documentación en las fuentes coloniales del centro de México es muy tardía. En el presente estudio se demuestra por qué no se puede sostener un origen mixezoque para cacao y se dan pruebas lingüísticas para postular que tanto cacao como chocolate son términos de raigambre yutoazteca; ya que en ambos se verifican las tendencias evolutivas generales y particulares propias de este grupo de lenguas. Por otra parte, se demuestra aquí que dichas palabras son de origen descriptivo, es decir, que aluden a la forma del grano y a la preparación de la bebida. Para 'cacao' se propone la forma **ka-kawa-tl*, o 'objeto parecido a huevo,' una reduplicación de **kawa*, o 'huevo,' palabra que proviene del proto-yutoazteca: **kaN*, o 'quebradizo' o 'duro,' y **paN*, o 'bellota, vaina.' Para el caso de 'chocolate,' se postula una forma *ikola:tl*, atestiguada principalmente en los dialectos orientales del náhuatl, de donde se difundió hacia otras lenguas. Se encuentra no sólo en muchas lenguas mesoamericanas, sino también en el chamorro de las Filipinas, el español de Andalucía y el holandés del siglo XVI. La asociación ritual de la bebida con un batidor apoya el significado etimológico "bebida de batidor." Por último, se relacionan las conclusiones etimológicas con datos procedentes de inscripciones mayas, los cuales demuestran que la palabra kakaw fue conocida por los mayas clásicos desde mediados del siglo IV. Esta y otras evidencias sugieren que los teotihuacanos, que son el único pueblo que hubiera podido ejercer una influencia cultural suficiente para la difusión de una palabra tan importante como 'cacao,' hablaban náhuatl.

ACKNOWLEDGMENTS

We thank a number of colleagues for comments, references, and additional data for this article: Gordon Brotherston, Una Canger, Abad Carrasco, Barbara Cifuentes, Michael Coe, William Fowler, Nikolai Grube, Alfonso Lacadena, Miguel León-Portilla, Ausencia López Cruz, Simon Martin, Peter Mathews, Mercedes Montes de Oca, Jesper Nielsen, Valentín Peralta, Otto Schumann, Thom Smith-Stark, Ralph Sonnenheim, and Verónica Vázquez, as well as the students of Dakin's Seminario de Lengua Nahuatl, 1996–1998. Partial support for Dakin's research came from the DGAPA of the UNAM, through Special Project IN400194, including support for a sabbatical stay at the UCLA, where the Department of Linguistics gave Dakin generous access to research facilities. In Dakin (1993) and Dakin and Wichmann (1996), we presented brief, initial sketches of part of the linguistic analysis included in this paper.

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https://doi.org/10.1017/S0956536100111058 Published online by Cambridge University Press

APPENDIX

Language	'Cacao'	'Chocolate'
Aguacatec	*kyikyuw*	—
Boruca	<cau>	—
Bribri (Costa Rica)	*sirú*	—
Brunka (Costa Rica)	*ka-u*, *ka-uj*	—
Cabecar (Costa Rica)	*tsirú*	—
Cakchiquel—Modern	*ka:kow*	—
Cakchiquel—Colonial	—	*čokola*, 'es cacao junto que dan 20 a cada uno y lo beben entre todos'
Catalan	—	*šikolata/šikolate*
Chamorro	—	*čikulati*; *čokolate*; *tsokolate*; *čokolati*
Chatino	—	*čkula*
Chiapanec	<nuusí> /nuusí/	—
Chicomuceltec	<cacao> /kakaw/	—
Chinantec	<*cha*> /ča/	—
Chinantec—San Juan Lealao	*mɨ́*^{1}*ja*'^{3}	—
Chocho—Santa Catarina Ocotlán	*ka:kaú'* 'cacao'	—
Chol	*k^k^w*	—
Cholti	*cacao* /kakaw/	—
Chontal of Oaxaca	*litamki*	*galtsugula*[a]
Chontal of Tabasco	*tačín* (= *chorote*?) Becerra (1934); <cacau> (Scholes and Roys 1948:366); <cäcäw> /kɨkɨw/ (Keller and Luciano 1997)	—
Chorti	<cacao> /kakaw/	—
Chortí de La Unión	*kakaw*	—
Cora	—	<tzicuraá> /cikuraá/
Cuicatec	*du*^{4}*ndu*^{2}*cha*^{3}	—
Dorasque	*koa*	—
Dutch	—	*sekulate*
Guarijío	—	*či-kulá* ('chicura, tipo de planta: *Franseria ambrosioides)* (related?)
Guatuso	<kaxu>	—
Guaymi	*ku*	—
Huave	—	<chicolüt> /čikolɨt/
Huichol	—	<sicurá-> /síkurá-/ (with -tímaɨye = 'color of chocolate')
Itzá Maya	<cacaw> /kakaw/	—
Ixcatec	—	—
Ixil	*kakaw*	—
Jacaltec	<cacao> /kakaw/	—
Jicaque	*k*^{h}*aw*	—
Kekchí	ka:ka:w	—
K'iche' (Santa Catarina and Nahualá)	*kakaaw*	—
Lacandon	*kɨ*-kaw	—
Lenca—Guaxiquero	<cau> /kaw/	—
Lenca—Chilanga	<k'ágaw> /kagaw/, <cacao> /kakaw/	—
Mam	*kyikyuw*	—
Mangue	<nyúsi> /nyúsi/	—
Mazatec of Chiquihuitlan	*nt*^{1}*u*^{2}; *'nt*^{1}*u*^{2}	—
Mixtec—Chayuco (Jamiltepec)	—	*sikula*
Mixtec—San Juan Colorado	*súhvaj*	<tsicula> /ʦikula/ 'bebida de chocolate'
Mixtec—Santa María Peñoles	*kakaú*	—
Mixtec—Tepuzcula	<dzehua> /dzewa/	—
Mixtec—Tlaxiaco	—	*chikulá*(*t*)
Mopan	*kɨkɨh*	—
Motozintlec	<cacao> /kakaw/	—
Nahuat—Nicarao	<cacaguat> /kakawat/	—
Nahuatl—Classic	<cacahuatl> /kakawatl/ 'peanut' (related?)	—

continued

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Appendix. *Continued*

Language	'Cacao'	'Chocolate'
Nahuatl—Huastec[b]	—	*chocolatl*
Nahuatl—Mecayapan	<cacahua'> /kakawa'/	—
Otomi—Eighteenth Century	<na deqhy> /na de-ku/	—
Otomi—Querétaro	*kakao*	*txokolate*
Paya	*kaku* /kaku/	—
Pocomam[c]	*kakawaa*	—
Pocomchi—Colonial	<quicou> /kikow/	—
Pokomchi—Modern	<caco> /kako/	—
Popoloca	<kak> /kak/	—
Sayula Popoluca	—	*čikɨla:t*
Proto-Tzeltal–Tzotzil	**k^k^w*, 'cacao'; **k^k^w-'on*, 'epazote'	—
Proto-Otomanguean	***k^{w}a*(h), 'cacao, chocolate'; **zíá:'^{LH}*, 'cacao, chocolate'; **(*n*)se, 'small seed, cacao'; **(n)(h)*te*(h)(n), 'seed, cacao'	—
K'iche' (Santa Catarina)	*kaka:w*, 'cacao'; *pe:q*, 'pataxte'	—
K'iche'	*kakow*	—
Sayula Popoluca	—	*čikɨla:t*
Subtiaba	<ũsi> /ũ]usi/	—
Tarasco—Colonial	<caheque> 'dedo pulgar o cacao que beuen'; <cahequa vrucata ytsimaqua> 'beuida de cacao y maíz'	<cauas huricahequa> 'beuida de cacao con axi'; <caheque hiuio utsimaque> 'beuida de cacao solo'; <cahequatsitsiquihucari> 'beuida de cacao compuesta con flores'
Térraba (Costa Rica)	*tagaga*, 'cacao, especie de lapa'; kó	—
Tojolabal	*kakaw*, *kakawal*	*tz'anub'al kakaw*, 'chocolate'
Tojolobal (Early)	*kaka*	—
Trique	—	*ni^{e}ke^{5}*, 'cacao' (bebida)
Tuzantec	*peq* 'pataxte'	—
Tzeltal	<cacab> 'cacao' (Piñeda 1888); <cacao> /kakaw/ (Sapper 1897)	—
Tzotzil—San Lorenzo Zinacantan	/kokov/ 'drink and bean'; /kokov te?/ 'Davilla aspera var. matudae'; /pamal kokov/ 'powdered cocoa'	*čukul?at*
Tzotzil—Santo Domingo Zinacantan	<tzeel kokov> /ce:l kokov/ 'pura cosa sin mezclar'	—
Tzutujil	*kakow*	—
Xinca	*tuwa*	—
Yucatec Maya—Colonial	<cacau> /kakaw/	—
Yucatec Maya—Modern	*čukwa*'	—
Zapotec—Colonial	*pizòya*, 'fruta como piñones que beuen en breuaje'	*ničapizóya*, 'cacao beuida dellos hecho con agua'
Zapoteco—El Valle	<biziia> /bizi:a/, <bizóya> /bizóya/	—
Zapotec—Juárez	*dù'yá*	—
Zapotec—Isthmus (Pickett, personal communication 1974)	*biziaa*, 'cacao'	*čugulá* / *čù'ládì* (tones: low–high–low)
Zapotec—Mitla		<chiculajd> /čikulaxd/
Zapotec—Yatzachi		*šewlat*, 'atole de chocolate'

[a]Probably borrowed from Nahuatl because only borrowings and onomatopoetic words seem to have *č*: *chivo* is borrowed as *galčibo* and *chicle* as *galčikle*; *chocolate* is reborrowed from Spanish as *alčokolate*.
[b]Another relevant form is *cocoxonia* 'to stir.'
[c]The entry is for unknown reasons parenthesized in the source, which is the dissertation that was later published as Campbell (1977).

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