

INTRODUCTION TO THE HISTORICAL DICTIONARY OF CHOL (MAYAN)

With a Sketch of the Grammar of Chol

Nicholas A. Hopkins and J. Kathryn Josserand
with the assistance of Ausencio Cruz Guzmán

HISTORY OF THE PROJECT

This historical dictionary of Chol, which lists and analyzes all of the lexical items that were reported in significant numbers in published sources from 1789 to 1935, has been some thirty years in the making. Along the way, support has been provided by the Centro de Investigaciones Superiores del INAH (CIS-INAH) and its successor, Centro de Investigaciones y Estudios Superiores en Antropología Social (CIESAS), National Science Foundation, National Endowment for the Humanities, Foundation for the Advancement of Mesoamerican Studies, Inc., and the Council on Research and Creativity, Florida State University. We gratefully acknowledge this support. Opinions, findings, and conclusions or recommendations expressed here are those of the authors and do not necessarily reflect the views of the sponsoring institutions.

We began collecting material on Chol in 1978. Attendance at an early hieroglyphic workshop led by Linda Schele had alerted us to the need for more information on the modern language, arguably the Mayan language most closely related to the language of the Classic period script (and at the very least a language that could shed light on Classic Maya). Likewise, in our roles as teachers and trainers of Mexican anthropology students (at CIS-INAH and the Universidad Autónoma Metropolitana, Iztapalapa), we were looking for an area in southern Mexico where we might bring students for field work. After a few days in and around Palenque, Chiapas, trying to make contact with suitable informants, Merle Greene Robertson introduced us to one of her principal assistants, Ausencio Cruz Guzmán. Chencho, as he is universally known, is a fluent bilingual in Spanish and Chol, and he became an ideal informant. We began serious work by eliciting the lexicon of Terrence S. Kaufman's (1962) Mayan Vocabulary Survey questionnaire, a wordlist of some 1500 items relating to Mesoamerican culture. Soon we began

recording stories and folktales, having discovered that Chencho is a talented storyteller. We began to spend more and more time in Palenque, and we brought Chencho to Mexico City to work there in the interims. In 1981 we spent the Fall semester in the field with students from CIS-INAH and the UAM, adding ethnography to our repertory of studies. In 1982 our relationship with Mexican institutions came to an end, and we returned to the United States. However, we continued to collect and analyze material on Chol.

Further work on Chol was supported by NSF (Linguistics) grant BNS-8308506, "Chol Texts, Grammar, and Vocabulary," 1983-85; and NEH (Research Tools) grant RT-20643-86 and NSF BNS-8520749, "Chol (Mayan) Dictionary Database," 1986-88. Under the first of these we advanced our grammatical analysis of the language and prepared for publication a set of Chol texts, *T'an ti Wajali* (see Hopkins and Josserand 1994); the original field recordings of these stories are posted on AILLA (Archive of the Indigenous Languages of Latin America, www.ailla.utexas.org). Under the second set of grants we assembled the published material on Chol that forms this dictionary, checked the lexical items in the field (usually with Ausencio Cruz), and entered the data in a database. At this time the first personal computers were on the market, and in 1983 we purchased two state-of-the-art computers, an Osborne Executive and a Kaypro 10, along with a 20 MB hard drive and a Diablo 360ECS printer. The database software was Programmable Text Processor (PTP), developed by the Summer Institute of Linguistics for CP/M operating systems.

Data from each source was entered into a separate database, but each database had the same format and entries were designed to facilitate eventual merging of the files. Each record began with a "sorting code," usually the root on which the item was based; when merged, the files could be sorted on this column and items based on the same roots would be grouped together. Following this code, the lexical item was entered in the form we considered to be correct, and this was followed by a grammatical classification based on our analysis of Chol grammar. Next came English and Spanish glosses, then a reference to the source. Source references were complete bibliographic references, e.g., Stoll 1938:52; thus, after the files were merged and sorted, source information would accompany each record. Following the bibliographic reference, the original citation was enclosed in brackets, e.g., <yaálk'ö> (for /yal k'áb/ 'finger'). If the original gloss was not the one cited as the English or Spanish gloss, the original gloss followed the bracketed form. Comments and examples ended the record; these were not carried forward into the present dictionary, but have been replaced by other comments and examples as well as cross-references.

This dictionary database has had a tortured history. The separate databases were

completed and printed out as part of our NEH grant report (Josserand and Hopkins 1988). Bound into three volumes, some two hundred copies of this report were produced over the next few years and were intensively used by epigraphers searching for lexical support for hypotheses concerning Classic period Maya hieroglyphic writing. The first volume (Part I) included a report on the project itself and a series of research papers produced during the period of the grant (see Bibliography, below). The second volume (Part II) contained an introduction to the Chol dictionary database and a set of grammar notes (Fascicles 1-2), followed by the lexical databases drawn from six sources (Fascicles 3-8) and anticipating a seventh database that still needed field checking (based on Becerra 1935). These fascicles included Proto-Mayan and Proto-Cholan antecedents of dictionary entries (compiled by Terrence S. Kaufman), Colonial Chol calendrical names (Campbell 1984), and the 1789 lexicon derived from Fernández (1892), the nineteenth century wordlists of Berendt (Stoll 1938) and Sapper (1907), and two early twentieth century lists compiled by Starr (1902). The final volume (Part III) included two fascicles, the lexicon elicited through the Mayan Vocabulary Survey questionnaire, and that collected by means of Monosyllable Dictionary elicitation, both the products of our field work.

It is fortunate that this material had been printed out, because soon after its publication, the CP/M operating system was abandoned, and the "floppy disks" that stored the data became obsolete. An attempt was made to write the data over to the new systems of hardware and software, but failed because of system incompatibility and the lack of technical expertise on the part of the investigators. Lacking a high-tech solution to the problem of retention of data, the entire set of databases was once again key-boarded. The original Osborne and Kaypro computers now having been replaced by Macintosh hardware, the software chosen for this task—none too wisely—was Panorama, a database system designed to facilitate on-line access. Since virtually nobody else used this software, the data were eventually written over to Excel. There it languished until 2008, when a colleague, Elizabeth Purdum, volunteered to carry out the merger of the separate databases into one file, a task that had exceeded the investigators' grasp of the technology. The merger accomplished, the database was converted to a text file. Over a period of months in 2009 that file was edited to produce the present document, deleting the tabs that had delimited columns in the database program, putting in appropriate punctuation, formatting and ordering the entries, cross-referencing, making additional comments, etc. A project begun in 1978 finally yielded a concrete result thirty years later. In the meantime, several specialized studies had drawn on the data, including Josserand and Hopkins (2005) and Hopkins et al. (2008).

THE CHOL SOURCES

León Fernández 1892: Eighteenth Century Chol of Tila, Chiapas

The earliest published Chol lexicon is that of León Fernández (1892), which is a transcription of data recorded in Tila, Chiapas, in 1789. Chol was apparently missed in the sixteenth century survey represented by the *Relaciones Geográficas* (Harvey 1972), and no major documents are known from the earliest Colonial period (Bright 1967, Hellmuth 1970), including the catechisms, grammars, and vocabularies that must have been produced during the period when Chol speakers were being missionized and relocated (de Vos 1980a,b). A few Chol words have been recovered from manuscript materials in the recently-opened diocesan archive in San Cristóbal de Las Casas (see Campbell 1984), but no documents with extensive Chol data have been discovered there. Thus the data published by Fernández, recorded at the very end of the eighteenth century, are the only extensive data we have from early Colonial Chol.

The manuscript from which the published data are drawn is found in the Spanish Archivo de Indias ("Audiencia de Guatemala. – Duplicados de Gobernadores Presidentes. – 1788-1790" – Estante 100, Cajón 4, Legajo 13). A handwritten copy of this manuscript, by A. L. Pinart, resides in the Yale University Library, but neither the original nor the copy were consulted for this dictionary. León Fernández, a Costa Rican scholar, transcribed the data from the original Archivo copy, and his notes, along with data from other Central American languages, were published posthumously by his sons, in his memory and on the occasion of the Ninth International Congress of Americanists, held in Costa Rica, in 1892. A copy of this publication was consulted in the Library of Congress, and the present study is based on a photocopy of that work. These data have recently been published, with commentary, as Hopkins, Cruz, and Jossierand (2008), "A Chol (Mayan) vocabulary from 1789," *International Journal of American Linguistics* 74(1):83-114.

Campbell 1984: Colonial Chol Day Names

The Chol day names reported in this dictionary are based on those published by Lyle Campbell, 1984, "El pasado lingüístico del Sureste de Chiapas," *Investigaciones recientes en el área maya*, XVI Mesa Redonda, Sociedad Mexicana de Antropología, San Cristóbal de Las Casas, Chiapas, 21-27 Junio 1981, pp. 165-180. These lexical items were in turn transcribed from a Colonial manuscript, the *Libro de Bautismos y Casamientos de Yajalón*, located in the Archivo de la Diócesis de San Cristóbal de Las Casas, Chiapas. Campbell notes (1984:180) that

this document records data not only from the Chol-speaking towns of Tila, Tumbalá and Palenque, but also from the Tzeltal-speaking town of Yajalón. If a form was different from an otherwise attested Tzeltal form (i.e., from the manuscript *Libro de Bautismos de Comitán*, located in the same archive), Campbell took it to be Chol; otherwise he assumed the Chol and Tzeltal forms to be identical. For comparative purposes, data on Chuj day names are added to these records, from Campbell (1984:179) and from Hopkins's field notes, 1964-65 (on line at AILLA, the Archive of the Indigenous Languages of Latin America, www.ailla.utexas.org).

Stoll 1938: The Nineteenth-Century Chol Vocabulary of C. H. Berendt

This extensive Chol lexicon was recorded by the German scholar C. H. Berendt towards the middle of the nineteenth century, and remained unpublished until after his death. It formed part of a much larger collection of Mayan vocabularies that he had registered, part of which was published by Otto Stoll in his study of Guatemala, Stoll (1884), *Zur Ethnographie der Republik Guatemala*, Zurich: Orell Füssli. This dictionary draws its data from the 1938 Spanish translation of Stoll's work rather than the original 1884 German publication (Spanish translation by Antonio Goubaud Carrera, *Etnografía de la República de Guatemala*, Guatemala: Tipografía Sánchez y de Guise). Stoll (1938:43-44) gives the following information (our translation from the Spanish):

The late doctor Berendt spent many years collecting vocabularies, from Mayan languages as well as Mexican languages, and I understand that the "Comparative Vocabulary of the Languages Pertaining to the Maya-Qu'iché Family" which I have mentioned above has still not been published. This important vocabulary contains more than 600 words of the various languages which belong to the Mayan linguistic family. Professor Rockstroh, who was a friend of doctor Berendt, now possesses the manuscript of this vocabulary, and thanks to him I had the opportunity to copy, *in extenso*, at least the part of this important work which deals with Mayan languages. The vocabularies of the Mayan languages which are spoken outside the Republic of Guatemala, and which appear in the following list, are taken from the copy which I made of the Berendt manuscript.

It is worth noting that Berendt's data record a variety of Chol that later suffered several notable changes, including consonant cluster reductions and metathesis. The form <ak'uale> 'noche' ('night') implies /ak'b'älel/. But this term now appears in two reduced forms, /ak'älel/ in Tila and Tumbalá Chol, and /ab'älel/ in Sabanilla Chol (Aulie and Aulie 1996:3); that is, in no current variety of Chol does the /k'-b'/ consonant cluster survive. Berendt records the term 'uña' ('fingernail' or 'claw') as <ejchák>. But in all of modern Chol, the term shows metathesis to /'ejk'ach/ (Aulie and Aulie 1996:43). Likewise, some terms reported by Berendt are now

obsolete: <um> 'aguacate' ('avocado') has been replaced by a Nahuat loan, /'awakat/, although Kaufman and Norman (1984:135) reconstruct *un for Proto-Cholan (from Proto-Mayan *oonh). 'Sombrero' ('hat') is rendered <tiepól>, /tyep'-jol/ 'wraps-head' rather than the modern /pix-jol/, likewise 'wraps head'.

Berendt's informant(s) show evidence that the native numerical system had already begun to fall into disrepair. For 'thirteen', he records <uxpé e lujumpé>, /'ux p'ejl 'i lujum p'ejl/, literally. 'three (things) and ten (things)', rather than the expected /'ux-lujum p'ejl/. 'Fourteen', <chumpé é lujumpé>, follows this same pattern, as do several other numbers in the teens, but 'fifteen', <jolumpé> preserves the traditional structure, /jo'-lujum p'ejl/.

One curious item suggests the otherwise rare influence of Yucatec Maya. Berendt records <bax> as the interrogative 'que' [sic, for 'qué'] ('what?'), but this is otherwise unattested in Chol; it is the Yucatec Maya word. Since this is also the Lacandón Maya term, the influence may be from this Chiapas source rather than a Yucatec one. Contact with Tzeltal is indicated by the loanword <tzantzeuál>, /tzantzewal/ 'rayo' ('lightning'), cf. Bachajón Tzeltal /tzantzehwal/ 'relámpago' (Slocum and Gerdel 1980:193).

Sapper (1907): A Late Nineteenth-Century Chol Wordlist

An extensive Chol word list, apparently collected just before the end of the nineteenth century, was published in the proceedings of the 15th International Congress of Americanists by Karl Sapper, German ethnographer and historian. Sapper (1907:440-458) presented data from the two major Chol dialects, those of Tila and Tumbalá (and their dependencies). He accompanied the Chol data with comparative data from Chortí and Pocomam.

The juxtaposition of the Chol, Chortí and Pocomam data was intended to demonstrate that Chol and Chortí were closely related to one another, as recognized by Stoll (1884), and that the supposed Chortí vocabulary gathered by Stephens (1841) was not, in fact, Chortí but Pocomam, Stephens having "questioned in error an Indian who was passing through the area [of Chiquimula]" (Sapper 1907:423-424).

In addition to the linguistic data, Sapper presented documentary evidence and evidence from his own experience to establish the location of Chol speakers from the earliest historically known periods through the nineteenth century, anticipating later studies by Thompson (1938), Hellmuth (1971), de Vos (1980) and others. Sapper had made frequent trips to the Mayan area during the nineteenth century, in the course of which he collected a significant amount of language data, used along with documentary evidence to formulate his hypotheses concerning

the historical development of Mesoamerica (Sapper 1897).

In his 1907 article, Sapper does not state the exact date on which the Chol material was registered, but he does make reference to a visit to Tenosique in 1896. Chol had been spoken there as late as the middle of the nineteenth century, but Sapper was unable to locate Chol speakers (Sapper 1907:429, footnote 1). Since the purpose of this visit was to locate Chol speakers and Tenosique is relatively near the area where his Chol data were recorded (less than 100 kilometers to the east of the Tila-Tumbalá highlands), it is possible that Sapper's Chol word lists were recorded that same year.

Internal evidence indicates that Sapper's list was recorded between 1884 and 1906. The nature and order of the items elicited is strikingly similar to the elements of the Comparative Vocabulary of Mayan Languages collected by C. H. Berendt and published by Stoll in 1884 (above). This comparative word list and Stoll's use of it to analyze the real relationships between languages is mentioned by Sapper in his 1907 article, and Sapper's word list differs from that published by Stoll only in the addition of more items in several domains of historical interest and in minor changes in the order of eliciting terms. Chart 1, below, compares the nature and order of eliciting items at the beginnings of these lists. The clear implication is that Sapper was not only aware of Stoll's 1884 publication when he carried out his field work on Chol, but that he in fact based his eliciting questionnaire on it. This places Sapper's elicitation between 1884, when Stoll published this list, and 1907, when Sapper presented his paper to the International Congress of Americanists. Sapper's 1896 visit to the Chol area falls almost exactly in the middle of this range.

The Chol data were recorded for each of the major dialects of Chol, Tila and Tumbalá Chol. The Tila dialect data were apparently recorded in the town of Tila itself, and Tila forms are marked with the letter T after the datum. The Tumbalá dialect data were recorded in "Alianza, near Tumbalá" (Sapper 1907:437) or "Alianza Puyjip, near Tumbalá" (Sapper 1907:440), and are marked with the letter A after the lexical item. Alianza is located about one kilometer northwest of the center of Tumbalá. Thus, an entry like "<ajc A T> Schildkröte" indicates that the term for 'turtle' was the same in both dialects; "<hulul T, amöi A> Flöte,Pfeife" indicates his informants gave him distinct terms for 'flute', /jaläl/ in Tila and /amäy/ in Tumbalá.

At the end of the nineteenth century, it appears to be the case that the metathesis of 'fingernail' from /'ejch'ak/ to /'ejk'ach/ had not yet taken place: <ejchak T A> 'Nagel'. Sapper's informants are better at their numbers than Berendt's informants, e.g., <chonlujum (bel) A> /chän-lujum (p'ejl)/ for 'fourteen', but the Tumbalá informant occasionally uses peculiar numerical expressions, e.g. <chabel i nume ti jun cal A> /cha'-p'ejl 'i ñumel tyi jun k'al/ 'two

passing the first twenty' for 'twenty-two' (rather than the standard /cha'-p'ejl 'i cha'-k'al/ 'two in the second twenty'). On the other hand, he also uses the standard forms: <lujumbel i cha cal A> /lujum p'ejl 'i cha' k'al/ 'ten in the second twenty' for 'thirty'.

CHART 1

A Comparison of Eliciting Terms in Berendt's and Sapper's Chol Lists

Berendt (Stoll 1938:46-47)	Sapper (1907:440-442)
man	man
woman	woman
-	husband
-	wife
father	father
mother	mother
widower	-
widow	-
son	son (man speaking)
-	son (woman speaking)
daughter	daughter
elder brother	elder brother
younger brother	younger brother
elder sister	elder sister
younger sister	younger sister
-	son-in-law
-	daughter-in-law
-	brother-in-law
-	sister-in-law
-	father-in-law
-	mother-in-law
-	uncle
-	aunt
grandfather	grandfather
grandmother	grandmother
father-in-law	-
mother-in-law	-
uncle	-
aunt	-
brother-in-law	-
sister-in-law	-
son-in-law	-
daughter-in-law	-
body	body
-	bone

-	flesh
-	blood
-	hair
head	head
-	forehead
eyes	eyes
-	eyebrows
-	ear
nose	nose
ear	-
mouth	mouth
tongue	tongue
incisor	incisor

Starr (1902): Two Turn-of-the-Century Chol Wordlists

Two Chol word lists appear as appendices to Frederick Starr's *Notes Upon the Ethnography of Southern Mexico (Proceedings of the Davenport Academy of Sciences 9:63-172, 1902)*. The word lists are found on pages 82-99 and in Appendix III (unpaginated). Both lists were collected about 1900, among populations speaking the Tumbalá dialect of Chol. The shorter of the two lists was recorded by Starr himself; the longer list was compiled by Henry [Enrique] Rau, a German-speaking plantation manager from whom Starr copied the data. An introduction to the lists gives information on their origins, along with notes on the distribution of Chols and their dialects, their customs, and their history (see below).

For the most part, this information was provided by Rau, one of the finca managers of the German-American Coffee Company in the period Chols refer to as "the age of slavery." A sense of conditions of the time can be discerned from the conversations with former finca workers reported by José Alejos García (*Mosojántel; etnografía del discurso agrarista entre los ch'oles de Chiapas*. México, D. F.: Universidad Nacional Autónoma de México, 1994) and the municipal records of Tumbalá, edited by Alejos and Elsa Ortega Peña (*El archivo municipal de Tumbalá, Chiapas, 1920-1946*. México, D. F.: Universidad Nacional Autónoma de México, 1990).

Both Starr's and Rau's word lists have orthographic peculiarities, and neither records all Chol phonemes with complete accuracy. Nonetheless, almost all of the reported lexicon can be identified with forms known from other sources. Some otherwise unreported lexicon can be confirmed (e.g., some Spanish loans), but a few questions remain unanswered.

Starr's List

Starr's short list consists of responses to a 71-word questionnaire which he collected personally in Huastec, Yucatec and Chol, and copied from unpublished nineteenth century sources for Zoque, Chiapanec and Tzotzil. The Chol data were recorded by Starr in Hidalgo, Chiapas, a colony of Tumbalá. Two forms are missing from the list (49 'give' and 56 'six'), and the 69 remaining words elicited just over fifty lexical items, recorded either in isolation or in short phrases and glossed in English. Elicitation must have been done in Spanish, judging from the misunderstanding recorded in form 39 <ti-em> 'white'; /tyem/ is 'bench', not 'white', and must have been a response to a confusion of Spanish *blanco* and *banco*.

The Appendix in which the short Chol list appears is a printer's nightmare of vowel diacritics and special symbols and probably contains a great number of typographical errors. In the Chol list, almost all the vowels have a diacritic, most frequently macron (dash over the letter), but sometimes breve (U-shaped curve over the letter) or umlaut (two dots above the letter). The presence or absence of these diacritics does not seem to correlate with significant features of Chol vowels. They are probably intended to convey the phonetic nature of the perceived vowel, but the same forms are written with and without the diacritics:

26 <lak-ok> 'leg', with macrons over both vowels,

27 <lak-ok> 'foot', with macron over only the first vowel;

both represent /lak-ok/ (< laj k-ok) 'our foot/leg'. Likewise:

7 <i-no-shi-al> (macrons over all the vowels),

9 <ino-shi-al> (macrons over all but the first vowel),

glossed 'husband' and (incorrectly) 'wife', but both /'i ñoxi'al/ 'her husband'.

In brief, almost all examples of <i>, <a>, <o> and <u> have macron, almost all examples of <e> have breve, and the differences between presence and absence of the diacritics is not contrastive. The mid-central vowel /ä/ ("barred i") is written most frequently as <u> without macron, once as <u> with the macron, and twice as <ü> with umlaut. In four items, in palatal contexts, it is written <i> with macron. Due to technical issues, these diacritics are not preserved in the present dictionary.

Among consonants, there is no consistent distinction between glottalized and plain consonants. Chol consonant and vowel contrasts are shown in Chart 2, matched to the symbols Starr used to record these values. The symbols are displayed in an array that reflects articulatory

phonetics. Alternative spellings are indicated by slash marks; lack of notation is indicated by hyphens.

CHART 2

Chol Phonemes						Starr's Orthography					
p	t	tz	ch	k	'	p	t	s	ch/tch	k/c	-
b	p'	t'	tz'	ch'	k'	b	t'	-	ch/tch	k	
		s	x	j				s	sh	x/j/h	
m	ñ					m	n/ñ				
w	y					w/u	i				
	l						l				
	i	ä	u			i	i/ü/u	u			
	e	a	o			e	a	o			

Note that these conventions are quite different from those used in Starr's reporting of Rau's Chol word list (Chart 3), where more phonemic distinctions are recorded, including the glottalization of consonants.

The Yucatec convention of <c> for plain and <k> for glottalized velar stops apparently influenced the transcription of the first item on the list, 1 <uin-ic> 'man', but all other velars are written with <k> (or, in two cases, with <x>). One form records a glottalized <t>, 47 <t'an> 'speak' /ty'añ/, and the apostrophe sign used is unlike the accent marks used after vowels, so glottalization may be intended. Likewise, an accent mark after <k> in 22 <la-kak'> 'our tongue' would be correct if it marked glottalization (/la kak'/ < laj k-ak'). However, the preceding form similarly marks an unglottalized stop: 21 <la-k'e> 'mouth' (/la k-ej/ < laj k-ej). The voiceless vocoid /j/ is written as <x>, <j>, or <h>, as in:

30 <ux>, /uj/ 'moon';

60 <la-jun-ti-kil>, /lajun tyikil/ 'ten (people)', and

55 <ho-ti-kil> /jo' tyikil/ 'five (people)'.

Preconsonantal /j/ is not written:

40 <ik-ul'> /'ijk'äl/ 'morning',

36 <tchuum> /ch'ujm/ 'calabash', and

32 <chak> /chajk/ 'lightning'.

The affricates /tz/ and /tz'/ are not recognized in Starr's orthography. An item which appears to record /tz/, <tso-ka'l> 'rain' is in fact /tyokal/ 'cloud'. The term /tzuk tyi/ 'beard' is recorded as <lak-suk-ti'>. The affricates /ch/ and /ch'/ are usually written <ch>, but twice occur as <tch>, in the following forms:

36 <tchum> /ch'ujm/ 'squash', and

37 <tchi-mai> /chij may/ 'deer'.

The palatalization presently characteristic of Chol alveolar consonants is indicated in Starr's data, if not consistently marked. Forms like the following clearly indicate that palatalization was a feature of these consonants (as, indeed, it is indicated from the earliest source, the 1789 word list):

48 <e-tiel> /'e'tyel/ 'work',

6 <i-ña> /'i ña/ 'his mother', and

39 <ti-em> /tyem/ 'bench'.

Despite these deficiencies in transcription and/or orthographic representation, few forms in Starr's short list cannot readily be identified. Only 43 <la-ku'b> 'green' remains a total mystery. There is one apparent misunderstanding in elicitation: 15/16 <no-shib> 'head, hair' must have resulted from Starr indicating his head/hair when eliciting the term, and what he got was 'old man'. Our best guess is that Starr had gray hair. There are two apparent mistakes:

3 <mun-ti-kil> 'boy' must be /juñ tyikil/ 'one (person)', and

4 <un-ti-kis'h> 'girl' must be /juñ tyikil 'ix/ 'one woman'.

Rau's List

The long word list provided by Henry Rau has a different set of orthographic problems.

Rau was a native speaker of German, and his transcription is in line with German norms, tempered by Spanish conventions. Rau's orthographic conventions are shown in Chart 3.

CHART 3

Chol Phonemes						Rau's Orthography					
p	t	tz	ch	k	'	p	t	z	tsch	k	V-V
						ti/di/t'			c/g		
b	p'	t'	tz'	ch'	k'	b	p-	t-	z-	tsch-	k-
						v/w	pp/p	tí/t	z'/tz/z	ch/tsch'	k'/k'/g-/k
									/tsch		
		s	x	j				s/z	sch/ch	j/ch/h	
m	ñ					m	n/ñ/ni				
w	y					w	y				
						u/hu/gu/g/g'	i/ll				
	l, r						l/ll, r/rr				
	i	ä	u			i	i/a/o/ü			u	
		ie/in/un/ul									
	e	a	o			e	a			o	

German versus Spanish Orthographic Conventions

As can be seen in Chart 3, German orthography is the basis for many of the symbols used to transcribe Chol words: <z> stands for /tz/, <tsch> for /ch/, <sch> for /x/, <ch> for /j/. While /b/ is usually written , it is sometimes written <w>. However, Spanish conventions occasionally intrude, creating ambiguity in the values of the symbols. Thus, there are instances of <ch> for /ch/ as well as for /j/. Other ambiguities and redundancies may be noted in Chart 3.

Glottal Stops

Intervocalic glottal stop tends to be written like syllable boundary, i.e., with hyphen <->:

<i-ik> /'i'ik/ 'black'; <ja-al> /ja'al/ 'rain'; <ja-an> /ja'añ/ 'brother-in-law'; <ja-as> /ja'as/ 'plantain'. Considering that German has syllable-initial glottal stop before vowels, following pause, this is an excellent convention for a German speaker to use in the transcription of Chol.

Vowels

In general, Rau's list is reasonably accurate in its transcription of Chol vowels. A glaring exception is the treatment of /ä/ (a mid central vowel with a wide range, including schwa and barred i). This vowel is variously transcribed with all the vowel symbols except <e>, and even <ie> is common. Occasionally it is transcribed as <in>, <un>, or .

Plain versus Glottalized Consonants

At first glance, Rau's orthography does not appear to distinguish regularly between glottalized and plain consonants. There are only a few instances of stops and affricates written with <ʔ> or <ʕ>, for instance, and no consistent use of the Colonial Yucatec convention, <c> versus <k>, although both symbols occur and <pp> is occasionally used for /p/, as in Colonial Yucatec. Closer examination, however, reveals that the symbol <-> is regularly used to represent glottalization as well as glottal stop and, occasionally, syllable boundary.

In many words, <-> does in fact represent syllable boundary: <aj-zo> /'ajtzo/ 'pavo; peacock', <ku-jil> /kujil/ 'saber; to know'. But some words, even long ones, are written without marking syllable boundary: <wichalen aleya> /wi cha'leñ 'a'leya/ glossed 'regañar; to blame, scold' but literally 'he scolds' (</woli 'i cha'leñ 'a'leya/). But the hyphen often occurs where one would not expect a syllable boundary: <aa-b> 'hamaca; hammock', <ak-in> 'limpiar; to cleanse'. In these cases, a glottalized consonant is usually adjacent to the hyphen: /'ab/, /'ak'iñ/.

In order to test the hypothesis that glottalization was intended to be recorded in Rau's list, we examined the lexicon on the first ten pages of a 30-page printout of Rau's lexicon (alphabetically ordered, /'äch/ through /k'iñ/. For each instance of a stop or affricate in the lexical item, Rau's transcription was examined and classified as an instance of (1) a glottalized consonant written with <->, <ʔ>, or <ʕ>; (2) a glottalized consonant not marked as distinct from a plain consonant; (3) the use of <-> where no glottalized consonant was present; and (4) the absence of <-> where no glottalized consonant was present. The hypothesis that <-> was used to represent glottalization is confirmed if types (1) and (4) predominate. The result of the examination of 178 lexical items is displayed in the following chart:

Written with <->, <ʔ>, or <ʕ>

Not marked

Have C'	58 (type 1)	27 (type 2)
Lack C'	21 (type 3)	72 (type 4)

That is, of the 178 lexical items, Rau correctly marked glottalization (or its lack) in 130 cases, about 73% of the time. The remaining 48 cases "incorrectly" marked glottalization, either by not writing it when it occurred or by using the symbol <-> for something other than glottalization. The latter cases include the use of hyphen to mark syllable boundaries; apart from the latter cases, there is a clear, strong tendency for <-> to correlate with glottalization. It appears likely, therefore, that Rau perceived the plain/glottalized distinction and attempted to record it in his word list. Thus, items like <k-ak> /k'ajk> 'fire', <i-k> /'ik/ 'wind' and <pusik-al> /pusik'al/ 'heart' cannot be considered casual or fortuitous use of hyphen, but should be taken as conscious and fully deliberate usage of hyphen to represent glottalization.

On the other hand, the word list as published is not without error. There are many cases of the same word being written with and without hyphen or some other mark of glottalization: <atsch> 'húmedo; humid', <a'tsch> 'mojar; to dampen, wet'; <ik> 'viento; wind', <i-k> 'aire; air'. Some of these errors may be printer's errors, some may be Starr's errors in copying the list, and some may be Rau's errors in transcription.

Glosses

In these lists, Spanish glosses are usually reliable, while English glosses are frequently wrong. The Spanish and English translation equivalents given for Chol words in Rau's list suggest that Starr copied Rau's Spanish-Chol vocabulary and then added English glosses later based solely on the Spanish, which he frequently misunderstood. He clearly had no extensive knowledge of Chol, nor does his treatment of the Spanish glosses indicate any familiarity with Spanish. Some of the Spanish glosses are so misspelled as to obscure their meaning, and the English glosses are frequently based on a mistaken Spanish word. Starr's own list (above) indicates he had little understanding of Chol words and made mistakes in Spanish. A reasonable conclusion is that it is Starr who is responsible for the errors, not Rau. The following items suggest that Starr's English glosses were achieved by looking up Spanish words in a dictionary, and not always the right word. The form given by Rau is followed by the corrected Chol form and his Spanish translation (as given by Starr); the English gloss is attributable to Starr.

Rau	Chol	Spanish	English	Commentary
<aj-zo>	/'ajtzo'/	pavo	peacock	<i>Pavo</i> is local Spanish for 'turkey', not 'peacock'.

<tschak>	/ch'äk/	pulga	inch	<i>Pulga</i> is 'flea'; 'inch' is <i>pulgada</i> .
<ja-an>	/ja'añ/	cuñado	cradle	<i>Cuñado</i> is 'brother-in-law'; 'cradle' is <i>cuna</i> .
<hatiet>	/jatyety/	vos	voice	<i>Vos</i> is Chiapas Spanish for 'thou'; 'voice' is <i>voz</i> .
<pajui>	/pajäy/	zorro	fox	<i>Zorro</i> is local Spanish 'skunk', but standard Spanish 'fox'.
<sik-tiém>	/sijty'em/	hindrar	hinder	The Chol form is 'swollen', i.e., Spanish <i>hinchar</i> ; * <i>hindrar</i> is not a real Spanish word.
<tia-lá>	/tyal'a/	cura	cure	<i>Cura</i> is Spanish 'priest'; 'cure' is <i>curar</i> .
<muj-zucklán>	/muj tzäklañ/	conseguir	to succeed	The Chol form is 'I follow', i.e., Spanish <i>seguir</i> , not <i>conseguir</i> . The English gloss is based on the secondary meaning of <i>conseguir</i> as 'to manage to do something'.
<schi-yib>	/xiyäb'/	peine	difficulty	<i>Peine</i> is 'comb'; 'difficulty' translates <i>pena</i> .

Spanish Loan Words

A number of words recorded by Rau are loans from Spanish which are not recorded in modern sources (e.g., Aulie and Aulie 1978, 1996). These probably represent words which were in fact in common usage, but which remain undocumented because of the lexicographer's bias against obvious loans. Some are documented loans, but are recorded in slightly different forms from those of the published sources:

Rau	Chol	Spanish	English	Aulie & Aulie
<schaltien>	/xaltyeñ/	sartén	skillet	unreported
<elemux>	/'elemux/	limón	lemon	unreported
<burrík>	/burrík/	embudo	funnel	unreported
<kawu>	/kawu/	caballo	horse	/kawayu/

<clesia> /klesia/ iglesia church /lesia/

Correspondence to Modern Sources

The lexical items in Rau's word list are for the most part readily identifiable with vocabulary reported in modern sources for Chol (or, in some instances, for Tzeltal). Of the 410 terms recorded in this dictionary, 405 (98.8%) can be identified with terms listed in the Aulie and Aulie dictionary, other Chol sources, or Tzeltal sources. Less than 2% (five items) remain unidentified.

Evidence for Dialect Identification

The evidence indicates that Rau's list represents the Tumbalá dialect of Chol, i.e., the items that are left unmarked for dialect in the Aulie and Aulie dictionary (1978, 1996). A few forms presently considered Tila dialect are, however, included: <troniel> 'trabajar; to work', /troñel/, is marked by Aulie and Aulie as a Tila dialect form. Note that Starr's own list, from Hidalgo, a Tumbalá colony, reports /e'tyel/ 'work', the typically Tumbalá form.

Most verb phrases in Rau's examples are inflected for incompletive aspect with /mu/, not a dialect diagnostic:

<tschuki-masub> /chuki ma sub/ 'What do you say?'

<muakajel> /mu 'a-kajel/ 'You begin.'

<muj-mel> /mu j-mel/ 'I arrange it.'

<mazuk-án> /ma tz'ákañ/ 'You cure it.'

<muj-zucklán> /mu j-tzäkleñ/ 'I follow it.'

There are a few verb phrases in the progressive construction, with the auxiliary /woli/, a Tumbalá form (as opposed to /chänkol/ and /yäkel/ in Tila and Sabanilla):

<wichalen aleya> /w[ol]i 'i-cha'leñ 'a'leya/ 'He is scolding.'

<cuai ti chumbal-che> /woli tyi xämb'al che/ 'He is walking thus.'

Two verb phrases in the completive aspect appear to differ in dialect associations (Tumbalá /tza/, Tila /ti/), but the <ti> may be a mistake for <tzi> or <zi>, either of which would represent the Tumbalá dialect:

<zakubi> /tza kub'i/ 'I heard it.'

<maki ti tschalen> /majki t[z]i cha'leñ/ 'Who did it?'

The second of these also has the lexical item <maki>, presumably Tumbalá /majki/ rather than Tila /majhki/.

Finally, there is evidence of a suffix that is not well documented in modern Chol, the suffix /-e'/, which occasionally occurs as an ending to transitive verbs in the incompletive aspect. For some speakers, it may be limited to subordinate clauses. There are cognates in other Cholan languages, and the suffix is reconstructed for Proto-Cholan (Bricker 1986:31, Kaufman and Norman 1984:95-96).

<muj-pusé> /mu j-päs-e'/ 'I show it.' Contrast <pu-zu> /päsä/ 'to point out'.

<tscho-nié> /choñ-e'/ 'Sell it.'

<maku-nié> /ma kãñ-e'/ 'You learn it.'

Tzeltal Lexicon

In Rau's list of vocabulary there are several items, unreported in modern sources, that speakers identify as Tzeltal words, not Chol words (Ausencio Cruz Guzmán, personal communication, 1988). With one exception, <allul> 'verdura; verdure' (probably from Spanish *azul*), these terms can be confirmed as Tzeltal lexical items by their occurrence in Slocum and Gerdel's (1965, 1980) dictionary of Bachajón Tzeltal.

Given the high index of Chol-Tzeltal bilingualism that occurs in Chol communities, especially in the plantation and ejido settlements, many of which have mixed Chol- and Tzeltal-speaking populations, it is not surprising to find a few Tzeltal terms alongside the Chol ones. But these terms were recorded in place of Chol terms, not alongside them. They suggest that the boundary between Chol and Tzeltal is a porous one, and that vocabulary items considered to be of one language or the other at any given time may be associated with the other language at some other time. Thus, words like /ch'ajil/ 'smoke', now identified as Tzeltal, may have been in use in Tumbalá Chol – at least on Rau's plantation – in 1900 (cf. modern /tyokal/ 'smoke', attested by Starr in his own list).

A similar situation pertains to Chol dialects, where words reported in modern times to be characteristic of one dialect were reported from another dialect in one or more of the early sources, e.g., /troñel/ 'work', now marked as Tila Chol but reported by Rau along with otherwise Tumbalá Chol dialect forms.

Starr's Notes on the Chols (1902:73-74) are reproduced here in their entirety:

THE CHOLS

Chols live in two separated masses: one in Chiapas, the other in Vera Paz, of Guatemala. The Chol towns of Chiapas have been sadly broken by the demand for laborers made by neighboring *fincas* (plantations). Their villages are Tila, Tumbalá, Petalcingo, Hidalgo, Trinidad, San Pedro Sabanta [sic], La Libertad and Junchilpa. At Palenke [sic] and El Salto, a part of the population is Chol. More than a hundred Chols are on the *fincas* of El Triunfo and Porvenir. In the Cerro Don Juan, are Independent Chols, who have fled thither to escape contract labor and contributions; they are there quite safe, as there are no roads by which to pursue them. Within recent years, some three or four hundred Chols have removed into the state of Tabasco, to escape contract labor. Some Chols also live in the border district, between Simojovel and Palenke. This information regarding Chol distribution we owe largely to Mr. Henry Rau, of El Triunfo. To him, also, we are indebted for other data regarding this interesting people. -- There are three dialects of the Chol of Chiapas, corresponding to the three once important towns--Tumbalá, Tila and Petalcingo; the two last are affected by a considerable introduction of Tzendal words. These dialects persist, and serve to determine the origin of the smaller towns of the Chols; thus, Hidalgo is a colony of Tumbalá. -- We visited Chols at Hidalgo, Tumbalá (now practically deserted), El Triunfo and Trinidad. Hidalgo is prettily located in a little flat valley, at the edge of a pretty stream. -- The men of Tumbalá can be generally recognized by their *cotones* and their hair-cut. The *cotones* are made of home-woven cotton, which is white, with vertical stripes of pink; the hair is so cut that that on the forward part of the head is longer than that behind, and hangs down over the forehead as a bang or fringe. -- Señor Rau tells us that the Chols have nick-names, by which they are commonly called, and which they place after the other two names. Among these nick-names are *sanate* (a sort of bird), *tusero* (hunter of moles--*tusa*), *cucaracha*, *paloma*, *jefe*, *pajarito*, *chipilín*, *ratón*, *conejo*, *venado*, *ardilla*. We do not understand whence these names came; they are mostly, or all, Spanish; they may truly be "nick-names." Señor Rau also says that the Tzendals have nick-names, but in their own language. We met such in Tenejapa; these men regularly give three names, two of which are Spanish, the last native. *There*, we feel sure that these are *not* nick-names, but the old family names still preserved. -- The Chols are accustomed to bury dead children under the floor of their hut; though it is against the law, and against the rules of El Triunfo, they persist in the practice. -- In Appendix II will be found a Chol vocabulary, which has been made by Señor Rau for practical purposes at El Triunfo. He first prepared the list of words which he deemed advisable, and then secured the Chol equivalents. We present the whole list, though many words appear to have no Chol equivalent.

To us, these gaps appear suggestive, in their ethnic and psychic information.

In Appendix III, Starr notes the following:

Three of these vocabularies were written down by the author. These are--Huasteco (Tancoco, Vera Cruz), Maya (Tekax, Yucatan), and Chol (Hidalgo, Chiapas). The other five were given by Padre José María Sánchez of San Cristóbal: they were written down about 1886, by natives, upon blanks sent out by the Government: we believe them to be unpublished. They are Zoque (Quechula, Chiapas), Chiapanec (Suchiapa, Chiapas), and Tzotzil ((a) San Bartolomé; (b) Soyalo, (c) Socoltenango, Chiapas). Our own lists were made with care but time did not allow full testing. Terms of relationship and names of parts of the body in some of these lists undoubtedly include possessive, personal pronominal elements. A few words are clearly corrupted Spanish terms.

Becerra 1935: Early Twentieth-Century Vocabulario de la Lengua Chol

The Mexican anthropologist and linguist Marcos E. Becerra compiled a number of extensive vocabulary sets from Mayan and other native languages; the Introduction to his *Por la ruta histórica de México, Centroamérica i las Antillas*, vol. 2, Gobierno del Estado de Tabasco, 1986, mentions a dozen such, and that volume contains the word lists for Maya (of Yucatán), Chol, Chontal, Tojolabal, Tzotzil, Mam, Huastec, Chiapanec, and Zoque; these combine data elicited by Becerra himself in field work and material drawn from published and unpublished sources. The data in the present dictionary are drawn from his journal article, "Vocabulario de la lengua chol," *Anales del Museo Nacional de Arqueología, Historia y Etnografía*, 2 (quinta época):249-278, 1935), in which he includes entries from Fernández's publication of 1789 Chol (above). Not merely a collector of wordlists, he published on the history of Tabasco and surrounding areas, and he also engaged in fierce argumentation over issues such as the proper orthographic principles for writing Mayan (and other) languages – a topic guaranteed to elicit similar behavior from linguists today. Becerra's principled stands included, for instance, refusal to use the letter "y" in Spanish. As noted in entries in this dictionary, he used only "i" in words like *mui* (for *muy*); note the conjunction in the title of *Ruta histórica*, above. We have respected the author's positions, and have made no attempt to "correct" his orthography.

His sometimes fanciful etymologies were no less controversial. In one work, he argued, for instance, that the name of the Chol town Tumbalá was derived from /tumb'al 'at/, a phrase meaning something like 'manufactured penis', and that this name reflected an earlier adoration of phallic symbols. The total lack of evidence for the presence of such in the area was taken as proof of his case, since the natives would surely have hidden all evidence from the Spanish

priests!

Apart from technical linguistic issues, Becerra, a native of Tabasco and an accomplished scholar, was well acquainted with the flora and fauna of the region, and added to his Chol vocabulary binomial identifications that we have included in his entries here. Other commentary from his 1935 article is also included when it appeared useful or interesting.

MVS: The Mayan Vocabulary Survey

The Mayan Vocabulary Survey questionnaire was designed by Terrence S. Kaufman in 1962 to elicit comparable vocabulary in all Mayan languages for purposes of comparison and historical reconstruction. A large number of questionnaires were filled out by linguists, and this data formed the backbone of Kaufman's comparative work and reconstruction of Proto-Mayan (Kaufman 1964; see now his *A Preliminary Mayan Etymological Dictionary*, 2003). The list contains typical concepts in major semantic domains: plants and animals, body parts, etc. The list consists of 1439 Spanish (and English) words or phrases that are the basis of elicitation, along with an introductory section on grammar to be filled out by linguists working on analysis of the language. Item numbers (e.g., MVS 134) refer to the questionnaire as revised in 1979 by Jossierand and Hopkins for use by the Programa de Lingüística, Centro de Investigaciones Superiores del INAH, México, D. F. In this revision, no changes were made in enumeration, and only minor changes were made in the choice of eliciting terms in Spanish, which are reported here as glosses. When discussion of an item resulted in further information, not necessarily directly related to the item itself, this information is marked as "note" or "n" following the MVS item number; this notation would allow an investigator to locate the discussion in the recorded interview.

This material and that in the following section (MSD) are based upon work supported by the National Endowment for the Humanities (under grant RTR-20643086) and the National Science Foundation (under grant BNS-8520749, administered by the Institute for Cultural Ecology of the Tropics). Any opinions, findings, and conclusions or recommendations expressed in this publication are those of the authors and do not necessarily reflect the views of NEH, NSF, or ICET.

The data contained in this dictionary were elicited in several sessions during 1978 and 1979. The linguists doing the elicitation were J. Kathryn Jossierand and Nicholas A. Hopkins. The Chol speaker was Ausencio Cruz Guzmán. Present at some of the sessions held during the Mesa Redonda de Palenque in 1978 were Floyd Lounsbury and Linda Schele, both of whom elicited specialized terminology in domains related to Mayan epigraphy (expressions for 'birth',

'death', and other events recorded in Classic monumental inscriptions).

Elicitation sessions were recorded on a Uher 4000 Report tape recorder on 5-inch reel-to-reel tapes and later transcribed by Cruz and checked by Josserand and Hopkins. Additional data registered during elicitation and/or checking sessions has been included in the dictionary. The original tape recordings of these elicitation sessions have been digitized and are posted on AILLA, the Archive of the Indigenous Languages of Latin America (www.ailla.utexas.org).

Keyboarding, formatting and grammatical analysis was originally done by Hopkins in 1987 and 1988 (and repeated as described above as the database was moved through changing technologies). The database software used in the initial stages was SELSORT.PTP, part of the PTP package produced by the Summer Institute of Linguistics, running on an Osborne Executive computer. Following the abandonment of the CP/M operating system and the PTP software, data were rekeyboarded into a Panorama database, later moved to Excel, and finally to text file.

MSD: The Monosyllable Dictionary

The Monosyllable Dictionary technique for eliciting lexicon in Mayan languages was apparently introduced by Terrence S. Kaufman in the early 1960s, and was adopted by the University of Chicago's Chiapas Study Projects (McQuown and Pitt-Rivers 1970) as a viable research tool. Linguists working in the Chicago project produced several such dictionaries. In his reconstruction of Proto-Tzeltal-Tzotzil, Kaufman (1972:155-156) cites monosyllable dictionaries by himself (Chamula Tzotzil) and by Harvey Sarles (Oxchuc Tzeltal and San Bartolomé Tzotzil). Having learned the technique during the Chicago project, Hopkins first used it for elicitation in field work on Chuj (Hopkins 1967; see also AILLA).

The technique is quite simple; the execution is excruciating. Mayan languages have a typical root shape of CVC (consonant, vowel, consonant). Not all roots in any language are of this shape, but the overwhelming majority of them will be. The elicitation technique consists of drawing up a list of all possible CVC roots and attempting to find one or more words that are based on each possible shape. This is usually done by constructing a short list of common derivational affixes and, if the bare root does not call to mind some word, the CVC shape is combined with affixes until either some word is remembered or the root is declared unproductive or non-existent.

This technique has the virtue of producing the evidence upon which statements of morpheme structure restrictions can be made, since obvious gaps in the realized possibilities become quickly apparent. It also has the virtue of eliciting vocabulary that would not ordinarily

be sought out, since the elicitation is in no way biased by semantic domain or frequency of occurrence of the concept. Finally, given the typical root shape of Mayan languages, the monosyllable dictionary produces data directly applicable to the reconstruction of Proto-Mayan or any other ancestral language, in the most efficient way possible. Balancing its virtues, the elicitation of items one by one, turning each over numerous times to test for possible words, is excruciating in the extreme. The linguist(s) and informant(s) sit for hours each day, day after day, in a mind-numbing exercise that typically occupies about one month of daily work. On the other hand, the remarkable items that suddenly turn up lead to interesting conversation about topics neither linguist nor informant would think to bring up.

One consequence of the intense and grueling elicitation process is that informants become more sensitive to the idea of bare roots as meaningful units. In the present case, it is notable that Cruz often accepted the bare root as a meaningful element and ascribed it a meaning, even though outside the elicitation context other speakers may not have responded in the same way. It is common to see in the lists of sources that the MSD entry is the only one that cites the root itself rather than a derived or inflected form.

The Chol Monosyllable Dictionary Project

1. In a 1985 field season, Hopkins drew up and gave to Cruz a notebook listing the possible syllabic shapes in Chol, giving CVC and CVjC combinations with no restrictions, and discussed with him the project. The goal of the research was to find one or more words based on (having as their root) each syllable. A derivation and inflection guide was included with the notebook to stimulate the construction of possible lexical contexts for each monosyllable.

2. Cruz worked on the notebook intermittently throughout 1985 and 1986. He consulted with other Chol speakers during this process in order to complement his knowledge and stimulate his memory.

3. During the 1985 field season and again in 1986, Hopkins worked with Cruz on checking each possible form and augmenting information on the grammatical class and semantic range of the lexical items. Forms in Cruz's notebook were slipped by Hopkins, and this slip file became the basis for further discussions and the repository of further elicited forms. Slips were kept in different sections of the file depending on whether they had been checked or not, or further processed (e.g., classified by root type).

4. By June of 1986, Cruz had reached a point of diminishing returns, and few if any new forms were emerging on continued search.

5. In late 1986, Hopkins analyzed the entries in the notebook and derived a general pattern of monosyllable restrictions based on the non-occurring shapes (see Josserand and Hopkins 1986, Appendix B, Part 3).

6. In 1987, Hopkins keyboarded the data from the slip file into a WordStar file on the Osborne Executive, using the format called for by PTP's SELSORT software: entries began and ended with carriage returns (i.e., records were separated by two carriage returns). SELSORT was a database routine that ordered entries alphabetically and allowed for updating. Another software, D1INDEX.PTP also offered processing possibilities (see the Interim Performance Report cited above).

7. In June-August, 1987, Hopkins checked the printouts from Monosyllable files 1-8 (MONOSYL1, etc.) with Cruz in Palenque to add derived and inflected forms to the data and establish a grammatical class for each root, if possible. Grammatical analysis was updated in this field season to include adjective (adj) roots as well as transitive verb (vtr), intransitive verb (vin), positional verb (vpo), noun (n), and other roots. Grammatical identifications considered reliable were keyboarded into these files in September, 1987, taking into account the field data.

8. Field checking was done on later printouts in January-March and July-August, 1988. The files continued to be revised, particularly with respect to grammatical classifications.

Phonological Restrictions on Morpheme Shapes

Charts displaying phonological restrictions on morpheme shapes were included in our 1988 Final Performance Report (Josserand and Hopkins 1988, Part III). To summarize the results:

1. There are no roots of the shapes CVjs, CVjx, CVjj, or CVj'.
2. There are virtually no roots of the shapes C₁VC'₁ or C'₁VC₁, i.e., roots in which the first and last consonants differ only in their glottalization. The single exception to this rule is the item /k'ajk/ 'fire', so reconstructed for Proto-Cholan (Kaufman and Norman 1984).
3. There are no roots that begin and end in plain or glottalized affricates unless the affricates are identical, i.e., no roots tzVch, tzVch', tz'Vch, tz'Vch', chVtz, chVtz', etc.
4. The only roots that begin and end in the bilabials /p, p', b'/ are those in which the first and last consonants are identical, i.e., no pVp', pVb', p'Vp, p'Vb', b'Vp, or b'Vp' roots.
5. There are no roots of the shapes b'Vm, b'Vw, p'Vm, or p'Vw.

6. There are no roots that begin with /s/ and end in /ch, ch', x, tz/, nor are there roots that begin with /x/ and end in /tz, tz', s, x/.

Beyond these restrictions, there are potential root shapes that are not attested, but these seem to be the only general rules of combination.

A&A: The Aulie and Aulie Dictionaries

The Chol dictionaries of H. Wilbur Aulie and Evelyn W. de Aulie (1978, revised edition 1998) were consulted at every stage of the preparation of this historical dictionary. Data from those sources was not incorporated for the sheer mass of information that would be added, all readily available in a modern publication, Aulie and Aulie, 1998, *Diccionario Ch'ol de Tumbalá, Chiapas, con variaciones dialectales de Tila y Sabanilla*. Coyoacán, D. F.: Instituto Lingüístico de Verano. The Aulie and Aulie dictionary, in its two editions, was frequently used as a reliable source to verify, question, or complement entries from other sources; as a rule forms from Aulie and Aulie were retranscribed within phonemic slashes in our preferred orthography, e.g., A&A <ent^> 'abajo' would be retranscribed /'eñtyäl/.

Sources for Languages Other than Chol

The dictionary entries frequently cite data from other languages for comparative purposes and to support hypotheses about word shapes and meanings as well as word origins. The most frequently cited source of this type is a dictionary of Bachajón Tzeltal, Mariana Slocum and Florencia Gerdel's (1965, reissued in 1980) *Vocabulario tzeltal de Bachajón* (Serie de Vocabularios Indígenas Mariano Silva y Aceves, 13. México, D. F.: Instituto Lingüístico de Verano). This is the nearest variety of Tzeltal to the Chol area, albeit not the only variety of Tzeltal to come into intimate contact with Chol speakers, especially in the colonies and ejidos outside of the homeland area. However, if we could identify a Tzeltal loanword by consulting the Bachajón dictionary, we looked no further. Some two dozen Tzeltal loans are noted, about half of them in Becerra's list, with Starr's lists a close second.

A similar source was consulted for the few cases of possible loans from Tzotzil: Alfa Hurley (Viuda de Delgaty) and Agustín Ruíz Sánchez's compilation of regional variants in Tzotzil (*Diccionario tzotzil de San Andrés con variaciones dialectales; tzotzil-español, español-tzotzil*, Serie de Vocabularios y Diccionarios Indígenas Mariano Silva y Aceves, 22. México, D. F.: Instituto Lingüístico de Verano, 1978). No attempt was made to determine which variety of Tzotzil might be the source of a loan by looking at sources like the Zinacantán dictionary of Laughlin (1975). The possibilities are multiple, since there are bilingual settlements along the

Chol-Tzotzil frontier north of Huetiupan, and Hopkins (1970a) notes some influence going the other way, from Chol to Tzotzil. Likewise, Tzotzil-speaking pilgrims are not uncommon in Tila, whose curers draw petitioners from the south. However, the only secure Tzotzil loan noted is /'amtyel/ 'work' (in Becerra's list), from Tzotzil /'ab'tel/, phonetically ['a'm.tel].

The third source frequently consulted for data from other languages was Francisco J. Santamaría's *Diccionario de mejicanismos* (México, D. F.: Editorial Porrúa, 1959). This compilation of dialect variants from Mexican Spanish was useful for various reasons. First, Santamaría was a native of Tabasco, and consequently his dictionary contains a wealth of terms from Tabasco Spanish, making the closest regional variant of Spanish to the Chol area also the best documented one. Like Marcos E. Becerra, Santamaría was well versed in the flora and fauna of northern Chiapas, and his botanical and zoological identifications were frequently useful. Finally, Santamaría was skilled in etymology (in contrast to Becerra), and many Nahuatl loans could be identified just by looking up the Mexican Spanish terms derived from them. Further information on putative Nahuatl loans was garnered from Frances Karttunen's *An Analytical Dictionary of Nahuatl* (Norman: University of Oklahoma Press, 1983). Only a half dozen or so Nahuatl(l) loans are noted.

Another useful source for regional Spanish terms as well as biological identifications was Louise C. Schoenhals's *A Spanish-English Glossary of Mexican Flora and Fauna* (México, D. F.: Instituto Lingüístico de Verano, 1988). This reference book lists popular Spanish names, scientific Latin names, and colloquial English names for the domains of plants and trees; insects and other invertebrates; fish, mollusks and crustaceans; reptiles and amphibians; birds, and mammals. It was a useful reference to check on identifications given in Appendix A of the Aulie and Aulie dictionary of Chol (1978, reedited in 1996), which also supplied binomial identifications.

Other References

In compiling the entries of the Dictionary we have drawn on our own published and unpublished work as well as that of others. Our own articles and monographs that deal with Chol include texts (Cruz, Josserand and Hopkins 1980, Hopkins and Josserand 1980), essays on history (Hopkins 1984, 1985), epigraphy (Josserand, Schele and Hopkins 1985, Hopkins 1997, Josserand and Hopkins 2002a,b), ethnography (Hopkins, Josserand and Cruz 1985, Hopkins 1988, 1991, 1995, Josserand and Hopkins 2005, 2007, Hopkins, Cruz, and Josserand 2007), grant proposals (Hopkins and Josserand 1986), and research reports (Hopkins 1981, Josserand and Hopkins 1988, 1991, Hopkins and Josserand 1994, Josserand et al. 1996, 2003).

Principal among the works of other on which we have drawn are the historical linguistics studies of Terry Kaufman, including his on-line *A Preliminary Mayan Etymological Dictionary* (www.famsi.org), in part the result of the Mayan Vocabulary Survey, and "An outline of proto-Cholan phonology, morphology, and vocabulary" (Kaufman and Norman 1984). Kaufman also reviewed our dictionary entries at one stage and provided information on Proto-Cholan and Proto-Mayan antecedents (Josserand and Hopkins 1988, Part II).

DICTIONARY ENTRIES

The entries in this dictionary follow a set pattern of parts and contents. Since this was originally conceived as a dictionary of roots and the words derived from them, not all lexical items are the heads of entries. Rather, lexical items derived from a common root may be buried deep in the examples of forms derived from that root. Furthermore, this is a dictionary of sources prior to the Aulie and Aulie dictionary (1978, 1998), and does not attempt to incorporate the lexicon of that dictionary. The user is advised to have at hand the Aulie and Aulie dictionary and not consider the present effort a definitive listing of Chol vocabulary.

Another consequence of the plan to produce a root dictionary rather than a lexicon is that verb roots are cited without their normal status suffixes, a departure from the usual practice of listing verbs in their incomplete stems. Thus, we list **majl** 'to go' as the head of a dictionary entry rather than the usual **majlel**, or **b'uch** 'to be seated' rather than the usual **b'uchtyäl**. In the case of transitive verbs, our listing matches the usual pattern, since these are most often cited in their unadorned incomplete shape, e.g., **ch'äm** 'to grasp'.

Because of their potential historical relationship, roots of the CVjC shape are listed twice and cross-referenced. The main listing will be under the shape CVjC; a second listing, without details, will be found under the dummy shape CVC-j, which places references to CVjC items immediately after their potential CVC relatives.

Orthography and Alphabetic Order

There is no single accepted orthography for Chol; each source tends to establish its own peculiar set of choices (see the literature cited in Josserand et al. 2003). The inevitable effect of this lack of standardization is to make research involving multiple sources a frustrating task, since the same words may not only be spelled differently in the different sources, they may consequently be ordered distinctly in wordlists and dictionaries.

For instance, the Aulie and Aulie dictionary (1978) uses the Spanish spellings for /k/ and

/k'/: <c, c'> before <a, o, u> and <qu, q'u> before <i, e>. Words based on the same root ending in one of these consonants are not adjacent to one another; if they take suffixes in <a, o, u> their final consonant is written <c>, but if they take suffixes in <i, e> their final consonant is written <qu, q'u> and they may be listed on later pages: <ac'>, <ac'ñan> 'dar, limpiar' (1978:27), <aq'uén>, <aq'uín> 'dáselo, limpieza' (1978:29). Glottal stop, written with apostrophe <'>, is ordered alphabetically between <j> and <l>. However, initial glottal stop is not written, so items beginning in /a/ are ordered first in alphabetical order, items with initial /e/ are ordered after <d>, etc. The "sixth vowel" /ä/ is written with wedge <^> and placed in alphabetical order between <u> and <w>. Words beginning in /ñ/ are split into two groups: those beginning in <n> and those beginning in <ñ>. The latter are words in which the vowels <a, o, u> follow the initial consonant, so that the palatalization is marked; the former include native items where front vowels follow, <ni, ne>, presumably because palatalization is "natural" here, and there are some loan words that must be pronounced without nasalization, <nana> 'mamá'. The palatalization of /ty, ty'/ is ignored, and these phonemes are written <t, t'>. The affricates /tz, tz'/ are written <ts, ts'>

In the reissue of the Aulie and Aulie dictionary (1998), glottal stop is placed at the (wrong!) end of the alphabet, after <x>, and the wedge, representing a vowel historically related to /a/, is placed after <a> rather than after <u>. Other conventions remain the same.

A work group from the state government of Chiapas under the Dirección de Educación Indígena (Montejo López et al. 2001), has produced a Chol-to-Chol dictionary that follows some, but not all of the Aulie and Aulie conventions. But <k, k'> replaces the old Spanish orthographic norms for writing /k, k'/. The vowel /ä/ is so written, <ä>, and put near the end of the alphabet, after <y>, followed only by glottal stop, <'>. The distinction between <n> and <ñ> is maintained, although there are only four entries under <n>: the letter itself and three synonyms for 'mother', <nanaj>, <nana'>, and <näna'>. The palatalization of /ty, ty'/ is marked, and these phonemes are written <ty, ty'>; the affricates /tz, tz'/ are written <ts, ts'>. Most instances of /b'/ are written , as in <bij> 'road', but final postvocalic /b'/ is written <b'>, as in <i'b> 'armadillo'.

The present dictionary is another exercise in near-arbitrary decisions. For the most part, we conform to the Guatemalan conventions that seek to standardize the writing of Mayan words (Lenguas Mayas de Guatemala 1988:8). However, in the spirit of those norms, we have adopted some different conventions. Palatalization has a low functional load in Chol; there are few if any contrasts between palatalized and nonpalatalized alveolars, and alveolars could be written without marking it, as Aulie and Aulie do for /ty, ty'/ but not for /ñ/. However, literate Chol speakers seem to prefer to mark palatalization, since they are uncomfortable writing <n> for [n]

in Spanish, but for [ɲ] in Chol, or <ɰ> for [t] in Spanish and for [ty] in Chol. For similar reasons, the glottalized bilabial stop [b'] is marked as distinct from Spanish , which is never glottalized and has allophones that are voiced fricatives.

In transcribing Chol, we currently prefer an alphabet written and ordered /', a, b', ch, ch', e, i, j, k, k', l, m, ñ, o, p, p', r, s, ty, ty', tz, tz', u, w, x, y/; borrowed /b, d, g/ take their usual places, and we have noted that there is now a contrast in Tila Chol between palatalized and unpalatalized /t/, albeit in only one morpheme (Josserand and Hopkins 2005:418).

In preparing this dictionary, however, we have used a slightly different set of conventions. This choice of options is, as all others, an uneasy compromise, but we have made certain concessions to the traditions of writing Chol and other Mayan languages. We write initial glottal stop but ignore it in ordering entries; thus initial /'a/ is written <'a> and takes first place in ordering; /'e/ is written <'e> but follows <d>; /'i/ is written <'i> and follows <'e>, /'o/ is written <'o> and follows <ɲ>, /'u/ is <'u> and follows <tz'>. Within words, however, /' is treated as a consonant and takes first place. We write alveolar nasals <n> even though they are palatalized; likewise we write <t, t'> for /ty, ty'/.

These choices have been made for the benefit of readers not well acquainted with Chol but knowledgeable about other Mayan languages. However, when we are discussing lexical items and sample usage, we employ our preferred phonemic transcription as given above, between slashes, e.g., /tyaty/ 'father'. Items between brackets < > represent the orthographies of the original sources. Perversely, we have rewritten entries in the Aulie and Aulie dictionaries in our own phonemic alphabet and enclosed them in slashes.

Grammatical classification

Following the head item in a dictionary entry there is a notation of grammatical classification. The categories of this classification are based on our own analysis of Chol (see below). The abbreviations used are:

Root Classes		
n	noun	various, typically CVC, CVjC, CVCVC, etc.
num	numeral	various (a subclass of nouns)
vin	intransitive verb	typically CVjC or CVC
vtr	transitive verb	typically CVC

vpo	positional verb	typically CVC
vex	existential verb	'añ (only)
adj	adjective	various
adv	adverb	various
par	particle	tyi, che'
dem	demonstrative	jiñ(i), 'añ; ja, li (lots of variation per speakers)

Stem Classes (other than the above)

vtrpas	transitive verb passive	various
num cl	numeral classifier	various (< n, vtr, vpo)
hort	hortatory	koñ-laj (¡vámonos!)
suplimp	suppletive imperative	se'ñoñ (¡apúrate!), kuku (¡vete!), la' (¡ven!), kox- (¡vaya!)
exclam	exclamation	various
vindir	directional verb	majlel, etc.

Derivation

con	connective	'ik'oty, 'o, 'i, mi, pero, baj-che'
rel	relativizer	bā, cha'añ ~ chañ, ke, 'añke, jiñtyo, che', jajk, k'alāl
col	collective	x-
deradj	adjectival	'aty (singular), -'aty-ax (plural)
adjplu	(adjectives)	ax, e.g., 'utz'atyax, 'utz-'aty-ax 'good, pretty (plural)'

Inflection (see the Grammar Sketch, below, for details)

inc incompletive

com completive

imp imperative

part participle

A1-A6 Set A pronominals (ergative)

B1-B6 Set B pronominals (absolutive)

plu plural

Glosses

Following the grammatical classification, a set of glosses is given, first in English and then in Spanish. The English gloss is our best guess as to the approximate meaning of the form given. The Spanish gloss is usually the form used in elicitation or given in the original source. If the gloss given in the source is different from the one given here (e.g., because we have determined that that gloss is incorrect or misleading), the original gloss follows the bibliographic citation. We have not been careful about temporal considerations, and our gloss is often not in the proper tense to fit the cited form. *Caveat lector*.

Sources for Commentary

Some head entries call for a certain amount of commentary, e.g., dialect or source variants, biological identifications, source of loanwords, suspected validity of information. The sources from which we have drawn are listed in the Bibliography, below.

Attestations

Following the head entry (the first line, beginning with a bold lexical item or root, and the associated text), there is a list of attestations, drawn from various sources. For the most part, the examples are listed in chronological order of the sources, beginning with the 1789 Chol data published by León Fernández (1892) and ending with our own data from the Mayan Vocabulary Survey and the Monosyllable Dictionary elicitations.

When there are a significant number of attestations that take a somewhat different form from the rest, e.g., those based on some derived form, the attestations may be divided into

separate lists; these may be introduced by a bold form, or not.

Attestations begin with a standardized transcription of the Chol item (as we believe it to be), followed by a grammatical classification. English and Spanish glosses follow, in turn followed by the citation of the source and the reported item in the original transcription (between < > brackets). Commentary may follow. A typical entry is:

'ab' **n**, *hammock; hamaca*
'ab', n. hammock; Hängematte. Sapper 1907:444 <ap T A>
'ab', n. hammock; hamaca. Starr 1902:90 <aa-b>
'ab', n. hammock; hamaca. Becerra 1935:263 <Ab>
'ab', n. hammock; hamaca. MVS 1166
'ab', n. hammock; hamaca. MSD

A BRIEF SKETCH OF CHOL GRAMMAR

Nicholas A. Hopkins and J. Kathryn Josserand

The following sketch represents our current understanding of the workings of Chol grammar, at least in its most common manifestations. Some dialect variation and other complications are ignored here, but this sketch should serve to explain most of the forms cited in the dictionary entries.

It should be noted that extant grammatical sketches are far from adequate, a situation that is bound to change soon, as there are numerous speakers of Chol enrolled in linguistics training programs in the United States and in Mexico. For the time being, the most comprehensive treatment is the *Gramática ch'ol* of Viola Warkentin and Ruby Scott (Serie de Gramáticas de Lenguas Indígenas de México, 3. México, D. F.: Instituto Lingüístico de Verano, 1980). This is a traditional grammar intended for use by native speakers, and in this sense it is certainly useful. However, the authors do not recognize the class of positional verbs, for instance, and treat them as a subclass of intransitives. In our opinion, this obscures an important aspect of Chol (and general Mayan) grammar. There are some editorial problems. Curiously, several parts of the chapters on transitive verbs actually treat intransitives, without explanation; perhaps these chapters were originally intended to be a more general treatment of verbs.

The grammar sketch appended to the Aulie and Aulie dictionary (1978, 1998) is somewhat better, but again, positionals are merged with intransitives. Four types of verbs are recognized: transitives, intransitives, adjectivized (*adjetivado*), and nominalized (*sustantivado*) verbs. The last two classes are not discussed in any detail, but it appears that the first consists of predicate adjectives, and the second is what we have called "*ti* constructions," where a nominalized form of the verb (or a noun, for that matter), serves as the subject of an auxiliary verb (Josserand et al. 1985). In the lengthy presentation of complete conjugations of a select set of verbs, the adjective /k'uñ/ 'weak' is treated as a verb, as are the nouns /'ujil/ 'knowledge' and /'om/ 'desire'. Granted, these do appear as predicates, but they cannot be inflected for aspect, only for subject, and a classification as predicate adjective and predicate nominative would seem to be preferable.

No doubt the present grammar sketch has its own flaws. We will have to wait until some Chol student writes his or her dissertation for a definitive treatment of grammar. On the other hand, the sketch that follows was presented in a short course at the Universidad Nacional

Autónoma de México in October of 2007. The students included several Chol speakers, graduate students who were studying linguistics, and there were no serious objections to the material on their part.

Root and Word Types

Chol has the usual classes of roots and words. Among roots there are nouns (**n**), verbs (**vtr**, **vin**, **vpo**, **vex**), adjectives (**adj**), adverbs (**adv**) and particles (**par**). The latter category includes a great variety of morphemes that simply do not fall into the other categories (the so-called "function words," prepositions, conjunctions, etc.). Apart from the roots, there are morphemes that function as affixes in the conjugation of verbs and the derivation and inflection of other forms.

Words can be roots or combinations of roots and other elements, such as affixes of derivation and inflection. Derivational affixes change the grammatical class of the construction or change meanings significantly; inflectional affixes add to the construction lesser differences of meaning, adding elements of tense/aspect, subject/object, number, etc.

The roots of each category have typical canonical forms. The most common root shape is CVC (consonant-vowel-consonant), followed by CVjC. Some few roots are polysyllabic. Prefixes tend to be CV- in shape, suffixes -VC, but there are numerous exceptions.

Of all the root and word classes, the most complex are the classes of verbs. There are three major classes and one minor class, distinguished by the sets of derivational and inflectional morphemes with which they combine, as well as by their semantics and their syntactic relations.

Verbs

The four classes of verbs are: transitive verb (**vtr**), intransitive verb (**vin**), positional verb (**vpo**), and existential verb (**vex**). The latter class is limited to a single verb, /'añ/ 'to be'. In many constructions, the use of the existential verb is optional, as in stative or equational sentences, e.g., /wiñik Mikel/ 'Miguel is a man'. Note that the order of elements in the sentence is distinct from that of English or Spanish; the predicate precedes the subject (and, in its case, the object). The existential verb often has the sense of 'there is', e.g. /'añ juñ tyikil wiñik/ 'there is a man'.

The remaining classes of verbs have four grammatical stems, distinguished by their suffixes: the completive stem (similar to a past tense), the incompletive stem (similar to present tense), the imperative stem, and the participle.

Transitive Verbs

Transitive verbs relate an action which falls on some object, whether the latter is expressed or not. A typical transitive sentence has both a Subject and an Object (although both may be represented by pronominal affixes rather than free-standing nouns or phrases). The canonical form of transitive verbs is CVC: /k'el/ 'to see (something)', /'al/ ~ /'äl/ 'to say (something)'. These examples are "root transitives." There are also transitive verbs that are more complex, taking a derivational affix normally of the shapes -Vñ, for example /'il-añ/ 'to see (something)', /jax-uñ/ 'to massage'. There are still more complex derived transitive verbs, of the shape CVC-C-Vñ, e.g., /ñä'-ty-añ/ 'to think (about something)'.

The affixes taken by root transitives to form their grammatical stems are the following (the glosses assume these constructions were in context, with subjects and other normal inflection). The final /y/ on these forms only shows up if there is a following vowel-initial suffix; otherwise it is absent (or at least inaudible).

incompletive:	∅	k'el-∅	(∅ indicates the absence of an affix)
		'äl-∅	as in 'he says', /mi y-äl-∅/
completive:	V(y)	k'el-e(y)	(V indicates a harmonic vowel)
		'äl-ä(y)	'he said', /tzi y-äl-ä-∅/
imperative:	V(y)	k'el-e(y)	(same as the completive)
		'al-∅	'say it!'
participle:	VI	k'el-el	(adjectival, '(it is being) seen')
		'al-äl	'said'
	b'il	k'el-b'il	(nominal, 'it is a seen thing')
		'al-b'il	'a saying'

The affixes taken by derived transitives are distinct (e.g., /'il-an/, /ñä'-ty-añ/:

incompletive:	añ	'il-añ	as in 'he is seeing'
		ñä'-ty-añ	as in 'he is thinking'
completive:	a(y)	'il-a(y)	'he saw'

		ña'-ty-a(y)	'he thought'
imperative:	añ	'il-añ	'look!'
		ña'-ty-añ	'think!'
participle:	ä-b'il	'il-ä-b'il	'(something) seen'
		ña'-ty-ä-b'il	'a thought'

Intransitive Verbs

An intransitive verb expresses an action that does not fall on an object; these verbs cannot take Objects in sentence constructions, but are "single-argument" verbs, taking only a Subject. The most common canonical forms are CVC and CVjC: /tyil/ 'to come', /majl/ 'to go'. There are also derived intransitive stems, but these are somewhat complex and will be discussed below. The affixes taken by intransitive roots to form their grammatical stems are:

incompletive:	el	tyil-el	'he comes'
		majl-el	'he goes'
completive:	i(y)	tyil-i(y)	'he came'
		majl-i(y)	'he went'
imperative:	eñ	tyil-eñ	'come!'
		majl-en	'go' (usually suppletive /kuku/)
participle:	em	tyil-em	'he is arrived'
		majl-em	'gone'

Positional Verbs

Positional verbs describe being in a position or state, and they are single-argument verbs, having only a Subject. Their canonical form is CVC, like transitive verbs, and there is in fact some historical and/or semantic relationship between the two classes. Examples are /b'uch/ 'to be seated (i.e., 'to be in a sitting position)', /koty/ 'to be four-legged'. The affixes taken to form the grammatical stems are:

incompletive:	tyäl	b'uch-tyäl	'he is sitting'
---------------	------	------------	-----------------

		koty-tyäl	'it has four legs'
completive:	le(y)	b'uch-le(y)	'he was sitting'
		koty-le(y)	'it had four legs'
imperative:	i'	b'uch-i'	'sit down!'
		koty-i'	'have four legs!'
participle	VI	buch-ul	'something sitting'
		koty-ol	'four-legged'

The different aspectual stems of these three classes, the incomplete and complete stems, are normally accompanied by preclitics (morphemes placed before the stem but not attached to it), the most common being /muk' ~ mu ~ mi/ 'incomplete' and /tza/ 'complete'. The existential verb /'añ/ does not take these preclitics, i.e., the existential and stative constructions are not marked for time, but are timeless expressions of states rather than actions.

Verbal Inflection

The most important verbal inflections are the affixes that mark the subject and object of the verb. There are two sets of pronominal affixes, called Set A (prefixes) and Set B (suffixes). Set A prefixes are used to mark the **subjects of transitive verbs**, and are sometimes called the "ergative pronouns." As will be seen below, they also mark the **possessors of nouns**.

A1	k- ~ j-	I	first person singular; /j-/ before /k/ (sometimes elsewhere)
A2	'a- ~ 'aw-	you	second person singular; /'aw-/ before vowels
A3	'i- ~ 'iy-	he, etc.	third person singular or plural; /'iy-/ before vowels
A4	lak- ~ laj k-	we	first person plural; older /laj k-/ often becomes /lak-/
A5	la'- ~ la' w-	y'all	second person plural; /la' w-/ before vowels
A6	'i- ~ 'iy-	they	third person plural; with optional suffix /-ob/

Examples are:

mu j-k'el	I see (it)	mi laj-k'el	we see (it)
mu 'a-k'el	you see it	mi la'-k'el	you all see it

mu 'i-k'el	he sees it	mu 'i k'el-ob'	they see it
tza j-k'el-e	I saw it	tza laj-k'el-e	we saw it
tza 'a-k'el-e	you saw it	tza la'-k'el-e	y'all saw it
tza 'i-k'ele	he saw it	tza 'i-k'eley-ob'	they saw it
mu k-äl	I say (it)	mi laj k-äl	we say it
mu 'aw-äl	you say it	mi la' w-äl	y'all say it
mu 'i y-äl	he says it	mu 'i y-äl-ob'	they say it
tza k-äl-ä	I said (it)	tza laj k-äl-ä	we said it
tza 'aw-äl-ä	you said it	tza la' w-äl-ä	y'all said it
tza 'i y-äl-ä	he said it	tza 'i y-äl-äy-ob'	they said it

The Set B suffixes (also called the "absolute pronouns") mark the **objects of transitive verbs** (and, as will be seen below, the **subjects of intransitive, positional, and existential verbs**).

B1	oñ	to me	first person singular
B2	ety	to you	second person singular
B3	ø	to him, etc.	third person singular
B4i	oñ laj	to all of us	first person plural inclusive (we and you)
B4x	oñ lojoñ	to just us	first person exclusive (we but not you)
B5	ety laj	to y'all	second person plural
B6	ø-ob'	to them	third person plural (/ob/' is optional)

Examples are:

tza 'i-k'el-ey-oñ	he saw me
tza 'i-k'el-ey-ety	he saw you
tza 'i-k'el-e-ø	he saw it
tza 'i-k'el-ey-oñ laj	he saw (all of) us
tza 'i-k'el-ey-oñ-lojoñ	he saw us (but not y'all)
tza 'i-k'el-ey-ob'	he saw them

Note that a transitive verb always implies an object, even if one is not expressed (as in the case of third person objects). Thus the forms cited above as examples of subject inflection should have been:

mu j-k'el-ø	asp A1-VTR-B3
tza j-k'el-ey-ø	asp A1-VTR-com-B3
mu k-äl-ø	asp A1-VTR-B3
tza k-äl-ä-ø, etc.	asp A1-VTR-com-B3

The **indirect object** (dative or benefactive) is marked by the suffix /-b'e(y) ~ b'eñ/ before the Set B grammatical direct object (which becomes the recipient or beneficiary of the action). Like other -Vñ derivational suffixes, the inchoative forms take /-b'eñ/ and the completive forms take /-b'e/.

mu k-äl-b'eñ-ety	I tell (it to) you
tza 'iy-äl-b'ey-oñ	he told (it to) me

Intransitive and positional verbs (which do not take objects) take Set A prefixes in the inchoative aspect and Set B suffixes in the completive aspect. This curious phenomenon is known as "split ergativity" in the linguistic literature.

mu k-majl-el	I go	mi lak-majlel	we go
mu 'a-majl-el	you go	mu la'-majl-el	y'all go
mu 'i-majl-el	he goes	mu 'i-majl-el-ob'	they go

tza majl-iy-oñ	I went	tza majl-iy-oñ laj	we all went
tza majl-iy-ety	you went	tza majl-iy-ety laj	y'all went
tza majl-iy-ø	he went	tza majl-iy-ob'	they went

mi k-b'uch-tyäl	I sit	mi lak-b'uch-tyäl	we sit
mi 'a-b'uch-tyäl	you sit	mi la'-b'uch-tyäl	y'all sit
mi 'i-b'uch-tyäl	he sits	mi 'i-b'uch-tyäl-ob'	they sit

tza b'uch-ley-oñ	I sat	tza b'uch-ley-oñ laj	we all sat
tza b'uch-ley-ety	you sat	tza b'uch-ley-ety laj	y'all sat
tza b'uch-ley-ø	he sat	tza b'uch-ley-ø-ob'	they sat

Existential verbs and **statives** take the Set B suffixes as their subjects (and do not have incomplete versus complete forms). Statives are those constructions that use nouns or adjectives as their predicates in place of verbs (the so-called "predicate nominatives" and "predicate adjectives"):

'añ-oñ	I am	'añ-oñ lojoñ	we are
'añ-ety	you are	'añ-ety laj	y'all are
'añ-ø	he is	'añ-ø-ob'	they are

wiñik-oñ	I am a man	wiñik-oñ laj	we are all men
wiñik-ety	you are a man	wiñik-ety laj	y'all are men
wiñik-ø	he is a man	wiñik-ø-ob'	they are men

chañ-oñ	I am tall	chañ-oñ laj	we are all tall
---------	-----------	-------------	-----------------

chañ-ety	you are tall	chañ-ety laj	y'all are tall
chañ-ø	he is tall	chañ-ø-ob'	they are tall

Verbs in Classic Mayan Hieroglyphic Writing

Not all the above forms are seen in Classic period Maya hieroglyphic texts. Classic texts are normally limited to third person subjects, although there are a few examples of first and second person pronouns, especially on ceramics and in quoted speech. Likewise, most texts are phrased in the completive aspect (actions already completed), since the texts are mostly historical.

The most prominent pronominal subject in Classic texts is, then, the Set A third person subject on transitive verbs in the completive aspect (the third person subject on intransitive verbs in the completive is -ø). The prefix /u-/ (the Classic equivalent of modern /i-/) is so ubiquitous that it was the first grammatical element to be deciphered.

On the other hand, the status marking suffixes associated with the completive aspect of verbs have only been recognized more recently, and in fact many leading epigraphers do not yet accept their existence. However, we believe that the following are present in the Classic script:

-wa completive of transitive verbs, e.g., **'u-chok-wa**, 'he scattered' (an action of making an offering, a common activity associated with Period Endings); perhaps /u chok-ow/, anticipating modern Chol /i-chok-o-ø/ 'he threw it'

-iy completive of intransitive verbs, e.g., **CHAMmi**, 'he died', /cham-iy-ø/, **hu-li** 'he came', /jul-iy-ø/. A great problem impeding the recognition of this suffix is the manner in which it is written, namely with a syllable sign that includes the last consonant of the root and the vowel of the suffix. Thus, this verb ending can be represented by **bi**, **mi**, **ti**, **li**, **chi**, **yi**, etc., depending on the last consonant of the verb root or stem.

-wan completive of positional verbs, e.g., **CHUM-wa-ni**, 'he sat', /chum-wan-ø/, a common phrase reporting the "seating" of rulers in office. This suffix does not seem to have a modern manifestation in Chol; it varies in Classic texts with the following suffix.

-laj completive of positional verbs, e.g., **CHUM-la-ja**, 'he was seated', /chum-laj-ø/. This Classic suffix may be the antecedent of the modern positional completive status marker, /-le(y)/.

The last two suffixes, /-wan/ and /-laj/, vary in time and space; /-laj/ is general in the Early Classic period, and /-wan/ is an innovation seen first at the sites of Palenque and Tortuguero around 650 AD. Its use spread in the Late Classic across the Maya area, first up through the Usumacinta River sites and then to the east. By the end of the Classic period, it was used in the texts of most sites (Hruby and Child 2004).

Nouns

Nouns have fewer derivations and inflections than verbs. The most common inflection is for personal possession, to form a possessive noun phrase.

Possession of Nouns

The **possessive affixes** are the affixes of Set A (the "ergative pronouns"); these have the same forms and contextual alternations as the forms cited above (Inflection of Verbs, Subjects of Transitive Verbs). Examples are:

k-chol	my milpa (cornfield)	lak-chol	our milpa
'a-chol	your milpa	la'-chol	y'all's milpa
'i-chol	his milpa	'i-chol-ob'	their milpa(s)
k-otyoty	my house	laj k-otyoty	our house
'aw-otyoty	your house	la' w-otyoty	y'all's house
'i y-otyoty	his house	'i y-otyoty-ob'	their house(s)

In possessive noun phrases, the possessor follows the possessed in order:

'i y-otyoty Mikel	Miguel's house
'i-chol-ob' jiñi wiñik	the man's milpas
'i-ña' María	Maria's mother
k-otyoty lojoñ	our house
la' w-otyoty jatyety laj	y'all's house

A series of possessive phrases can be chained together:

'i-tzutzel 'i-jol Wañ the hair of Juan's head

'i-chikib' 'i-yijñam Wañ the basket of Juan's wife

Some nouns take suffixes of the shape -Vl when they are possessed; others take these suffixes when they are not possessed. The difference has to do with "inherent possession;" it is supposed that parts of the body, kinsmen, etc., imply an "owner" (there are no body parts or relatives that are not the body parts or relatives of someone). In general, the possessed forms with the suffixes can be thought of as "the part of something that is ___," for example, /'i-ch'ich'-el/ 'his blood, i.e., the part of him that is blood' (as opposed to /'i-ch'ich'/, an animal's blood owned by someone), /'i-tzutzel 'i-jol/ 'the hair of his head, i.e., the part of his head that is hair'. It is worth noting that the system is obscured to a degree because many people do not follow the rules, perhaps because of the influence of Spanish.

ch'ich', 'blood' 'i-ch'ich'-el, 'his blood (in his veins)' 'i-ch'ich', 'blood (he has bought)'

lum, 'land' 'i-lum-al, 'his (home)land' 'i-lum, 'his land (that he bought)'

ñuk', 'stomach' 'i-ñuk', 'his stomach' ñuk'-äl, 'a stomach (he has bought)'

chich, 'older sister' 'i-chich, 'his older sister' chich-äl, 'an older sister'

'äskuñ, 'older brother' 'i y-äskuñ, 'his older brother' 'äskuñ-il, 'an older brother'

pixol, 'hat' 'i-pixol, 'his hat' pixol-äl, 'a hat'

wäyib', 'bed' 'i-wäyib', 'his bed' wäyib'-äl, 'a bed'

juloñib', 'shotgun' 'i-juloñib', 'his shotgun' juloñib'-äl, 'a shotgun'

y-ixim 'his maize' y-ixim-al cholel 'the maize in his milpa'
usually /yixmal cholel/

y-atz'am 'his salt' y-atz'am-il tyumuty 'the salt for the eggs'

usually /yatz'mil tyumuty/

'i-tye' 'his tree' 'i-tye'-el 'otyoty 'the wood for the house

There is another similar suffix, /-il/, that occurs on nouns as a "generalizer;" this may be followed by another similar suffix, /-el/:

juñ 'paper' juñ-il 'document' 'i-juñ-il-el 'his birth certificate'
jab' 'year' jab'-il 'age' 'i-jab'-il-el 'his age'

Some of the nouns so derived indicate places where there is an abundance of some material:

ja'as 'plantain' ja'as-il 'banana grove'
jam 'grass' jam-il 'grassland, field of grass'
b'u'ul 'bean' b'u'ul-el 'bean field' (usually /b'u'l-el/)

The **possessive pronouns** "mine," "yours", etc. are formed with the root /cha'añ/:

k-cha'añ mine jiñi chikib' k-cha'añ, 'that basket is mine.'
'a-cha'añ yours jiñi chikib' mach 'a-chañ-ik, 'that basket isn't yours.'
'i-cha'añ his, hers majki 'i-cha'añ jiñi chikib', 'whose is the basket?'

Singular and Plural

The expression of the category of plural is not obligatory, and when it is expressed it may be ambiguous:

'i y-otyoty-ob' May mean 'his houses', 'their house', or 'their houses'.

The confusion can be cleared up by using another plural suffix, /-tyak/ ("distributive plural"), which implies that the possessed things belong to distinct owners, one thing per owner:

'i y-otyoty-tyak 'their houses' (each one has a house)
lak chol-tyak 'our milpas' (each of us has a milpa)

Modification

In the formation of noun phrases, the adjectives precede the nouns. It is common to suffix the modifier with /-b'ä/, in effect a subordinator, creating a subordinate clause from the adjective (that which is X); this peculiar analysis derives from the function of /-b'ä/ in verb phrases, where it does in fact create subordinate clauses. The modifier + noun phrase may have a distinct meaning if this suffix is not present:

kolem ja'	'river' (lit., 'big water')	kolem-b'ä ja'	'an arroyo that is large'
säsäk tye'	'a kind of tree'	säsäk-b'ä tye'	'a tree that is white'
yajyäch xajlel	'obsidian'	yajyäch-b'ä xajlel	'a stone that is green'
chächäk lumil	'red earth'	chächäk-b'ä lumil	'earth that is red'

Numerical Phrases

Quantitative expressions have to include a "numeral classifier," a word that indicates what type of thing is being enumerated. The numeral classifier comes between the number and the noun or noun phrase. See Aulie and Aulie (1996:282-284) for some 68 examples; others are listed in this dictionary, marked as **num cl**. The most common classifiers, and the ones with the most general meanings, are:

p'ejl (often /p'e/)	inanimate things	juñ p'ejl xajlel	'one stone'
tyikil	persons	juñ tyikil wiñik	'one man'
tyejk	plants	juñ tyejk tye'	'one tree'
kojty	animals	juñ kojty wakax	'one cow'

Apart from these basic numeral classifiers, there are many more possibilities. Some of these are measures. Some examples are:

b'ajk'	four hundreds	juñ b'ajk' 'ixim	'400 ears of corn'
k'al	twenties (scores)	cha' k'al 'ixim	'40 ears of corn'
chajp	classes, kinds	cha' chajp tye'	'two kinds of trees'
jajl	armspans	cha' jajl puy	'two armspans of thread'
lajtz	piles	cha' lajtz b'u'ul	'two piles of beans'

Other classifiers refer more to the characteristics of the things enumerated:

k'ojl	round things	cha' k'ojl sa'	'two balls of posol'
k'ejl	flat things	cha' k'ejl tye'	'two wooden planks'
tyejm	rolls	cha' tyejm juñ	'two rolls of paper'
tz'ijty	cylinders	cha' tz'ijty 'ixim	'two ears of corn'

Other classifiers refer to actions (and are drawn from the class of verbs):

ñumel	'times'	cha' ñumel	'two times'
		ñumel,	'to pass by'
yajl	'times'	cha' yajl	'two times'
		yajlel,	'to fall'
lejch	'spoonfulls'	cha' lejch	'two spoonfulls'
		lech,	'to dip out'
tyäjk'	'additions'	cha' tyäjk'	'two additions'
		tyäk',	'to add on'

Cardinal and Ordinal Numbers

The cardinal numbers (one, two, etc.) are nouns, and they can be "possessed" to form ordinal numbers (first, second, etc.), another kind of noun. The cardinal numbers (with the most common numeral classifier and the typical assimilations and abbreviations) are:

1	juñ	jum p'ejl	11	b'uluch	b'uluch p'ejl
2	cha'	cha' p'ejl	12	lajchañ	lajcham p'ejl
3	'ux	'ux p'ejl	13	'uxlujuñ	'uxlum p'ejl
4	chañ	chäm p'ejl	14	chäñlujuñ	chäñlum p'ejl
5	jo'	jo' p'ejl	15	jo'lujuñ	jo'lum p'ejl

6	wāk	wāk p'ejl	16	wāklujuñ	wāk lum p'ejl
7	wuk	wuk p'ejl	17	wuklujuñ	wuk lum p'ejl
8	waxāk	waxāk p'ejl	18	waxāklujuñ	waxāk lum p'ejl
9	b'oloñ	b'olom p'ejl	19	b'oloñlujuñ	b'oloñ lum p'ejl
10	lujuñ	lujum p'ejl	20	jun k'al (classifiers aren't used over 19)	

Above twenty, counting goes towards the next multiple of twenty or score, and uses ordinal numbers:

21	jum p'e 'i-cha' k'al	one in the second score
22	cha' p'e 'i-cha' k'al	two in the second score
30	lujum p'e 'i-cha' k'al	ten in the second score
39	b'oloñ lum p'e 'i-cha' k'al	nineteen in the second score
40	cha' k'al	two score

Counting by twenties or scores goes on until you near the twentieth score, 400, /juñ b'ajk'/, called a *tzonte* in Mexican Spanish (from the Nahuatl word for 400).

400	jum b'ajk'	400, a tzonte
500	jo' k'al 'i-cha' b'ajk'	five score (100) in the second 400 (400+100)
1000	lujuñ k'al 'i y-ux b'ajk'	ten score (200) in the third 400 (800+200)
2000	jo' b'ajk'	five 400s
6000	jo' lum b'ajk'	fifteen 400s
8000	juñ k'al tyi b'ajk'	twenty times 400
8001	juñ k'al tyi b'ajk' yik'oty jum p'e	8000 and one
16,000	cha' k'al tyi b'ajk'	forty times 400

In Chol and other Mayan languages, there were (and in some places still are) nouns like /b'ajk'/ '400' for the quantities of 8000 (20 x 400), 160,000 (20 x 8000), and so on. But these are not in common use any more, and few people can even count in Chol past twenty, if that much, employing Spanish numbers instead of the native ones: /juñ sientos/ instead of /jo' k'al/ '100', /cha'

siento// instead of /lujuñ k'al/ '200', etc. The old root for '8000' survives in the bird name /wuk pik/ 'motmot', literally '7 x 8000, or 56,000'.

Nouns in Classic Mayan Hieroglyphic Writing

There are abundant nouns in Classic Maya inscriptions, and thousands of examples of noun phrases, e.g., possessive phrases. The most common inflection seen on nouns in hieroglyphic texts is third person possession, with the possessive prefix 'u- (corresponding to modern /i-/. Various scholars have proposed readings for the possessive pronouns of second person as well, in cases of quoted speech (on ceramics, which occasionally portray court scenes with conversations). But these cases are few and their analysis is uncertain. Likewise, some examples of plural nouns have been cited, but they are rare.

In quantitative expressions, it is apparent that numeral classifiers were not yet in use in the Classic period. In calendrical expressions, there is a syllable sign, **te**, that falls in the right place, between the number and a following noun (the name of a day or a month), but its use is not consistent, and we do not fully understand what role it is playing, although some authors refer to it as a numeral classifier. However, calendrical expressions are not really enumerative phrases. A date like "3 (te) Ahau" doesn't refer to "three Ahaus," but to the day name Ahau combined with the number 3. A date like "14 Yaxk'in" doesn't refer to "14 Yaxk'ins," but to the 14th day in the month Yaxk'in. So it would be curious to find a numeral classifier in these contexts; the **te** must be playing a different role.

The evidence from comparative studies of the Mayan languages indicates that the development of numeral classifiers was a late phenomenon. Kaufman (a leading Mayan linguist) believes that they may have developed as an extension of quantitative expressions that employed a measure (like some of the examples above, e.g., 'armspans'). Not all Mayan languages have fully developed numeral classifiers, just Yucatec Maya and the Western Mayan languages (Cholan, Tzeltalan, and Kanjobalan, the languages of Chiapas and the Guatemalan Cuchumatán Mountains). That probably indicates an origin in Western Mayan and a spread to Yucatec Maya during the Classic period, when influences flowed back and forth between the two groups. There are a few examples of numeral classifiers in Eastern Mayan, mainly in Quiché, but they are not obligatory, and we should note that the lords of the Quiché came from the area of Western Mayan (the Gulf coast), according to their ethnohistory.

A comparison of the numeral classifier systems in Chuj, Jacalteco, and Tzeltal (Hopkins 1970b) showed that the grammatical origin of classifiers in the three languages was similar. In the three languages, numeral classifiers are drawn from nouns (measures), from transitive verbs

(actions), and from positional verbs (shapes and conditions). But the inventory of numeral classifiers was not, in general, cognate between the three languages. This implies a situation in which a style of speaking diffuses between groups, but the speakers of each language choose different words to use to imitate the style.

More on Verbs: Passives and Causatives

Only transitive verbs form passive stems; only intransitive and positional verbs form causative stems. That is, in Chol grammar you can make someone do something (go, come, etc.), but you cannot make someone do something *to someone or something else* (hit, see, think, etc.).

Passive Stems of Transitive Verbs

The **passive stem of transitive verbs** has two forms, depending on which type of transitive verb is involved. If the verb is a **root transitive**, with the shape CVC, the basic form of the passive is CVjC, inserting the consonant /j/ before the final consonant of the root. The semantic and syntactic effect is to convert the former Object of the verb (the Patient) to the grammatical Subject of the verb. The old Subject (Agent) is suppressed and can only be expressed in an oblique phrase, usually in a construction with the preposition /tyi/ 'by, with', etc. This sole preposition in Chol serves only to mark the phrase as oblique, i.e., not a major argument, not either Subject nor Object. It gives little information about the relationship of the head of the oblique phrase to the action – it can be as actor, instrument, location, manner, etc. As far as inflection is concerned, the effect of the passive transformation is to turn the stem into an intransitive verb stem, taking the status affixes usually associated with intransitive stems:

chal	to adorn	chajl-el	to be adorned (incompletive)
mu k-chäjł-ety	I adorn you	mu 'a-chäjł-el	you are adorned
mäk (incompletive)	to (en)close	mäjk-el	to be closed
tza k-mäk-äy-ø	I closed it	tza mäjk-iy-ø	it was closed (completive)
k'el	to see	k'ejl-el	to be seen (incompletive)
tza 'i-k'el-ey-ety	he saw you	tza k'ejl-iy-ety	you were seen (completive)

There are phonological concerns. If a transitive verb root ends in one of the consonants /s, x, j/, its passive is not formed with the insertion of a /j/, which would essentially be inaudible next to

the other fricative. In these cases, the passive stem is formed by suffixing the affixes normally associated with positional verbs: /-tyäl/ in the incomplete and /-le(y)/ in the complete aspect:

tyaj	to find	tyaj-tyäl, incomplete	tyaj-le(y), complete
mu k-tyaj-ø	I find it	mu 'i-tyaj-tyäl, it is found	tza tyaj-le-y-ø, it was found
pix	to wrap	pix-tyäl, incomplete	pix-le(y), complete
mu k-pix-ø	I wrap it	mu 'i-pix-tyäl, it is wrapped	tza pix-le-y-ø, it was wrapped

If the verb is a **derived transitive verb**, not just a CVC shape but taking derivational suffixes, the passive is formed in a different manner, with /-tyel/ in the incomplete and /-tyi(y)/ in the complete. These suffixes resemble those taken by intransitive verbs (/el/ and /iy/).

b'ety-añ, to ask for a loan	b'ety-añ-tyel, incomplete; b'ety-añ-tyi, complete
mu 'i-b'ety-añ-ø	he asks for it loaned
mu 'i-b'ety-añ-tyel	it is asked for
tza b'ety-añ-tyi-ø	it was asked for
ña'-ty-añ, to think or know	ña'ty-añ-tyel, incomplete; ña'ty-añ-tyi, complete
mu 'i-ña'ty-añ	he thinks it
mu 'i-ña'-ty-añ-tyel	it is thought
tza ña'-ty-añ-tyi-ø	it was thought

The same pattern applies to verbs with benefactive derivation (/b'eñ/); here the direct Object (Patient) is converted into the Indirect Object (dative):

päs-b'eñ, to show someone something; päs-b'eñ-tyel, incomplete, päs-b'eñ-tyi, complete	
mu 'i-päs-b'eñ-ø	he shows it to him
mu 'i-päs-b'eñ-tyel	it is shown to him
tza päs-b'eñ-tyi-ø	it was shown to him

Causative Stems of Intransitive Verbs

The causative stem of an intransitive verbs is formed by suffixing /-(e)s-añ/ in the incomplete and /-(e)s-a(y)/ in the complete. The syntactic effect is to convert the intransitive verb to a transitive one. The semantic effect is that the grammatical subject is now not the person that performs the action, but the person who causes someone else to perform it (not 'I sleep', but 'I put him to sleep').

wäy-el	to sleep	wäy-s-añ	to put someone to sleep
	mu k-wäy-el		I sleep
	mu k-wäy-s-añ-ety		I put you to sleep (incomplete)
	tza k-wäy-s-ay-ety		I put you to sleep (complete)
tyojm-el	to thunder	tyojm-es-añ	to cause it to thunder
	mu 'i-tyojm-el		it thunders
	mu 'i-tyojm-es-añ-ø		he causes it to thunder
	tza 'i-tyojm-es-a-ø		he made it thunder
lajm-el	to get well	lajm-es-añ	to cure someone
'ujty-el	to end	'ujty-es-añ	to cause it to end
jäjm-el	to swing in hammock	jäjm-es-añ	to swing it in a hammock
lok'-el	to go out, leave	lok'-es-añ	to take something out (of a bag)

There are a number of causative stems that have undergone assimilation and are not always recognized for what they are:

cham-el	to die	tzãñ-s-añ	to kill it	< *cham-s-añ
'och-el	to enter	'otz-añ	to put it in	< *'och-s-añ
ñum-el	to pass by	ñu-s-añto	to pass it over	< *ñum-s-añ
kol-el	to grow	ko-s-añto	to raise it	< *kol-s-añ

jub'-el	to fall	ju'-s-añ	to drop it	< *jub'-s-añ
jil-el	to end	ji-s-añ	to end it	< *jil-s-añ
yajl-el	to fall	yā-s-añ	to drop it	< *yajl-s-añ

Some examples do not have known intransitive forms:

chu'-(uñ) to suckle (transitive) tzu'-s-añ to give the breast < *chu'-s-añ

Other kinds of causative verbs come from derived transitive stems and verbs formed from adjectival roots: VTR-C-es-añ;

kāñ, to know about something kāñ-ty-es-añ, to teach; kāñ-ty-es-añ-tyel, to be taught

joch, to disrobe joch-ty-es-añ, to move out of a house

ñuk, big

ñuk'-añ, to become big; ñuk'-es-añ, to amplify; ñuk'-es-añ-tyel, to be amplified

b'ib'i', dirty

b'ib'-añ, to get dirty; b'ib'-es-añ, to make something dirty

lāk', nearby; lāk'-es-añ, to draw near

ch'uj-ul, sacred; ch'uj-ty-es-añ, to adore something (make it sacred)

Causative Stems of Positional Verbs

The causative stems of positional verbs are formed in a distinct way; they take as a suffix the derived transitive verb /chok-oñ/, otherwise 'to throw something'. Like other derived transitives, the final /ñ/ is dropped in the complete:

b'uch-tyäl	to be seated	b'uch-chok-oñ	to seat (place) something
k'äch-tyäl	to be mounted	k'äch-chok-oñ	to cause someone to mount
chum-tyäl somewhere	to live somewhere	chum-chok-oñ	to place something

jäm-tyäl	to lie in a hammock	jäm-chok-oñ	to lay it in a hammock
jich'-tyäl	to be hanging	jich'-chok-oñ	to hang something
ñok-tyäl	to be kneeling	ñok-chok-oñ	to make someone kneel
ñuk-tyäl	to hunker down	ñuk-chol-oñ	to invert something
päk-tyäl	to sit eggs	päk-chok-oñ	to put a hen on eggs
p'ul-tyäl	to be piled up	p'ul-chok-oñ	to pile things up
totz'-tyäl	to be lying down	totz'-chok-oñ	to put someone to bed
wa'-tyäl	to be standing up	wa'-chok-oñ	to stand something up
xuk'-tyäl	to be firm	xuk'-chok-oñ	to confirm something

Passives and Causatives in Hieroglyphic Inscriptions

There does not seem to be any evidence of causative forms in the hieroglyphic inscriptions, but there are many examples of passives. However, Classic Cholan passives are not formed like modern Chol passives.

In the completive aspect, which is what we normally see in the inscriptions, the suffix that is most frequently seen is *aj*. It may be the case that the preceding root had an inserted /j/ as well, as has been argued by Lacadena, for instance (Alfonso Lacadena, "Passive voice in Classic Maya texts," in Søren Wichmann, ed., *The Linguistics of Maya Writing*, pp. 165-194. Salt Lake City: University of Utah Press. 2004). However, there is very little direct evidence of this insertion, although more examples are coming out as people look more closely for them. Common forms in the inscriptions are:

chu-ka-ja	chuk-aj-ø, perhaps chujk-aj-ø	to be captured
ma-ka-ja	mak-aj-ø, perhaps majk-aj-ø	to be sequestered (before marriage)
mu-ka-ja	muk-aj-ø, perhaps mujk-aj-ø	to be buried
SIJ-ya-ja	siy-aj-ø, perhaps sijy-aj-ø	to be born

Other Verbal Derivations

Besides the inflectional modifications of verbs seen above, there are many more modifications to verb roots and stems; these are usually marked simply "der" in the dictionary entries. Derivational processes create words of other classes from verbs. The most common of these are the following (see also Warkentin and Scott, pp. 20 et seq.). For more information, see Feldman's (1984) Study of Chol Derivation, below.

Transitive Verbs

Actions or Processes: -b'al. This suffix on transitive verb roots creates nouns that refer to actions:

juch'-b'al	the process of grinding corn	< juch', to grind (moler)
k'aj-b'al	the harvest of maize	< k'aj, to harvest maize (tapiscar)
jal-b'al	the process of weaving	< jal, to weave

Instruments: -oñ-ib'-(äl). These suffixes on transitive verbs create nouns referring to the instrument of action:

jul-oñ-ib'-äl	shotgun	< jul, to shoot
choñ-oñ-ib'	store, shop	< choñ, to sell
juch'-oñ-ib'-äl	grinding stone (metate)	< juch', to grind

In possessive phrases, these constructions lose the suffix /-äl/:

'i jul-oñ-ib'	his shotgun	
'i k'el-oñ-ib'	his window	< k'el, to see
'i law-oñ-ib'	its darning stitch	< läw, to darn

Derived transitive verbs take a distinct set of suffixes to create instrumental nouns: äj-ib'

('i-) mis-aj-ib'	(his) broom	< mis-uñ, to sweep
('i-) pech-aj-ib'	(his) plantain leaf	< pech-añ, to make tortillas

Another way to form instrumental nouns is with a construction that incorporates the affected

noun:

VTR-o' N:

jap-o' ja'	cup, glass	< jap, to drink; ja', water
luch-o' ja'	water dipper, large spoon	< luch, to dip out; ja' water

The extent of the derivational possibilities of transitive verbs can be suggested by looking at the forms that come from a stem or two. First, the root transitive verb /k'el/ 'to see':

inc	mi k'el	mu 'i-k'el-ø	he sees it
com	tzi k'ele	tza 'i-k'el-ey-ø	he saw it
imp	k'ele	k'el-e-ø	see it!
part	k'elel	k'el-el	(it is) seen
	k'elb'il	k'el-b'il	a seen object
hort	la' k'elik	la' k'el-ik-ø	let's go see it
pas	k'ejlel	k'ejl-el	to be seen
ben	k'elb'eñ	k'el-b'eñ	to see it for someone
	mi k'elb'eñoñ	mu 'i-k'el-b'eñ-oñ	he looks after it for me
adj	k'elekña	k'el-Vk-ña	visible, clear (sky)
num cl	k'ejl	k'ejl	count of flat objects
agen	k'eloñel	k'el-oñ-el	lookout place
inst	k'eloñib'	k'el-oñ-ib'	binoculars

Second, the derived transitive verb /ña'tyañ/ 'to think, to know:

inc	mi ña'tyañ	mu 'i-ña'-ty-añ-ø	he thinks it
com	tzi ña'tya	tza 'i-ña'-ty-a-ø	he thought it
imp	ña'tyañ	ña'-ty-añ-ø	think!

part	ña'tyab'il	ña'-ty-a-b'il	a thought
pas	ña'tyañtyel	ña'-ty-añ-tyel	to be thought (incompletive)
	na'tyañtyi	ña'-ty-añ-tyi	to be thought (completive)
ben	ña'tyab'eñ	ña'-ty-a-b'eñ-ø	to think about it for someone

The relative order of the various suffixes is the following:

ROOT	caus	ben	pas	SetB	irr	asp	pluB
	isä(ñ)	b'e(ñ)	tyel	oñ	ik	ix	lojoñ

Intransitive Verbs

Instrumental Nouns, from intransitive verbs: **-ib'-(äl)**:

wäy-ib'-äl	bed (in general)	'i wäy-ib'	his bed	< wäy, to sleep
putz'-ib'-äl	refuge (in general)	'i putz'-ib'	his refuge	< putz', to flee
'och-ib'-äl	openings	'i y-och-ib'	its doorway	< 'och, to enter
ñujp-ib'-äl	jail			< ñujp'-el, to be closed in

From passivized transitive verbs (which function like intransitives): il

'i-ch'äjil-il	its adornment	< ch'äjil-el, to be adorned < ch'äl, to adorn
'i-b'ejch'-il	his bandage	< b'ejch'-el, to be rolled < b'ejch', to roll up
'i-majk-il	its lid	< majk-el, to be closed < mak, to close something

Also from passivized transitive verbs: ib'-äl

ch'ajl-ib'äl	adornments	< ch'ajl-el, to be adorned < ch'al, to adorn
majk-ib'-äl	jail	< majk-el, to be enclosed < mak, to close something

The following give some idea of the extent of words derived from intransitive verbs, using the verbs /majl-el/ 'to go' and /yajl-el/ 'to fall':

inc	mi majlel	mu 'i-majl-el	he goes
-----	-----------	---------------	---------

com	tza majli	tza majl-iy-ø	he went
imp	majleñ	majl-eñ	go!
part	majlem	majl-em	gone
	majlemoñ	majl-em-oñ	I have gone
hort	la' majlik	la' majl-ik	let's go!
caus	majlesañ	majl-es-añ	to cause someone to go
inst	majlib'	majl-ib'	place to go
	majlib' k'iñ	west, where the sun goes	
num cl	yajl	yajl	count of times

Positional Verbs

Some examples of positional verb derivation follow, using /b'uch/ 'to be seated', /kojty/ 'to have four legs', /xoty/ 'to be rolled up', and /chum/ 'to reside somewhere':

inc	mik b'uchtyäl	mu k-b'uch-tyäl	I am sitting down
com	tza b'uchleyoñ	tza b'uch-ley-oñ	I was sitting down
imp	b'uchi' (laj)	b'uch-i' (laj)	sit down (y'all)!
part	b'uchul	b'uch-ul	seated
hort	la' b'uchek	la' b'uch-ek	let's sit down!
caus	tzak b'uchchoko	tza k-b'uch-chok-o-ø	I set it down
adv	b'uchiña	b'uch-i-ña	seated, but in motion
adv	b'uchb'uchña	b'uch-b'uch-ña	seated, but in motion
inst	b'uchlib'	b'uch-l-ib'	chair
vtr	b'uchtyañ	b'uch-ty-añ	to sit on something
	mik b'uchtyañ xajlel		I sit on a rock

num cl	kojty		count of animals
n	chumtyil	chum-tyil	a settlement
n	xotytyilel	xoty-tyil-el	circumference
vtr	xotyłañ	xoty-l-añ	to roll something up

Adjectives

Adjectives (**adj**) form a small but important class of roots in Chol, their importance lies in part because they can be derived to form nouns and verbs. Among the adjectives there is a prominent subclass, the terms for colors, which enter into a set of constructions unmatched by other adjectives. Adjectives in general take suffixes to form adverbs, or to form more adjectives. Some of these suffixes are like those of other form classes, but have initial glottal stops that affect the last consonant of the root, glottalizing consonants that can be glottalized, the stops and affricates.

Examples of the most common derivations are:

Verbal Forms

adj	'utz	good, as a modifier
	'utz-'aty	(it is) good; 'good' as a predicate (/ 'utz'aty/, with /tz-' > tz'/)
	'utz-'aty-ax	(it is) very good (singular)
	'utz-tyak-ax	(they are) very good (plural)
hort	la' 'utz-ak	Let's be good!
vtr	mich'-l-eñ	to get angry (< mich' 'angry'), inceptive
	mich'-l-e(y)	to get angry, complete
vtr > n	mich'-l-ey-aj	person that gets angry (< mich'l-ey 'to get angry')
vin	k'añ-aj-el	to become yellow (< k'añ 'yellow')
vex	chäk-'añ	to become red (< chäk 'red')
adv	mich'-ik-ña	in an angry fashion (< mich' 'angry'); CVC-Vk-ña

adv tzäk-tzäk-ña later (< tzäk 'behind'; cf. tzäk-l-eñ 'to follow')

Nominal Forms

n 'utz-lel goodness
p'ip'-lel intelligence (< p'ip' 'smart')

n k'añ-el egg yolk (< k'añ 'yellow')

the suffixes -al, -ol have the same function

n säk-'aj-el dawn (< säk 'white')

mich-'aj-el anger (< mich' 'angry')

n säk-oñ-el the act of washing maize (< säk 'white')

n 'ijk'-al the Xñek, Blackman, a mythical savage (< 'ik' 'black')

'ijk'-al early morning (< 'ik' 'black')

adj-n ch'aj-tye' a kind of tree (< ch'aj 'bitter' and tye' 'tree')

Color Terms

The Basic Color Terms are:

adj	chäk	red
	säk	white
	'ik'	black
	k'añ	yellow
	yäx ~ yax	blue/green

To indicate intensity (or purity, saturation), partial or total reduplication is employed:

red-adj	chä-chäk	very red
	sä-säk	very white
	'i-'ik'	very black
	käñ-k'añ	very yellow

yāj-yāx very green

Like other adjectives, modification of nouns is usually done with the relativizing suffix /-b'ä/:

chäk-b'ä xajlel red rock, rock that is red
 sä-säk-b'ä b'ujk white shirt, shirt that is white

Unlike other adjectives, the color terms combine with other CVC roots and the suffix /-añ/ to form special compounds that indicate shades and qualities of color. When they can be identified, the CVC root that combines with the color term is most often a positional verb. Examples (from the Aulie and Aulie dictionary) are:

Color	Meaning	Possibly Related Words
chäk-b'ul-añ	dry (earth)	b'ul-tyäl, vpo, 'bunched up, bundled'
chäk-koj-añ	light red (rag, dog)	koj, adj, alone
chäk-kol-añ undergrowth	clear, clean	kol-ok-ña, forest without
chäk-lak'-añ	reddish (skin)	-
chäk-lem-añ	clear (flames)	lem-lem-ña, adv, flaming
chäk-tzäñ-añ	red hot (iron)	tzäñ-tzäñ-ña, adv, pretty (sound)
chäk-watz-añ	red (skin)	watz-tyäl, vpo, 'piled up (fibers)'
chäk-yum-añ	red (liquid)	-
säk-kol-añ undergrowth	clearing up (morning)	kol-ok-ña, forest without
säk-chax-añ	white (bones)	-
säk-jam-añ	clear (weather)	jam-ak-ña, adv, unclouded (sky)
säk-lem-añ	shining (tin roof)	lem-lem-ña, adv, flaming
säk-lib'-añ	pallid	-

säk-lutz'-añ	white (skin)	-
säk-moty-añ	white (group of rocks)	-
säk-ñup'-añ	white (like a rock)	-
säk-poch-añ	clean (shirt)	poch-tyäl, vpo, wide and flat
säk-poch-añ	well sharpened (machete)	poch-tyäl, vpo, wide and flat
säk-poy-añ	clean (house or room)	-
säk-pil-añ	full of high thin clouds (sky)	-
säk-tyij-añ	white (frost, hair, braids)	tyij-ik-ña, adv, happy
säk-tyil-añ	bright white (stars)	-
säk-tyoj-añ	dark white (menacing clouds)	tyoj-ok-ña, adv, like clouds
säk-tz'ij-añ	white (rock)	-
säk-wa'-añ	white (in the distance)	wa'-tyäl, vpo, standing
säk-wel-añ	white (cloth)	wel-tyäl, vpo, flat and wide
säk-wol-añ	white (hair)	
säk-xoj-añ	clear (light)	xoj-ok-ña, adv, aromatic
'ik'-ch'ip-añ	dark (in a house or cave)	-
'ik'-jow-añ	black, dark (house roof, cave)-	
'ik'-moty-añ	black (chickens)	-
'ik'-sel-añ	stained (stain, birthmark)	-
'ik'-sow-añ	dirty (clothes, thread)	-
'ik'-tyoj-añ	dark and low (clouds)	tyoj-ok-ña, adv, like clouds
'ik'-wa'-añ	darkish (black clothing)	wa'-tyäl, vpo, standing
'ik'-yoch'-añ	dark (inside a house, moonless night)-	

k'ään-lem-añ	brilliant (tin roof, milpa)	lem-lem-ña, adv, flaming
k'ään-tyij-añ	yellow (flowers in the distance)	tyij-ik-ña, happy
k'ään-wech-añ	flat and yellow (plank)	wech-tyäl, vpo, flat and wide
yäx-mul-añ	dark blue/green, purple	-
yäx-moj-añ	blue, green (reflected)	moj-tyañ, to pile up
yäx-käñ-añ	watery (pozol)	-
yäx-lem-añ	blue (river)	lem-lem-ña, adv, flaming
yäx-piy-añ	clear (sky)	piy-ik-ña, adv, smooth and shining
yäx-kich'-añ	greenish (water)	-

Adjectives in Hieroglyphic Writing

There are known hieroglyphs for all of the basic color terms, but these are most often logographic signs, not words spelled out phonetically. The colors also have directional associations:

CHAK	red, east (la-k'in < *'el-ab' k'in, the sun's patio, where he comes out)
SAK	white, north (zenith, xa-man , meaning unknown)
IK'	black, west (chi-k'in < *'och-ib' k'in, the doorway of the sun)
K'AN	yellow, south (nohol , meaning unknown)
YAX	blue/green, center

Other common adjectives are:

ch'o-ko	ch'ok, 'fresh, new, emergent; prince'. Cf. Chol /ch'ok-'añ/ 'to be born'
ch'u-hu-lu	ch'uj(ul), 'sacred, holy'. Cf. Chol /Lak Ch'ujul Ña/ 'Our Holy Mother'

nu-ku	nuk, 'big, important'; nuk na', queen. Cf. Chol /ñuk/ 'important'
ma	ma, 'big, important'. Cf. Chol /Ma k-ña'-laj/, Our Lady (Guadalupe)
b'a	b'a, 'first'. Cf. Tzotzil /b'a/ 'primero')

Phrase Structure

The following sketch covers only the most basic elements of phrase structure, but should be adequate for understanding the sample phrases in dictionary entries.

Noun Phrases

A noun phrase can consist of a single noun, or a noun preceded by an article or demonstrative. The latter include /jiñi, 'añ, 'ub'i, ja, li/, all with more or less the same meaning, 'the', (there may be discourse factors that would distinguish between them, but we have not discovered such). Different speakers favor one or more of these demonstratives:

jiñi wiñik	the man
'añ ch'ityoñ	the boy
'ub'i 'askuñil-bä	the one who is elder brother
ja wiñik	the man (rare, perhaps from Tzeltal)
li ch'ujm	the pumpkin (Tila Chol)

Nominal phrases are much less complex than verbal phrases. The basic patterns are: (1) modifiers precede the noun being modified (adjective + noun); (2) the possessed noun precedes the possessor:

(1) Phrases with modifiers:

ñaxañ-bä y-alob'il	his first child (lit. 'his child that is first')
ch'ujul tyaty	Holy Father
kolem-b'ä 'otyoty	large house
'alä tyejklum	small town
jiñ lekoj-b'ä muty	the fabulous bird

(2) Possessive Phrases:

'i-k'ab'a' 'a-ña'	your mother's name (lit., 'her-name your-mother')
'i y-otyoty jiñ-ob'	their house(s)
y-ojlil 'ak'älel	the middle of the night
y-aläl b'aj	little gophers (lit., 'their-child gopher')

Conjunction and Subordination

The most common conjunction is /'ik'oty/ (from earlier /'ity'ok/, see the 1789 wordlist). Contact with Spanish has resulted in the borrowed conjunction /'i/, from Spanish *y*.

muty yik'oty koya'	chicken with tomatoes
j-pi'äl y-ik'oty-oñ	my companion (wife) and I ('my-wife she-with-me')
mi laj k'ol yik'oty ja'	we make a ball (of the masa) with water
tza majli k-ik'oty	he went with me
kojtyom 'i jañtyak bätye'el	coatimundi and other animals
'i che jiñi...	and so it (was)...

Subordination or relativization is done with the suffix /-b'ä/ affixed to the subordinated word or sentence. In the case of the latter, the suffix is placed on an aspect preclitic.

säsäk-b'ä b'ujk	white shirt (lit., 'shirt that is white')
yam-b'ä juñ yajl	another occasion (lit. 'a time that was other')
tyokol-b'ä lum	broken earth
wiñik tza-b'ä majli kik'oty	the man who went with me
jiñi tya'chab'lel tza-b'ä 'i-mäk'b'e 'i-chäb'il	the beeswax that he ate the honey from
Jiñi ñaxañ-b'ä y-alob'il	that one is the first child

jiñi 'alob' woli-b'ä tyi 'alas the child who is playing

Other subordinations can be made using /b'a/ 'where', /chu/ 'what', /che/ 'when', and the borrowed /ke/ 'that', and /cha'añ/ 'because, in order to':

ya' 'añ b'a tza yajli there is where he fell

mañik chu' mi cha'le there is nothing he does (he doesn't do anything)

mi lak suk' che' tzax lak tyik'a we wash it when we have dried it

che' mi 'ujtyel lak kuch' when our grinding is ending

mi kāk' jsemetty chañ mij pechañ waj

I put up my grinding stone in order to make tortillas

jiñi 'alob' ke woli tyi 'alas that boy who is playing

Verb Phrases

As in Mayan languages in general, verb phrases carry a lot of information and can be quite complex. The "verb word" itself (the verb root and its affixes) can have a half-dozen morphemes, and even simple verb phrases add aspect clitics to this construction. Tack on an argument or two (subject and object noun phrases) and you're well into syntax.

A typical **simple verb phrase** will have the verb stem, subject (and object) pronominal affixes, and an aspect preclitic:

mi k-majl-el asp A1-VIN-inc I go.

tza majl-iy-oñ asp VIN-com-B1 I went.

mi j-k'el-ety asp A1-VTR-B2 I see you.

tza j-k'el-ey-ety asp A1-VTR-com-B2 I saw you.

Incompletive aspect preclitics include /mi, mu, muk'/; **completive** aspect preclitic is /tza/ (or, in Tila, /ta/). These usually combine with the subject pronouns to form portmanteau forms like /mi/ < /mu 'i-/ , /ma/ < /mu 'a-/ , /tzi/ < /tza' 'i-/ , etc.

In place of these aspect preclitics, there are several **auxiliary verbs** that are associated

with **progressive** action and other aspects. These latter may be used alone or in what we have called "*ti* constructions." The inventory includes /sami, woli, choñkol, yäkel/ 'progressive'; selection is more or less by dialect: Tumbalá uses /woli/, Tila uses /choñkol/ and Sabanilla uses /yäkel/ (like other Sabanilla features, this may be influenced by Tzeltal). Tila also uses /cha'leñ/ 'to do'. **Incipient** aspect employs /kaj-el/ 'to begin' in various forms; /tza kaj-iy-ø/ may reduce all the way to /tza ki/. The verb stem in these constructions is the incompletive stem and is uninflected, i.e., it functions like an infinitive (although it may take suffixes object pronouns). The verb stem can also be replaced by a verbal noun of some sort. Subject pronouns are attached to the auxiliary verbs:

woliy-oñ tyi majl-el	aux-B1 par VIN-inc	I am walking.
samiy-oñ tyi xämb'al	aux-B1 par VIN-nom	I am walking
tza kaj-iy-ø tyi cha'leñ ty'añ	com VIN-com-B3 par aux N	He started to make talk.
tza ki majlel	com VIN-com-B3 VIN	He started to go.

Another elaboration on the verb phrase is **directional** marking. This consists of an intransitive verb, usually /majlel/ or /tyilel/ 'go' and 'come', after the verb stem, to indicate the direction in which the action is to take place:

ch'äm-ä-ø tyilel	VTR-imp-B3 dir	bring it here!
ch'äm-ä-ø majlel	VTR-imp-B3 dir	take it there!

Basic Word Order

The order of principal sentence elements is normally VOS, Verb Phrase, Object Phrase, Subject Phrase; note that this refers to words or phrases, not to affixes. A sentence normally includes only a verb phrase and one argument, either subject or object. Additional oblique phrases (location, manner, instrument, etc.) may follow, usually but not always introduced by the all-purpose preposition /tyi/.

Predicates can be non-verbal, i.e., predicate nominative or predicate adjective, putting a noun (phrase) or adjective in place of the verb phrase. These predicates are not inflected for aspect, but they do take subject inflection like single-argument verbs (VIN, VPO).

Hundreds of sample sentences may be seen in the AILLA archive (www.ailla.utexas.org),

elicited for the Archivo de Lenguas Indígenas (ALI) project of Yolanda Lastra, UNAM. The questionnaire for this project was drawn up by the late Jorge Suárez, and was intended to test for every conceivable syntactic construction.

FELDMAN'S (1984) STUDY OF CHOL DERIVATION

An extensive list of derivational morphemes was compiled by Lois Feldman in her 1984 master's thesis, under the direction of T. S. Kaufman; an abbreviated version of her thesis was published in the ill-fated *Journal of Mayan Linguistics* (1986). This very formulaic presentation was based on Kaufman's study of Tzeltal (1963) and analyzed the data in the Aulie and Aulie (1978) Chol dictionary. The derivational affixes and desinences (combinations of affixes), their characterizations, and Feldman's examples follow (with some alterations in orthography and abbreviations; V represents a variable vowel). Comments marked "NB" (*nota bene*) are added by the present authors and may contradict Feldman's analysis. The following is based on a manuscript given to us by Kaufman in 1984; the final version of the thesis may vary somewhat. Comments aside, this is the most complete grammar sketch extant.

1. {tz'-V}, transitivizer, /tz'/ theme formant + /V/ vtr stem formant. Derives vtr stems from vpo and vtr roots and unique constituents; nonproductive. NB: These vtr der stems take /-n ~ -ø/ as (incompletive and completive) status markers.

jäm-tz'u-	'to stir'	< vpo /jäm/ 'stirred'
juy-tz'i-	'to stir gruel'	< vtr /juy/ 'to stir with a stick'
pähn-tz'u-	'to move (hand or machete)'	< unique constituent
wal-tz'u-	'to mix (with condiments)'	< unique constituent
wil-tz'u-	'to wind'	< unique constituent

2. {k-'V}, transitivizer, /k'/ theme formant + /V~/ vtr stem formant. Derives vtr stems from vpo roots and unique constituents; nonproductive. NB: These vtr der stems take /-n ~ -ø/ as (incompletive and completive) status markers.

jex-k'u-	'to drag along/down'	< vpo /jex/ 'dragged'
wal-k'u-	'to mix corn with wheat'	< unique constituent

3. {choko}, transitivizer. Derives vtr stems from vpo roots; productive. NB: These vpo caus stems take /-n ~ -ø/ as (incompletive and completive) status markers.

b'uch-choko-	'to seat'	< vpo /b'uch/ 'seated'
--------------	-----------	------------------------

nok-cholo- 'to make kneel' < vpo /nok/ 'kneeling'

(Not all examples listed; see above, causative of positional verbs.)

4. {i1}, transitivity (sic). Derives vtr stems from vtr roots; nonproductive. NB: These vtr der stems take /-n ~ -ø/ as (incomplete and complete) status markers.

laj-i- 'to equalize' < vtr /laj/ 'to equalize (objects)'

lot-i- 'to deceive' < vtr /lot/ 'to guard'

tz'ot-i- 'to twist' < vtr /tz'ot/ 'to twist'

5. {i2}, transitivity. Derives vtr stems from one vpo root; nonproductive. NB: This vtr der stem takes /-n ~ -ø/ as (incomplete and complete) status markers.

k'iy-i- 'to spread out' < vpo /k'iy/ 'spread out in the sun'

6. {V}, transitivity. Derives vtr stems from vpo roots and particle stems (two examples); nonproductive. NB: These vtr der stems take /-n ~ -ø/ as (incomplete and complete) status markers.

seb'-u- 'to hurry' < vpo /seb/ 'quick'

mix-u- 'to call (cats)' < par /mix/ 'call made to cats'

7. {t-ä}, transitivity, /t/ theme formant + /ä/ vtr stem formant. Derives vtr stems from vpo, vtr, vin and n roots, and n stems; nonproductive. NB: These vtr der stems take /-n ~ -ø/ as (incomplete and complete) status markers.

b'uch-tä- 'to sit upon' < vpo /b'uch/ 'seated'

noch-tä- 'to approach' < vpo /noch/ 'near'

mäk-tä- 'to stop up' < vpo /mäk/ 'to obstruct'

putz'-tä- 'to hide' < vin /putz/ 'to flee'

xej-tä- 'to vomit on' < n /vomit'

jula'-tä- 'to visit' < n /jula/ 'visitor'

8. {le}, transitivity. Derives vtr stems from n and vpo roots and unique constituents; nonproductive. NB: These vtr der stems take /-n ~ -ø/ as (incomplete and complete) status markers.

naj-le-	'to dream'	< n /naj/ 'dream'
waj-le-	'to ridicule'	< n /waj/ 'mockery'
mich'-le-	'to anger'	< vpo /mich'/ 'angry'
täp'-le-	'to follow'	< unique constituent
tzäk-le-	'to follow'	< unique constituent

9. {ä}, /ä/ ~ /i/ ~ /u/, denominative transitivizing. Derives vtr stems from n stems, radical and derived; productive. NB: These vtr der stems take /-n ~ -ø/ as (incompletive and completive) status markers.

chu'-u-	'to suck'	< n /chu/ 'breast'
täkäch-u-	'to tickle'	< n /täkäch/ 'tickling'
kisin-i-	'to shame'	< n /kisin/ 'shame'
noxi'al-i-	'to recieve as a spouse'	< n /noxi'al/ 'husband'
tas-i-	'to put on tablecloth'	< n /tas/ 'tablecloth'
tow-i-	'to whistle'	< n /tow/ 'whistle'
woj-i-	'to bark'	< n /woj/ 'barking'
xujch'-i-	'to rob'	< n /xujch'/ 'thief'
ch'ajb'-ä-	'to fast'	< n /ch'ajb'/ 'fast'
'ixim-ä-	'to thresh corn'	< n /'ixim/ 'corn'
nujp-ä-	'to form a couple'	< n /nujp/ 'couple'
tojol-ä-	'to pay'	< n /tojol/ 'price'
tujb'-ä-	'to spit'	< n /tujb'/ 'saliva'
tz'äk-ä-	'to cure'	< n /tz'äk/ 'medicine'
winik-ä-	'to employ'	< n /winik/ 'man'

10. {(t)-esä}, /sä/ ~ /tesä/ ~ /esä/, transitivizing: causative. Derives vtr stems from vtr and vpo roots, vin roots and derived vin stems, adj roots, n roots and derived n stems, and unique

constituents; productive. NB: These *vin* caus stems take /-n ~ -ø/ as (incompletive and completive) status markers.

- lok'-sä- 'to make take out' < vtr /lok'/ 'to take out' (sic). NB: vtr stems do not form causatives; this stem is from *vin* /lok'/ 'to leave'; /lok-sä-n/ is 'to take out. i.e., to cause to leave'
- joch-tesä- 'to vacate' < vpo /joch/ 'vacant'
- läk'-tesä- 'to place near' < vpo /läk'/ 'near'
- mich'-esä- 'to anger' < vpo /mich'/ 'angry'
- 'utz-esä- 'to content' < vpo /'utz/ 'contented'
- näm-tesä- 'to accustom' < *vin* /näm/ 'to become accustomed'
- 'ajñ-esä- 'to pursue' < /'ajñ/ 'to run'
- lajm-esä- 'to cure' < *vin* /lajm/ 'to recover'
- lojk-esä- 'to make boil' < *vin* /lojk/ 'to boil'
- p'ojl-esä- 'to increase' < *vin* /p'ojl/ 'to reproduce'
- 'ujt-esä- to make end' < *vin* /'ujt/ 'to end'
- yajñ-esä- 'to pursue' < *vin* /yajñ/ 'to continue'
- b'ib'-a-esä- 'to soil' < vtr der /b'ib'-a-/ 'to get soiled' (see 17). NB: A&A has vtr der /b'ib'-esa-n/ 'to make dirty' (< *vin* /b'ib'-a-n/ 'to get dirty'?) < adj /b'ib'i/ 'dirty'.
- nuk-'a-esä- 'to enlarge' < vtr der /nuk-'a-/ 'to become large' (see 17). NB: A&A has *vin* caus /nuk-'esa-n/ 'to enlarge' (< /*vin* /nuk-'a-n/ 'to grow'?) < adj /nuk/ 'large'.
- päl-'a-esä- 'to lengthen' < vtr der /päl-'a-/ 'to get long' (see 17). NB: A&A has vtr der /päl-esa-n/ 'to lengthen' < adj /päl/ 'long'. /*päl-'a-n/ is unattested.
- toj-'a-esä- 'to straighten' < vtr der /toj-'a-/ 'to get straight' (see 17). NB: A&A has vtr der /toj-'esa-n/ 'to straighten' < adj /toj/ 'straight'. */toj-'a-n/ is unattested.
- ch'o'ch'ok-tesä- 'to reduce' < adj-red /ch'o'-ch'ok/ 'very small'.
- tzijib'-tesä- 'to do again' < adj /tzijib'/ 'new'

tikāw-esä-	'to heat'	< adj /tikāw/ 'hot'
tzän-esä-	'to cool'	< n /tzän/ 'cold'
woch'-esä-	'to toast'	< n /woch'/ 'toast'
jolon-tesä-	'to end'	< n der /jolonel/ 'termination' (see 27)
najā-esä-	'to forget'	< /najä/ unique constituent. NB: Cf. A&A vin der /naj-äy-el/ 'to be forgotten'
näch'-tesä-	'to pacify'	< /näch'/ unique constituent (sic). NB: Cf. A&A vpo part /näch'-äl/ 'silenced', vpo caus > n /näch'-chok-o-ya/ 'peace'.
tz'äk-tesä-	'to complete'	< /tz'äk/ unique constituent (sic). NB: Cf. A&A vpo part /tz'äk-äl/ 'completed', vtr der /tz'äk-a-n/ 'to cure'.

11. {V-lä}, repeated action. Derives vtr stems from vpo roots and vtr roots; universal. NB: A&A has these forms with Vla-, not Vlā-. These vtr der stems take /-n ~ -ø/ as (incomplete and complete) status markers.

k'ach-ulä-	'to keep on raising and lowering'	< vpo /k'ach/ 'raising and lowering (the extremities)'
k'och-ilä-	'to keep on bending (hand)'	< vpo /k'och/ 'twisted'
läm-ulä-	'to keep on moving liquid'	< vpo /läm/ 'innundated'
muy-ilä-	'to keep on twisting the mouth from side to side'	< vpo /muy/ 'slanting'
sel-ulä-	'to keep on revolving'	< vpo /sel/ 'round'
b'il-ulä-	'to keep on wrapping'	< vtr /b'il/ 'to wrap'
jax-ulä-	'to keep on winding (hemp)'	< vtr /jax/ 'to twist (hemp)'
k'ol-ilä-	'to keep on making a ball'	< vtr /k'ol/ 'to make balls'
k'ut-ilä-	'tamular' (no English gloss)	< vtr /k'ut/ 'tamular'
moch-ilä-	'to keep on tying'	< vtr /moch/ 'to tie (animals)'

12. {b'e}, /b'e/ ~ /e/, benefactive/indirective. Derives vtr stems from vtr stems; universal. NB:

These vtr ben stems take /-n ~ -ø/ as (incomplete and complete) status markers.

'ak'-e-	'to deliver to someone'	< vtr /'ak'/ 'to deliver'
b'aj-b'e-	'to join for someone'	< vtr /b'aj/ 'to nail'
jam-b'e-	'to open for someone'	< vtr /jam/ 'to open'
k'ajti-b'e-	'to ask of someone'	< vtr /k'ajti-/ 'to ask'
p'is-b'e-	'to measure for someone'	< vtr /p'is/ 'to measure'
taj-b'e-	'to find for someone'	< vtr /taj/ 'to find'

13. {k-V}, intransitivizer. Derives vin stems from vpo roots and one unique constituent; nonproductive. NB: These vin der stems (vtr pas?) take /-el ~ -iy/ as (incomplete and complete) status markers; this should probably be {kV(y)}, cf. /mos-kiy-el/ 'to be covered'.

mos-ki- 'to cover' < vpo /mos/ 'covered' (sic). NB: Cf. A&A vtr /mos/ 'to cover', /mos-kiy-el/ 'to be covered'.

sit'-ku- 'to swell' < vpo /sit'/ 'swollen' (sic). NB: */sit'/ is unattested), but cf. A&A part /sit'-il/ 'swollen', /sit'-kuy-el/ 'to be swollen'.

jitz'-ku- 'to dslocate' < /jitz'/ unique constituent

14. {k'-V}, intransitivizer. Derives vin stems from one vpo root; nonproductive. NB: This vin der stem takes /-el ~ -iy/ as (incomplete and complete) status markers, and the affix should probably be {k'V(y)}.

jux-k'i- 'to slip/slide' < vpo /jux/ 'slippery'

15. {j}, intransitivizer: absolute. Derives vin stems from vtr stems and vtr der stems in {ä} (9); productive. NB: These vin der stems take /-el ~ -iy/ as (incomplete and complete) status markers.

ch'äk-o-j- 'to curse' < vtr /ch'äk-o-/ 'to curse' (/ -n ~ -ø/ status marker)

kolm-ä-j- 'to hunt' < vtr /kolm-ä-/ 'to hunt'

kuch-ä-j- 'to load' < vtr der /kuch-ä-/ 'to load'.

NB: this vtr der stem is otherwise unattested, and appears to be in error.

k'ujtz-ä-j- 'to smoke' < vtr der /k'ujtz'-ä-/ 'to smoke' (unattested).

A&A has /k'ujtz-i-j-el/, not */k'ujtz-ä-j-el/. Cf. /k'ujtz/ n 'smoke'
nojkk'-ä-j- 'to snore' < vtr der /nojkk'-ä-/ 'to snore' (unattested).

A&A has /nojkk'-i-j-el/, not */nojkk'-ä-j-el/. Cf. /nojkk'/ n 'a snore'.
nok'-ä-j- 'to spin' < vtr der /nok'-ä-/ 'to spin' (unattested).

A&A has /nok'-i-j-el/, not */nok'-ä-j-el/.
tz'ijb'-u-j- 'to write' < vtr der /tz'ijb'-u-/ 'to write'.

A&A has /tz'ijb'-u-j-el/ 'to write' and vtr der /tz'ijb'-u-n/ as a variant of
/tz'ijb'-a-n/ 'to write'.

16. {H1}, infixes /j/ in CVC forms > CVjC, mediopassive. Derives vin stems from vtr roots; productive. NB: These vin (vtr pas) stems take /-el ~ -iy/ as (incompletive and completive) status markers.

chijp- 'to adorn' (sic) < vtr /chip/ 'to adorn'. NB: 'Adorn' seems to be an incorrect translation of local Spanish *zafar*; the sample sentences in A&A suggest 'slip off'.

chujk- 'to hold on' < vtr /chuk/ 'to grasp'.

NB: 'Hold on' seems to be an incorrect translation of local Spanish *agarrarse* 'to be grasped'.

ch'ujy- 'to get up' < vtr /ch'uy/ 'to lift'.

NB: While 'to lift' is appropriate, 'to get up' should be replaced by 'to be lifted' (*levantarse*).

päjk'- 'to get sown' < vtr /päk'/ 'to sow'.

sojk- 'to get entangled' < vtr /sok/ 'to entangle'.

tz'ojk- 'to get broken (wire/rope/thread)' < vtr /tz'ok/ 'to break'.

xujl- 'to get broken (stone/wood)' < vtr /xul/ 'to break'.

NB: A&A's glosses indicate the objects are 'bone/wood', not 'stone/wood'.

17. {'a'}, intransitivizer; versive. Derives vin stems from adj and n roots; productive. NB: These vin der stems take /-n ~ -ø/ as (incompletive and completive) status markers.

ch'äjy-'a-	'to harden'	< adj /ch'äjy/ 'durable'
k'än-'a-	'to ripen'	< adj /k'än/ 'ripe'.
k'ok-'a-	'to heal'	< adj /k'ok/ 'healthy'
nox-'a-	'to get old'	< adj /nox/ 'old'. NB: Ultimately from /noj xib/ 'old man'.
p'ät-'a-	'to become strong'	< adj /p'ät/ 'strong'
sejb-'a-	'to become light'	< adj /sejb/ 'of little weight'
joch-'a-	'to become pierced'	< n /joch/ 'pierced corn'
mojch-'a-	'to get covered up'	< n /mojch/ 'cloak'

18. {nt}, passive. Derives vin stems from vtr der stems; universal. NB: These vin der (vtr pas) stems take /-el ~ -iy/ as (incomplete and complete) status markers.

loti-nt-	'to be deceived'	< vtr der /lot-i-/ (see 4).
'ub'-i-nt-	'to be heard'	< vtr der /'ub'-i-/ (see 4).
nich'tä-nt-	'to be heard'	< vtr der /nich-tä-/ (see 7).
tzänsä-nt-	'to commit suicide'	< vtr der /tzän-sä-/ (see 9).

NB: Ultimately from */chäm-sä-n/ 'to cause to die'.

nuk'esä-nt-	'to be enlarged'	< vtr der /nuk'-es-ä-/ 'to enlarge' (see 10).
tz'äktesä-nt-	'to be realized'	< vtr der /tz'äk-tes-ä-/ 'to complete'.

NB: A&A glosses these vin 'cumplirse' and vtr 'completar'.

selulä-nt-	'to be rolled'	< vtr der /sel-ul-ä-/ 'to keep on rolling'.
------------	----------------	---

NB: A&A has these as vin /selulantel/ 'enrollarse' and vtr /selulan/ 'rodar'.

19. {V-na}, affective; several intense occurrences. Derives affect verb stems from vpo roots and unique constituents; productive. NB: These "affect verb stems" function like adverbs rather than as conjugated verbs.

b'etz-una	'turning to one side'	< vpo /b'etz/ 'sideways'.
-----------	-----------------------	---------------------------

NB: Unattested as vpo, but cf. A&A vtr /b'etz/ 'to lean', /b'etz'-el/

	'leaning'.	
tz'ej-una	'from side to side'	< vpo /tz'ej/ 'sideways'.
		Cf. A&A vpo caus /tz'ej-chok-o-n/ 'colocar de lado'.
xew-una	'tilting on one side'	< vpo /xew/ 'tipped over (in the water)'.
		Unattested as vpo, but cf. A&A /xew-el/ 'inclinado' (en el agua).
jäm-una	'rocking'	< unique constituent (sic).
		NB: cf. A&A vpo /jäm-täl/ 'acostarse (en hamaca)'.
puj-ina	'snorting'	< unique constituent (sic).
		NB: cf. A&A n /pujil/ 'pus', /pujb'an/ 'rociar (líquido con la mano)'.
tz'uy-ina	'hanging'	< unique constituent (sic).
		NB: cf. A&A vpo caus /tz'uychokon/ 'colgar'.

20. {R-na}, reduplication + /na/, affective; several very intense occurrences. Derives affect verb stems from vpo, vtr, and n roots, and unique constituents; productive. NB: These "affect verb stems" function like adverbs, not as conjugated verbs.

b'ul-b'ul-na	'gushing water'	< vpo /b'ul/ 'massive'
chäk'-chäk'-na	'dripping'	< vpo /chäk'/ 'dripping'.
		NB: Unattested as vpo, but cf. A&A adv /chäk'/ 'goteando'.
ch'a'-ch'a'-na	'walking tossing the head back'	< vpo /ch'a'/ 'mouth up'
jex-jex-na	'dragging along the floor'	< vpo /jex/ 'dragged'
kot-kot-na	'(person walking) on all fours'	< vpo /kot/ 'crouching'.
		NB: the proper gloss is 'standing on all fours (like an animal)'
lem-lem-na	'flickering flames'	< vpo /lem/ 'flaming' (unattested).
nuk-nuk-na	'crouching'	< vpo /nuk/ 'crouching'
kol-kol-na	'spouting water'	< vtr /kol/ 'to pour'.
k'ich-k'ich-na	'limping'	< vtr /k'ich/ 'to limp' (unattested).

yäp-yäp-na 'extinguishing (oil lamp)' < vtr /yäp/ 'to extinguish'

woj-woj-na 'barking' < n /woj/ 'barking'

tzil-tzil-na 'trembling with fear' < unique constituent (sic).

But cf. A&A vtr /tzil/ 'romper'.

tzuk-tzuk-na 'hovering' < unique constituent.

NB: A&A gloss this form 'rondando (en busca de su presa)'.

21. {R₁}, reduplication, affective: several repetitions. Derives affect verb stems from vpo roots and unique constituents; productive. NB: These "affect verb stems" function like adverbs, not like conjugated verbs.

ch'oj-ch'oj 'striking swiftly' < vpo /ch'oj/ 'struck'.

NB: Unattested as vpo, but cf. A&A vtr /ch'oj/ 'golpear'; A&A gloss /ch'ojch'oj/ 'golpear ligeramente'.

ch'uj-ch'uj 'looking persistently' < unique constituent (sic).

NB: cf. A&A /ch'ujul/ 'permanente'

laj-laj 'applauding' < unique constituent (sic).

NB: cf. A&A vtr /laj/ 'igualar (un objeto con otro)'

t'ej-t'ej 'slapping' < unique constituent.

22. {V₁k-na}, affective: one extended occurrence. Derives affect verb stems from vpo and vtr roots, and vin roots and n roots (one each); productive. These "affect verb stems" function like adverbs, not like conjugated verbs.

xet-ekna 'revolving' < vpo /xet/ 'placed (a circular object)'

xip-ikna 'wrapped' < vpo /xip/ 'wrapped in paper/feathers'

joch-okna 'vacant' < vpo /xoch/ 'vacant'

lutz-ukna 'stooping' < vpo /lutz/ 'stooped'

chäh'-äkna 'fragrant' < vpo /chäh/ 'sweet'.

NB: Unattested as vpo, but cf. A&A adj /chäh/ 'dulce'.

kaw-akna	'open (mouth)'	< vtr /kaw/ 'to open (mouth)'
tich'-ikna	'hand extended'	< vtr /tich'/ 'to extend'
joy-okna	'encircled'	< vtr /joy/ 'to circle'
chäp-äkna	'hot'	< vtr /chäp/ 'to boil'
nux-ukna	'to swim'	< vin /nux/ 'to swim'.

NB: A&A list vin /nuxijel/ 'nadar'.

nich-ikna	'blossoming'	< n /nichim/ 'flower'
-----------	--------------	-----------------------

23. {x}, agent. Derives noun stems indicating a personal agent from n stems, radical or derived; compound noun stems, and vin stems; productive. NB: We analyze these stems distinctly, as forming collective nouns rather than agents; cf. the large number of plant and animal names with the prefix /x-/ (designating the species, not individuals).

x-käntesä	'teacher'	< n /käntesä/ 'instruction'
x-mulil	'sinner'	< n /mulil/ 'wickedness'
x-pak'	'sower'	< n /pak'/ 'seed'
x-wujt	'quack'	< n /wujt/ 'witchcraft'.

NB: The gloss 'quack' is unfortunate; the term refers to those curers who use the technique of spraying the patient with liquids from their mouths, and is onomatopoeic, like English "swoosh". Cf. Tzeltal /hu'xiyel/ 'curación'. See Maffi 1996.

x-k'amäjel	'patient'	< n der /k'amäjel/ 'illness' (see 26).
x-koltaya	'assistant'	< n der /koltäya/ 'help'. NB: A&A has /koltaya/ ayuda'
x-lotiya	'false witness'	< n der /lotiya/ 'deceit'
x-ak'-b'et	'person who carries money to pay the debt of another'	< vtr /'ak'/ 'to deliver' and n /b'et/ 'debt'
x-chumtäl	'inhabitant'	< vin /chum/ 'to live' (derived from vpo root).
x-käjchel	'prisoner'	< vin /käjch/ 'to be imprisoned'. NB: vin < vtr pas.

24. {el1}, verbal noun. Derives verbal n from vin stems in {nt} (18); productive.

jojmä-nt-el 'great consumption (of food)' < vin /jojmä-nt-/ 'to be overeaten'

Unattested, but cf. A&A /jojmä-n/ 'comer demasiado').

koltä-nt-el 'aid' < vin /koltä-nt-/ 'to be helped'

Unattested, but cf. A&A /koltä-n/ 'ayudar'.

yumä-nt-el 'jurisdiction' < vin /yumä-nt-/ 'to be liable'

Unattested, but cf. A&A /yumä-n/ 'servir'); 'to be liable' is a bad gloss, since the term is based on /yum/ 'boss, authority'.

25. {ya}, verbal noun. Derives verbal nouns from vtr stems, radical or derived; productive.

koltä-ya 'help' < vtr /koltä-/ 'to help'. A&A has /koltaya/.

k'ajti-ya 'question' < vtr /k'ajti-/ 'to ask'

lo'lo-ya 'fraud' < vtr /lo'lo-/ 'to deceive'

lujchi-ya 'butt' < vtr /lujchi-/ 'to butt with the horn'

loti-ya 'fraud' < vtr der /loti-/ 'to deceive' (see 4)

tz'ib'ä-ya 'writer' < vtr der /tz'ib'ä-/ 'to write' (see 9). A&A has /tz'ib'aya/.

käntesä-ya 'instruction' < vtr der /käntesä-/ 'to instruct' (see 10).

A&A has /käntesaya/.

26. {äj-el}, verbal noun. Derives n stems from vpo and vtr roots and from vin stems in {a} (17); nonproductive. NB: This forms might better be reanalyzed.

k'am-äjel 'illness' < vpo /k'am/ 'ill'.

NB: A&A /k'am-'an/ 'enfermarse' indicates the root is adj, not vpo.

yäk-äjel 'drunkenness' < vpo /yäk/ 'drunk'.

NB: A&A does not list */yäk'äjel/, and A&A /yäk'an/ 'emborracharse' indicates the root is adj, not vpo.

kuch-äjel 'burden' < vtr /kuch/ 'to load'.

NB: A&A has vin /kuchijel/ 'cargar (sobre la espalda)', not */kuchäjel/, and the root is /kuch/, n 'carga', or vtr 'cargar'.

'ik'-a-äjel 'dusk' < vin der /'ik'-a-/ 'to grow dark'.

NB: A&A has /'ik'ajel/, from adj /'ik'/ 'black'

mich'-a-äjel 'anger' < vin der /mich'-a-/ 'to get angry'.

NB: A&A has /mich'ajel/, from adj /mich'/ 'angry'.

tzoy'-a-äjel 'wound' < vin der /tzoy'-a-/ 'to get wounded'.

NB: A&A has vin /tz'oy'ajel/ 'llagarse' and n /tz'oy/ 'llaga'.

27. {on-el}, verbal noun. Derives n stems from vtr roots; productive.

ch'äk-onel 'witchcraft' < vtr /ch'äk/ 'to curse'

ch'äm-onel 'mortal illness' < vtr /ch'äm/ 'to catch'.

k'ex-onel 'exchange' < vtr /k'ex/ 'to exchange'

lem-onel 'drinking alcoholic drinks' < vtr /lem/ 'to lap'.

NB: A&A lists not only vtr /lem/ 'lamer' but /vtr lem/ 'tomar (bebidas alcohólicas)

mel-onel 'lawsuit' < vtr /mel/ 'to judge'

p'aj-onel 'shameless word/action' < vtr /p'aj/ 'to curse'

sub'-onel 'messenger' < vtr /sub'/ 'to tell'

tik'-onel 'prohibition' < vtr /tik'/ 'to prohibit'

28. {b'al}. "that which is VERBen" (sic). Derives n stems from vtr stems, radical and derived; productive.

jal-b'al 'weaving' < vtr /jal/ 'to weave'

juch'-b'al 'grinding' < vtr /juch'/ 'to grind'

lem-b'al 'hard liquor' < vtr /lem/ 'to lap'

mek'b'al 'embraced thing/baby' < vtr /mek'/ 'to embrace'

päs-b'al 'instruction' < vtr /p'äs/ 'to teach'

p'ol-b'al	'sons'	< vtr /p'ol/ 'to beget'
na'tä-b'al	'comprehension'	< vtr der /na'tä-/ 'to comprehend'

29. {em-al}, verbal noun. Derives n stems from vin roots; nonproductive.

jajt-emal	'split'	< vin /jajt/ 'to be split'. NB: vtr pas < /jat/ 'rajar'
kol-emal	'childhood'	< vin /kol/ 'to grow'
lojw-emal	'scar'	< vin /lojw/ 'to get injured'. NB: vtr pas < /low/ 'lastimar'
jujb'-emal	'fatigue'	< vin /lujb/ 'to become fatigued' (unattested).

NB: A&A /lub'an/ 'cansarse' indicates /lujb/ is adj, not vin.

30. {(on)-ib'}, /-ib'/ ~ /lib'/ ~ /onib'/, instrument/place. Derives n stems from vtr (-onib'), vpo (lib'), and vin (-ib') roots (except that vtr /juy/ takes /-ib'/); productive.

ch'äx-onib'	'pot'	< vtr /ch'äx/ 'to boil'
jul-onib'	'gun'	< vtr /jul/ 'to shoot'
k'el-onib'	'window'	< vtr .k'el/ 'to see'
tek'-onib'	'staircase'	< vtr /tek'/ 'to tread on'. NB: /tek'onib'/ 'escalera' is 'ladder'.
tuch'-onib'	'index finger'	< vtr /tuch'/ 'to point out'
juy-ib'	'small stick for stirring corn flower (sic) gruel'	< vtr /juy/ 'to stir with a stick'
b'uch-lib'	'chair'	< vpo /b'uch/ 'seated'
jok'-lib'	'hook'	< vpo lok'/ 'hung'
k'äch-lib'	'horse'	< vpo /k'äch/ 'on horseback'
k'äk-lib'	'base'	< vpo /k'äk/ 'perched'
t'uch-lib'	'pole'	< vpo /t'uch/ 'standing'
wa'-lib'	'place where hunter waits for game'	< vpo /wa/ 'standing'
chäm-ib'	'poison'	< vin /chäm/ 'to die'
jjjl-ib'	'resting place'	< vin /jjjl/ 'to rest'

jil-ib'	'termination'	< vin /jil/ 'to end'
k'ot-ib'	'destiny'	< vin /k'ot/ 'to arrive'
putz'-ib'	'refuge'	< vin /putz/ 'to flee'
wäy-ib'	'bed'	< vin /wäy/ 'to sleep'

31. {(t)-il}, instrument/place. Derives n stems from vpo and vtr roots (with /-til/), vin roots and unique constituents (with /-il/); except that vtr /b'ejch/ takes /-il/; productive.

b'on-til	'bulk'	< vpo /b'on/ 'thick'
joy-til	'outskirts'	< vtr /joy/ 'to encompass'
kaw-til	'opening'	< vtr /kaw/ 'to open'
b'ejch'-il	'bandage'	< vtr [vtr pas] /b'ejch/ 'to wind'
läw-il	'patch'	< vin [vtr pas] /läjw/ 'to mend'
kujch-il	'baby carrying fabric'	< vin [vtr pas] /kujch/ 'to be carried on the back'
käjch-il	'fabric tie'	< vin [vtr pas] /käjch/ 'to be tied'
ch'äjil-il	'ornament'	< unique constituent /ch'äjil/.

NB: Cf. vtr /ch'äl/ 'to adorn'

32. {ol}, verbal noun. Derives n stems from vtr roots and one vpo root; nonproductive.

k'ex-ol tocayo'	'exchange'	< vtr /k'ex/ 'to exchange'. NB: A&A /k'exol/ 'trueque,
pix-ol	'hat'	< vtr /pix/ 'to wrap'
p'is-ol	'measure'	< vtr /p'is/ 'to measure'
tik'-ol	'admonition'	< vtr /tik/ 'to prohibit'
xin-ol	'center/middle'	< vpo /xin/ 'in the middle'

33. {Vl1}, nominalizer; /-al/ with /ja/ 'water'; /-il/ with /jab/ 'year'. Derives n stems from n roots; nonproductive.

jab'-il	'age'	< n /jab/ 'year'
---------	-------	------------------

ja'-al 'rain' < n /ja/ 'water'

34. {i3}, time in the past; /-i/ with /'ak'b'-/ 'night', /-iji/ with /chäb'/ 'two', /-iyi/ with /'on/ 'much'.
Derives n stems functioning as adverbs of time from roots of various classes; nonproductive.

'ak'b'-i 'yesterday' < n /'ak'b'-/ 'night'.

NB: A&A : Sabanilla /'ab'älel/ 'noche', /'ab'i/ 'ayer'; Tila/Tumbalá /'ak'älel/ 'noche', /'ak'b'i/ 'ayer'; all from */'ak'b'al/ 'night'.

chäb'-iji 'day before yesterday' < num /chäb'/ 'two' (unattested).

NB: /chäb'/ is an archaic form of /cha'/ 'two' that survives only in this form; see 35.

'on'-iyi 'a long time ago' < vpo /'on/ 'much'

35. {i4}, time in the future. Derives n stems functioning as adverbs of time from numerals; nonproductive.

chab'-i 'day after tomorrow' < num /chab'/ 'two'.

NB: /chab'/ is an archaic form of /cha'/ 'two' that survives only in this form; see 34.

chän'-i 'in four days' < num /chän'/ 'four'

'ux'-i 'in three days' < num /'ux/ 'three'

36. {Vl2}, place of abundance of objects; /-lel/ ~ /-il/ ~ /-ol/ without apparent pattern. Derives n stems from nouns, radical and derived; productive.

kajpe'-lel 'coffee plantation' < n /kajpe'/ 'coffee'. NB: /kajpe'/ is from Spanish.

xojob'-lel 'reflection' < n /xojob'/ 'rays of light'

'alaxax'-lel 'orange grove' < n /'alaxax/. NB: /'alaxax/ is from Spanish.

ji'-il 'sandy ground' < n /ji'/ 'sand'

lum'-il 'a piece of land' < n /lum/ 'land'

ch'ib'-ol 'palm grove' < n /ch'ib'/ 'palm tree'

ch'ix'-ol 'thorny patch' < n /ch'ix/ 'thorn'

'ok'ol-lel	'muddy place'	< n /'ok'ol/ 'mud'. NB: A&A has /'ok'lel/ 'lodazal'.
xajlel-ol	'stony ground'	< n /xajlel/ 'stone'
tikwal-lel	'hot earth'	< n der /tikwal/ 'heat'. NB: A&A has /tikwälel/.

37. {el₂}, abstract noun ('-ness'); /-al/ with /tikäw/; /-el/ with /k'än, lujb', t'ustäl, tzukul/, /-lel/ with /mich', k'ok', tam, tzätz/. Derives n stems from adj, radical and derived; productive.

tikäw-al	'heat'	< adj /tikäw/ 'hot'. NB: A&A has /tikwal/ 'calor'.
k'än-el	'ripeness'	< adj /k'än/ 'ripe'
lujb'-el	'fatigue'	< adj /lujb'/ 'tired'
t'ustäl-el	'size'	< adj /t'ustäl/ 'bulky'
tzukul-el	'uselessness'	< adj /tzukul/ 'worn-out'
k'ok'-lel	'health'	< adj /k'ok'/ 'healthy'
mich'-lel	'anger'	< adj /mich'/ 'amgry'
tam-lel	'length'	< adj /tam/ 'long'
tzätz-lel	'hardness'	< adj /tzätz/ 'hard'

38. {em}, perfect intransitive participle. Derives perfect intransitive participle from all vin stems except passives in 18. {nt}; universal.

chäm-em	'having died'	< vin /chäm/ 'to die'
jujp'-em	'having grown fat'	< vin /jujp'/ 'to grow fat'
käl-em	'having remained'	< vin /käl/ 'to remain'

(Not all examples included; see the Grammar Sketch.)

39. {b'-il}, perfect passive participle. Derives the perfect passive participle of all vtr stems; universal.

b'ib'esä-b'il	'having been soiled'	< vtr caus /b'ib'esä-/ 'to cause to be soiled'
chuk-b'il	'having been grasped'	< vtr /chuk/ 'to grasp'
jotz'-b'il	'having been pulled out'	< vtr /jotz'/ 'to pull out'

lich'-b'il	'having been spread'	< vtr /lich/'to hang out (to dry)'
mos-b'il	'having been covered'	< vtr /mos/'to cover'
sub'-b'il	'having been said'	< vtr /sub/'to say'
susu-b'il	'having been scraped'	< vtr der /susu-'to scrape'
yajkä-b'il	'having been chosen'	< vtr der /yajka-'to choose'

40. {V11}, adjectivizer. Derives adj stems from vpo and vtr roots; productive. NB: Not all the roots so marked are clearly vpo; some may be adv or adj.

lak-al 'placed' < vpo /lak/'grasped'.

NB: A&A has adj /lak/'agarrado (objeto largo)', adj /lak-al/'puesto (un objeto largo)'

xep-el 'reduced' < vpo /xep/'little'.

NB: A&A has adv /xep/'poco', adj /xep-el/'muy reducido'.

wis-il 'very small' < vpo /wis/'very little'.

NB: A&A has adv /wis/'poquito', adj /wisil/'chiquito', and vpo caus /wis-chokon/'poner un poco (café, pozol)'

xot-ol 'circular' < vpo /xot/'circular'.

NB: A&A has adv /xot/'en forma redonda', adj /xotol/'redondo'.

p'ul-ul 'piled together' < vpo /p'ul/'piled together'.

NB: A&A has /adj /p'ul/'amontonado', vpo /p'ultäl/'amontonado'.

läk'-äl 'near' < vpo /läk/'near'.

NB: A&A has adv /läk/'cerca', adj /läk'äl/'cerca', vin [caus] /läk'tesan/'acercar'.

laj-al 'equal' < vtr /laj/'to equalize'

lem-el 'drunk' < vtr /lem/'to lap'

tich'-il 'extended' < vttr /tich/'to extend'

joy-ol 'encircled' < vtr /joy/'to encircle'

nup'-ul 'locked up' < vtr /nup'/ 'to close'

läw-äl 'mended' < vtr /läw/ 'to mend'

41. {tik}, imperfect. Derives adj stems from n roots and unique constituents; productive.

lo'chij-tik 'veined (feet)' < n /lo'chij/ 'cramp'

kisin-tik 'shameful' < n /kisin/ 'shame'

b'i'ij-tik 'disgusting' < n /b'i'ij/ unique constituent

ch'äch'än-tik 'full of holes' < /ch'äch'än/ unique constituent

kuxen-tik 'filthy' < /kuxen/ unique constituent.

NB: A&A has n /kuxel/ 'moho', n /kuxil/ 'añublo'

k'ojlos-tik 'rough' < /k'ojlos/ unique constituent

mistun-tik 'dirty' < /mistun/ unique constituent.

NB: A&A has vtr der /misun/ 'barrer' and similar forms; A&A glosses /misuntik/ as 'sucio y pinto' ('dirty and discolored') and /mistun/ is a common Mayan term for 'gato' ('cat').

42. {R2}, adjectivizer. Derives adj stems from n roots; nonproductive.

ta'-ta' 'dirty' < n /ta'/ 'excrement'

43. {äl}, adjectivizer'. Derives adj stems from n roots; nonproductive.

tak'-äl 'next in age' < n /tak'/ 'minor'. NB: Spanish 'menor' is 'younger'.

44. {H2}, numeral classifier; infix /j/ before final root consonant. Derives num cl from vpo and vtr roots; productive.

jajp 'cracks' < vpo /jap/ 'divided'

kojt 'animals' < vpo /kot/ 'restrained (animals)'

wojx 'spheres' < vpo /wox/ 'spherical'

jajtz' 'periods of music' < vtr /jatz'/ 'to beat (with object)'

kujch 'bundles' < vtr /kuch/ 'to load'

- lejb' 'pieces' < vtr /leb'/ 'to cut (stone)'
 p'ijch 'tacos' < vtr /p'ich/ 'to make tacos'
 p'ijs 'cups' < vtr /p'is/ 'to measure'.

NB: num cl manifested as /p'is/ due to consonant cluster restrictions.

- sujt-el 'turns' < vtr /sut/ 'to revolve'.

NB: vtr */sut/ is unattested; /sujtel/ is vin 'regresar', and vin are commonly recruited as num cl.

Feldman goes on to describe derivation by compounding (1984:78-80). There are five types of compounding listed, all with nominal heads:

- (a) vtr + n ch'äm=ja, 'baptism', < vtr /ch'äm/ 'to fetch', n /ja/ 'water'
- (b) vtr + {o'} + n k'el-o'=panimil, 'look-out point', < vtr /k'el/ 'to see', n /panimil/ 'world'
- mel-o'=mulil, 'tribunal', < vtr /mel/ 'to construct', n /mulil/ 'crime'
- p'ik-o'=ch'ix. 'thorn removing needle' < vtr /p'ik/ 'to pull out', n /ch'ix/ 'thorn'
- tuk'-o'=b'ij 'path' < vtr /tuk'/ 'to cut', n /b'ij/ 'road'
- (c) adj-VI + n ch'uju=tat 'priest' < adj /ch'ujul/, n /tat/ 'father'
- (d) adj + n chächäk=lumil 'florid soil' < adj /chächäk/ 'florid', n /lumil/ 'soil'
- paj=lumil 'acidic soil' < adj /paj/ 'sour', n /lumil/ 'sol'
- xin=k'inil 'noon' < adj /xin/ 'middle', n /k'inil/ 'day'
- (e) n + n
- (1) n type n alä=mut 'chick' < n /aläl/ 'baby', n /mut/ 'bird'
- chu'=tun 'stalagmite' < n /chu'/ 'breast', n /tun/ 'rock'
- tzutz=choj 'hairy cheeked' < n /tzutz/ 'hair', n /choj/ 'cheek'
- (2) n of n na='ik' 'strong wind' < n /na'/ 'mother', n /'ik'/ 'wind'

ta='ek'

'meteor' < n /ta'/ 'excrement', n /'ek'/ 'star''

BIBLIOGRAPHY

- Alejos García, José. 1994. *Mosojántel; etnografía del discurso agrarista entre los ch'oles de Chiapas*. México, D. F.: Universidad Nacional Autónoma de México.
- Alejos García, José, and Elsa Ortega Peña, eds. 1990. *El archivo municipal de Tumbalá, Chiapas, 1920-1946*. México, D. F.: Universidad Nacional Autónoma de México.
- Aulie, H. Wilbur, and Evelyn W. de Aulie. 1978. *Diccionario ch'ol-español, español-ch'ol*. Serie de Vocabularios y Diccionarios Indígenas Mariano Silva y Aceves, 21. México, D. F.: Instituto Lingüístico de Verano.
- . 1996. *Diccionario ch'ol de Tumbalá, Chiapas, con variaciones dialectales de Tila y Sabanilla*. México, D. F.: Instituto Lingüístico de Verano. (Aulie and Aulie 1978, reedited by Emily F. Scharfe de Stairs, 1996)
- Becerra, Marcos E. 1935. Vocabulario de la lengua chol. *Anales del Museo Nacional de Arqueología, Historia y Etnografía*, 2 (quinta época):249-278, 1935).
- . 1986. *Por la ruta histórica de México, Centroamérica i las Antillas*, vol. 2. Villahermosa: Gobierno del Estado de Tabasco.
- Bricker, Victoria R. 1986. *A Grammar of Mayan Hieroglyphs*. Middle American Research Institute, Tulane University, Publication 56.
- Bright, William. 1967. Inventory of descriptive materials. In Norman A. McQuown, ed., *Handbook of Middle American Indians*, vol. 5: *Linguistics*, pp. 9-62. Austin: University of Texas Press.
- Campbell, Lyle. 1984. El pasado lingüístico del Sureste de Chiapas. *Investigaciones recientes en el área maya*, XVI Mesa Redonda, Sociedad Mexicana de Antropología, San Cristóbal de Las Casas, Chiapas, 21-27 Junio 1981, pp. 165-180.
- de Vos, Jan. 1980a. *Fray Pedro Lorenzo de la Nada, misionero de Chiapas y Tabasco, en el cuarto centenario de su muerte*. Privately published (no publisher or place of publication listed).
- . 1980b. *La Paz de Dios y del Rey; la conquista de la Selva Lacandona, 1525-1821*. Colección Ceiba, Ensayo 10. Tuxtla Gutiérrez: Gobierno del Estado de Chiapas. [Second

- edition, 1988, México, D. F.: Fondo de Cultura Económica.]
- Feldman, Lois. 1984. *A Sketch of Tumbalá Chol Stem Formation*. M.A. thesis, University of Pittsburgh.
- . 1986. A sketch of Tumbala Chol stem formation. *Journal of Mayan Linguistics* 5(2):17-53
- Fernández, León. 1892. *Lenguas indígenas de Centro América en el siglo XVIII según copia del Archivo de Indias hecha por el Licenciado don León Fernández y publicada por Ricardo Fernández Guardia y Juan Fernández Ferraz*. San José de Costa Rica: Tipografía Nacional.
- Harvey, H. R. 1972. The *Relaciones Geográficas*, 1579-1586: native languages. In Howard F. Cline, ed., *Handbook of Middle American Indians*, vol. 12: *Guide to Ethnohistorical Sources, Part One*, pp. 279-323. Austin: University of Texas Press.
- Hellmuth, Nicholas M. 1970. *Preliminary Bibliography of the Chol, Lacandon, Yucatec Lacandon, Chol, Itza, Mopan, and Quehache of the Southern Maya Lowlands; 1524-1969*. Third edition, revised. Katunob, Occasional Publications in Mesoamerican Anthropology, 4. Museum of Anthropology, University of Northern Colorado, Greeley, Colorado. (Same text as Nicholas M. Hellmuth, 1970, *A Bibliography of the 16th-20th Century Maya of the Southern Lowlands: Chol, Chol Lacandon, Yucatec Lacandon, Quehache, Itza, and Mopan, 1524-1969*. Occasional Publications in Anthropology, Archaeology Series, 2. Museum of Anthropology, University of Northern Colorado, Greeley, Colorado.)
- . 1971. *Progress Report and Notes on Research on Ethnohistory of the 16th-19th Century Southern Lowland Maya. Part I: The Cholti-Lacandon of Dolores (Sac Balam), Chiapas, 1695-1712. Part II: The Yucateco-Lacandon of San Jose de Gracia Real, 1986-180?*, revised (original 1970). Mimeographed. Guatemala City, Guatemala.
- Hopkins, Nicholas A. 1967. *The Chuj Language*. Ph.D. dissertation, University of Chicago.
- . 1970a. Estudio preliminar de los dialectos del tzeltal y del tzotzil. In Norman A. McQuown and Julian Pitt-Rivers, eds., *Ensayos de antropología en la zona central de Chiapas*, pp. 185-214. Colección de Antropología Social, 8. Instituto Nacional Indigenista, México, D. F.
- . 1970b. Numeral classifiers in Tzeltal, Jacalteco, and Chuj (Mayan). *Papers from the Sixth Regional Meeting of the Chicago Linguistic Society, April 16-18, 1970*, pp. 23-35.

Chicago: Chicago Linguistic Society.

----. 1988. The lexicon of Maya hieroglyphic writing. In J. Kathryn Josserand and Nicholas A. Hopkins, *Chol (Mayan) Dictionary Database*, Part I, Appendix B. Final Performance Report, NEH Grant RT-20643086.

----. 1988. Comments on David Stuart, *Ten Phonetic Syllables*. In J. Kathryn Josserand and Nicholas A. Hopkins, *Chol (Mayan) Dictionary Database*, Part I, Appendix B. Final Performance Report, NEH Grant RT-20643086.

Hopkins, Nicholas A., Ausencio Cruz Guzmán, and J. Kathryn Josserand. 2008. A Chol (Mayan) vocabulary from 1789. *International Journal of American Linguistics* 74(1):83-114.

Hopkins, Nicholas A., and J. Kathryn Josserand. 1988. Discourse structures in Maya hieroglyphic inscriptions. In J. Kathryn Josserand and Nicholas A. Hopkins, *Chol (Mayan) Dictionary Database*, Part I, Appendix B. Final Performance Report, NEH grant RT-20643086.

Hruby, Zachary X., and Mark B. Child. 2004. Chontal linguistic influence in ancient Maya writing; intransitive positional verbal affixation. In Søren Wichmann, editor, *The Linguistics of Maya Writing*, pp. 13-26. Salt Lake City: The University of Utah Press.

Hurley (Viuda de Delgaty), Alfa, and Agustín Ruíz Sánchez. 1978. *Diccionario tzotzil de San Andrés con variaciones dialectales; tzotzil-español, español-tzotzil*, Serie de Vocabularios y Diccionarios Indígenas Mariano Silva y Aceves, 22. México, D. F.: Instituto Lingüístico de Verano.

Josserand, J. Kathryn. 1988a. The discourse structure of Maya hieroglyphic texts. In J. Kathryn Josserand and Nicholas A. Hopkins, *Chol (Mayan) Dictionary Database*, Part I, Appendix B. Final Performance Report, NEH grant RT-20643086.

----. 1988b. Argument structure for Maya hieroglyphic writing: a case in point; locative and place-name expressions. In J. Kathryn Josserand and Nicholas A. Hopkins, *Chol (Mayan) Dictionary Database*, Part I, Appendix B. Final Performance Report, NEH grant RT-20643086..

Josserand, J. Kathryn, and Nicholas A. Hopkins. 2005. Lexical retention and cultural significance in Chol (Mayan) ritual language. *Anthropological Linguistics* 47(4):401-423.

Karttunen, Frances. 1983. *An Analytical Dictionary of Nahuatl*. Norman: University of Oklahoma Press.

- Kaufman, Terrence S. 1962. *Mayan Vocabulary Survey*. Mimeographed. Department of Linguistics, University of California at Berkeley.
- . 1963. *Tzeltal Grammar*. Ph.D. dissertation, University of California at Berkeley.
- . 1964. Materiales lingüísticos para el estudio de las relaciones internas y externas de la familia de idiomas mayanos. In Evon Z. Vogt and Alberto Ruz, eds., *Desarrollo cultural de los mayas*, pp. 81-136. México, D. F.: Seminario de Cultura Maya, Universidad Nacional Autónoma de México.
- . 2003. *A Preliminary Mayan Etymological Dictionary*. On line at FAMSI, the Foundation for the Advancement of Mesoamerican Studies, Inc., www.famsi.org.
- Kaufman, Terrence S., and William M. Norman. 1984. An outline of Proto-Cholan phonology, morphology and vocabulary. In John S. Justeson and Lyle Campbell, eds., *Phoneticism in Mayan Hieroglyphic Writing*, pp. 77-166. Institute for Mesoamerican Studies, State University of New York at Albany, Publication No. 9.
- Lacadena, Alfonso. 2004. Passive voice in Classic Maya texts. In Søren Wichmann, ed., *The Linguistics of Maya Writing*, pp. 165-194. Salt Lake City: University of Utah Press.
- Laughlin, Robert M. 1975. *The Great Tzotzil Dictionary of San Lorenzo Zinacantán*. Smithsonian Contributions to Anthropology, 19. Smithsonian Institution Press, Washington, D. C.
- Lenguas Mayas de Guatemala. 1988. *Documento de referencia para la pronunciación de los nuevos alfabetos oficiales*. Guatemala: Instituto Indigenista Nacional, Ministerio de Cultura y Deportes.
- Maffi, Luisa. 1996. Liquor and medicine: a Mayan case study in diachronic semantics. *Journal of Linguistic Anthropology* 6(1):27-46.
- McQuown, Norman A., and Julian Pitt-Rivers, editors. 1970. *Ensayos de antropología en la zona central de Chiapas*, Colección de Antropología Social, 8. Instituto Nacional Indigenista, México, D. F.
- Montejo López, Bernabé, Rubén López López, Jorge Guzmán Gutiérrez, Enrique Jiménez Jiménez, and Ernesto Martínez López. 2001. *Säkläji'b ty'añ ch'ol*. Tuxtla Gutiérrez: Servicios Educativos para Chiapas (Dirección de Educación Indígena, Gobierno del Estado).

- Santamaría, Francisco J. 1959. *Diccionario de mejicanismos*. México, D. F.: Editorial Porrúa.
- Sapper, Karl. 1897. *Nördliches Mittelamerika*. Braunschweig.
- . 1907. Choles und Chorties. *Congrès International des Américanistes; XVe Session Tenue à Québec en 1906*, vol. 2, pp. 423-465. Québec: Dussault et Proulx; Leipzig: Karl W. Hiersemann. [Kraus Reprint, Nendeln/Liechtenstein, 1968. An English translation by Father P. Hughes, Campion Hall, Oxford, is found in the Biblioteca Fray Bartolomé de Las Casas, Na Bolom, Centro de Estudios Científicos, San Cristóbal de Las Casas, Chiapas; typescript, 15 pages.]
- Schoenhals, Loise C. 1988. *A Spanish-English Glossary of Mexican Flora and Fauna*. México, D. F.: Instituto Lingüístico de Verano.
- Slocum, Mariana, and Florencia Gerdel. 1965. *Vocabulario tzeltal de Bachajón*. Serie de Vocabularios Indígenas Mariano Silva y Aceves, 13. México, D. F.: Instituto Lingüístico de Verano. (Reissued in 1980)
- Starr, Frederick. 1902. *Notes Upon the Ethnography of Southern Mexico. Proceedings of the Davenport Academy of Sciences* 9:63-172.
- Stephens, John Lloyd. 1841. *Incidents of Travel in Central America, Chiapas and Yucatan*. 2 vols. New York: Harper.
- Stoll, Otto. 1884. *Zur Ethnographie der Republik Guatemala*,. Zurich: Orell Füssli.
- . 1938. *Etnografía de la República de Guatemala*. Spanish translation by Antonio Goubaud Carrera. Guatemala: Tipografía Sánchez y de Guise).
- Thompson, J. Eric S. 1938. Sixteenth and seventeenth century reports on the Chol Mayas. *American Anthropologist* 40:564-604.
- Warkentin, Viola, and Ruby Scott. 1980. *Gramática ch'ol*. Serie de Gramáticas de Lenguas Indígenas de México, 3. México, D. F.: Instituto Lingüístico de Verano.