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PROTO-MAZATEC PHONOLOGY

By

PAUL LIVINGSTON KIRK

A thesis submitted in partial fulfillment
of the requirements for the degree of

DOCTOR OF PHILOSOPHY

UNIVERSITY OF WASHINGTON

1966

Approved by Laurence R. Thompson
Department Linguistics
Date 16 June 1966

UNIVERSITY OF WASHINGTON

Date: May 27, 1966

We have carefully read the dissertation entitled Proto-Mazatec Phonology

_____ submitted by
Paul Livingston Kirk _____ in partial fulfillment of
the requirements of the degree of Doctor of Philosophy
and recommend its acceptance. In support of this recommendation we present the following
joint statement of evaluation to be filed with the dissertation.

This thesis compares twelve closely related languages in central Mexico and reconstructs a large number of forms of the proto-language from which they are descended. The work picks up where an earlier scholar, Sarah Gudschinsky, left off, operating with material for several additional languages and a far wider selection of forms, and attempting to account for all the loose ends in the material used. (Gudschinsky's approach may be characterized as more exploratory and generalizing, and she did not attempt to handle many vexing details of the comparison.)

The rationale of the reconstruction (which differs significantly from that of Gudschinsky) is discussed in considerable detail, and it is apparent that the author has applied the most rigorous standards of comparative linguistics to his task. He has also provided careful accounts of the supposed developments of sounds in the various languages.

In addition to the originality of the reconstruction, and its importance for further work with linguistic relationships in Mexico and more broadly in the Americas, this study reflects original field research on the languages which are compared: the group as a whole has been little studied, and several of the individual languages have not been previously treated at all.

DISSERTATION READING COMMITTEE:

Laurence C. Thompson
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Carroll E. Reed

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Date July 21, 1966

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Finally, I wish to express my appreciation to my family. My wife Marion typed and helped proofread various drafts, including this one. Her own command of Mazatec insured a higher degree of accuracy throughout the work than would have

been otherwise possible. My four daughters--Janet, Evelyn, Linda, and Elaine--were understanding when the schedules were demanding and gave their encouragement through the interest they showed as the work progressed.

CHAPTER I

INTRODUCTION

Successive studies of a subject broaden the base, refine the detail, and substantiate the correct points of the earlier work. The reconstruction of Proto-Mazatec (PMaz) has followed such a pattern of progression.

Gudschinsky's 1953 sketch of PMaz with thirty-four published cognate sets was revised and amplified by her 1956 and 1959 studies. The present work is but one further step toward a better understanding of the probable phonological structure of PMaz and of the development it took in the various daughter languages. Detailed reconstruction of PMaz grammar must await further study; at present, the only description is of modern Huautla Mazatec (Pike 1948: 95-164).

Although this study goes beyond Gudschinsky's on a number of points which I shall enumerate shortly, it nevertheless is deeply indebted to her earlier work. The data for Mazatlán de Flores, Santa María Jiotes, San Miguel Soyaltepec, San Miguel Huautla come from her published materials and from her field notes, which she has kindly permitted me to use. The data from Huautla de Jiménez presented in this study has been further checked with Eunice

V. Pike, to whom I am indeed grateful. The data for the other seven languages come from my own field work; one of these, Jalapa de Díaz, has been the focus of intensive study since 1953.

The Mazatec languages (in this study I simply call them languages and leave aside the argument over whether some or all might preferably be called dialects) are today spoken in the northeastern area of the state of Oaxaca, Mexico. Their relative geographical positions are shown on Chart 1. The distance between any two of the towns furthest apart is approximately two long walking days by trail.

This Mazatec group, with some ninety-five thousand speakers, belongs to the Popolocan language family, which also includes Popoloc, Ixcatec, and Chocho. The relationship of these languages was demonstrated by Fernández de Miranda (1951, 1956), Gudschinsky (1959), and Hamp (1958, 1960), (see Bibliography).

The Popolocan language family is in turn a member of the Otomanguean stock: Gudschinsky (1959) demonstrated that Popolocan is related to Amuzgo and Mixtecan (Longacre 1957, 1962, 1966); Fernández de Miranda and Weitlaner (1961) have shown the relationship of these languages to Chiapanec and Mangue; a detailed comparative study of the major languages of the Otomanguean family is being presented during the current year as a doctoral dissertation at the University

CHART I

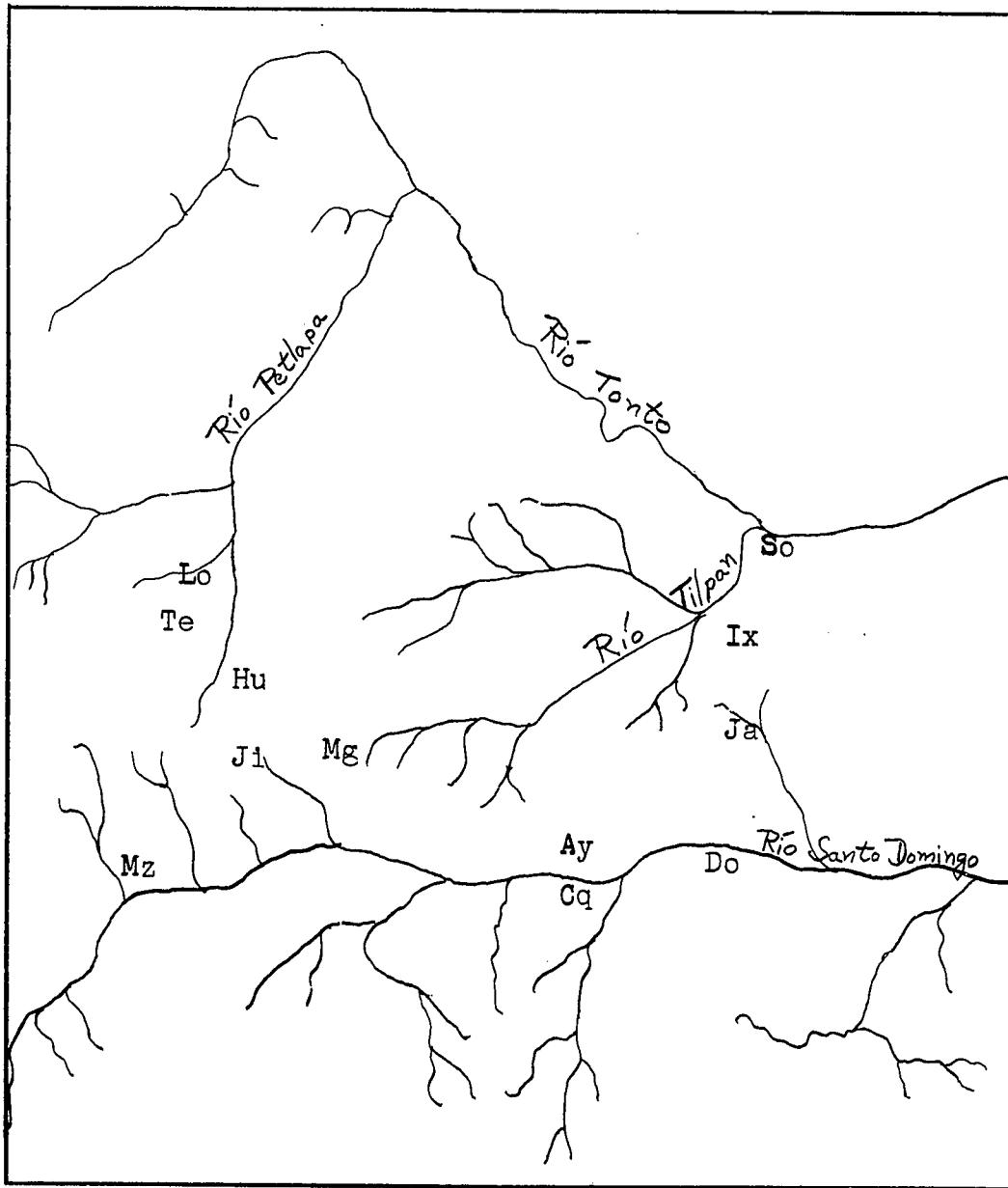
RELATIVE GEOGRAPHICAL DISTANCE RELATIONSHIPS
OF MAZATEC LANGUAGES

CHART 2

SYMBOLS USED FOR THE MAZATEC LANGUAGES

(Gudschinsky 1953, 1956, 1959; Kirk 1966)

	1966	1959	1956	1953
Mazatlán de Flores	Mz	Mz	Maz	
San Bartolomé Ayautla	Ay			
San Juan Chiquihuitlán	Cq	Ch	Ch	
Jalapa de Díaz	Ja			
Santo Domingo del Río	Do			
Huautla de Jiménez	Hu	H	H	H
Santa María Jiotes	Ji		MJ	
San Miguel Soyoltepec	So	S	S	S
San Pedro Ixcatlán	Ix		I	I
San Miguel Huautla	Mg		M	SM
San Lorenzo Cuaunecuiltitla	Lo			
San Jerónimo Tecoaatl	Te	SJ	T	T

of Pennsylvania by Calvin Rensch. His study will undoubtedly show more clearly the position of Popolocan within the larger grouping.

Twelve languages are cited in this study: Mazatlán de Flores (Mz), San Bartolomé Ayautla (Ay), San Juan Chiquihuitlán (Cq), Jalapa de Díaz (Ja), Santo Domingo del Río (Do), Huautla de Jiménez (Hu), Santa María Jiotes (Ji), San Miguel Soyaltepec (So), San Pedro Ixcatlán (Ix), San Miguel Huautla (Mg), San Lorenzo Cuanequiltitla (Lo), and San Jerónimo Tecuati (Te). I have introduced this systematic set of abbreviations to replace earlier inconsistent usage; the correspondence of my symbols to those in the Gudschinsky references is shown in Chart 2.

The present study goes beyond the previous works on PMaz in a number of ways.

(1) The base is broadened to include twelve Mazatec languages and greater depth is afforded by expanding the number of cognate sets (cf. Chart 3).

(2) Total accountability for the material is attempted and all problems are signalled in the notes following each cognate set (see Appendix). In Gudschinsky's work there are important cases where she overlooked details and therefore made ambiguous or unjustifiable reconstructions. The more careful consideration of detail should provide a firmer basis for comparison with other reconstructed languages.

CHART 3

SUMMARY OF THE TOTAL NUMBER OF PMAZ ETYMA AND REFLEXES CITED FROM EACH LANGUAGE

	Gudschinsky	Gudschinsky	Gudschinsky	Kirk
	1953	1956	1959	1966
	(34 etyma)	(93 etyma)	(253 etyma)	(731 etyma)
Mz	.	81	249	338
Ay				578
Cq		20	1	480
Ja		2		606
Do				586
Hu	34	93	348	578
Ji		75		271
So	29	85	291	442
Ix	34	75		570
Mg	30	77		318
Lo				508
Te		68	217	537

(3) Distributional features of the proto-system have been carefully considered; this contrasts with earlier studies where such matters were left aside. (There are in particular numerous cases where obviously metathesis is involved.) Gudschinsky says in respect to the broad picture of Popolocan-Amuzgo-Mixtecan that "reassignments of allophones which affect only the distribution of the phonemes and not the inventory have been ignored as outside the scope of this survey" (Gudschinsky 1959:49). Although she makes no such explicit statement for her treatment of PMaz, her handling of the data suggests that she was guided by the same principle.

(4) It has been possible to show that only four vowels need to be reconstructed for PMaz, where Gudschinsky posited six (for discussion see §5).

(5) In a number of cases where Gudschinsky found it necessary to posit alternations in the proto-language it is now possible to demonstrate regular developments (see, for example, §4.4.1 and 4.11.1.3).

(6) It has been possible to determine that neither *l nor *r need be posited for the proto-language, although elements of this sort appear in all the daughter languages (see §4.4.2,. Gudschinsky omitted them from discussion because of uncertainties of reconstruction (1959:5), but

implies that one such element should be reconstructed (1959: 12).

(7) Gudschinsky reconstructed *ʔ in two positions in the syllable, but it now seems indicated in only one (see §4.1.2).

The consonants of PMaz are: stops *t, *tʲ, *k, *kʷ, *c, *č; spirants *s, *š; nasals *m, *n, *ñ; semivowels *y, *w; laryngeals *h, *ʔ.

Gudschinsky (1959:5) posited in her inventory of proto-consonants a prenasalized series of stops and affricates. However, she says "for simplicity of comparative statement, the prenasalized stops and affricates are treated in this paper as clusters of nasal plus stop or affricate" (1959:5). In the present study these elements are considered clusters on a par with other reconstructed clusters.

The consonants and consonantal clusters reconstructed for PMaz are presented schematically in Chart 4.

PMaz has four vowels: *i, *e, *a, and *u. Apparently vowel clusters had developed at the PMaz horizon (for an alternative interpretation that potentially eliminates vowel clusters for perhaps an earlier horizon, see §5.2). These clusters have either *i or *u as one of the members of the cluster: *ia, *iu; *ei, *ai, *ui; *ue, *ua, *au.

The tone inventory of PMaz consists of four level pitches: high (*¹), mid-high (*²), mid (*³), and low (*⁴),

and three up-glides beginning with various pitches: *³¹, *⁴¹, and *⁴⁸.

PMaz had two degrees of stress: heavy stress occurred on the last syllable of the stem; weak stress occurred elsewhere.

In a formula, parentheses () are to be read "choose optionally any one item set off by commas within them"; braces { } are to be read "obligatorily choose any one item set off by commas within them".

CHART 4

PMAZ CONSONANTS AND CONSONANTAL CLUSTERS

(in this chart asterisks are omitted)

t	t ^y	k	k ^w	c	č	s	š	m	n	ñ	y	w	ʔ
th	t ^y _h	kh	k ^w _h	ch	čh	sh	šh						
nt	nt ^y	nk	nk ^w	nc	nč								
nth	nt ^y _h	nkh	nk ^w _h	nch	nčh								
hnt	hnt ^y	hnk						hm	hn	hñ	hy	hw	
ʔnt		ʔnk			ʔnč			ʔm	ʔn	ʔñ	ʔy	ʔw	
st		sk	sk ^w	sc	sč								
		skh											
št		šk											
sth	št ^y _h	škh	šk ^w _h										
tk	t ^y _k												
	t ^y _{kh}												
	nt ^y _k												
	nt ^y _{kh}												
	t ^y _k ^w												
tk ^w _h													

CHAPTER II

PHONOLOGICAL SYSTEMS OF MODERN
MAZATEC LANGUAGES

A brief outline of the phonological system of each of the languages compared is presented in the following sections. Of the twelve languages seven are represented by my own materials. For the remaining five I have relied on earlier works. The analysis of Mazatlán (Mz), Jiotes (Ji), Soyaltepec (So), and Miguel Huautla (Mg) is taken from Gudschinsky (1956, 1959). The list of individual consonants and vowels is gleaned from her descriptions, but the summary of consonant and vowel clusters comes from inspection of the data itself. The summary of the Huautla (Hu) phonemic system is taken from Pike and Pike (1947). However, I have standardized with Gudschinsky's (1956, 1959) orthographic representations, writing /u/ rather than /o/ and /w/ rather than /v/.

A few changes in analysis have been made in some of the languages on the basis of further research:

(a) The /ʔ/ in Te appears to be in the process of change. Gudschinsky (1956, 1959) recorded /ʔ/ as both initial and final member of consonantal clusters and intervocalic. One of my informants had /ʔ/ only between vowels;

the other had alternant forms with and without /ʔ/ as the initial member of a consonantal cluster. The latter informant, however, did not have /ʔ/ occurring as the final member of consonantal clusters.

(b) In Ix I find no contrast between [u] and [o]; see §2.13 for the distribution of these phones. Gudschinsky (1956) treated these as contrastive. Also it seems unnecessary to set up consonantal clusters with /y/ as the final member.

(c) I have omitted /ɣ/ in the Mz inventory and follow Gudschinsky (1959:6-8). Gudschinsky (1956) said that "the retroflexed phone is a separate phoneme which contrasts with the non-retroflexed alveopalatal before /a/" (p.4). Since I find no evidence for it in the cognate sets, I assume Gudschinsky's 1959 work represents a re-analysis on this point.

All of the Mazatec languages have tone systems--probably with three or four registers and glides. Detailed tone analysis has been made for Hu (Pike and Pike 1947), So (Pike 1956), and Ja (my own analysis); for the other nine languages it would be misleading to write the approximate tones without detailed analysis (note, for example, the complicated system of So described by Pike, 1956). For this reason, tones have not been written on the reflexes of the less studied languages.

Tones are indicated by superscript numerals with ¹ indicating high level tone, and ², ³, and ⁴ indicating successively lower tones. Clusters of numerals written without hyphen indicate tone glides between levels; a hyphen between numerals indicates syllable division. Thus ³ - ⁴¹ is to be read as level mid tone ³ on the first syllable and a glide from low tone ⁴ to high tone ¹ on the second syllable. In the modern Mazatec languages (and also in PMaz) there is no correlation between the number of vowels and the presence or absence of tone glides (see K. Pike and E. Pike 1947:82-83, and E. Pike 1956).

All the languages have two degrees of stress with heavy stress occurring on the last syllable of the stem; weak stress occurs elsewhere. Heavily stressed syllables are marked orthographically with acute accent (´) over the vowel (or final vowel of complex syllable nuclei); weakly stressed syllables are regularly unmarked. A few of the Cq forms seem aberrant in placement of stress and need further checking.

The vowel systems presented in the following pages indicate only oral vowels. However, each language has nasalized vowels that correspond to its oral vowel inventory. The vowel in the nucleus of the syllable are either all oral or all nasalized.

2.1

2.1 Mazatlán de Flores (Mz)

Consonants and Consonantal Clusters:

-	t	c	č	k	s	š	m	n	ñ	l	r	w	y	h	ʔ
	th	ch	čh	kh		šh									
	ht	hc	hč	hk			hm	hn	hñ			hw			
		cʔ	čʔ	kʔ	sʔ	šʔ		nʔ		lʔ		wʔ			
							ʔm		ʔñ	ʔl		ʔw	ʔy		
	nt	nc	nč	nk											
	ty	cy		ky	sy									hy	
				kw	sw										
				sk											
	št			šk											
	thy	chy		khy											
	thw	chw		khw											
	nty			nky											
	ntʔ	ncʔ	nčʔ	nkʔ											
	nth	nch	nčh												
			ʔnč	ʔnk											
				khʔ											
				kʔy								wʔy			
		cʔw													
				hnk											
		now													
				hkw											
				sky											
				skw											
				šky											
				škw											
	šth														
	šthy														
	ntʔy														
		nchy				hmy						hwy			

Vowels and Vowel Clusters:

i	u	
e	o	ei
a		

2.2

2.2 San Bartolomé Ayautla (Ay)

Consonants and Consonantal Clusters:

t	c	č	č̣	k	k ^w	s	š	m	n	ñ	l	r	w	y	ʔ
th	ch	čh	č̣h	kh	k ^w h	sh	šh								
								hm	hn	hñ			hw		
	cʔ	čʔ		kʔ	k ^w ʔ	sʔ	šʔ		nʔ				wʔ	hʔ	
								ʔm	ʔn	ʔñ			ʔw		
nt	nc	nč		nk	nk ^w										
st				sk	sk ^w										
št				šk	šk ^w					šn					
nth	nch			nkh											
				khʔ											
ʔnt		ʔnč		ʔnk											
ntʔ	ncʔ	nčʔ		nkʔ									hwʔ		
sth															
šth				škh											
				škʔ											
hnt															

Vowels and Vowel Clusters:

i	u	ie	ia	io	iu
e	o	ei	ai		
a					

2.3

2.3 San Juan Chiquihuitlán (Cq)

Consonants and Consonantal Clusters:

t	c	č	k	s	š	m	n	ñ	l	r	y	w	h	ʔ
th	ch	čh	kh											
						hm	hn	hñ				hw		
		čʔ	kʔ										hʔ	
						ʔm	ʔn	ʔñ						
nt	nc	nč	nk											
st			sk											
št		šč	šk					šn						
			rk			rm	rn							
ʔnt		ʔnč	ʔnk											
	nch													
sth														
			rkh											

Vowels and Vowel Clusters:

i	u	ui	ue	ua	uo	
e	o			ia	io	iu
a		ai	ei			
			iei	iai		
			uei			

2.4 San Felipe Jalapa de Díaz (Ja)Consonants and Consonantal Clusters:

t c č k k^w d j ɟ g g^w s š m n ñ l r w y h ʔ
 th ch čh kh k^wh gh sh šh mh nh ñh wh yh
 hm hn hñ hw
 tʔ cʔ čʔ kʔ k^wʔ dʔ sʔ šʔ nʔ wʔ yʔ hʔ
 ʔm ʔn ʔñ ʔw
 nt nc nč nk nk^w nd nj nɟ ng
 st sk sk^w
 šk
 thʔ čhʔ khʔ k^whʔ
 nth nech nčh nkh nk^wh ndh nɟh nɟh ng^wh
 ntʔ ncʔ nčʔ nkʔ ndʔ
 stʔ sk^wʔ hwʔ
 sth skh
 škh šk^wh
 škʔ

Vowels and Vowel Cluster:

ñ (syllabic nasal)

i	u	ie	ia	io	iu
e	o	ei	ai		ui
a		iei			

Tones:

1	13	21	313
2	23	31	323
3		32	213

2.5

2.5 Santo Domingo del Río (Do)

Consonants and Consonantal Clusters:

t c č k k^w d j ʝ g g^w s š m n ñ l r w y h ʔ
 th ch čh kh k^wh sh šh
 hm hn hñ hw
 tʔ cʔ čʔ kʔ k^wʔ sʔ šʔ nʔ wʔ hʔ
 nt nc nč nk nd nj nʝ ng ng^w
 st sk
 šk
 thʔ khʔ k^whʔ
 nth neh nčh nk^wh
 ntʔ ncʔ nčʔ nkʔ ndʔ hwʔ
 sth skh
 šk^wh
 škʔ

Vowels and Vowel Clusters:

i u ie ia io iu
 e o ei ai
 a lei

2.6

2.6 Huautla de Jiménez (Hu)

Consonants and Consonantal Clusters:

t	c	č	č̣	k	s	š	m	n	ñ	l	r	y	w	ʔ
ht	hc	hč	hč̣	hk			hm	hn	hñ			hy	hw	
th	ch	čh	č̣h	kh	sh	šh	mh	nh					wh	
tʔ	cʔ	čʔ	č̣ʔ	kʔ	sʔ	šʔ	mʔ	nʔ	ñʔ	lʔ		yʔ	wʔ	
							ʔm	ʔn	ʔñ			ʔy	ʔw	
nt	nc	nč	nč̣	nk										
st				sk										
št				šk										
ʔnt	ʔnc	ʔnč	ʔnč̣	ʔnk										
hnt		hnč	hnč̣	hnk										
nth	nch	nčh	nč̣h	nkh										
ntʔ	ncʔ	nčʔ	nč̣ʔ	nkʔ										
	hcʔ	hčʔ												
				skʔ										
štʔ				škʔ										

Vowels and Vowel Clusters:

i	u	ie	ia	iu
e	a	ai		au
		ui	ue	ua
			iai	
		uia	iau	uau

Tones:

1	13		
2	14	32	
3	23	42	423
4	34	43	424

2.7

2.7 Santa María Jiotes (Ji)

Consonants and Consonantal Clusters:

t	c	č	č̣	k	s	š	m	n	ñ	l	r	w	y	ʔ
ht		hč		hk			hm	hn	hñ			hw		
th	ch	čh	č̣h	kh	sh									
	cʔ	čʔ		kʔ	sʔ	šʔ						wʔ		
							ʔm	ʔn	ʔñ			ʔw	ʔy	
nt		nč	nč̣	nk										
				sk										
št				šk										
ʔnt		ʔnč		ʔnk										
ntʔ	ncʔ	nčʔ		nkʔ										
hnt		hnč		hnk										
				škw										

Vowels and Vowel Clusters:

i	u	ie	ia	iu
e	o	ai	ui	
a			ue	
			ua	

2.8 San Miguel Soyaltepec (So)Consonants and Consonantal Clusters:

t	c	č	č̣	k	f	s	š	m	n	ñ	l	r	w	y	h	ʔ
th	ch	čh	č̣h	kh				hm	hn	hñ			hw			
tʔ	cʔ	čʔ		kʔ		sʔ	šʔ									
								ʔm	ʔn	ʔñ			ʔw	ʔy		
nt	nc	nč		nk												
ty				ky			šy									
tk																
st				sk												
				šk												
	chw			khw												
tyk																
nty				nky												
				kʔy												
thy				khy												
	cʔw	čʔw														
				skw												
				šk												

Vowels and Vowel Clusters:

i	u	ui	ue	ua
e	o		e ⁱ	a ⁱ
a				

Tones:

1	21
2	24
3	31
4	32
	41
	42
	43

2.9

2.9 San Pedro Ixcatlán (Ix)

Consonants and Consonantal Clusters:

t	c	č	č̣	k	s	š	m	n	ñ	l	r	w	y	h	ʔ
th	ch	čh	č̣h	kh		šh									
							hm	hn	hñ			hw			
tʔ	cʔ	čʔ		kʔ	sʔ	šʔ									
							ʔm	ʔn	ʔñ			ʔw			
nt	nc	nč		nk											
st	sc	sč		sk											
št				šk											
štʔ				škʔ											
ntʔ	ncʔ	nčʔ		nkʔ											
nth	nch	nčh		nkh											
ntr															
šth				škh											

Vowels and Vowel Clusters:

ñ (syllabic nasal)

i	u	ie	ai	ui
e	a	ia		ue
		iu		ua

2.10

2.10 San Miguel Huautla (Mg)

Consonants and Consonantal Clusters:

t	c	č	k	k ^w	s	š	m	n	ñ	l	r	w	y	h	ʔ
th	ch	čh	kh	k ^w h											
									hm	hn	hñ		hw		
tʔ	cʔ	čʔ	kʔ		sʔ	šʔ	mʔ		ñʔ			wʔ	yʔ	hʔ	
nt	nc	nč	nk												
			sk	sk ^w											
št			šk												
ntʔ		nčʔ	nkʔ												
thʔ			khʔ												
		nčh											hwʔ		

Vowels and Vowel Clusters:

i	u	ie	ia	io	iu
e	o		a ⁱ		
a					

2.11

2.11 San Lorenzo Cuaunecuiltitla (Lo)

Consonants and Consonantal Clusters:

t c č ċ k k^w f s š m n ñ l r w y h ʔ
 th ch čh ċh kh k^wh

hm hn hñ hw

ʔm ʔñ ʔl ʔw ʔy

nt nc nč nċ nk nk^w

sč sk

šk

ʔnt ʔnč ʔnċ ʔnk

hnk

Vowels and Vowel Clusters:

i i ia

e o ai

a

2.12

2.12 San Jerónimo Tecoaatl (Te)

Consonants and Consonantal Clusters:

t	c	č	č̣	k	s	š	m	n	ñ	l	r	w	y	h	ʔ
th	ch	čh	č̣h	kh	sh										
ht	hc	hč					hm	hn	hñ			hw	hy		
nt	nc	nč	nč̣												
st		sč		sk											
št				šk											
hnt		hnč		hnk											
				hsk											
		hčh													

Vowels and Vowel Clusters:

i	u		ie	ia	iu
e	a	ui	ue	ua	
		ai			

2.13 Principal Allophones of Phonemes
with More Than One Allophone in the
Mazatec Languages

All Mazatec languages (Mz, Ay, Cq, Hu, Ji, So, Ix, Mg, Lo, and Te) except Ja and Do have voiced lenis stop (includes affricated stop) allophones after /n/ when the stop is not immediately followed by /h/ or, in Ay /ʔ/. Mz, Ay, Cq, Hu, Ji, So, Ix, Mg, Te have voiceless fortis stop allophones elsewhere. Lo has voiced lenis stop allophones that fluctuate with voiceless fortis stop allophones when the stop is not in cluster with other consonants immediately after pause or in a stressed syllable; elsewhere in Lo voiceless fortis allophones occur.

In Ay, Ja, Do, Hu, Ji, So, Ix, Mg, and Te /ʃ/ has a retroflexed allophone [ʂ] before non-front vowels; [ʃ] occurs elsewhere. In Cq /ʃ/ has a retroflexed allophone [ʂ̄] before non-front vowels, a fronted palatalized allophone [ʃʲ] when followed by /h/ before front vowels, and an allophone [ʃ] elsewhere.

In all the languages /n/ has a dorsal allophone [ŋ] before dorsal stops; [n] occurs elsewhere.

In all the languages /h/ is voiceless anticipation of a following phoneme; there are thus voiceless nasal allophones [M N Ñ] before corresponding voiced nasals and voiceless vowel allophones before corresponding voiced vowels:

[I E A O U] in Mz, Ay, Cq, Ji, So, and Mg; [I E A O U ɪ] in Lo; and [I E A U] in Hu, Ix, and Te. In Ja and Do the voiceless anticipation of vowels [I E ʌ A O U ɔ̥ ɪ] appears in syllable initial and following voiceless consonant, but sometimes the vowel that is anticipated is separated from /h/ by /ʔ/. In Ja the anticipation is a murmured vowel following voiced consonants; and in Ja and Do before /w/ the allophone is a flat bilabial voiceless fricative [ɸ].

There are problems in stating the allophones of /ʔ/. For one thing, apart from Hu, Ja, and probably So, the analysis may not be sufficiently precise; and secondly, Gudschinsky's description (1956:5) does not mention the phonetic quality of /ʔ/ in some environments. However, the general patterns can be summarized.

In all languages /ʔ/ appears as non-clustered initial in the allophone [ʔ] sharply released; a similar firm glottal closure appears as the first member of a consonantal cluster in Ay, Cq, Ja, Do, Hu, Ix, and Lo. Laryngealized vowel (which varies from laryngealization of the entire nucleus to weak rearticulation) represents a preceding /ʔ/ as final member of a consonantal cluster in Ay, Cq, Ja, Do, Hu, Ix, and Mg.

So, Mz, and Ji present special problems. In these languages Gudschinsky (1956:5) says that in heavily stressed syllables /ʔ/ is sharply released as the onset member to the

cluster; weakly stressed syllables of nasal or semivowel followed by a laryngealized nucleus are interpreted as /ʔ/ plus nasal or semivowel (it complements the [ʔ] plus nasal or semivowel of heavily stressed syllables). For Ji it can be deduced that consonants other than nasals and semivowel followed by laryngealized vowel are interpreted by Gudschinsky as /Cʔ/; the phonetic quality of /Cʔ/ in So and Mz is not specified by Gudschinsky; the Mz phonetic quality of /ʔl/ and /lʔ/ also is unstated. Mz and Ji have a sharply released allophone [ʔ] when /ʔ/ is the onset member of a three consonant cluster.

In Ja, Do, and Te /w/ has a flat bilabial fricative allophone [b] before front vowels; a more rounded semivowel allophone [w] occurs elsewhere. In Lo /w/ has a tense flat bilabial fricative allophone before /o/, /i/, and before /a/ when the /w/ follows pause or glottal catch; a more lax rounded semivowel allophone occurs elsewhere.

In Ja /d/ has a fricative allophone [ð] when not in cluster with other consonants; [d] occurs elsewhere.

In Cq /r/ has a voiced flap allophone [ɾ] between vowels; a voiced trilled allophone [r̄] occurs initially after pause when not in cluster with other consonants; a voiceless trilled allophone [r̥̄] occurs in cluster with other consonants.

In Cq /y/ has an allophone with heavy friction in initial position after pause; an allophone with less friction occurs elsewhere.

In Cq, Ja, and Do /e/ has a higher allophone [e] when followed by /i/; a lower allophone [æ] occurs elsewhere. In Lo /e/ has a higher allophone [e] after /y/; a lower allophone [æ] occurs elsewhere. In Ix /e/ has an allophone [ⁱɛ] when immediately preceded by /t, k, c, ʃ, s/ in a heavily stressed syllable; an allophone [æ] occurs when it is oral and preceded by /h/ in cluster with another consonant in a stressed syllable; an allophone [ɛ] occurs elsewhere.

In Ix /u/ has an allophone [u] when it is the first member of a /VV/ cluster, or when it is preceded by /hñ, ʔñ/, or when it is nasalized and preceded by /h/ not in cluster with other consonants in the syllable, or when it is preceded by /th, ʃh/ in a weakly stressed syllable; a lower allophone [o] occurs elsewhere.

In Ja /a/ has a higher fronted allophone [ə] when followed by /i/; a lower centralized allophone [a] occurs elsewhere.

In Ja /u/ has a central allophone [ɨ] when followed by /i/; the back allophone [u] occurs elsewhere.

In Ja /t d c j ʃ ʒ k g k^w g^w/ have backed allophones [t̚ d̚ c̚ j̚ ʃ̚ ʒ̚ k̚ g̚ k̚^w g̚^w] before the vocalic cluster /ui/.

CHAPTER III

INTERMEDIARY RECONSTRUCTION

In a number of etymologies, the reconstructed proto-form, taken together with internal evidence in certain languages has made possible the reconstruction of earlier forms for those languages intermediate between them and the proto-language; such forms are listed parenthetically in the appendix following the attested form and labeled with the appropriate pre-language. Several general aspects of such intermediary reconstruction are discussed here in order to provide a clearer picture of the developments involved.

3.1 Pre-Ja and Pre-Do Reconstruction

3.1.1 In PMaz some sets are reconstructed both with and without a nasal in cluster with other consonants; cf. 232, 284, 285, 294, 295, 298, 301, 346, 348, and 594. Apparently by analogy, Ja and Do extended this pattern of $n \sim \emptyset$ to other forms, although it could also be argued that this alternation constitutes archaic residue preserved in these two languages. However, since further evidence for such an alternation seems absent from the other languages I have

3.1.1

treated it as analogical extension in Ja and Do.

The alternate without the nasal occurs phrase initially in Ja and Do; the alternate with the nasal occurs phrase medially. It seems reasonable that this alternation developed from Pre-Ja and Pre-Do forms with a nasal. Note the following examples: 98, 143, 146, 150, 180, 288, 289, 290, 292, 294, 302, 328, 344, 345, 350, 351, 369, 385, 414, 415, 482, 538, 692, 704, 705, 709, 710, 712, and 714.

3.1.2 In Ja a class of nouns have phonological alternation of /a/ and unglided tone ~ /o/ and falling tone from the pitch level of the /a/ form to tone ³, unless the tone of the /a/ form is itself tone ³. The form with /o/ and falling tone occurs phrase final; the alternate with /a/ and unglided tone occurs elsewhere. Inspection of the corresponding reflexes in all other sister languages shows that the vowel in this position developed from *a and not *au which > Ja /o/. From this one can conclude that the alternate in Ja with /o/ and falling tone is the locally innovated form. The Pre-Ja form is thus reconstructed with *a and unglided tone in sets 100, 276, 324, 352, 359, 392, 428, and 472.

3.1.3 Do and Pre-Ja disyllables with a syllable structure of *ha^T- + -n{stop}(h)V^{T'} > Ja ñ^T- + -{stop}(h)V^{T'} (where ^T and ^{T'} represent tones and + represents syllable division). In Ja the consonant and vowel of the first

3.1.3

syllable were lost and the tones of the earlier first syllable were shifted to the *n- initial of the second syllable; a new disyllable was then created in Ja with contrastive tones carried by the syllabic nasal.

This reconstruction from Ja syllabic nasals is made possible, to a large degree, by noting that in all forms where Ja has a syllabic nasal Do (the language most closely related to Ja) has /ha- + -n-/. The fact that various other languages give sporadic evidence of /ha-/ or /kha-/ further substantiates the hypothesis that Ja syllabic nasals came from an earlier *ha- + -n-. The lack of regular correspondences (outside the Ja /ñ-/: Do /ha- + -n-/) suggests that *kha- ~ *ha- may have been a PMaz nominal prefix that marked a small noun class. Besides the sets that are represented by Do and Pre-Ja *ha-, the *kha- ~ *ha- alternation before *-ma⁴ in set 182 may be evidence of another member of this class.

The following sets are reconstructed with Pre-Ja *ha-: 124, 125, 183, 184, 186, 352, and 713.

3.2 Pre-Ix Reconstruction

3.2.1 A pattern of unstressed *nV > /ñ/ (syllabic nasal) appears to be emerging in Ix. Evidence of /nV/ ~ /ñ/ can be seen in cognate sets 249, 256, 259, 261, 279, 318, 374, and 379. Sets 255, 263, and 353 show only a form with /ñ/. How-

3.2.1

ever, for all of these sets it seems reasonable to suggest that the Pre-Ix form was *nV.

3.2.2 Ix generated a vowel between the cluster of non-palatalized apical stop plus dorsal stop; this generated vowel is identical to the Ix vowel immediately following the dorsal stop. Sets 596, 597, 598, and 599 are reconstructed as coming from a Pre-Ix cluster of non-palatalized apical stop plus dorsal stop without a vowel between them. (The palatalized apical stop plus dorsal stop shows regular development of becoming Ix /ti-/ plus dorsal stop, see §4.9.2.)

3.3 Pre-So Reconstruction

So Mazatec has an intricate system of tonally conditioned allomorphs. The basic system has been characterized by Pike as follows (1956:57-58):

(1) Morphemes with tone clusters have progressive influence only; morphemes with single tones have regressive perturbing influence only...

(2) When morphemes with single tones perturb the tone of another morpheme, they are not themselves perturbed; but when morphemes comprised of a syllable containing a tone cluster perturb the tone of another morpheme..., they themselves are reciprocally affected in their tonal content...

(3) The phonemic height of a single-tone morpheme radically affects its perturbing characteristic:

(a) Regressive perturbation which is caused by morphemes with tone 1 affects, exclusively, those morphemes which are within that same grammatical word...; whereas progressive perturbation which is caused by morphemes with tone 1 affects, exclusively, those morphemes which are in the following word... (b) A morpheme with tone 2

3.3

has no perturbing influence whatever and, but for a small residue, allomorphs with tone 2 occur exclusively as the result of perturbations. (c) Morphemes with tone 3 or 4 cause regressive perturbation exclusively, and that perturbation is only of morphemes within the same grammatical word...

(4) The analyst must take account of crisscrossing combinations: (a) of the particular tone of the morpheme which causes the perturbation, and (b) of the specific place of occurrence in some larger grammatical and/or phonological unit.

Gudschinsky (1959:19) points out that in polysyllables the correspondence of Hu tones is with the So basic tones rather than the actually occurring ones. The So basic tones can be reconstructed by applying Pike's (1956) rules in reverse. However, it should be noted that to reverse the rules in a number of instances creates ambiguity; the So occurring tone may be derived from different sources, e.g., basic $^3 + ^4$, $^1 + ^4$, and $^{24} + ^4$ all become present day So $^2 - ^4$. A summary of the possible Pre-So disyllabic tones that can be chosen from present day So tones is presented in Chart 5. In cases where different Pre-So tones may be chosen, selection is made in terms of correspondence to Ja and Hu tones, cf. §6.2, particularly Chart 19. When my choice differs from Gudschinsky's (1959), this fact is so indicated in the explanatory paragraph that follows each cognate set.

A summary of the Pre-So tone intermediate reconstruction is now presented. In sets 591 and 672 So $^1 - ^1$ is

CHART 5

PRE-SO AND SYNCHRONIC SO DISYLLABIC
TONE CORRESPONDENCES

<u>Synchronic So</u>	<u>Pre-So</u>
1 - 1	*21 - 1
1 - 1	*32 - 1
1 - 1	*2 - 1
2 - 3	*1 - 3
2 - 4	*1 - 4
2 - 4	*3 - 4
2 - 4	*24 - 4
3 - 2	*21 - 3
3 - 24	*21 - 4
3 - 24	*32 - 4
4 - 24	*42 - 4
41 - 1	*42 - 1

3.3

reconstructed as from Pre-So $*^{21} - ^1$; in sets 556 and 720 So $^2 - ^3$ is reconstructed as from Pre-So $*^1 - ^3$; in sets 350 and 351 So $^2 - ^4$ is reconstructed as from Pre-So $*^1 - ^4$; in set 637 So $^2 - ^4 - ^4$ is reconstructed as from Pre-So $*^3 - ^4 - ^4$; in set 664 So $^3 - ^2 - ^4$ is reconstructed as from Pre-So $*^{21} - ^4 - ^4$; in sets 46, 171, 178, 437, 449, 455, 459, and 554 So $^3 - ^2$ is reconstructed as from Pre-So $*^{21} - ^3$; in sets 30, 593, and 624 So $^3 - ^2 - ^3$ is reconstructed as from Pre-So $*^{21} - ^3 - ^3$; in set 663 So $^3 - ^2 - ^4$ is reconstructed as from Pre-So $*^{21} - ^3 - ^4$; in set 470 So $^3 - ^2 - ^{32}$ is reconstructed as from Pre-So $*^{21} - ^3 - ^{32}$; in sets 424 and 644 So $^3 - ^3 - ^2$ is reconstructed as from Pre-So $*^3 - ^{21} - ^3$; in set 29 So $^{21} - ^3 - ^2$ is reconstructed as from Pre-So $*^{21} - ^{21} - ^3$; in sets 123, 205, 480, 490, 568, 590, 649, and 650 So $^3 - ^{24}$ is reconstructed as from Pre-So $*^{21} - ^4$; in sets 4 and 652 So $^3 - ^3 - ^{24}$ is reconstructed as from Pre-So $*^3 - ^{21} - ^4$; and in set 219 So $^4 - ^3 - ^{24}$ is reconstructed as from Pre-So $*^4 - ^{21} - ^4$.

3.4 Pre-Te Reconstruction

It seems that $*ya-$ in unstressed syllable (when not followed by $*-hu$) is shifting to Te $/ʔi-/$. $*ya-$ followed by $*-hu$ regularly $>$ Te $/yi-/$ (see §5.1.3); but unstressed $*ya-$ in other environments apparently has not yet stabilized in Te. Sets 345, 666, 671, 672, and 674 give $/ʔi-/$; sets 662

3.4

664, 668, 670, and 673 give /ya-/; set 675 gives /ʔa-/.

It seems reasonable to suppose that all of these come from Pre-Te *ya-; sets 345, 663, 666, 671, 672, 674, and 675 are reconstructed as coming from Pre-Te *ya-.

CHAPTER IV

RECONSTRUCTION OF PROTO-MAZATEC CONSONANTS

This chapter along with the two that follow, explains the bases of the reconstructed etyma found in the appendix. The contrasts and complementations between sets of correspondences are presented here in detail to make explicit the hypotheses that underlie and support the reconstructed forms.

4.1 Laryngeals (*h, *ʔ)

The laryngeals *h and *ʔ are presented first because of their importance to the general understanding of PMaz reconstructions. Both *h and *ʔ occurred as simple syllable initials, and as the first member of onset clusters involving nasals and semivowels; *h (but not *ʔ) also occurred as the final member of consonantal margins following stops and spirants. The importance of these two laryngeals in the reconstruction of PMaz is signaled both by their breadth of distribution and by the fact that they are either involved in sound changes or else they are significant reference points.

4.1.1 *h as a simple syllable initial onset is reconstructed here; subsequent sections reconstruct *h in cluster with other consonants.

The environment *-VhV, where the vowels of PMaz were

4.1.1

either both front or both back, is of considerable importance in explaining both consonantal and vowel developments in the various daughter languages. The general characteristics of sound developments in the *-VhV environments are outlined here so that the system can be seen as a unified whole.

(1) The *-VhV environment gives a reasonable explanation for the development of the voiced lenis vs. the voiceless fortis contrasts for all Ja synchronic stops and for Do apical stops. It appears that PMaz stops had two allophones. The voiced lenis allophone occurred when stops were preceded by *n and followed by V in weakly stressed syllables; the voiceless fortis allophone occurred elsewhere. The development of the stops from this hypothesized proto-system is as follows: (a) Cq maintains the distribution of stop allophones characteristic of PMaz. (b) Mz, Hu, Ji, So, Ix, Mg, and Te closely parallel the distribution of the PMaz stop allophones except that the voiceless allophone is redistributed to occur in the *nTV^hV *[nDV^hV] environment (where T represents any voiceless stop and D any voiced stop) which became /nT^hV/ [nT^hV] in many of these languages, also heavily stressed *nTV *[nTV] > /nTV/ [nDV]. (c) Lo merged the distribution of the proto-allophones and used the voiced lax allophone as the general norm, although a voiceless allophone appears to fluctuate with the voiced allophone in stressed syllables. (d) The development of phonemic contrast in Do

4.1.1

and Ja was in three stages. First, *-hV was lost (under obscure conditions) in set 32 *-nta³há² constructs, makes and set 358 *nta³há² good (these two etyma likely are related). However, it is important that Lo gives evidence for *-hV. With the loss of this syllable, the newly heavily stressed monosyllable [ndá] then contrasted with *ʔi³ntá^{4s} *[ʔi³ntá^{4s}] soft (695) > Ja /ntá²/.

Apparently the next sound change that served to strengthen this weak phonemic contrast was the loss of phrase initial nasals in Ja and Do (cf. §3.1.1). The loss of the nasal in these *n{stop} clusters in which the stops were phonetically voiced thus created a contrast with the voiceless stops. This weak phonemic contrast was further reinforced in Ja by another sound change. *h metathesized with preceding vowel in the *-VhV environment when the consonantal margin was semivowel (*y, *w), nasal (*m, *n, *ñ), or nasal plus stop (*n{t, t^y, c, č, k, k^w}). The new Ja monosyllable of {n} + {voiced lenis stop} + {h} then contrasted with older monosyllables of *{n} + {stop (where the original allophone was voiceless fortis)} + {h}, e.g., Ja /ndhé³/ < *nte⁴hé⁴ deer (378) contrasts with Ja /nthé³/ < *nthé⁴ seed (385). A number of contrasts of this type can be found by comparing §4.1.1.1 (where the disyllabic proto-form is evidenced by disyllabic reflexes in all languages except Ja, which metathesized *h, and Hu and Mg, which lost *h in this

4.1.1

environment) with §4.5 (where the monosyllabic reflexes in all daughter languages attest a proto-monosyllable of the shape $\{n\} + \{\text{stop (phonetically voiceless)}\} + \{h\}$).

Other hypotheses can, of course, be suggested to explain the Ja fortis-lenis stop contrasts. It might be suggested that Ja evidence reflects a contrast that existed in PMaz and that other dialects lost this contrast. Or as a simple restatement of this same general hypothesis, one might suggest that PMaz had three laryngeals rather than two, the third laryngeal having a voiced quality ($\{h\}$) that could be used to explain the voiced lenis quality of Ja stops as well as the anticipated murmured quality of the Ja vocalic nucleus in these types of syllables. However, if the third laryngeal hypothesis were selected, the third laryngeal would need to be reconstructed in two different places in the syllable since voiced stops in Ja (and Do) also occur without the presence of an anticipated murmured vowel (see §4.4).

Either one of these two alternate hypotheses accounts for the reflexes of the daughter languages (what I have posited as proto-disyllables with $\{VhV\}$ could be treated as monosyllables, and disyllabic reflexes would be considered a development in the daughter languages). However, these alternate hypotheses are not as satisfactory for several reasons. In the first place, at the present stage in the development of Otomanguean studies there appears to be no

4.1.1

evidence from other language families of a proto-fortis-lenis contrast (or the alternative of this, a third contrastive laryngeal). Most importantly, there appears to be no evidence for this in Proto-Popolocan (PMaz, Popoloca, Ixcatec, and Chocho), the next layer back. It is unsafe to project such a system back in the proto-layers, with infinite regress, without further substantiation, especially when the evidence comes primarily from only one Mazatec language and when at the same time a plausible hypothesis is available to explain it as a development in that language.

Another consideration in favor of rejecting these two alternate hypotheses is that consonant clusters appear regularly to result in the Otomanguan language families from the loss of earlier intervening vowels. The alternate hypotheses suggest precisely the opposite and complicate the explanation of development from earlier layers. Many etyma reconstructed as *-VhV have identical vowels and tones in both syllables; this might suggest that the disyllables in the daughter languages developed from proto-monosyllables with reassignment of *[h]. If this *[h] is interpreted as *h̥ (a third laryngeal) it could be postulated as the final member of the consonant cluster; if it is equated with *h then it cannot be interpreted as the final member in a consonant cluster because of contrast (see §4.3). It could be postulated as post-syllabic *-h following the vocalic

nucleus; however, all the daughter languages have only open syllables, and to postulate such a closed syllable for PMaz seems unwise when another adequate hypothesis is available. It should also be observed that not all PMaz etyma reconstructed with *-VhV have identical vowels and tones in both syllables; note the following examples: *ntu⁴hú⁴ soap (400), *ntu³hú² long (397), *ma³ntu⁴hú¹ fulfill (235); *wa³há¹ hits (632), *wa³hú² hungry (633); ya³hú³ meat (678), *ya³hú² sharp (677); *nča³há¹ corn drink (297), *mę³hę² wants (239), *mı³hı² upgrade (240). Although hypotheses such as those mentioned above can be suggested for deriving these disyllables from monosyllables they leave unaccounted the development of Ja and Do voiced stops in many of the *n{stop}V environments (§4.3) where no laryngeal is present in the environment.

Then, too, Ja and Do are more closely related to each other than either is to other Mazatec languages. The alternate hypotheses blur this fact. The hypothesis adopted here neatly accounts for initial parallel development of Ja and Do of the fortis-lenis stop contrast, with Ja innovating (as it does on other points also when compared with Do) the *h metathesis that reinforced the contrast in Ja.

However, the one most important reason for rejecting the alternate hypotheses is the limited distribution that would be set up in PMaz for the voiced stops (or the third

laryngeal); they would be reconstructed primarily in the environment $*n_h$. The limited distribution of contrast is better accounted for as a development in Ja and Do rather than a feature of PMaz.

(2) Another important feature of the $*-VhV$ environment is that it provides an explanation for the vowels in the sequence $*-ahu$. In certain daughter languages the cluster $*au > /o/$, cf. §5.2.7. For some Mazatec languages $*h$ in the sequence $*-ahu$ provided sufficient phonological barrier so that the vowels developed separately parallel to $*a$ and $*u$ elsewhere. For detailed development of the vowels consult §5.

In summary then, the frequency of identical vowels and tones in both syllables of the $*-VhV$ sequences may raise questions about these reconstructions, however, the broad hypothesis involved accounts for a number of apparently diverse phenomena--the voicing of stops in Ja and Do, metathesis of $*h$ in Ja, loss of $*h$ in Hu, Mg, and Ji, and peculiar vowel developments of the postulated $*-ahu$ sequence. Also, it reflects in a natural way the structure of present-day Mazatec languages. Alternate hypotheses seem to require a development stage such as is postulated here for PMaz in order to account for the data. There seems to be no reason to assign this stage to a period earlier or later than PMaz.

4.1.1

Unclustered *h is reconstructed from four types of non-contrastive sets. The complementary environments are summarized in Chart 6.

(1) In syllables in which *h is immediately preceded and immediately followed by only front vowels or only back vowels and when the consonants of the preceding syllable margin are *y, *w, *n{t, t^y, c, č, k, k^w}, *m, or *ñ, *h is reconstructed from Mz h : Ay h : Cq h : Ja h (metathesized with preceding vocalic nucleus): Do h : Hu Ø : Ji h : So h : Ix h : Mg Ø : Lo h : Te h as in set 426 *ñy^shú^s
four:

Mz	ñyhú	Ji	ñihú
Ay	ñyhú	So	ñy ^s hú ¹
Cq	ñyhú	Ix	ñihú
Ja	ñhú ^s	Mg	ñú
Do	ñyhú	Lo	ñihí
Hu	ñy ^s	Te	ñihú

Additional examples: 218, 232, 235, 236, 239, 240, 297, 299, 300, 301, 346, 363, 378, 397, 400, 404, 405, 406, 413, 421, 427, 443, 564, 632, 633, 669, 670, 677, 678, 679, 680, 685, and 687.

(2) In syllables in which *h is immediately preceded and followed by only front vowels or only back vowels and when the consonant in the preceding syllable is *n not in cluster with other consonants, *h is reconstructed from

4.1.1

Mz h : Ay h : Cq h : Ja h (metathesized with preceding
vocalic nucleus) : Do h : Hu h : Ji h : So h : Ix h :
Mg h : Lo h : Te h as in set 329 *ni₁h₁^{f4} corn (dry ear):

Mz ni ₁ h ₁ ^f	Ji ni ₁ h ₁ ^f
Ay ni ₁ h ₁ ^f	So ni ₁ ⁴ h ₁ ^{f4}
Cq ni ₁ h ₁ ^f	Ix ni ₁ h ₁ ^f
Ja nh ₁ ^{f3}	Mg ni ₁ h ₁ ^f
Do ni ₁ h ₁ ^f	Lo ne ₁ he ₁ ^f
Hu ni ₁ ⁴ h ₁ ^{f4}	Te ni ₁ h ₁ ^f

Additional examples: 109, 264, 310, and 313.

(3) In syllables in which *h is immediately preceded
and followed by only front vowels or only back vowels and
when the consonant in the preceding syllable is unclustered
*š, *c, or *č, *h is reconstructed from Mz h : Ay h :
Cq h : Ja h : Do h : Hu ø : Ji ø : So h : Ix h :
Mg ø : Lo h : Te h as in set 560 *šu⁴h₁^{u4} paper:

Mz šuh ₁ ^u	Ji š ₁ ^u
Ay šuh ₁ ^u	So šu ⁴ h ₁ ^{u4}
Cq šuh ₁ ^u	Ix šuh ₁ ^u
Ja šu ³ h ₁ ^{u3}	Mg š ₁ ^u
Do šuh ₁ ^u	Lo ših ₁ ^f
Hu š ₁ ^{u4}	Te šuh ₁ ^u

Additional examples: 15, 54, 66, 298, and 301.

(4) In environments other than the three mentioned
above, *h is reconstructed from identical reflexes of /h/

4.1.1

in all daughter languages as in set 128 *haú² two:

Mz	hó	Ji	hó
Ay	hó	So	hó ¹
Cq	hó	Ix	hó
Ja	hó ²	Mg	hó
Do	hó	Lo	hwí
Hu	haú ²	Te	hú

Additional examples: 43, 120, 121, 122, 123, 124, 125, 127, 129, 130, 131, 132, 159, 162, 228, 342, 382, 464, 530, 582, 601, and 663.

CHART 6

CORRESPONDENCE SETS FOR THE RECONSTRUCTION OF *h

	Mz	Ay	Cq	Ja	Do	Hu	Ji	So	Ix	Mg	Lo	Te
(1)	h	h	h	~h	h	∅	h	h	h	∅	h	h
(2)	h	h	h	~h	h	h	h	h	h	h	h	h
(3)	h	h	h	h	h	∅	∅	h	h	∅	h	h
(4)	h	h	h	h	h	h	h	h	h	h	h	h

~h signifies that h metathesized with the preceding vocalic nucleus

- (1) In syllables in which *h is immediately preceded and followed by only front vowels or only back vowels and when the consonants of the preceding syllable are *y, *w, *n {t, t^y, c, č, k, k^w}, *m, or *ñ.

4.1.1

- (2) In syllables in which *h is immediately preceded and followed by only front vowels or only back vowels and when the consonant in the preceding syllable is *n.
- (3) In syllables in which *h is immediately preceded and followed by only front vowels or only back vowels and when the consonant in the preceding syllable is *ʒ, *c, or *č.
- (4) In other environments.

4.1.2 There are problems in the reconstruction of *ʔ that are not neatly resolved in this study. Much of the difficulty undoubtedly lies in the quality of some of the data. For many of the daughter languages, one cannot be certain of correct phonemicization of contrast or complementation between monosyllabic laryngealized vowel and disyllabic rearticulated vowels with glottal catch between the vowels. Hu and Ja, however, reflect the most detailed and accurate analyses.

Gudschinsky, in both 1956 and 1959, reconstructed *ʔ in two positions in the syllable--as the initial element of the syllable, with or without other consonants following before the vowel; and as the final member of a consonant cluster preceding the vocalic nucleus. The latter environment is poorly attested in both her 1956 and 1959 PMaz etyma. In 1956 (p.22) she posits *tʔ, *tʲʔ, *kʔ, *kʷʔ, *cʔ, *čʔ, *sʔ,

4.1.2

*ʒʔ. Her cognate sets PMS 12, 15, 20, 28, 36, 43, 52, and 88 contain her only examples. *k^wʔ is nowhere attested and *tʔ is found only in the *ntʔ cluster in PMS 20.

In the 1959 work (p.5) she again posits *tʔ, *t^yʔ, *kʔ, *k^wʔ, *cʔ, *ʕʔ, *sʔ, *ʒʔ, although the evidence is no more extensive. In the array of cognate sets involved, *tʔ, *t^yʔ, *k^wʔ are not reconstructed in any PMaz etyma. On the other hand, *hwʔ (PPn 224) and *wʔ (PPn 356) are reconstructed, although they are not listed in her inventory of clusters with *ʔ (1959:5). Only the etyma PPn 61, 124, 150, 173, 224, 230, and 356 are reconstructed with glottal catch as the final member of a consonantal cluster before the vocalic nucleus. This seems limited attestation for *ʔ as the final member of consonantal clusters.

A further point of interest in Gudschinsky's treatment of *ʔ is her seemingly ambivalent reconstruction of the position of *ʔ in the etyma. In PPn 224 she reconstructs *CCʔV, but from parallel reflexes in PPn 59 she reconstructs *CCVʔV. Of interest along this line is that she makes a parenthetical note in PPn 356 that her reconstructed *CʔV is from an earlier *CVʔV; she gives no explanation of the suggested development.

I have reconstructed *ʔ in only one position in the syllable (it is thus not parallel to the other laryngeal, *h, which also occurs as the final member of consonantal clusters).

4.1.2

*ʔ occurs as a simple initial or the first member of an onset cluster; there appears to be no clear contrast that requires reconstructions of the type *CʔV.

In a few sets I have not attempted to explain the development of *ʔ, namely: sets 26, 27, 28, 29, 30, 31, and 33 which all involve the same morpheme *-ci¹ʔi¹-; and sets 32, 94, 162, 464, and 650.

Unclustered *ʔ is reconstructed from two types of non-contrastive sets (for treatment in clusters see §4.7 and §4.11.3).

(1) Initially in the word, *ʔ is reconstructed from identical reflexes of /ʔ/ in all daughter languages as in set 690 *ʔá³ unoccupied:

Ay ʔá	So ʔá ³
Cq ʔaí	Ix ʔá
Ja ʔá ²	Lo ʔó
Do ʔá	Te ʔá
Hu ʔá ³	

Additional examples: 691, 692, 693, 694, 695, and 696.

(2) When not initial in the word, *ʔ is reconstructed from Mz ʔ : Ay ʔ : Cq ʔ : Ja ʔ : Do ʔ : Hu ʔ : Ji ʔ : So ʔ : Ix ʔ : Mg ʔ : Lo ʔ : Te ∅ as in set 45 *cu¹ʔú¹ blouse:

4.1.2

Mz	cʔú	Jl	cʔú
Ay	cʔú	So	cʔú
Cq	cuʔú	Ix	cʔú
Ja	cʔú ¹	Mg	cʔú
Do	cʔú	Lo	cɬʔɬ
Hu	cʔú ¹	Te	cú

Additional examples: 1, 2, 5, 10, 16, 37, 38, 40, 44, 59, 60, 65, 69, 70, 93, 101, 103, 116, 117, 120, 122, 163, 174, 178, 181, 185, 195, 199, 251, 285, 286, 343, 357, 372, 373, 374, 383, 384, 407, 411, 412, 423, 445, 456, 463, 468, 486, 492, 500, 506, 512, 515, 522, 531, 536, 558, 577, 595, 600, 612, 628, 629, 652, 681, 683, and 688.

4.2 Non-clustered Oral Stops

(*t, *tʲ, *k, *kʷ, *c, *ç)

4.2.1 *t is reconstructed from an identical set of reflexes in each of the twelve daughter languages as in set 570 *té³ ten:

Mz	té	Jl	té
Ay	té	So	té ³
Cq	té	Ix	té
Ja	té ²	Mg	té
Do	té	Lo	tá
Hu	té ³	Te	té

4.2.1

Additional examples: 33, 36, 43, 49, 58, 91, 113, 210, 212, 221, 249, 280, 304, 308, 408, 422, 424, 494, 561, 562, 564, 565, 566, 567, 568, 569, 571, 572, 573, 589, 591, 592, 593, 594, 595, 600, 601, 602, 603, 604, 605, 606, 607, 642, 643, 644, 646, 647, and 674.

4.2.2 $*t^y$ is reconstructed from two types of non-contrastive sets. Although one of these types is based on only one example, nevertheless it seems justifiable in that what is lost in Mz, Ay, Cq, So, Ix, and Mg is the evidence of palatalization before the vowel $*i$; and in this same environment Lo evidences /ç/ rather than /ç/. Also, the conditioning effect of front vowels on $*t^y$ can be seen in two etyma of the $*nt^y$ cluster, cf. §4.4.2.

Although vowel clusters are posited for PMaz, $*t^y$ can not be treated as $*tiV$ because of the contrast with set 586. Also an interpretation of $*t^y$ as $*ti$ would set up a cluster of identical vowels ($*ii$); such a cluster would be unique since there appears to be no evidence for any other identical vowel clusters in PMaz. Nor do any of the present-day Mazatec languages thus far investigated show clusters of identical vowels.

(1) Before $*i$, $*t^y$ is reconstructed from Mz t :
 Ay t : Cq t : Ja t : Do t : Hu ç : Ji ç : So t :
 Ix t : Mg t : Lo ç : Te ç in set 621 $*t^y i^3 \tilde{n} \acute{a}^3$ near:

4.2.2

Mz	tiñá	Ji	čĩñá
Ay	tiñá	So	ti ^s ñá ^{s²}
Cq	tiñá	Ix	tiñá
Ja	ti ¹ ñá ^s	Mg	tiñá
Do	tiñá	Lo	čĩñó
Hu	čĩá ^s	Te	čĩñá

(2) Before vowels other than *i, *t^y is reconstructed from Mz ti : Ay ti : Cq ti : Ja t : Do t : Hu č : Ji č : So ty : Ix ti : Mg ti : Lo č : Te č as in set 608 *t^ya^swá^s, *t^yu^swá^s white:

Ay	tiwá	So	tya ^s wá ^{s²}
Cq	tiawá	Ix	tiwá
Ja	ta ^s wá ^{s²}	Mg	tiá
Do	tawá	Lo	čĩwó
Hu	čuá ^s	Te	čuwá
Ji	čá		

Additional examples: 281, 353, 609, and 628.

4.2.3 *k is reconstructed from identical reflexes in all daughter languages as in set 175 *ká^{4s} twenty:

Mz	ká	Ji	ká
Ay	ká	So	ká ^{s²}
Cq	ká	Ix	ká
Ja	ká ^{s²}	Mg	ká
Do	ká	Lo	kó
Hu	ká ^{4s}	Te	ká

4.2.3

Additional examples: 18, 27, 28, 62, 68, 88, 89, 108, 171, 172, 173, 174, 176, 177, 178, 204, 205, 207, 208, 209, 210, 211, 212, 213, 214, 219, 258, 284, 295, 343, 346, 348, 386, 438, 474, 566, 573, 602, 634, 635, 636, 662, 663, 679, and 710.

4.2.4 In §5.2 I have posited vowel clusters as a feature of PMaz. This then raises the question of whether $*k^wV$ should not then be interpreted as $*kuV$. At the PMaz horizon, the contrast between $*k^wV$ and $*kuV$ appears to have been fully developed; note the contrast between $*ncu^s ku^s$, $*cu^4 ku^s$ foot (you sg.) (295) with $*k^w i^s$ this, he (225). However, at a Pre-PMaz horizon the vowel cluster of PMaz $*kui$ may have been interrupted by $*h$ or $*ʔ$. If such a laryngeal was subsequently lost it then would account for the contrast in PMaz between $*kuV$ and $*k^wV$.

$*k^w$ is reconstructed from Mz kw : Ay k^w : Ja k^w :
Do k^w : Hu ku : Ji ku : So kw : Ix ku : Mg k^w :
Te ku as in set 255 $*k^w i^s$ this, he:

Mz kwí	Do $k^w i$
Ay $k^w i$	Hu kuí ^s
Ja $k^w i^2$	Ix kuí

Additional examples: 215, 218, 226, and 410.

4.2.5 $*c$ is reconstructed from two types of non-contrastive sets. One of these types is poorly attested in

4.2.5

that all of the examples involve the morpheme *-ci¹ʔi¹- do. However, in defense of what appears to be unwarranted generalization from a single morpheme in an apparently questionable environment the following considerations are presented: (a) In these sets there appears to be regular correspondence of Mz, Ay, Cq, Ja, Do, So, Ix /c/ to /s/ in Hu, Ji, Mg, and Lo; (b) there appears to be no evidence in PMaz of *c ~ *s so it seems unwise to posit such an alternation for this etymon; (c) the evidence in Proto-Popolocan, though scanty at present, gives evidence for only *c in this morpheme, cf. Ixcatec forms in Gudschinsky (1959) sets PPN 47 and 336; and (d) the environment posited, that of antepenult syllable preceding *-iʔiCV, has plausibility in that laryngeal environments frequently affect consonant and vowel developments. It appears that *VʔV in some respects resembled a single syllable; thus it is not surprising that *c in unstressed environment before *-iʔi- > lax and merged with *s in Hu, Ji, Mg, and Lo.

(1) In antepenult syllables preceding *-iʔiCV, *c is reconstructed from Mz c : Ay c : Cq c : Ja c : Do c :
Hu s : Ji s : So c : Ix c : Mg s : Lo s : Te s as in
set 26 *-ci¹ʔi¹- do:

4.2.5

Mz	ticiská <u>plays</u>	Ji	sikʔaškí <u>criticize</u>
Ay	ticʔintá <u>construct</u>	So	ci ²¹ ntá ³¹ <u>construct</u>
Cq	ticintahá <u>construct</u>	Ix	ticʔintá <u>construct</u>
Ja	ti ¹ cʔi ¹ khʔá ²	Mg	sikeýá <u>lends</u>
	<u>purges</u>	Lo	sikañá <u>lends</u>
Do	ticʔikhʔá <u>purges</u>	Te	tisikhá <u>purges</u>
Hu	si ¹ kha ³ ʔá ³ <u>purges</u>		

Additional examples (all with *-ci¹ʔi¹-): 27, 28, 29, 30, 31, 32, and 33.

(2) In all environments other than in antepenult syllables preceding *-iʔiCV, *c is reconstructed from identical reflexes of /c/ in all daughter languages as in set 256 *nə⁴ci¹ (*³ - ¹) grind stone:

Mz	nəci	Ji	nəci
Ay	nəci	So	nə ³ ci ²¹
Cq	nəci	Ix	nəci, ñcé (Pre-Ix *nəci)
Ja	nə ² ci ¹	Lo	nəcé
Do	nəci	Te	nəci
Hu	nə ⁴ ci ¹		

Additional examples: 1-17, 34, 35, 36, 37, 39-53, 96, 161, 204, 232, 254, 255, 284, 285, 294, 295, 323, 374, 376, 377, 468, 600, 616, and 631.

4.2.6 *č is reconstructed from identical reflexes of /č/ in all daughter languages as in set 107 *čú⁴ animal:

4.2.6

Mz	čú	Ji	čú
Ay	čú	So	čú ⁴
Cq	čú	Ix	čú
Ja	čú ³	Mg	čú
Do	čú	Lo	čí
Hu	čú ⁴	Te	čú

Additional examples: 54-72, 88-106, 108-119, 201, 208, 231, 258, 259, 262, 263, 298, 301, 351, 424, 425, 457, 529, 561, 637, 643, 666, and 720.

4.3 Stop Plus *h

(*th, *t^yh, *kh, *k^wh, *ch, *čh)

4.3.1 *th is reconstructed from an identical set of reflexes as in 318 *n_i³thá³ clay griddle:

Mz	n _i thá	Ji	n _i thá
Ay	n _i thá	So	n _i ³ thá ³
Cq	n _i thá	Ix	n _i thá, ñthá (< Pre-Ix *n _i thá)
Ja	n _i ² thá ²	Mg	n _i thá
Do	n _i thá	Lo	n _i thó
Hu	n _i ³ thá ³	Te	n _i thá

Additional examples: 19, 92, 145, 222, 279, 379, 574-588, 657, and 680.

4.3.2

4.3.2 *t^yh is reconstructed from Mz thy : Ay thi :
 Cq thi : Ja thi : Do thi : Hu ɕh : Ji ɕh : So thy :
 Ix thi : Mg thi : Lo ɕh : Te ɕh as in set 610 *t^yhá^s arm,
shoulder:

Mz thyá	Ji ɕhá
Ay thiá-	So thyá ^s
Cq thiá-	Ix thiána <u>my arm</u>
Ja thiá ^s	Mg thiá
Do thiá	Lo ɕhó-
Hu ɕhá ^s	Te ɕhá-

Additional examples: 612-620, 658, and 675.

4.3.3 *kh is reconstructed from identical reflexes in
 all daughter languages as in set 202 *khí^{s1} far:

Mz khí	Ji khí
Ay khí	So khí ^{s2}
Cq khí	Ix khí
Ja khí ^s	Mg khí
Do khí	Lo khí
Hu khí ^s	Te khí

Additional examples: 2, 3, 8, 29, 30, 31, 53, 63, 124, 125,
 179, 180, 181, 185, 187-200, 203, 352, 370, 647, and 713.

4.3.4 *k^wh is reconstructed from Mz khw : Ay k^wh :
 Cq khu : Ja k^wh : Do k^wh : Hu khu : Ji khu : So khw :

4.3.4

Ix khu : Mg k^Wh : Lo k^Wh : Te khu as in set 216 *k^Whá⁴
abstract thing:

Mz khwathú <u>gift</u>	So khwa ⁴ ki ² śí ⁴ <u>law</u>
Ay k ^W hačá <u>war</u>	Ix khuasčá <u>war</u>
Cq khuasčá <u>war</u>	Mg k ^W haweyá <u>death</u>
Ja k ^W há ³ <u>thing</u> ,	Lo k ^W hočó <u>war</u>
k ^W ha ³ čá ¹ <u>war</u>	Te khuasčá <u>war</u> ,
Do k ^W hačá <u>war</u>	khuakiśí <u>truth</u>
Hu kúa ⁴ <u>abstract thing</u> ,	
kua ⁴ wi ³ yá ³ <u>death</u>	
Ji khuathó <u>gift</u>	

Additional examples: 217, 220, 219, 221, 222, 223, 224, 307, and 458.

4.3.5 *ch is reconstructed from identical reflexes in all daughter languages as in set 23 *chú² toasted:

Mz chú	So chú ¹
Ay chú	Ix chú
Cq chú	Mg chú
Ja chú ²	Lo chá
Hu chú ²	Te chú
Ji s ² ichú	

Additional examples: 17-22, 24, 25, and 217.

4.3.6 *čh is reconstructed from two types of non-contrastive sets:

4.3.6

(1) Preceding front vowels *i and *e, *čh is reconstructed from identical reflexes of /čh/ in all daughter languages as in set 78 *čhí² ripens:

Mz	tičhí	So	ki ^s čhí ¹
Ay	kičhí	Ix	kičhí
Cq	kičhí	Mg	kičhí
Ja	ki ² čhí ²	Lo	kičhí
Do	kičhí	Te	kičhí
Hu	ki ^s čhí ²		

Additional examples: 76, 77, 79-83, 229, 230, 381, and 523.

(2) Preceding back vowels *a and *u, *čh is reconstructed from Mz čh : Ay čh : Cq čh : Ja čh : Do čh : Hu čh : Ji čh : So čh : Ix čh : Mg čh : Lo čh : Te čh as in set 261 *na⁴čhú¹ (*^s - ¹) thread:

Mz	načhú	Ji	načhú
Ay	načhú	So	na ^s čhú ²¹
Cq	načhú	Ix	načhú, ñčhú (< Pre-Ix *načhú)
Ja	na ^s čhú ¹		
Do	načhú	Lo	nočhí
Hu	na ⁴ čhú ¹	Te	načhú

Additional examples: 73, 74, 75, 84, 85, 86, 87, 260, 387, 562, 668, and 679.

4.4 *n Plus Stop(*nt, *nt^y, *nk, *nk^w, *nc, *nč)

The development of voiced lenis vs. voiceless fortis stop contrasts in Ja and Do has been discussed in §4.1.1. In the following sections, the regularity of the development can be noted in weakly stressed syllables wherever the stop is not lost.

4.4.1 A few observations should be made regarding the reconstruction of *nt. Gudschinsky's statement (1956:13) that "the two simple prenasalized stops, *ⁿt and *ⁿk are also very stable except in certain clusters...[and] are reconstructed...from identical reflexes..." is now seen to be an over-simplification. While it seems likely that in PMaz *nt ~ *n in some environments, on the other hand it seems certain that in other environments the alveolar stop *t was simply lost. Gudschinsky in PPn 79, 346, 349, and 353 (my 394, 366, 389, and 367, respectively) posited etyma of *nt ~ *n. It is no longer necessary to posit *nt ~ *n in these etyma since the development is regular from *nt (cf. complementary environments (2) and (3) of Chart 7).

*nt is reconstructed from four types of non-contrastive sets. The complementary environments are summarized in Chart 7.

4.4.1

(1) In stressed syllables, *nt is reconstructed from /nt/ in all Mazatec languages as in set 271 *nā⁴ntá⁴ cactus (nopal):

Mz	nāntá	So	nā ⁴ ntá ⁴
Ay	nāntá	Ix	nāntá
Cq	nānta	Mg	nāntá
Ja	nā ³ ntá ³	Lo	nōntó
Do	nāntá	Te	nāntá
Hu	nā ⁴ ntá ⁴		

Additional examples: 82, 112, 183, 193, 270, 276, 317, 319, 320, 321, 330, 331, 481, 482, 483, 645, 695, and 696.

(2) In unstressed syllables followed by *-{y, w, s, c}V, *nt is reconstructed from Mz nt : Ay nt : Cq nt : Ja nV : Do nd : Hu nt : Ji nt : So nt : Ix nt : Mg nt : Lo nt : Te nt as in set 392 *nti⁴yá¹ road:

Mz	ntiyá	Hu	ntiá ⁴²
Ay	ntiyá	Ji	ntiyá
Cq	ntiyá	So	nti ⁴ yá ²¹
Ja	ni ³ yá ¹ , ni ³ yá ¹³	Mg	ntiaté <u>main road</u>
	(< Pre-Ja	Ix	ntiyá
	*ni ³ yá ¹)	Lo	ntiyá
Do	ndiyá	Te	ntiyá

Additional examples: (a) with *y in the following syllable 250, 316, 360, 380, 381, 382, 393, 396, and 408; (b) with *w in the following syllable 111, 354, 355, 359, 364, 365, and

401; (c) with *s in the following syllable 375, 388, and 398; and (d) with *c in the following syllable 374, 376, and 377.

(3) In unstressed syllables followed by *-iʔyu, *nt is reconstructed from Mz nV : Ay nV : Cq nt : Ja nV :
Do nd : Hu nV : Ji nV : So nV : Ix nt : Mg nV : Lo nV :
Te nV as in set 394 *nti⁴ʔyú^s ant:

Mz niʔyú	Ji niʔyú
Ay niʔiú, niyú	So ni ⁴ ʔyú ^s
Cq ntiʔiú	Ix ntiʔiú
Ja ni ^s ʔiú ^s	Mg niyʔú
Do ndiʔiú	Lo niʔyí
Hu ni ⁴ ʔyú ^s	Te niyú

Additional examples: 361, 366, 369, 389, 390, 399, and 413.

(4) In other unstressed syllables (in environments not those of (2) and (3) above), *nt is reconstructed from Mz nt :
Ay nt : Cq nt : Ja nd : Do nd : Hu nt : Ji nt : So nt :
Ix nt : Mg nt : Lo nt : Te nt as in set 397 *ntu^shú^s long:

Mz ntuhú	Ji ntuhú, ntú
Ay ntuhú	So ntuhú ¹
Cq ntuhú	Ix ntuhú
Ja ndhú ^s	Mg ntú
Do nduhú	Lo ntihí
Hu ntú ^{4s}	Te ntuhú

Additional examples: 32, 125, 235, 339, 353, 356, 357, 358, 362, 363, 370, 373, 378, 379, 383, 384, 387, 388, 400, 442,

564, 668, and 670.

CHART 7

CORRESPONDENCE SETS FOR THE
RECONSTRUCTION OF *nt

	Mz	Ay	Cq	Ja	Do	Hu	Ji	So	Ix	Mg	Lo	Te
(1)	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt
(2)	nt	nt	nt	n̥	nd	nt	nt	nt	nt	nt	nt	nt
(3)	n̥	n̥	nt	n̥	nd	n̥	n̥	n̥	nt	n̥	n̥	n̥
(4)	nt	nt	nt	nd	nd	nt	nt	nt	nt	nt	nt	nt

(1) In stressed syllables

(2) In unstressed syllables when followed by
* -{y, w, s, c}V

(3) In unstressed syllables when followed by *-ʔyV

(4) In other unstressed syllables, environments other
than (2) and (3)

4.4.2 *nt^y is reconstructed basically from four types of non-contrastive sets; the complementary environments are summarized in Chart 8. Environments other than those presented on the chart are relevant to the development of *nt^y: (a) when *nt^y was in unstressed syllable and followed by a semivowel in the following syllable consonantal margin, *t^y > ∅ in Ja and Do in set 417 (this is parallel to Ja, Do

4.4.2

*t > Ø in the *nt cluster, cf. §4.4.1); (b) in other unstressed environments, *nt^y > Ja, Do /nd/ in set 403 (for *nt > Ja, Do /nd/ with *h metathesis in Ja, cf. §4.1.1). These intersecting environments have been omitted from Chart 8 presentation because it would obscure the development of *t^y as conditioned before front and back vowel (cf. also §4.2.2).

Gudschinsky (1956:18, 1959:5) postulated at least one liquid, probably *l, in PMaz. However, it was "omitted from the discussion because of uncertainties in the reconstruction" (Gudschinsky 1959:5).

/l/ and/or /r/ occur in all of the Mazatec languages. However, several considerations are important in determining their status in PMaz: (a) both /l/ and /r/ have low frequency of occurrence in morphemes; (b) in rapid speech, Ja /ʃ/ in weakly stressed syllables following the heavily stressed syllable of the word has an allophone [ʃ̥]; (c) Hu li²kuí³ does not (410) has an alternant form ndi²kuí³ in precise speech; and, (d) most importantly, apart from Spanish loans (such as Ja rá²ša³ orange) neither /l/ nor /r/ occur in heavily stressed syllables.

The fact that Hu has alternate forms with /l/ ~ /nt/ (sets 386 and 410) might suggest that *l > /nt/ rather than the converse hypothesis that *nt^y > /l/. However, the fact that /l/, apart from Spanish loan words, never occurs in heavily stressed syllables is an important distributional

4.4.2

consideration; it is this particular fact that makes it seem highly probable that /l/ is a development in the daughter languages rather than a PMaz phoneme.

In the present study neither *l nor *r are reconstructed for PMaz. The presence of these liquids in the daughter languages is accounted for in the following ways: (a) Mz, Hu, Ji, Mg /l/ < *nt^y in weakly stressed syllables preceding *i as in sets 410, 411, 412, 413, and 457; (b) Mz, Hu, Ji, Mg /l/ < *nt^y in weakly stressed syllables followed by *-ahu in set 406; and (c) Cq /r/ < *t when in cluster with *k and *k^w as in sets 597, 598, and 599.

There is a small residue that is still unexplained either with or without proto-liquids: Cq /l/ in set 247; Ay /l/ in set 429; Mz /l/ in set 143; Te /l/ in set 510; and Mz, Ja, Do, Hu, Te /l/, So, Ix /r/ in set 386.

(1) In unstressed syllables preceding *-ahu, *nt^y is reconstructed from Mz l : Ay nti : Cq nti : Ja nd...i (*n metathesized in Ja, cf. §4.1.1) : Do ndi : Hu l : Ji l : So nty : Ix nti : Mg l : Lo n^y : Te nt in set 406
*nt^ya⁴hú⁴ stone, rock:

4.4.2

Mz ʔlahó, yahú	Ji lohó
Ay ntihó	So ntya ⁴ hó ⁴
Cq ntiohó	Ix ntihú
Ja ndhió ³	Mg ló
Do ndiohó	Lo nqhwí
Hu lau ⁴ , la ⁴ hau ⁴	Te ntuhú

(2) Preceding *i, *nt^y is reconstructed from Mz l :

Ay nt : Cq nt : Ja nd : Do nd : Hu l : Ji l : So nt :
 Ix nt : Mg l : Lo nṽ : Te nṽ as in set 411 *nti^sʔí¹ fire:

Mz lʔí	Ji lʔí
Ay ntiʔí	So nti ^s ʔí ²¹
Cq ntiʔí	Ix ntiʔí
Ja ndʔí ¹	Mg lʔí
Do ndʔí	Lo niʔyé
Hu lʔí ¹	Te niʔí

Additional examples: 410, 412, and 413.

(3) Preceding *e, *nt^y is reconstructed from Mz nt :

Ay nt : Cq nt : Pre-Ja *nt : Pre-Do *nt : Hu nč :
 So nt : Ix nt : Mg nt : Lo nč : Te nč as in set 407
 nt^ye¹ʔé¹ \ (^s - ^s) hears:

Mz ntʔí	Ix nteʔé
Ay tintʔé-	So tʔé ²¹ <u>he hears</u> , ntʔé
Ja (ti ¹)ntʔé ²	<u>he will hear</u>
Do tintʔé	Te khinčé
Hu nčʔue ¹	

4.4.2

Additional example: 408.

(4) Preceding back vowels (*a, *u) other than *-ahu, *nt^y is reconstructed from Mz nti : Ay nti : Cq nti : Ja nti : Do nti : Hu nč : Ji nč : So nty : Ix nti : Mg nti : Lo nč : Te nč as in set 416 *-nt^yú¹ (*⁴) marker, boundary:

Cq	šintiú	Ix	cintiú
Ja	či ² ntiú ¹	Mg	cintiú
Do	čintiú	Lo	cinčf
Hu	či ⁴ nčú ⁴	Te	cinčú

Additional examples: 198, 404, 405, and 418.

CHART 8

PRINCIPAL CORRESPONDENCE SETS FOR THE RECONSTRUCTION OF *nt^y

	Mz	Ay	Cq	Ja	Do	Hu	Ji	So	Ix	Mg	Lo	Te
(1)	1	nti	nti	nd...i	ndi	l	l	nty	nti	l	nV	nt
(2)	1	nt	nt	nd	nd	l	l	nt	nt	l	nV	nV
(3)	nt	nt	nt	nt	nt	nč		nt	nt	nt		nč
(4)	nti	nti	nti	nti	nti	nč	nč	nty	nti	nti	nč	nč

(1) In unstressed syllables preceding *-ahu

(2) Preceding *i

(3) Preceding *e

(4) Preceding back vowels (except in *-ahu)

4.4.3

4.4.3 *nk is reconstructed from two types of non-contrastive sets.

(1) In stressed syllables, *nk is reconstructed from identical reflexes in all daughter languages as in set 100 *či⁴nká⁴ pig:

Mz	činká	Hu	či ⁴ nká ⁴
Ay	činká	Ji	činká
Cq	činká	So	či ⁴ nká ⁴
Ja	či ³ nká ³ , či ³ nkó ³	Ix	činká
	(< Pre-Ja	Mg	činká
	*či ³ nká ³)	Lo	činkó
Do	činká	Te	činká

Additional examples: 3, 9, 80, 99, 188, 233, 244, 245, 269, 430, 434, 435, 455, 499, 581, 617, 619, and 639.

(2) In unstressed syllables, *nk is reconstructed from Mz nk : Ay nk : Cq nk : Ja ng : Do ng : Hu nk : Ji nk : So nk : Ix nk : Mg nk : Lo nk : Te nk as in set 349 *nki³ʔwá³ chin, jaw:

Mz	nkiʔwá	Ji	chaʔankiʔwá
Ay	nkiʔwá	So	nankiʔwá
Cq	nkiʔuá	Ix	nkiwá
Ja	ngi ² ʔwá ²	Mg	nkiwá
Do	ngiʔwá	Lo	nkiʔwó
Hu	nki ³ ʔwá ³	Te	nkiwá

Additional examples: 340, 341, 342, 343, 345, 346, 347, 348, 350, 351, and 640.

4.4.4

4.4.4 *nk^W is reconstructed only in two sets (which may be related) in unstressed syllables. The justification for reconstructing this poorly attested cluster is based on two considerations: (a) *n plus stop appears to have been a well developed pattern in PMaz; and (b) *k^W itself seems well enough attested, cf. §4.2.4.

In unstressed syllables, *nk^W is reconstructed from Ay nk^W : Cq nku : Ja ng^W : Lo nk^W as in set 632 *nk^Wa^shá¹ hits (1 p.):

Ay nk ^W aháre	Ja ng ^W há ^s
Cq nkuahári	Lo nk ^W ahá

Additional example (though perhaps related): 218.

4.4.5 *nc is reconstructed from two types of non-contrastive sets:

(1) In unstressed syllables, *nc is reconstructed from Mz nc : Ay nc : Cq nc : Ja nj : Do nj : Hu nc : Ji nc : Ix nc : Mg nc : Lo nc : Te nc as in set 294 *ncu^sʔwá^s (*^s - 1) mouth:

Mz ncuwá	Hu ncʔuá ^s
Ay ncuʔwá	Ji ncuʔwá
Cq ncuwá	Ix ncʔuá
Ja nju ^s ʔwá ¹ , ju ^s ʔwá ¹	Mg ncuwʔá
(<Pre-Ja	Lo ncuʔwó
*nju ^s ʔwá ¹) <u>lips</u>	Te ncuwá
Do njuʔwá, juʔwá (< Pre-	
Do *njuʔwá)	

4.4.5

Additional example: 232.

(2) In stressed syllables, *nc is reconstructed from identical reflexes of /nc/ in all daughter languages as in set 568 *te¹ncú⁴ goat:

Mz	tencú	So	te ³ ncú ²⁴ (< Pre-So
Ay	tencú		* ²¹ - 4)
Cq	teincú	Ix	tincú
Ja	te ¹ ncú ³	Mg	tencú
Do	čutencú	Lo	tancí
Hu	ti ² ncú ⁴	Te	tencú

Additional examples: 265, 286, 287, 292, and 293.

4.4.6 *nč is reconstructed from three types of non-contrastive sets:

(1) In weakly stressed syllables preceding *-VhV, *nč is reconstructed from Mz nč : Ay nč : Cq nč : Ja nč : Do nč : Hu nč : Ji nč : So nč : Ix nč : Mg nč : Lo nč : Te nč as in set 297 *nča³há¹ corn drink (atole):

Mz	nčahá	Hu	nčá ²¹
Ay	nčahá	Ji	nčá
Cq	nčahá	So	nča ³ há ²¹
Ja	nčha ¹ šú ¹	Ix	nčihá
	<u>chocolate drink</u>	Mg	nčá
Do	nčahašú	Lo	nčohó
	<u>chocolate drink</u>	Te	nčihá

Additional examples: 298, 299, 300, and 301.

(2) In weakly stressed syllables preceding *-VCV when C is neither *h nor *ʔw, *nč is reconstructed from Mz nč :
 Ay nč : Cq nč : Ja č : Do č : Hu nč : So nč : Ix nč :
 Mg nč : Lo nč : Te nč as in set 308 *nču⁴tɬ⁴ corn on the
cob:

Mz nčutɬ _ɬ	Hu nču ⁴ tɬ ⁴
Ay nčutɬ _ɬ	So nču ⁴ tɬ ⁴
Cq nčutɬ _ɬ	Ix nčitɬ _ɬ
Ja ču ³ tɬ _ɬ ³	Lo nčité
Do čutɬ _ɬ	Te nčitɬ _ɬ

Additional examples: 306, 307, and 388.

(3) In stressed syllables, and unstressed syllables preceding *-ʔwV, *nč is reconstructed from identical reflexes of /nč/ in all daughter languages as in set 302 *nčé⁴¹ cooked corn:

Mz nčé	Hu nčé ⁴²
Ay nčé	Ji nčé
Cq nčé	So nčé ⁴²
Ja nčé ³¹ , čé ³¹	Ix nčé
(< Pre-Ja *nčé ³¹)	Lo nčá
Do nčé, čé (< Pre-Do	Te nčé
*nčé)	

Additional examples: 296 and 683.

CHART 9

CORRESPONDENCE SETS FOR THE
RECONSTRUCTION OF *nč

	Mz	Ay	Cq	Ja	Do	Hu	Ji	So	Ix	Mg	Lo	Te
(1)	nč	nč	nč	nĵ	nĵ	nč	nč	nč	nč	nč	nč	nč
(2)	nč	nč	nč	č	č	nč	nč	nč	nč	nč	nč	nč
(3)	nč	nč	nč	nč	nč	nč	nč	nč	nč	nč	nč	nč
(1)	In weakly stressed syllables preceding *-VhV											
(2)	In weakly stressed syllables preceding *-VCV											
	when C is neither *h nor *ʔw											
(3)	Elsewhere											

4.5 *n Plus Stop Plus *h(*nth, *nt^yh, *nkh, *nk^wh, *nch, *nčh)

The evidence for *nt^yh, *nk^wh, and *nčh is sparse; *nt^yh is reconstructed in two etyma, *nk^wh in one, and *nčh in three. The clusters *nth, *nkh, and *nch are more adequately attested, however. In all of the cases the development of the stops parallels the development of their counterparts in the *n-plus-stop sequences; cf. §4.4. On this basis it seems reasonable to reconstruct the entire series. Cq regularly loses *n in the *n-plus-stop-plus-h environments.

4.5.1

4.5.1 *nth is reconstructed from a complementary set of non-identical reflexes of Mz nth : Ay nth : Cq th : Ja nth : Do nth : Hu nth : Ji th : So th : Ix nth : Mg th : Lo th : Te th as in set 369 *nthau⁴ wind:

Mz thó (< Pre-Mz *nthó)	Hu nthau ⁴ Ji thó
Ay nthó	So thó ⁴
Cq thó	Ix nthú
Ja nthó ³ , thó ³ (< Pre-Ja *nthó ³)	Mg w ² ethá <u>he blows</u> Lo thá
Do nthó, thó (< Pre-Do * nthó)	Te thú

Additional examples: 230, 352, 368, 385, and 650.

4.5.2 *nt^yh is reconstructed from Ja nth : Do nth : Hu n^hh : Ix nth. : Lo ċh : Te ċh as in set 409 *nt^yhi³ (*⁴) forked stick:

Ja ya ¹ nthí ³	Ix yanthí, yinthí
Do yanthí	Lo hwiċhí
Hu n ^h hí ³ <u>divided like</u> <u>a cow's hoof</u>	Te yaċhé

Additional example: 184.

4.5.3 *nkh is reconstructed from Mz kh : Ay kh : Cq kh : Ja nkh : Do nkh : Hu kh : Ji kh : So kh : Ix nkh : Mg kh : Lo kh : Te kh as in set 4 *ca³nkhú¹, *cu³nkhú¹ fears:

4.5.3

Mz	cakhú	So	ca ^s khú ^s re ^{s4} (< Pre-So
Ay	cakhú		* ^s - ^{s1} - ^{s4}),
Cq	cakhú		we ^{s1} tykú ^{s2}
Ja	ca ^{s2} nkú ^{s1}	Mg	ticakhú
Do	cankhú	Lo	cokhá
Hu	cu ^s khú ^{s1}	Te	ticakhú
Ji	cukhú		

Additional examples: 124, 234, 344, and 602.

4.5.4 Only one etymon with *nk^{Wh} cluster is reconstructed; it is reconstructed from Pre-Ja nk^{Wh} :
Do nk^{Wh} as in set 352 *kha^{s4}nk^{Wh}ha^{s4}nthuá^{s4} door:

Ja	ñ ^s k ^{Wh} há ^s , ñ ^s k ^{Wh} hó ^s	Do	hank ^{Wh} há
	(< Pre-Ja *ha ^s nk ^{Wh} há ^s)		

4.5.5 *nch is reconstructed from Mz nch : Ay nch :
Cq ch : Ja nch : Do nch : Hu nch : Ji ch : So ch :
Ix nch : Mg ch : Lo ch : Te ch as in set 288 *nchá^{s4}
hair:

Mz	nchá	Hu	nchá ^{s4}
Ay	nchá	Ji	chá
Cq	chá	So	chá ^{s4}
Ja	nchá ^s , chá ^s	Ix	nchá
	(< Pre-Ja *nchá ^s)		
Do	nchá, chá (< Pre-	Mg	chá
	Do *nchá)	Lo	chó
		Te	chá

4.5.5

Additional examples: 265, 287, 289, 290, 291, and 598.

4.5.6 *nčh is reconstructed from Mz nčh : Ay nčh :

Cq čh : Ja nčh : Do nčh : Hu nčh : Ji čh : So čh :

Ix nčh : Mg čh : Lo čh : Te čh as in set 303 *nčhá⁴ talks:

Mz tinčhá	Ji čhá
Ay tinčhayá	So čhá ⁴
Cq čhá	Ix cančhayá
Ja ti ¹ nčha ³ yá ²	Mg čhá
Do tinčhayá	Lo čhó
Hu nčhá ⁴	Te tičhá

Additional examples: 304 and 305.

4.6 *hn Plus Stop (*hnt, *hnt^y, *hnk)

4.6.1 *hnt is reconstructed from Ay ʔnt : Cq nt :

Ja nt : Do nt : Hu hnt : Ji hnt : So nt : Ix nt : Mg nt :

Lo ʔnt : Te hnt as in set 527 *ška³hntí³ (*³ - ²) cricket:

Ay naškaʔntí	So čha ³ ntí ³
Cq čuntiká	Ix čhntí
Ja čha ² ntí ²	Mg čikantí
Do čhintí	Lo škoʔnté
Hu ču ⁴ ška ³ hntí ²	Te škahntí

Additional examples: 148 and 207.

4.6.2 *hnt^y is reconstructed from Mz nty : Ay šti :

Cq šči : Ja nti : Do nti : Hu hnč : So nty : Ix nti :

4.6.2

Mg nti : Lo nč : Te hnč as in set 149 *hnt^yá^s salty:

Mz ntyá	So ntyá ^s
Ay štíá	Ix ntiá
Cq ščíá	Mg ntiá
Ja ntiá ^s	Lo nčó
Do ntiá	Te hnčá
Hu hnčá ^s	

Additional example: 150.

4.6.3 *hnk is reconstructed from Mz hnk : Ay nk :

Cq nk : Ja nk : Do nk : Hu hnk : Ji hnk : So nk :
 Ix nk : Mg nk : Lo nk : Te nk as in set 143 *hnká⁴ (*^s)
wing:

Mz lahnká	Hu hnká ^s
Ay nká-	Ji hnká
Cq thiunká	So thyu ⁴ nká ⁴
Ja ncha ^s nká ^s , cha ^s nká ^s	Ix nká
(< Pre-Ja	Mg nká
*ncha ^s nká ^s)	Lo nkó
Do nchanká	Te nká

Additional examples: 67, 106, 144, 145, and 146.

4.7 *ʔn Plus Stop (*ʔnt, *ʔnk, *ʔnč)

4.7.1 *ʔnt is reconstructed from Mz nt : Ay ʔnt :
 Cq ʔnt : Ja nt : Do nt : Hu ʔnt : Ji ʔnt : So nt :
 Ix nt : Mg ntʔ : Lo ʔnt : Te nt as in set 523 *ʂi⁴ʔnté⁴,
 *čhi⁴ʔnté⁴ (*³ - ³) adobe:

Mz ʂintí	Ji ʂiʔnté
Ay ʂiʔnté	So ni ³ nte ³ tha ³ ₁
Cq ʂiʔnté	Ix čhinté
Ja čhi ³ nté ³	Mg ʂintʔé
Do čhinté	Lo ʂiʔntá
Hu ʂi ⁴ ʔnté ⁴	Te ʂinté

Additional examples: 95, 115, 197, 207, 327, 338, 473, 490, 502, 517, 533, 676, 713, 714, 715, 716, and 717.

4.7.2 The reconstruction of *ʔnk appears problematical in that the reflexes of *ʔn in cluster with *k do not parallel the reflexes found in cluster with *t (§4.7.1). To complicate matters further, the Lo reflexes with /nkVʔV/ would seem to indicate reconstruction of *nkVʔV rather than *ʔnkV. But on the other hand, Cq and Ji parallel the reflexes found for *ʔnt by having /ʔnkV/ which seems to favor the reconstruction of *ʔnkV. I have chosen to reconstruct the latter even though it could be reconstructed *nkVʔV.

Gudschinsky (1959) reconstructed two PMaz sets with *ʔnk (cf. PPn 60 and 278), and one set *nkVʔV (cf. PPn 69). Her evidence not only is scanty, but apparently parallel kinds of reflexes in the placement of glottal catch in the syllable were assigned to different syllable structure in PMaz, cf. PPn 60 which has *ʔnk and PPn 69 which has *nkVʔV. It seems that Gudschinsky assigned *ʔ to different positions to avoid having vowel clusters in PMaz. But this sort of reconstruction looks dubious, especially when based on one etymon.

The evidence that I have does not suggest positing a contrast of *nkVʔV with *ʔnkV. But neither is it clear which of the two should be reconstructed. On the basis of parallel proto-structure I have chosen to reconstruct *ʔnk from Mz nkʔ :
 Ay nkʔ : Cq ʔnk : Ja nkʔ : Do nkʔ : Hu nkʔ : Ji ʔnk :
 So kʔ : Ix nkʔ : Mg nkʔ : Lo nkVʔV : Te nk as in set
 709 *ʔnká³ high, tall:

Mz	-nkʔá	Ji	-ʔnká
Ay	nkʔá	So	nka ³ kʔá ³
Cq	heirkuʔnká	Ix	nkʔá
Ja	nkʔá ² , kʔá ²	Mg	nkʔá
	(< Pre-Ja *nkʔá ²)	Lo	nkoʔó
Do	nkʔá, kʔá (< Pre-	Te	ʔinká <u>high</u> , <u>sky</u> ;
	Do *nkʔá)		nká <u>roof</u>
Hu	nkʔá ³		

4.7.2

Additional examples: 201, 495, 706, 710, 711, and 712.

4.7.3 The reconstruction of *ʔnč is also problematical; it is attested by only two etyma and one of these has few reflexes. However, in many respects *ʔnč seems to parallel the development of *ʔnt. In the appendix I have reconstructed sets 625 and 704 with *ʔnč also, but the development of *ʔ is unexplained (perhaps they should be reconstructed *nčVʔV, but that is not clear either).

*ʔnč is reconstructed from Mz ʔnč : Ay ʔnč : Cq ʔnč :
Ja nč : Do nč : Hu ʔnč : Ji ʔnč : So nč : Ix nč :
Mg nčʔ : Lo ʔnč : Te nč as in set 705 *ʔnčí⁴ wet:

Mz kamaʔnčí	Hu ʔnčí ⁴
Ay ʔnčí	Ji ʔnčí
Cq ʔnčí	So nčí ⁴
Ja nčí ³ , čí ³ (< Pre-Ja *nčí ³)	Ix nčí
Do nčí, čí (< Pre-Do *nčí)	Mg nčʔí
	Lo ʔnčí
	Te nčí

Additional example: 706.

4.8 Spirant Plus Stop

Gudschinsky (1956:20, 1959:5) posited clusters of *h with certain obstruents (*ht, *ht^y, *hc, *hč, *th, *t^yh, *kh, *k^wh, *ch, *čh). However, in neither her 1956 nor 1959 sets

is an etymon reconstructed with *ht^y; for lack of evidence this cluster may safely be set aside. Of interest, too, is the fact that Gudschinsky's *h plus obstruent series does not parallel her obstruent plus *h series. Since spirants (*s, *š) also occur initially in cluster with stops, the question naturally arises whether some of the cluster reflexes involving /h-/ may not reflect earlier spirants in cluster. The following arguments are marshalled for interpreting Gudschinsky's *ht, *hc, and *hč as *st, *sc, and *sč:

(1) Both *št and *sth seem well enough attested (cf. §4.8.2.1 and §4.8.2.2) and contrast with Gudschinsky's *ht; the complementation is not between *[h] and *[š].

(2) There is complementation in initial clusters between sC- and hC-.

(3) There are a number of phonetic facts in the daughter languages that favor a reconstruction of *s rather than *h in this position: in Hu Eunice Pike has phonemicized preaspirated onsets before /c, č/ as involving /h/, but she has commented in private discussion that these onsets have a sibilant-like quality; similar cases appear in Ix and Lo where I have phonemicized rather Ix /sc, sč/ and Lo /sč/. Before velars in all the languages the aspirated onsets have a clear sibilant quality (and are handled as /sk, skh, sk^w/).

(4) In terms of development it is easier to account for *s > h than the inverse; it seems less convincing to suppose

4.8

that original *h has taken on sibilant quality in certain cases.

(5) In distributional terms, clusters involving *h both before and after obstruents (*hth, *hch, etc.) would suggest broader clustering habits for *h than for other elements. On the other hand the lack of certain parallel clusters beginning with *š- (no *šč, *ščč) seems no compelling argument against reconstruction of *sc, *sč.

4.8.1 *s Plus Stop

(*st, *sk, *skh, *sk^w, *sc, *sč)

4.8.1.1 *st is reconstructed from Mz ht : Ay t :
Cq t : Ja t : Do t : Hu ht : Ji ht : So t : Ix t :
Mg t : Lo t : Te ht as in set 485 *stí⁴ fish:

Ay tí	Ji htí
Cq tí	So tí ⁴
Ja tí ³	Ix tí
Do tí	Mg tí
Hu htí ⁴	Lo té

Additional examples: 193, 481, 482, 483, 484, and 722.

4.8.1.2 *sk is reconstructed from identical reflexes in the daughter languages as in set 126 *ha⁴ská³
afterwards:

4.8.1.2

Mz	haská	Ji	ʔaskáni
Ay	haská	So	ha ⁴ ská ³
Cq	nkaská	Ix	haská
Ja	ʔi ³ ská ²	Lo	koskó
Do	haská	Te	ʔiská, kiská
Hu	ha ⁴ ská ³		

Additional examples: 351, 380, 472, 473, 474, 475, 477, 478, and 672.

4.8.1.3 *skh is reconstructed from Mz sk : Cq sk :

Ja skh : Do skh : Hu sk : Ji sk : So sk : Ix sk :
Mg sk : Lo sk : Te sk in set 476 *skhú¹ left (adj.):

Mz	skú	So	-skú
Cq	ncaskú	Ix	skú
Ja	skhú ¹	Mg	skú
Do	skhú	Lo	nkoskí
Hu	skú ¹	Te	skú
Ji	skú		

4.8.1.4 *sk^w is reconstructed from Mz skw : Ay sk^w :

Cq sku : Ja k^w : Do k^w : Hu sku : So skw : Ix ku :
Mg sk^w : Lo sk : Te sku as in set 480 *sk^wá⁴ powder:

4.8.1.4

Mz	skwá	So	skwá ⁴
Ay	sk ^w á	Ix	nčukwá
Cq	skwá	Mg	sk ^w á
Ja	k ^w á ^s	Lo	skó
Do	k ^w á	Te	skwá
Hu	skwá ⁴		

Additional example: 479.

4.8.1.5 *sc is reconstructed from Mz hc : Ay c :
 Cq c : Ja c : Do c : Hu hc : Ji hc : Ix sc : Mg c :
 Lo c : Te c as in set 452 *scí¹ rain:

Mz	hcí	So	cí ²¹
Ay	cí	Ix	scí
Cq	cí	Mg	cí
Ja	cí ¹	Lo	cé
Do	cí	Te	cí
Hu	hcí ¹		

Additional examples: 94, 395, 447-451, and 453.

4.8.1.6 *sč is reconstructed from Mz hč : Ay č :
 Cq č : Ja č : Do č : Hu hč : Ji hč : So č : Ix sč :
 Mg č : Lo č : Te sč as in set 454 *sčá¹ old:

4.8.1.6

Mz -hčá	Ji -hčá
Ay čá	So čá ²¹
Cq čanká <u>old</u> , <u>big</u>	Ix sčá
Ja čá ¹	Mg -čá
Do čá	Lo kočonkó
Hu -hčá ¹	Te -sčá

Additional examples: 220, 273, 455, 456, 457, and 458.

4.8.2 *š Plus Stop

(*št, *sth, *st^yh, *šk, *škh, *šk^wh)

4.8.2.1 *št is reconstructed from Mz št : Ay st :

Cq št : Ja st : Do st : Hu ht : Ji ht : So t : Ix št :
Mg št : Lo t : Te ht as in set 550 *štú^s (*¹) behind:

Mz nkaštú	Hu htú ^s
Ay nkastú	So nkató
Cq nkaštú	Ix nkaštú
Ja ʔi ^s stú ¹	Lo nkoť
Do ngastú	Te hahtó-

Additional examples: 541, 546, 547, 548, 549, and 641.

4.8.2.2 *sth is reconstructed from Mz sth : Ay sth :

Cq sth : Ja sth : Do sth : Hu th : Ji th : So th :
Ix sth : Mg th : Lo th : Te th as in set 543 *sthé¹
rubbish:

4.8.2.2

Mz	šthíre <u>his nest</u>	Ji	thé
Ay	sthé	So	thé ²¹
Cq	sthé	Ix	sthé
Ja	sthé ¹	Lo	thá
Do	sthé	Te	thé
Hu	thé ¹		

Additional examples: 336, 542, 544, and 545.

4.8.2.3 *št^yh is suggested by Ay šth : Cq št : Ja sth :
Do sth : Hu ŋh : Ji ŋh : So th : Ix št : Mg th :
Lo sč as in set 337 *n_i⁴št^yh_i^s day:

Ay	n _i šthí	Ji	n _i ŋhí
Cq	n _i ští	So	n _i ⁴ thí ^s
Ja	n _i ³ sthí ²	Ix	n _i ští
Do	n _i sthí	Mg	n _i thí
Hu	n _i ⁴ ŋhí ^s	Lo	n _i sčé

Although I have but one example that evidences the *št^yh cluster, it nevertheless seems justifiable to reconstruct such a cluster since the development of *t^y is what is expected before *i (cf. §4.2.2) and the development of *š before *t^yh parallels that of *š before *th (cf. §4.8.2.2).

4.8.2.4 *šk is reconstructed from Mz šk : Ay šk :
Cq šk : Ja šk : Do k : Hu šk : Ji šk : So šk : Ix šk :
Mg šk : Lo šk : Te šk as in set 528 *šká⁴ leaf:

4.8.2.4

Mz šká	Ji šká
Ay šká	So šká ⁴
Cq šká	Ix šká
Ja šká ³	Mg šká
Do ká	Lo škó
Hu šká ⁴	Te šká

Additional examples: 412, 526, 527, 529, 530, 531, 536, 537, 538, 539, and 649.

4.8.2.5 *škh is reconstructed from Mz šk : Ay škh :
 Cq šk : Ja škh : Do kh : Hu šk : Ji šk : So šk :
 Ix škh : Mg šk : Lo šk : Te šk as in set 532 *škhá³
alligator:

Ay škhá	Ix škhá
Ja škhá ²	Mg šká
Do khá	Lo škó
Hu škhá ³	Te šká
So šká ³	

Additional examples: 533, 534, and 535.

4.8.2.6 *šk^wh is reconstructed from Mz škw : Ay šk^wh :
 Cq šku : Ja šk^wh : Hu šku : So škw : Ix škhu : Lo šk :
 Te šku in set 540 *sk^whé¹ unripe, raw:

4.8.2.6

Mz	škwí	So	škwé ²¹
Ay	šk ^w hé	Ix	škhúé
Cq	šküéí	Lo	škié
Ja	šk ^w hé ¹	Te	šküé
Hu	šküé ¹		

Even though I have but one example to support the reconstruction of the *šk^wh cluster it seems justifiable; *š and *h parallel the development found in the *škh cluster (cf. §4.8.2.5) and *k^w also is regular in development (cf. §4.2.4).

4.9 Apical Stop Plus Dorsal Stop

Following Gudschinsky (1956, 1959) I have reconstructed clusters of apical stop plus dorsal stop. These clusters contrast with sibilant plus stop clusters, cf. §4.8.1 (Gudschinsky's *h plus stop and *s plus stop).

Without question an older layer of Mazatec had clusters of apical stops plus dorsal stops. For example, it is these apical stops when in cluster with dorsal stops that > Cq /r/ plus dorsal stop; this is the only source of /r/ in Cq. In certain other languages the apical stop in this environment merged with *s or *š; in still others, it continued as an apical stop.

Although there is this clear evidence for reconstructing apical stop plus dorsal stop clusters for an earlier

stage of Mazatec, a nagging question comes from the Ix reflexes (which uniformly show a vowel between the apical stop and dorsal stop): should an earlier stage be postulated for PMaz of $\{ \text{apical stop} \} \{ V \} \{ \text{dorsal stop} \}$? When the apical is $*t^y$ the quality of the vowel would be indeterminate since Ix loses back vowels in this environment (cf. §4.2.2).

Such a hypothesis with intervening vowel between the stops seems plausible and probable on several counts: (a) even with the broader base of this monograph, only 14 etyma are reconstructed with apical stop plus dorsal stop and these 14 etyma reflect 6 different clusters; (b) patterns of development in the Otomanguan languages suggest that earlier stages had fewer consonant clusters than later stages; (c) the contrast in the daughter language between $\{ \text{apical stop} \} \{ \text{dorsal stop} \}$ and $\{ \text{apical stop} \} \{ V \} \{ \text{dorsal stop} \}$ perhaps can be accounted for in terms of shift of stress on compound elements after the intervening vowel was lost. There appear to be no contrasts between forms with and without intervening vowel where the palatalized stop is involved; this means that in the majority of the cases (10 of the 14) contrast is lacking. The $\{ \text{nonpalatalized apical stop} \} \{ \text{dorsal stop} \}$ cluster shows contrast with $*ta^4kú^s$, $*tu^4kú^s$ show me (566), $*te^4kú^s$ appearance, similarity (573), $*tu^3ku^snkhá^s$ papaya (602), and compounds of $*ti^1$ - continuative aspect plus verbal roots with initial dorsal

stop such as *khá¹ (*⁴) fights (187). *tu³- of *tu³ku³nkhá³ (602) is clearly a compounding element related to *tú³¹ fruit (605); *ta-, *tu- of *ta⁴kú³, *tu⁴kú³ show me (566) may be an imperative prefix; and *te⁴- of *te⁴kú³ (573) may be a compounding element (at present unidentified).

As it can readily be seen, to push the *{apical stop} {dorsal stop} back to an earlier *{apical stop} {V} {dorsal stop} depends for adequate validation on extensive reconstruction of PMaz grammar, which is not yet available. For the present I choose to reconstruct clusters of *{apical stop} {dorsal stop} (which seems clearly justifiable at least as an intervening stage), even though I strongly suspect that these clusters reflect the loss of intervening vowel at an horizon earlier than PMaz. See §3.2.2 for a discussion of the generation of Ix vowels in the apical stop plus dorsal stop environment.

4.9.1 *t Plus Dorsal Stop (*tk, *tk^{wh})

4.9.1.1 *tk is reconstructed from Mz hk : Ay k :
 Cq rk : Ja k : Do k : Hu hk : Ji hk : So tk : Pre-Ix
 *tk : Mg k : Lo k : Te sk as in set 597 *tkú⁴ head (for
 analysis of compound elements in the daughter languages consult the notes after this set in the appendix):

4.9.1

Mz	hkú	Ji	hkú
Ay	n ₁ ntakú <u>3p.</u> ,	So	tkú ⁴
	n ₁ ntak ^W á <u>1p.</u>	Ix	n ₁ ntatukú (< Pre-Ix
Cq	n ₁ ntarkúča		*n ₁ ntatkú)
Ja	n ₁ ² nda ² kú ³	Mg	kú
Do	n ₁ ndakú <u>3p.</u> ,	Lo	kí <u>3p.</u> , ké <u>1p.</u>
	n ₁ ndak ^W á <u>1p.</u>	Te	skú <u>3p.</u> , skuá <u>1p.</u>
Hu	hkú ⁴		

Additional examples: 596 and 598.

4.9.1.2 *tk^Wh is reconstructed from one complementary set (but note parallelism to §4.9.1.1): Ay k^Wh : Cq rkhu : Ja k^Wh : Do k^Wh : Hu hku : Pre-Ix *tkhu : Mg k^W : Te sku in set 599 *tk^Whé^s rough:

Ay	k ^W hé	Ix	tukhué (< Pre-Ix
Cq	rkhué		*tkhué)
Ja	k ^W hé ²	Mg	k ^W é
Do	k ^W hé	Te	skué
Hu	hkué ^s		

4.9.2 *t^y Plus Dorsal Stop (*t^yk, *nt^yk, *t^ykh, *t^yk^W)

4.9.2.1 *t^yk is reconstructed from Mz hk : Ay k : Cq rk : Ja k : Do k : Hu šk : Ji šk : So tyk : Ix tik : Mg šk : Lo šk : Te šk as in set 623 *t^ykú¹ knee, joint:

4.9.2.1

Ay kú	So tykú ²¹
Cq rkú-	Ix tikuncukú
Ja kú ¹³	Mg škú
Do kú	Lo škí ² á <u>3p.</u> , škíno <u>1p.</u>
Hu škú ¹	Te škú
Ji škú	

Additional examples: 622, 623, and 624.

4.9.2.2 *nt^yk is reconstructed from Mz hk : Ay k :
 Cq rk : Ja nk : Do nk : Hu šk : So tk : Ix ntik :
 Lo šk : Te šk as in set 415 *nt^ykí⁴³ medicine:

Mz hkí	Hu škí ⁴³
Ay kí	So tkí ³²
Cq rkí	Ix ntikí
Ja nkí ² , kí ² (< Pre- Ja *nkí ²)	Lo šké
Do nkí, kí (< Pre- Do *nkí)	Te škí

Additional example: 680.

4.9.2.3 *t^yk^w is reconstructed from Mz hkw : Ay k^w :
 Cq rku : Ja k^w : Do k^w : Hu škú : Ji škú : So tykw :
 Ix tikú : Lo šk : Te škú as in set 627 *t^yk^wá¹ snail:

4.9.2.3

Mz	hkwá	Ji	škwá
Ay	k ^w á	So	tykwá ²¹
Cq	rkuá	Ix	tikuá
Ja	k ^w á ¹	Lo	ntoškó
Do	k ^w á	Te	škuá
Hu	škuá ¹		

Additional example: 626.

4.9.2.4 *nt^ykh is reconstructed from Ay k : Cq rk :
Ja nkh : Do nkh : Hu šk : Ix ntik : Lo šk : Te šk as in
set 651 *we^snt^ykhú¹ worships:

Ay	wekú	Ix	wentikú
Ja	we ^s nkhu ¹	Lo	wašk ₄
Do	wenkhu	Te	weškú
Hu	we ^s škú ¹		<u>he worships</u>

Additional example: 414.

4.10 Spirants

Spirants in cluster with stops are reconstructed in §4.8. In this section simple spirants (*s, *š) and clusters of spirant plus *h (*sh, *šh) are reconstructed.

4.10.1 Simple Spirants (*s, *š)

4.10.1.1 *s is reconstructed from identical reflexes of /s/ in all daughter languages as in set 446 *sá^s acid:

4.10.1.1

Mz	sá	Ji	sá
Ay	sá	So	sá ³
Cq	sá	Ix	sá
Ja	sá ²	Mg	sá
Do	sá	Lo	só
Hu	sá ³	Te	sá

Additional examples: 57, 90, 171, 237, 324, 325, 326, 333, 334, 335, 341, 345, 375, 388, 390, 398, 436-445, 459-464, 468-471, 486-490, 667, 727, and 729.

4.10.1.2 *š is reconstructed from identical reflexes of /š/ in all daughter languages as in set 491 *šá¹ work:

Mz	šá	Ji	šá
Ay	šá	So	šá ²¹
Cq	šá	Ix	šá
Ja	šá ¹	Mg	šá
Do	šá	Lo	šó
Hu	šá ¹	Te	šá

Additional examples: 108, 205, 209, 219, 221, 226, 247, 248, 275-278, 347, 365, 492, 493-506, 515-525, 551-563, 613, 656, 664, 673, and 728.

4.10.2 Spirant Plus *h (*sh, *šh)

This larger body of data supports Gudschinsky's (1959) *sh and *šh cluster reconstructions. However, even with this broader corpus, only Cq gives evidence for the *šh cluster;

4.10.2

all other languages lose *š in this environment. In Gudschinsky's *šh reconstructions (sets PPn 183, 187, 192, 204, and 238), only PPn 238 cites the crucial Cq evidence. The evidence for the *šh reconstruction in Gudschinsky's sets, as well as for additional ones, now can be found in the Appendix (see also §4.10.2.2).

4.10.2.1 *sh is reconstructed from Mz ch : Ay sh :
Cq s : Ja sh : Do sh : Hu sh : Ji sh : So ch : Ix s :
Mg s : Lo ch : Te ch as in set 465 *shá^s bitter, gall:

Mz chá	So chá ^s
Ay shá	Ix sá
Cq sá	Mg sá
Ja shá ²	Lo chó
Do shá	Te chá
Hu shá ^s	

Additional examples: 466, 467, 671, and 706.

4.10.2.2 *šh is reconstructed from Mz h : Ay h :
Cq šh : Ja h : Do h : Hu h : Ji h : So h : Ix h :
Mg h : Lo h : Te h as in set 508 *šhá² three:

Mz há	So há ¹
Ay há	Ix há
Cq šhá	Mg há
Ja há ²	Lo hó
Do há	Te há
Hu há ²	

4.10.2.2

Additional examples: 356, 507, 509, 510, 511, 512, 513, and 514.

4.11 Nasals

One general problem in the reconstruction of nasals deserves mention. In the reconstruction now accomplished *m and *ñ are in complementary distribution with *w and *y. Since it seems likely that nasalized vowels had developed prior to the PMaz horizon (see §5), it then is problematical whether *m and *ñ (plus optional preceding laryngeal) should be postulated for PMaz: the nasals precede only nasalized vowels and the semivowels precede only oral vowels. Furthermore, it can be seen that for certain environments some languages have the reflex /ñ/ and others /y/ (see §4.11.1.3). It seems plausible, then to suggest that later cases of /m, ñ/ developed from earlier *w, *y in the environment of nasalized vowels. However, this solution is open to question when viewed from greater depth. If nasalized vowels are shown at the level where Amuzgo is related to other Otomanguean languages to be developed from nasals in the immediate environment (Longacre 1957:27-28), then eliminating *m and *ñ at the PMaz level may obscure important information for such further reconstruction. For the present, it seems preferable to reconstruct both *m and *ñ, even though contrast with *w and *y is lacking.

*n, *hn, and *ʔn in cluster with stops are reconstructed in §4.4 - 4.7. In the immediate following sections the non-clustered nasals (*m, *n, *ñ), *h plus nasal (*hm, *hn, *hñ), and *ʔ plus nasal (*ʔm, *ʔn, *ʔñ) are reconstructed.

4.11.1 Non-clustered Nasals

(*m, *n, *ñ)

4.11.1.1 *m is reconstructed from identical reflexes of /m/ in all daughter languages as in set 51 *cu³m_f¹ (*⁴ - 1) sand:

Mz	cum _f	Hu	cu ⁴ m _f ¹
Ay	cum _f	So	cu ³ m _f ²¹
Cq	cum _f	Ix	cum _f
Ja	cu ² m _f ¹	Mg	cum _f
Do	cum _f	Te	cum _f

Additional examples: 182, 221, 227-240, 390, 428, 429, 433, and 624.

4.11.1.2 *n is reconstructed from two types of non-contrastive sets:

(1) Preceding *e, *n is reconstructed from Mz n :
 Ay n : Cq n : Ja n : Do n : Hu n : Ji n : So n :
 Ix ñ : Mg n : Lo n : Te n as in set 469 *si³né²
yellow:

4.11.1.2

Mz	siní	Ji	siné
Ay	siné	So	si ^s né ¹
Cq	sineí	Ix	siñé
Ja	si ² né ²	Mg	siné
Do	siné	Lo	siná
Hu	si ³ né ²	Te	siné

Additional examples: 30, 81, 109, 160, 231, 309, 519, and 638.

(2) Preceding vowels other than *e, *n is reconstructed from identical reflexes of /n/ in all daughter languages as in set 253 *ná⁴ mother:

Mz	ná	Ji	ná
Ay	ná	So	ná ⁴ ²
Cq	ná	Ix	ná
Ja	ná ³ <u>3v.</u>	Mg	ná
Do	ná	Lo	nó
Hu	ná ⁴	Te	ná

Additional examples: 34, 98, 110, 211, 215, 242-283, 306, 310, 311, 313-339, 353, 419, 431, 432, 637, 644-667, and 726.

4.11.1.3 *ñ is reconstructed from four types of non-contrastive sets. The complementary environments are summarized in Chart 10.

There are problems in the reconstruction of *ñ and its development in the daughter languages. However, there seem to be general patterns, even though in some cases the evidence

is meager; these must be carefully noted.

The first environment of unstressed syllable preceding $*-V(C)N(C)V$, in which N is nasal consonant, gives predominantly the reflexes $/n_i/$ in the daughter languages. It seems plausible that $*\tilde{n}_i > n_i > n_i$ in these languages; the retention of primarily the nasal feature is accounted for by the influence of the nasal consonant in the following syllable.

The attestation of the second environment is weak in that it rests upon two etyma, one with $*t$ (422) posited as the conditioning factor, the other with $*\tilde{t}$ (425). In this environment many of the languages give reflexes of $/y/$. But the grouping of $*t$ and $*\tilde{t}$ in the posited conditioning environment, i.e., preceding $*-V\{t, \tilde{t}\}V$, appears questionable. However, it is possible that $*t$ in this environment had a palatal allophone; in support of this suggestion it can be noted that Te has an $/i/$ onglide to the vowel that, though unexplained, may be a retention of the palatal allophonic feature of the stop. The retention of a palatal feature of development in many daughter languages rather than the nasal feature of environment (1), could well be conditioned by the palatal feature in the syllable margin of the following syllable. At the present stage of PMaz study this appears to be the best accounting of the data.

The reflexes in environment (3) as compared with (4) differ only in the loss of $*\tilde{n}$ in Hu. The loss of certain

intervocalic consonants in Hu is a general pattern: cf. §4.1.1 where the laryngeal *h is regularly lost and §4.12 where semivowels are lost. The loss of *ñ when preceded by *{t^y, n}V- is but a further extension of this general Hu pattern. It is attested by sets 246, 332, and 621. The presence of /ñ/ in the Hu form of set 110 /č⁴ñ³/ is accounted for by the fact that *č⁴n³ñ³ (*č⁴- animal, *n³- nominal) > Pre-Hu *č⁴ñ³ with the loss of the *n³-nominal before the sound change *ñ > Hu ∅ when preceded by *t^y or *n in the preceding syllable margin (see environment 3). The presence of /ñ/ in the Hu forms in sets 322 /n³ñ³/ and 323 /n³ñ³č³/ (clearly related to 322) seems explicable only on the basis of borrowing, although there appears no way of documenting this. It seems that Hu loss of *ñ in set 332 (Hu /n³č⁴/ < *n³ñ⁴)--homophonous, apart from tone, with set 322 *n³ñ³--reflects the general Hu pattern; set 322 with Hu /n³ñ³/ seems to be irregular.

The development suggested here for *ñ in the daughter languages seems plausible when viewed in perspective. Note that in this I differ from Gudschinsky, who reconstructed etyma with both *ñ and *y (sets PPn 22, 232, 233, 282, and 286) to handle what I consider to be regular development from *ñ. It appears that Gudschinsky reconstructed this *ñ ~ *y in PMaz from the present day alternation in Hu. It seems to me that the alternation in Hu is better accounted for in

terms of influence from the developments in neighboring Mazatec languages. If the *ñ ~ *y hypothesis is adopted it must be extended to sets such as 431, where Hu shows no alternation with /y/; here Cq evidences /y/, as is true of all occurring forms in environment (2).

The loss of *ñ in the Hu forms found in environment (4) is simply left unmentioned by Gudschinsky. It can be accounted for by the hypothesis that I have suggested.

The evidence for some of the complementation that I have suggested is sparse. However, it seems both strong and plausible.

(1) In unstressed syllables preceding *-V(C)N(C)V, in which N is a nasal consonant, *ñ is reconstructed from Mz n₁ :
 Ay n₁ : Cq y : Ja n₁ : Do n₁ : Hu ñ/y oral vowel:
 Ji ʔ₁ : So ñ : Ix n₁ : Mg y oral vowel : Lo y oral vowel:
 Te ʔ₁ as in set 430 *ñy^snkú^s fingernail:

Mz n ₁ nkú	Ji ʔ ₁ nkú
Ay n ₁ nkú	So ñy ^s nkú ^s
Cq yunkú	Ix n ₁ nkú
Ja n ₁ ^s nkú ^s	Lo yinkf-
Do n ₁ nkú	Te ʔ ₁ nkú
Hu ña ^s nkú ^s , yu ^s nkú ^s , ya ^s nkú ^s	

Additional examples: 428, 429, 431, 432, 433, 434, and 435.

4.11.1.3

(2) In unstressed syllables preceding *-V{t, ʈ}V, *ñ is reconstructed from Mz y oral vowel : Ay y oral vowel : Cq y oral vowel : Ja y oral vowel : Do y oral vowel : Hu ñ : Ji ñ : So y oral vowel : Ix y oral vowel : Mg y oral vowel : Lo y oral vowel : Te ʔi as in set 422 *ñ_a³tú^{4s} seven:

Mz yatú	Ji ñitú
Ay yetú	So ya ³ tú ^{3s}
Cq yatú	Ix yitú, yatú
Ja ya ² tú ²	Mg yatú
Do yatú	Lo yotí
Hu ña ³ tú ^{4s}	Te ʔitiú

Additional examples: 424 and 425.

(3) In syllables preceded by *{t^y, n}V-, *ñ is reconstructed from Mz ñ : Ay ñ : Cq ñ : Ja ñ : Do ñ : Hu ø : Ji ñ : So ñ : Ix ñ : So ñ : Mg ñ : Lo ñ : Te ñ as in set 621 *t^y₁³ñá^{3s1} near:

Mz tiñá	Ji ʈiñá
Ay tiñá	So ti ^s ñá ^{3s2}
Cq tiñá	Ix tiñá
Ja ti ¹ ñá ²	Mg tiñá
Do tiñá	Lo ʈiñó
Hu ʈiñá ³	Te ʈiñá

Additional examples: 110, 246, 321, 323, and 332.

4.11.1.3

(4) In stressed syllables not preceded by *{t^y, n}V-, or in unstressed syllables in environments other than (1) and (2), *ñ is reconstructed from identical reflexes of /ñ/ in all daughter languages as in set 426*ñy^shú^s four:

Mz	ñyhú	Ji	ñihú
Ay	ñyhú	So	ñy ^s hú ¹
Cq	ñyhú	Ix	ñihú
Ja	ñhú ²	Mg	ñú
Do	ñyhú	Lo	ñihí
Hu	ñú ⁴³	Te	ñihú

Additional examples: 35, 236, 313, 420, 421, 423, 427, 556, and 644.

CHART 10

CORRESPONDENCE SETS FOR THE
RECONSTRUCTION OF *ñ

	Mz	Ay	Cq	Ja	Do	Hu	Ji	So	Ix	Mg	Lo	Te
(1)	nɪ̯	nɪ̯	yV	nɪ̯	nɪ̯	ñ/yV	ʔi	ñ	nɪ̯	yV	yV	ʔi
(2)	yV	yV	yV	yV	yV	ñ	ñ	yV	yV	yV	yV	ʔi
(3)	ñ	ñ	ñ	ñ	ñ	∅	ñ	ñ	ñ	ñ	ñ	ñ
(4)	ñ	ñ	ñ	ñ	ñ	ñ	ñ	ñ	ñ	ñ	ñ	ñ

In this chart, V signifies oral vowel

(1) In unstressed syllables preceding *-V(C)N(C)V
in which N is nasal consonant

(2) In unstressed syllables preceding *-V{t, ʃ}V

4.11.1.3

- (3) In syllables preceded by $\{t^y, n\}V-$
- (4) In stressed syllables not preceded by $\{t^y, n\}V-$,
or in unstressed syllables in environments
other than (1) and (2)

4.11.2 *h Plus Nasal

(*hm, *hn, *hñ)

4.11.2 *hm is reconstructed from identical reflexes of /hm/ in all daughter languages as in set 135 *hmá² black:

Mz	hmá	So	hmá ¹
Ay	hmá	Ix	hmá
Cq	hmá	Mg	hmá
Ja	hmá ²	Lo	hmó
Do	hmá	Te	hmá
Hu	hmá ²		

Additional examples: 136, 137, 138, 431, 432, 555, and 618.

4.11.2.2 *hn is reconstructed from two types of non-contrastive sets:

(1) Preceding front vowels $\{i, e\}$, *hn is reconstructed from Mz h : Ay h : Cq hn : Ja hn : Do hn : Hu nh :
Ji hn : So h : Ix h : Mg h : Lo hn : Te hn as in set
142 *hni¹ blood:

4.11.2.2

Mz	hí	So	hí ²¹
Ay	hí	Ix	hí
Cq	hní	Mg	hí
Ja	hní ¹	Lo	hné
Do	hní	Te	hní
Hu	nhí ¹		

Additional examples: 140, 141, and 266.

(2) Preceding back vowels *a and *u, *hn is reconstructed from identical reflexes of /hn/ in all daughter languages as in set 154 *hnú⁴ cornfield:

Mz	hnú	Ji	hnú
Ay	hnú	So	hnú ⁴
Cq	hnú	Ix	hnú
Ja	hnú ³	Mg	hnú
Do	hnú	Lo	hní
Hu	hnú ⁴	Te	hnú

Additional examples: 56, 97, 139, 151, 152, 153, 265, 267, and 694.

4.11.2.3 *hñ is reconstructed from four types of non-contrastive sets. The complementary environments are summarized in Chart 11.

A fifth environment, preceding *au, could be postulated. But since only one *hñ etymon (552) occurs with this cluster, the /hn/ reflexes in Hu, Ji, Mg, Lo, and Te are left unexplained. They may reflect regular development, but without

4.11.2.3

further attestation these reflexes are better left unexplained.

Three of the environments postulated for *hñ when viewed singly appear weakly attested. However, they are stronger when viewed in pairs and combined with considerations of parallel development found in *ʔñ.

Two intersecting environments are postulated to account for the reflexes of *hñ. One is position in the word, i.e., initial in the word vs. not initial in the word; the other involves the quality of following vowel, i.e., whether it is *a or *u.

Word initial *hñ > Hu nh_i [cf. environments (1) and (2) with (3) and (4)]. Note also that *h metathesized in Hu in the *hn cluster preceding front vowels (§ 4.11.2.2). It would appear that the relative chronology of sound development of this *hñ cluster when initial in the word is as follows: *hñ > Pre-Hu *hni; then the sound shift of Hu *h metathesis preceding front vowels occurred and Pre-Hu *hni (which had fallen together with other PMaz *hni forms) > Hu nh_i. What at first would seem difficult to explain and poorly attested (two etyma) can now be seen as an integral mosaic in the pattern.

Preceding *u, *hñ > Ja, Do /hi/ [cf. environments (1) and (3) with (2) and (4)]. Although there are only three etyma that evidence this sound change with *hñ, the validity of positing this environment is increased by noting the

parallel development of *hñ > Ja /ʔᵛ/ in sets 339 and 721 (§4.11.3.3).

It is of interest to note that environments that at first appeared to be supported by only one etymon are adequately attested when viewed in depth.

(1) Initial in the word preceding *u, *hñ is reconstructed from Mz hñ : Ay hñ : Cq hñ : Ja hᵛᵛ : Do hᵛᵛ : Hu nhᵛᵛ : Ji hñ : So hñ : Ix hñ : Mg hñ : Lo hñ : Te hñ in set 158 *hñᵛᵛ² dark:

Mz hñᵛᵛ	Ji hñᵛᵛ
Ay hñᵛᵛ	So hñᵛᵛ¹
Cq hñᵛᵛ	Ix -hñᵛᵛ
Ja hᵛᵛᵛ¹	Mg hñᵛᵛ
Do hᵛᵛᵛ	Lo hñᵛᵛ
Hu nhᵛᵛᵛ²	Te -hñᵛᵛ

(2) Initial in the word preceding *a, *hñ is reconstructed from Mz hñ : Ay hñ : Cq hñ : Ja hñ : Do hñ : Hu nhᵛᵛ : Ji hñ : So hñ : Ix hñ : Mg hñ : Lo hñ : Te hñ in set 157 *hñᵛᵛ⁴ chile pepner:

Mz hñᵛᵛ⁴	Ji hñᵛᵛ⁴
Ay hñᵛᵛ⁴	So hñᵛᵛ⁴
Cq hñᵛᵛ⁴	Ix hñᵛᵛ⁴
Ja hñᵛᵛ⁴³	Mg hñᵛᵛ⁴
Do hñᵛᵛ⁴	Lo hñᵛᵛ⁴
Hu rhᵛᵛᵛ⁴⁴	Te hñᵛᵛ⁴

4.11.2.3

(3) Not initial in the word preceding *u, *hñ is reconstructed from Mz hñ : Ay hñ : Cq hñ : Ja h₁ : Do h₁ : Hu hñ : Ji hñ : So hñ : Ix hñ : Mg hñ : Te hñ as in set 268 *n₄⁴hñ₁⁴, *n₁⁴hñ₁⁴ turkey (female):

Mz	n ₄ hñ ₁ ⁴	Ji	n ₄ hñ ₁ ⁴
Ay	n ₄ hñ ₁ ⁴	So	n ₄ ⁴ hñ ₁ ⁴
Cq	n ₄ hñ ₁ ⁴	Ix	n ₁ hñ ₁ ⁴
Ja	n ₄ ³ h ₁ ⁴	Mg	n ₄ hñ ₁ ⁴
Do	n ₄ h ₁ ⁴	Te	n ₄ hñ ₁ ⁴
Hu	n ₄ ⁴ hñ ₁ ⁴		

Additional example: 243.

(4) Not initial in the word preceding *a, *hñ is reconstructed from identical reflexes of /hñ/ in all daughter languages as in set 315 *n₁³hñ₁³ mat:

Mz	n ₁ hñ ₁ ³	Ji	n ₁ hñ ₁ ³
Ay	n ₁ hñ ₁ ³	So	n ₁ hñ ₁ ³
Cq	n ₁ hñ ₁ ³	Ix	n ₁ hñ ₁ ³
Ja	n ₁ ² hñ ₁ ³	Mg	n ₁ hñ ₁ ³
Do	n ₁ hñ ₁ ³	Lo	n ₁ hñ ₁ ³
Hu	n ₁ ³ hñ ₁ ³	Te	n ₁ hñ ₁ ³

Additional examples: 155, 156, 242, 314, 350, 552, and 684.

4.11.2.3

CHART 11

CORRESPONDENCE SETS FOR THE RECONSTRUCTION OF *hñ

	Mz	Ay	Cq	Ja	Do	Hu	Ji	So	Ix	Mg	Lo	Te
(1)	hñ	hñ	hñ	hi	hi	nh _i	hñ	hñ	hñ	hñ	hñ	hñ
(2)	hñ	hñ	hñ	hñ	hñ	nh _i	hñ	hñ	hñ	hñ	hñ	hñ
(3)	hñ	hñ	hñ	hi	hi	hñ	hñ	hñ	hñ	hñ	hñ	hñ
(4)	hñ	hñ	hñ	hñ	hñ	hñ	hñ	hñ	hñ	hñ	hñ	hñ

- (1) Initial in the word preceding *u
- (2) Initial in the word preceding *a
- (3) Not initial in the word preceding *u
- (4) Not initial in the word preceding *a

4.11.3 *? Plus Nasal

(*?m, *?n, *?ñ)

The sets that evidence *? plus nasal, apart from *?n plus stop (§4.7), are not numerous and it is difficult, in certain instances, to assess whether or not generalizations from limited evidence are warranted. The weak evidence will be clearly indicated so that low validity can be assigned to these generalizations until further Mazatec research substantiates or refutes them.

4.11.3.1 *?m is reconstructed from two types of non-contrastive sets. The first environment contiguous to *u

4.11.3.1

is attested by only two etyma, one with *u preceding and the other with *u following. However, it seems significant that Cq evidences /ʔm/. Also, Ixcatec (one of the three other languages besides PMaz used to reconstruct Proto-Popolocan) has the reflex /ʔm/, cf. Gudschinsky PPn 226.

(1) Contiguous to *u, *ʔm is reconstructed from Ay ʔ : Cq ʔm : Ja ʔ : Do ʔ : Hu ʔ : Ji ʔ : So ʔ : Ix ʔ : Mg ʔ : Lo ʔm : Te ʔ as in set 702 *ʔmú sore, hurt:

Ay ʔú	Hu ʔaú ³
Cq ʔmú	Ix ʔú
Ja ʔú ²	Te ʔú
Do ʔú	

Additional example: 104.

(2) In environments other than contiguous to *u, *ʔm is reconstructed from Mz ʔm : Ay ʔm : Cq ʔm : Ja ʔm : Do ʔm : Hu ʔm : Ji ʔm : So ʔm : Ix ʔm : Mg mʔ : Lo ʔm : Te m as in set 701 *ʔmí² named:

Mz kwiʔmí	So ʔmí ¹
Ay ʔmí	Ix ʔmí
Cq ʔmí-	Mg mʔí
Ja ʔmí ²	Lo ʔmí
Do ʔmí	Te mí
Hu ʔmí ²	

Additional examples: 282, 501, 698, 699, and 700.

4.11.3.2

4.11.3.2 *ʔn is reconstructed from two types of non-contrastive sets. The first environment is weakly attested (only two etyma). It seems unwise, however, to ignore the presence of the nasal consonant in the Cq reflex, especially when all other languages have nasalized vowels. The second environment is attested in only one etymon.

*ʔn preceding vowels is evidenced in only these three sets; however, the *ʔn cluster is amply attested when in cluster with *t (§4.7.1).

(1) Preceding *e, *ʔn is reconstructed from Mz ʔ :

Ay ʔ : Cq ʔn : Ja ʔ : Do ʔ : Hu ʔ : Ji ʔ : So ʔ :
Ix ʔ : Lo ʔ : Te ʔ as in set 708 *ʔné¹ language, word:

Mz ʔí	Ji ʔé
Ay ʔé-	So ʔé ²¹
Cq ʔnéí-	Ix ʔé
Ja ʔé ¹	Lo ʔá
Do ʔé	Te ʔé
Hu ʔé ¹	

Additional example: 707.

(2) Preceding *a, *ʔn is reconstructed from Ay ʔn :

Ja ʔn : Do ʔn : Hu ʔñ : So ʔn : Ix ʔn in set 703 *ʔná⁴
brilliant, shiny:

Ay ʔná	Hu ʧy ⁴² ʔná ⁴ <u>shiny</u> <u>super-</u>
Ja ʔná ³	So ʔná ⁴ <u>natural</u> <u>woman</u>
Do ʔná	Ix ʔná

4.11.3.3

4.11.3.3 *ʔñ is reconstructed from three types of non-contrastive sets. Not one of the environments in itself is well attested. The reflexes of environment (1) differ from those of environment (2) only in that *ñ > Ja /ʔᵢ/. The development of *ʔñ > /ʔᵢ/ preceding *u, attested by sets 339 and 721, is parallel to that of *ñ in the *hñ cluster (cf. §4.11.2.3). Of the sets listed for the *-ʔñu environment, some do not give the expected reflexes for Ja: set 200 has no Ja reflex as the word has been lost in Ja; sets 252 (and 722 with the same morpheme) and 715 give Ja reflexes that are unexplained. In spite of these difficulties, the combined evidence of environments (1) and (2) along with parallel development of *ñ in the *hñ cluster (§4.11.2.3) presents a substantial basis for the reconstruction of *ʔñ.

The third environment postulated in the reconstruction of *ʔñ is based on one etymon (a compound of it may be seen in another set). However, again it seems unwise to ignore the presence of the nasal reflex /ʔñ/ in Cq, especially when this is considered in the light of the presence of a nasal stop in Popoloca (one of the languages used along with PMaz to reconstruct the next deeper layer beyond PMaz), cf. Gudschinsky's set PPn 297. In this set Gudschinsky reconstructs *ʔñ for PMaz but gives no evidence for it in the data she cites; it would appear that she had data from Cq which she simply failed to give or else projected this back to

4.11.3.3

PMaz from Popoloca data. The evidence for this third postulated environment, though weak, is far too suggestive simply to write off as unexplained.

(1) Preceding *u, *ʔñ is reconstructed from Mz ʔñ :

Ay ʔñ : Cq ʔñ : Ja ʔñ : Do ʔñ : Hu ʔñ : Ji ʔñ :

So ʔñ : Ix ʔñ : Mg ñʔ : Lo ʔñ : Te ñ as in set 339

*ni⁴ʔñú⁴, *na⁴ʔñú⁴ teeth:

Mz ni ⁴ ʔñú ⁴	Ji ni ⁴ ʔñú ⁴
Ay nteʔñá	So na ⁴ ʔñú ⁴
Cq neɿ ⁴ ʔñú ⁴	Ix ni ⁴ ʔñú ⁴
Ja ni ² ʔñú ²	Mg neñʔú
Do ni ⁴ ʔñú ⁴	Te ni ⁴ ʔñú ⁴
Hu ni ⁴ ʔñú ⁴ , ni ³ ʔñú ⁴	

Additional examples: 200, 252, 715, 721, and 722.

(2) Preceding *a, *ʔñ is reconstructed from Ay ʔñ :

Cq ʔñ : Ja ʔñ : Do ʔñ : Hu ʔñ : Ji ʔñ : Ix ʔñ : Mg ñʔ :

Lo ʔñ : Te ñ as in set 718 *ʔñá⁴ dusk:

Ay thimaʔñá	Ji kaʔñá
Cq kamaʔñá	Ix kamaʔñá
Ja ka ² ma ² ʔñá ³	Lo komoʔñó
Do kamaʔñá	Te khimaʔñá
Hu kya ³ ʔñá ⁴	

Additional example: 328.

(3) Preceding *au, *ʔñ is reconstructed from Ma ʔ :

Ay ʔ : Cq ʔñ : Ja ʔ : Do ʔ : Hu ʔ : Ji ʔ : So ʔ :

4.11.3.3

Ix ʔ : Mg ʔ : Lo ʔ : Te ʔ as in set 719 *ʔñǎúʔ five:

Mz ʔó	Ji ʔó
Ay ʔó	So ʔó ¹
Cq ʔñú	Ix ʔú
Ja ʔú ²	Mg ʔú
Do ʔú	Lo ʔú
Hu ʔǎú ²	Te ʔó

Additional example: 720.

CHART 12

CORRESPONDENCE SETS FOR THE RECONSTRUCTION OF *ʔñ

	Mz	Ay	Cq	Ja	Do	Hu	Ji	So	Ix	Mg	Lo	Te
(1)	ʔñ	ʔñ	ʔñ	ʔú	ʔñ	ʔñ	ʔñ	ʔñ	ʔñ	ñʔ	ʔñ	ñ
(2)		ʔñ	ʔñ	ʔñ	ʔñ	ʔñ	ʔñ		ʔñ	ñʔ	ʔñ	ñ
(3)	ʔ	ʔ	ʔñ	ʔ	ʔ	ʔ	ʔ	ʔ	ʔ	ʔ	ʔ	ʔ

(1) Preceding *u

(2) Preceding *a

(3) Preceding *au

4.12 Semivowels

Since Hu and Mg reflexes have vowel clusters rather than interrupting semivowel it is well to ask an important question: which should be reconstructed, *CVYV (where

Y represents semivowel) or *CVV? PMaz *CVYV should be reconstructed for the following reasons: (a) Hu and Mg reflexes would be poor evidence on which to conjecture that the disyllabic reflexes developed from proto-monosyllables since both of these have a clear pattern of consonantal loss, cf. §4.1.1; and (b) more importantly, the converse hypothesis that requires the generation of semivowels in this environment makes impossible an explanation of the vowel development. If one postulates that the semivowels were generated, one must then account for that fact that semivowels are generated in some *ua, *ia, *iu syllables but not in others (see §5.2.8, §5.2.1, and §5.2.2).

4.12.1 Non-clustered Semivowels (*y, *w)

4.12.1.1 *y is reconstructed from two types of non-contrastive sets:

(1) In syllables preceded by *nt{i, e}- or *ti-, *y is reconstructed from Mz y : Ay y : Cq y : Ja y : Do y :
Hu Ø : Ji y : So y : Ix y : Mg Ø : Lo y : Te y as in
set 392 *nti⁴yá¹ road:

4.12.1

Mz	ntiyá	Ji	ntiyá
Ay	ntiyá	So	nti ⁴ yá ²¹
Cq	ntiyá	Ix	ntiyá
Ja	ni ^s yá ¹ , ni ^s yó ¹³	Mg	ntiaté <u>main road</u>
	(< Pre-Ja *ni ^s yá ¹)	Lo	ntiyó
Do	ndiyá	Te	ntiyá
Hu	ntiá ⁴²		

Additional examples: 360, 380, 381, 382, 393, and 593.

(2) In environments other than the one mentioned above, *y is reconstructed from identical reflexes of /y/ in all daughter languages as in set 686 *yé⁴ snake:

Mz	yé	Ji	yé
Ay	yé	So	yé ⁴
Cq	yé	Ix	yé
Ja	yé ³	Mg	yé
Do	yé	Lo	yá
Hu	yé ⁴	Te	yé

Additional examples: 27, 29, 64, 102, 203, 250, 316, 396, 401, 402, 478, 541, 572, 584, 640, 659, 660, 661, 677, 678, 679, 680, 683, 685, 687, and 688.

4.12.1.2 *w is reconstructed from two types of non-contrastive sets:

(1) In the environment *u_[a, e], *w is reconstructed from Mz w : Ay w : Cq w : Ja w : Do w : Hu ∅ : Ji ∅ :

4.12.1.2

So w : Ix w : Mg Ø : Lo w : Te w as in set 417 *nt^yu^swá¹
comes:

Ay hentiwá	So ntyu ^s wá ²¹
Cq sei ^o eintuwá	Ix cintiwá
Ja ni ² wá ¹	Mg ntiá
Do ni ¹ wá	Lo yančiwó
Hu nčuá ²¹	Te nču ¹ wá
Ji nčá	

Additional examples: 53, 84, 85, 111, 114, 354, 355, 359, 364, 441, 488, 549, 607, 608, 609, 611, and 613.

(2) Elsewhere *w is reconstructed from identical reflexes of /w/ in all daughter languages as in set 646
 *wa^sté^s cuts:

Mz tiweteyá	Ji waté
Ay tiwaté	So wa ^s té ^s
Cq tiwaté	Ix c ^o awaté
Ja ti ¹ wa ² te ² yá ²	Mg waté
Do tiwateyá	Lo tiwotá
Hu wa ^s té ^s	Te waté

Additional examples: 32, 63, 84, 106, 365, 390, 401, 557, 629-644, 647-654, 656, 657, and 658.

4.12.2 *h Plus Semivowel (*hy, *hw)

4.12.2.1 *hy is reconstructed from only one partial set.
 Although it is thus poorly attested there seems to be no

4.12.2.1

reason to discard this set. *hy is suggested from Ja y :
Hu hy : So y : Mg y in set 170 *hyú^s willing:

Ja yú^{2s}

So yú^s-

Hu hyú^s

Mg yú

4.12.2.2 There are a few problems in the reconstruction of *hw. For one thing, Gudschinsky (1959) did not account for the fact that in her cognate sets PPn 180, 181, 184, 221, and 224 the Hu reflex is /wh/, but in her sets PPn 220, 223, and 273 the Hu reflex is /hw/; she reconstructed both types of reflexes as developments from *hw.

Rather than suggest that *hw contrasted with *wh it does seem preferable to consider that both developments in Hu are from *hw. To account for this Hu metathesis it seems reasonable to suppose that when initial in the word *hw > Hu /wh/ and that when not initial in the word *hw > Hu /hw/.

The plausibility of this hypothesis is further substantiated by noting another parallel metathesis in Hu. *ñh when not initial in the word > Pre-Hu *nhí, which was followed by the sound shift that metathesized /nh/ preceding front vowels to > Hu /hn/ (cf. §4.11.2.3 and §4.11.2.2).

Two sets, 164 and 168 present apparent difficulty for this hypothesis--in these sets the reconstructed forms are monosyllables, with *hw initial in the word, but the Hu reflexes are /hw/ and not /wh/. However, these are accounted for by observing that in both sets the Hu reflexes have an

4.12.2.1

additional compounding morpheme preceding the *hw. It is reasonable to suppose that this compounding preceded the word-initial metathesis of *hw.

Another problem in the reconstruction of *hw is found in the So and Lo reflexes. Some are recorded with /f/ and others with /hw/. In So it seems that /f/ developed when word initial and that in Lo the /f/ developed when not initial in the word. Further rechecking of the original data may resolve this problem.

*hw is reconstructed from two types of non-contrastive sets:

(1) In word initial position, *hw is reconstructed from Mz hw : Ay hw : Cq hw : Ja hw : Do hw : Hu wh : Ji hw : So f : Ix hw : Mg hw : Lo hw : Te hw as in set 163 *hwa³ʔá³ passes by:

Ay	tihwaʔá	Ji	hwaʔá
Cq	hwaʔá	So	fa ³ ʔá ³
Ja	ti ¹ hwʔá ²³	Mg	hwʔá
Do	tihwʔá	Lo	hwoʔó
Hu	wha ³ ʔá ³	Te	tihwá

Additional examples: 160, 161, 162, 165, 166, 167, and 169.

(2) When not in initial position in the word, *hw is reconstructed from Mz hw : Ay hw : Cq hw : Ja hw : Do hw : Hu hw : Ji hw : So hw : Ix hw : Mg hw : Lo f : Te hw as in set 689 *yu³hwí³ cloud:

4.12.2.1

Mz yuhwí	So yu ^s hwí ^s
Ay yuhwí	Mg yuhwí
Cq yuhwí	Lo yifé
Hu yu ^s hwí ^s	Te yuhwí
Ji yuhwí	

Additional examples: 164, 168, 173, and 418.

4.12.3 *? Plus Semivowel (*?y, *?w)

4.12.3.1 *?y is reconstructed from two types of non-contrastive sets:

(1) In unstressed syllables, *?y is reconstructed from Mz ? : Ay ? : Cq ? : Ja syllable ∅ : Do syllable ∅ : Hu syllable ∅ : Ji syllable ∅ : So ? : Ix ? : Mg ? : Lo y : Te ? as in set 726 *?ya^snf² red:

Mz ?anf ₁	So ?anf ₁
Ay ?inf ₁	Ix ?inf ₁
Cq ?anf ₁	Mg ?anf ₁
Ja nf ₁ ²	Lo yonf ₁
Do nf ₁	Te ?inf ₁
Hu nf ₁ ²	

Additional examples: 727, 728, and 729.

(2) Elsewhere, *?y is reconstructed from Mz ?y : Ay ?i : Cq ?i : Ja ?i : Do ?i : Hu ?y : Ji ?y : So ?y : Ix ?i : Mg y? : Lo ?y : Te y as in set 394 *nti⁴?yú^s ant:

4.12.3.1

Mz	nɪʔyú	Ji	nɪʔyú
Ay	nɪʔiú	So	nɪ ⁴ ʔyú ³
Cq	ntiʔiú	Ix	ntiʔiú
Ja	nɪ ³ ʔiú ²	Mg	nɪyʔú
Do	ndiʔiú	Lo	nɪʔyí
Hu	nɪ ⁴ ʔyú ³	Te	nɪyú

Additional examples: 58, 83, 117, 262, 361, 365, 366, 367, 371, 389, 390, 391, 399, 504, 521, 730, and 731.

In addition to the two environments mentioned above, perhaps an additional one should be posited for the reconstruction of set 682. Neither the reflexes of *y nor those of *ʔy neatly fit this etymon *yaʔyi heavy. The uniqueness of the reflexes of this etymon may stem from the fact that both *y and *ʔy are in adjacent syllables. The Lo form of yoʔyi and So form of yi³ʔi³² seem to indicate quite clearly that the proto-form was disyllabic. Gudschinsky (1959:85) posited *ye³ʔi³¹ and I posit, with heavy reliance on the Lo form, that it was *ya³ʔyi³¹. Regardless of what etymon is posited, this apparently reduplicated form remains unique for both the development of *y and *ʔy.

4.12.3.2 *ʔw is reconstructed from two types of non-contrastive sets:

(1) Preceding the cluster *au, *ʔw is reconstructed from Mz ʔ : Ay ʔw : Cq ʔ : Ja ʔ : Do ʔ : Hu wʔ : So ʔ : Ix ʔw : Lo w : Te ʔ in set 723 *ʔwau³ grinds:

4.12.3.2

Mz	ti'ó	Hu	w'au ³
Ay	thi'wó	So	'ó ³
Cq	ko'ó	Ix	c'a'wú
Ja	ti ¹ 'ó ²	Lo	wí
Do	ti'ó	Te	te'ú

Although the environment postulated here is attested by only one etymon, it seems justified because of phonetic plausibility. The difference in the reflexes in environment (1) as compared with (2) is that in (1) many languages have lost *w; it seems plausible that *au > /o/ (§5.2.7) before this loss and that there was simply homorganic diphthongization of *w.

(2) Elsewhere, *w is reconstructed from Mz 'w :

Ay 'w : Cq 'u : Ja 'w : Do 'w : Hu 'w : Ji 'w : So 'w :
 Ix 'w : Mg w' : Lo 'w : Te w as in set 590 *ti¹'wá⁴ pig
louse:

Ay	ti'wá	So	ti ³ 'wá ²⁴ (< Pre-So
Cq	ti'uá		* ²¹ - ⁴)
Ja	ti ¹ 'wá ³	Ix	ti'wá
Do	ti'wá	Mg	tiw'á
Hu	ti ¹ 'wá ⁴	Lo	ti'wó
		Te	tiwá

Additional examples: 46, 52, 226, 294, 349, 496, 503, 559, 563, 620, and 724.

CHAPTER V

RECONSTRUCTION OF PROTO-MAZATEC VOWELS

The treatment of PMaz vowels differs considerably from that of Gudschinsky (1951, 1956, 1959). Her 1951 work posited *i, *e, *a, *u, *o and (perhaps with some reservations, since they are enclosed in parentheses) *a^o and *aⁱ--both oral vowels and their corresponding nasalized counterparts. The 1956 treatment gives the same inventory, except for the omission of oral and nasalized *a^o; the discussion of the vowel system is limited to the following brief statement (1956:18-19):

In general the vowels were stable in stressed syllable; in non-stressed syllable a great variety of conditioned sound changes occurred in the different dialects. These will not be discussed in detail here.

*aⁱ and *a^o are interpreted as complex vowels rather than vowel clusters since there are no other vowel clusters. They are rare in occurrence, as are also *o and *u. It seems possible that the few items in which these phonemes occur might, with further study, prove to be reconstructable as disyllabic sequences with two simple vowels separated by a consonant which has been lost in all the dialects so far studied.

In 1959 she retains the same analysis and includes an extended discussion (1959:13-16) of PMaz vowels and their reflexes in the daughter languages. However, it is curious that in this she does not mention the low frequency of

occurrence of her posited $*a^1$ and $*o$. Nor does she repeat the notion advanced at the end of the above citation. If she had studied more carefully the low frequency of occurrence of her $*o$ and $*a^1$ as compared with the other four vowels in her inventory, and if at the same time she had attempted to account for the vowel development in the $*-ahu$ environment, she might well have arrived at a system similar to the one presented here.

For PMaz I posit a simple two-by-two vowel inventory (plus the nasalized counterparts):

$*i$	$*u$
$*e$	$*a$

Of these, $*i$ and $*u$ occurred in clusters as follows (each cluster represents a set of two vowel sequences, oral and nasalized):

	$*ei$	$*ue$
$*ia$	$*ai$	$*au$
$*iu$	$*ui$	$*ua$

Gudschinsky's $*a^1$ corresponds to the $*ai$ of this system, and her $*o$ to the $*au$. The other clusters, however, are not represented in her reconstructions by any regular correspondences. In order to make clear that this is not simply an arbitrary alternative analysis of vocalic elements, it is important to set forth the following points:

(1) There are here posited eight cluster sets, of which only two can be fitted into Gudschinsky's vowel scheme. If one wishes to reconstruct only unit vowels (no clusters), twelve additional units (six oral, six nasalized) will be necessary. The alternative is to posit four primes and clusters--the solution chosen here.

(2) According to Gudschinsky (1959:14), *o in Hu fell together with *a and *u and > /au/ in all environments. Hu also has /ua/ clusters, which she did not attempt to treat. Clearly *o cannot account for both /au/ and /ua/ in similar environments; cf. sets 25 and 75.

(3) As mentioned above, Gudschinsky pointed out that her *a¹ and *o occurred infrequently (in comparison to *i, *e, *a, and *u). While it is not unusual for some phonemes to be of low frequency, relative rarity of correspondences also suggests that clusters are reasonable to reconstruct. Although not by itself conclusive, the fact that the elements under discussion here are represented by far fewer examples seems to support a cluster solution.

(4) Gudschinsky (1959) reconstructed one cluster with *w (PPn 316); however, it is not accounted for in her inventory of consonantal clusters (p.5), nor is there any discussion of this unique sequence. A vowel cluster treatment allows what would be a unique consonantal cluster

to be treated as simply another vowel cluster, *ue. Although this vowel cluster is unique in the respect that at present it is supported only by the single example, it would appear to fit naturally the established pattern *VV (with either *i or *u as one of the members), while the other solution postulates a unique consonantal cluster involving *w.

(5) The most important argument for positing a four vowel system with clusters comes from a pattern hidden quite deep in the structure of Mazatec itself. This Gudschinsky failed to see, apparently for two reasons: (a) she did not account for the loss of *h in Hu cf. §4.1.1; (b) she seems not to have recognized that *-ahu > /-aho/ in So. Her assumption was that "all of the vowel phonemes of PMaz continued essentially unchanged in [So]" (1959:15). Apparently for this reason (or perhaps it was to account for the Hu /au/ clusters, since she did not account for the loss of *h), she reconstructed *ča³hu³, *čo³ in PPn 123 (my set 298). In any event, her hypothesis does require an alternate with *o to account for the So reflex with /o/ in this set. (Apparently she also failed to see that her two alternates still failed to account for the disyllabic reflex of So.) Similarly, *o is required by her hypothesis for PPn 344 (my set 677) and PPn 345 (my set 678). Yet unaccountably she did not reconstruct alternant forms with *o in these two parallel sets. Had she done so she would perhaps have noted the necessity of

alternates in *o wherever *-ahu was reconstructed.

If the disyllabic reconstruction of many PMaz words with *-V{laryngeal}V is recognized as valid (cf. §4.1 for reasons supporting it), then both parallel and non-parallel development of *-a{laryngeal}u with *au are easily accounted for. Where the development in some languages parallels the *au cluster then it is easy to suppose that laryngeals did not provide sufficient barrier to preclude the cluster development (*au > o). In languages where the sound change does not parallel the cluster *au the two vowels developed independently as they do elsewhere, except that in So, *-ahu > /-aho/ suggests an intermediate sort of development. The strength of the laryngeal hypothesis (§4.1) lies, in part, in its ability to account for seemingly diverse structures from a broad generalization.

In all Mazatec languages there is no contrast of oral and nasalized vowels after nasals; in this environment all vowels are nasalized. The question then arises: Can Mazatec nasalized vowels be accounted for from a nasal environment? While it is true that nasalized vowels in some of the daughter languages can be accounted for in this way (cf. §4.11), most of them cannot be at the PMaz horizon. See, for example, the contrasts where there are no nasals in the environment, cf. *šá¹ work (491) with *šá¹ liquor (505); *šhá⁴ hawk (507) with *šhá² three (508); *sá³ more (437)

with *sá³ acid (446); *sé³ thick (liquid) (459) with *sé¹ candle (461); *sf⁴³ dirt (470) with *-sf³ tick (471); *sú³(*¹) vomit (487) with *sú² on, above (489); *ʔá³ unoccupied (690) with *ʔá³ I (693); etc.

Nasalized vowels seem to have been fully developed at the PMaz horizon. It seems likely that at a much earlier horizon they developed from a nasal stop environment, but the layer in which only oral vowels may be postulated would appear to be quite remote. Evidently nasalized vowels were also part of the Proto-Mixtec horizon. However, at the level at which Amuzgo ties into the Otomanguan family there is evidence that nasalized vowels developed from a post-syllabic nasal, Longacre posits *-m (1957:27-28).

The discussion that follows is in terms of oral vowels, but it is to be understood as applying to PMaz nasalized vowels as well.

5.1 Non-clustered Vowels (*i, *e, *a, *u)

5.1.1 *i is reconstructed from four types of non-contrastive sets; the complementary environments are summarized in Chart 13.

(1) (a) In stressed syllables of polysyllabic words when the vocalic nucleus preceding the stressed syllable contains a back vowel (*a, *u) unless *y also occurs in the consonantal margin preceding the back vowel; or (b) following

5.1.1

clusters of $\{s, \text{ʃ}\} \{\text{stop}\}(\text{C})$ or $\text{*hN}(\text{C})$, *i is reconstructed from Mz i : Ay i : Cq i : Ja i : Do i : Hu i : Ji i : So i : Ix i : Mg i : Lo e : Te i as in set 277 $\text{*nā}^4\text{ʃi}^4$ deer:

Mz	$\text{nā}^4\text{ʃi}^4$ <u>horse</u>	Ji	$\text{nā}^4\text{ʃi}^4$ <u>horse</u>
Ay	$\text{nā}^4\text{ʃi}^4$ <u>horse</u>	So	$\text{nā}^4\text{ʃi}^4\text{ʰ}^2$ <u>horse</u>
Cq	$\text{nā}^4\text{ʃi}^4$ <u>horse</u>	Ix	$\text{nā}^4\text{ʃi}^4$
Ja	$\text{nā}^4\text{ʃi}^4$	Mg	$\text{nā}^4\text{ʃi}^4$ <u>horse</u>
Do	$\text{čānā}^4\text{ʃi}^4$	Lo	$\text{nō}^4\text{ʃe}^4$
Hu	$\text{nā}^4\text{ʃi}^4$ <u>horse</u>	Te	$\text{nā}^4\text{ʃi}^4$ <u>horse</u>

Additional examples: 8, 49, 51, 52, 68, 96, 104, 120, 122, 136, 137, 138, 142, 144, 148, 162, 171, 185, 211, 226, 244, 245, 249, 251, 256, 266, 275, 277, 279, 280, 282, 304, 308, 337, 398, 415, 418, 423, 452, 457, 485, 486, 494, 496, 527, 536, 537, 538, 546, 547, 557, 562, 603, 613, 620, 625, 635, 641, 649, 654, 665, 676, and 722.

(2) When *h in the environment of $\text{*}-\text{ihi}$ was lost or metathesized with preceding vowel (cf. §4.1.1) the weakly stressed vowel merged with the homorganic heavily stressed vowel; in weakly stressed syllables in such an environment, *i is reconstructed from Mz i : Ay i : Cq i : Ja $\emptyset$: Do i : Hu $\emptyset$: Ji i : So i : Ix i : Mg $\emptyset$: Lo i : Te i as in set 240 $\text{*mī}^4\text{ʃi}^4$ upgrade, slope up:

5.1.1

Hu m ₁ ^{f4s}	Ix m ₁ h ₁ ^f
Ji m ₁ h ₁ ^f	Lo m ₁ h ₁ ^f
So m ₁ ^s h ₁ ^{f3}	Te m ₁ h ₁ ^f

Additional examples: 346, 413, 594, and 669.

(3) In weakly stressed syllables followed by *-ʔi, *i is reconstructed from Mz ∅ : Ay i : Cq i : Ja ∅ : Do ∅ : Hu ∅ : Ji ∅ : So ∅ : Ix ∅ : Mg ∅ : Lo i : Te ∅ as inset 522 *si⁴ʔ₁^s man:

Mz s ₁ ʔ ₁ ^f	Hu s ₁ ʔ ₁ ^{f4}
Ay si ₁ ʔ ₁ ^f	Ji s ₁ ʔ ₁ ^f
Cq si ₁ ʔ ₁ ^f	Mg s ₁ ʔ ₁ ^f
Ja s ₁ ʔ ₁ ^{f3}	Lo si ₁ ʔ ₁ ^f
Do s ₁ ʔ ₁ ^f	Te si ₁ ^f

Additional examples: 28, 37, 38, 93, 94, 101, 199, 374, 411, 412, 468, 515, 595, and 600.

(4) In environments other than the three preceding, *i is reconstructed from identical reflexes of /i/ in all daughter languages as in set 202 *kh₁^{s1} far:

Mz kh ₁ ^f	Ji kh ₁ ^f
Ay kh ₁ ^f	So kh ₁ ^{s2}
Cq kh ₁ ^f	Ix kh ₁ ^f
Ja kh ₁ ^{f2}	Mg kh ₁ ^f
Do kh ₁ ^f	Lo kh ₁ ^f
Hu kh ₁ ^{f3}	Te kh ₁ ^f

5.1.1

Additional examples: 34-36, 39-42, 76-83, 88-92, 95, 97-100, 108, 110, 133, 134, 168, 169, 195-198, 200-202, 204-209, 215, 219, 225, 231, 240, 242, 243, 252, 254, 262, 268, 276, 281, 292, 293, 305, 306, 311-339, 344-349, 360, 373, 376, 381, 387, 388, 389-394, 408-410, 413, 445, 453, 464, 469-471, 514, 516-525, 581-585, 589-594, 621, 655-658, 663, 666-669, 679, 682, 689, 694-696, 701, 705, 706, 714-716, 724, 726, and 728.

CHART 13

CORRESPONDENCE SETS FOR THE RECONSTRUCTION OF *1

	Mz	Ay	Cq	Ja	Do	Hu	Ji	So	Ix	Mg	Lo	Te
(1)	i	i	i	i	i	i	i	i	i	i	e	i
(2)	i	i	i	∅	i	∅	i	i	i	∅	i	i
(3)	∅	i	i	∅	∅	∅	∅	∅	∅	∅	i	∅
(4)	i	i	i	i	i	i	i	i	i	i	i	i

- (1) (a) In heavily stressed syllables of polysyllabics when the vocalic nucleus preceding the heavily stressed syllable contains a back vowel (*a, *u) unless *y also occurs in the consonantal margin preceding the back vowel; or (b) following clusters of *{s, ʃ}{stop}(C) or *hN(C)
- (2) In weakly stressed syllables when *h in the environment *ihi was lost or metathesized with

5.1.2

the preceding vowel (cf. §4.1.1)

(3) In weakly stressed syllables followed by *-ʔi

(4) Elsewhere

5.1.2 Gudschinsky (1959:15) in both the extended discussion and the chart of development says that the development of *e > Mz /e/ is unchanged. However, inspection of her own cognate sets does not support her assertion. Her sets PPn 14, 98, 145, and 183 give Mz reflexes of both /i/ and /e/ for *e; her sets PPn 27, 28, 30, 94, 95, 221, 242, 256, and 268 give Mz reflexes of /i/ for *e; and her sets PPn 9, 10, 29, 96, 106, 144, 147, 163, 184, 185, 199, 205, 229, 240, 245, and 293 give Mz reflexes of /e/ for *e. Such similar environments as found in her sets PPn 242 and 245 give one with a reflex /i/ and the other with /e/.

The data for Mz cited in my cognate sets is taken from material gathered by Gudschinsky. For this reason, although the cognates are much more numerous than hers, it still leaves the same sort of indeterminacy as to the development of *e in Mz.

It seems likely that in heavily stressed syllables, and CVʔV syllables, *e is merging with *i in Mz. The fact that some reflexes show alternation of /i/ and /e/, others only /e/, and still others only /i/, may simply reflect the fact that the sound change had not stabilized when Gudschinsky did field research.

5.1.2

The status of *e in heavily stressed syllables and CV²V syllables in Mz also remains unresolved in this study. As reflexes both /i/ and /e/ appear in sets 10, 254, 333, 483, and 511; the reflex /i/ appears in sets 12, 44, 72, 82, 160, 166, 286, 323, 327, 336, 372, 407, 424, 444, 463, 469, 490, 523, 543, 544, 578, 599, 638, and 674; the reflex /e/ appears in sets 14-16, 20, 32, 161, 167, 178, 229, 237, 239, 289, 290, 301, 302, 309, 325, 326, 373, 385, 388, 390, 432, 451, 460, 461, 510, 512, 519, 530, 531, 545, 570, 577, 580, 624, 646, 652, 686, 688, and 708.

In weakly stressed syllables other than those preceding ²V, Mz reflexes of *e are predominantly /e/, as in sets 27, 371, 376, 377, 379, 380, 382, 408, 568, 572, 644, 645, and 649; only three sets (15, 239, and 301) show /i/.

Because of this problem in Mz, the reconstruction of *e is based on the other eleven languages.

*e is reconstructed from seven types of non-contrastive sets. The complementary sets are summarized in Chart 14.

(1) In stressed syllables when the vocalic nucleus is nasalized, *e is reconstructed from Ay e : Cq ei : Ja e : Do e : Hu e : Ji e : So e : Ix e : Mg e : Lo a : Te e as in set 519 *ši³nē¹ (*¹ - ¹) lard:

5.1.2

Ay šiné	So ší ³ né ²¹
Cq šinéí	Ix šĩné
Ja ší ² né ¹	Mg šiné
Do šiné	Lo šiná
Hu ší ¹ né ¹	Te šiné
Ji šiné	

Additional examples: 15, 30, 57, 72, 81, 90, 132, 140, 141, 160, 178, 191, 192, 194, 229, 231, 232, 237, 239, 290, 325, 388, 390, 432, 440, 461, 462, 463, 469, 519, 531, 545, 579, 580, 589, 624, 638, 699, 700, 707, and 708.

(2) In stressed syllables preceded by *(š){k, k^w}hV-, *e is reconstructed from Ay e : Cq e : Ja e : Do e : Hu e : Ji e : So e : Ix e : Mg e : Lo ia : Te e as in set 190 *khé³ not yet:

Ay khé	Ji khé
Cq khé	So khyé
Ja kh ^o é ³²	Ix khé
Do kh ^o é	Lo khiá
Hu khé ³	Te khé

Additional examples: 191-194, 534, and 540.

(3) In weakly stressed syllables when *h in the sequence *-ehe was lost or metathesized with the preceding vowel (cf. §4.1.1), *e is reconstructed from Ay e : Cq ei : Ja ø : Do e : Hu ø : Ji e : So e : Ix i : Mg ø : Lo a : Te e as in set 239 *mē³hé² wants:

5.1.2

Ay mēhé	So mē ³ hē ¹
Cq mēi ₁ heí	Ix mīhē
Ja mhē ²	Mg mē
Do mēhē	Lo mǎhá-
Hu mē ³	Te mēhē

Additional examples: 109, 232, 301, 310, 378, 685, and 687.

(4) In weakly stressed syllables contiguous to *y or when preceded by word initial *t or *nt and not followed by *ʔV, *e is reconstructed from Ay e : Cq ei : Ja e : Do e : Hu i : Ji i : So e : Ix i : Mg e : Lo a : Te i as in set 376 *nte⁴cí⁴ market:

Ay ntecí	So nte ⁴ cí ⁴
Cq nteicí	Ix nticí
Ja nʔe ³ cí ³	Mg ntecí
Do ndʔecí	Lo ntací
Hu nti ⁴ cí ⁴	Te nticí
Ji nticí	

Additional examples: 370, 371, 374, 375, 377, 379, 380, 381, 382, 568, 572, and 684.

(5) In the environment *c__ʔe, *e is reconstructed from Ay e : Cq ei : Ja ∅ : Do ∅ : Hu ∅ : Ji ∅ : So e : Ix i : Mg ∅ : Lo a : Te ∅ as in set 16 *ce⁴ʔé⁴ his:

Ay k ^W iceʔé	So ceʔé
Ja k ^W i ¹ cʔé ³	Ix ciʔé
Do k ^W icʔé	Lo caʔá
Hu cʔé ⁴	Te cé

5.1.2

Additional examples: 10, 285, and 286.

(6) In the environment *C(C)___'e where C is other than *c, *e is reconstructed from Ay e : Cq e1 : Ja Ø : Do Ø : Hu Ø : Ji Ø : So e : Ix e : Mg Ø : Lo a : Te Ø as in set 577 *the³'é³ magic, sorcery:

Ay the'é	Ix the'é
Ja th'é ²	Mg th'é
Do th'é	Lo tha'á
So the ³ 'é ³	

Additional examples: 32, 178, 215, 372, 383, 384, 407, 463, 464, 512, 650, 652, and 688.

(7) In environments other than the six preceding, *e is reconstructed from Ay e : Cq e : Ja e : Do e : Hu e : Ji e : So e : Ix e : Mg e : Lo a : Te e as in set 570 *té³ ten:

Ay té	So té ³
Cq té	Ix té
Ja té ²	Mg té
Do té	Lo tá
Hu té ³	Te té
Ji té	

Additional examples: 11-15, 20, 27, 33, 44, 82, 94, 95, 113, 129-132, 161, 166, 167, 201, 215, 221, 223, 229, 231, 254, 255, 289, 302, 323, 327, 333, 339, 348, 356, 373, 385, 393, 395, 408, 424, 443, 444, 451, 459, 460, 483, 484, 490,

5.1.2

510, 511, 523, 543, 544, 563, 569, 571, 573, 578, 581, 599,
607, 611, 616, 631, 642-647, 649, 651, 653, 667, 674, and 686.

CHART 14

CORRESPONDENCE SETS FOR THE
RECONSTRUCTION OF *e

	Ay	Cq	Ja	Do	Hu	Ji	So	Ix	Mg	Lo	Te
(1)	e	ei	e	e	e	e	e	e	e	a	e
(2)	e	e	e	e	e	e	e	e	e	ia	e
(3)	e	ei	∅	e	∅	e	e	i	∅	a	e
(4)	e	ei	e	e	i	i	e	i	e	a	i
(5)	e	ei	∅	∅	∅	∅	e	i	∅	a	∅
(6)	e	ei	∅	∅	∅	∅	e	e	∅	a	∅
(7)	e	e	e	e	e	e	e	e	e	a	e

Note: Mz reflexes are not considered in the reconstruction of *e; see the discussion at the beginning of this section.

- (1) In heavily stressed syllables when the vocalic nucleus is nasalized
- (2) In heavily stressed syllables preceded by $*(\text{ʃ})\{k, k^w\}hV-$
- (3) In weakly stressed syllables when *h in the sequence *-ehe was lost or metathesized with the preceding vowel (cf. §4.1.1)

5.1.2

- (4) In weakly stressed syllables contiguous to *y or when preceded by word initial *t or *nt
- (5) In the environment *c__'e
- (6) In the environment *C(C)__'e where C is other than *c
- (7) In other environments

5.1.3 *a is reconstructed from thirteen types of non-contrastive sets; the complementary environments are summarized in Chart 15.

This complexity in the correspondence sets is caused by the intersection of only a few basic environmental factors in each language. It should also be noted that of the thirteen types of non-contrastive environments, the first twelve are in weakly stressed position.

It would seem that many of these correspondence sets are poorly attested. This is true only if one examines each of the thirteen environments independently; but examined in groups their collective strength is readily apparent. Complementary set-types (1) through (7) have in common the environment *-hV; these are further sub-divided on the basis of vowel quality *u (1 - 3) and *a (4 - 7).

The first three environments with *-hu following are sub-divided on the basis of the preceding consonantal margin that correlates with the difference in vowel reflexes in Ay, Ix, and Lo. Environment (3) is attested by only one form,

5.1.3

which shows a difference of reflexes only in Ix and Lo. Yet the development appears natural in that the chronology of sound development in Lo can be accounted for in the following way: (a) *-ahu > Pre-Lo *-uhu > *-ihĩ; then (b) in weakly stressed syllable with *č in the consonantal margin Pre-Lo *ĩ > Lo /i/ (cf. §5.1.4 and also, more importantly, the Lo vowel development of the *au cluster in §5.2.7). This hypothesis accounts neatly for the presence of Lo /i/ in environment (3), and /i/ in the palatal (*č, *y) environment (1); at the same time it answers the question of why /o/ and not /i/ in the *č environment of (5) and (6) (the latter are derived from *a, the former from *u).

The *nt^y environment in (2) can be compared with (4). However, in Mz a difference is present which is accounted for by the probability that *nt^y in this environment became /l/ before the sound change that involved *nt^y- in environment (4)

Environment (7), (9), (10) have in common the consonantal margin *ñ-; they differ in what follows the weakly stressed *a. This difference seems to correlate with the reflexes for *a--environment (7) has a non-palatal environment following and the development is what is expected for *-hV (cf. §4.1.1); also, Ix gives the expected reflex /i/ after a palatal consonantal margin (unless *-hu follows). Environments (9) and (10) seem to be somewhat alike in that

5.1.3

weakly stressed *a is between palatal-like environments (for the argument that *t here may have had a more palatal allophone cf. §4.11.1.3). Ay gives the reflex /e/ in both (9) and (10); Ja and Do give /ei/ in the *ñ__č- environment but /a/ in the *ñ__t- environment.

The remainder of the correspondence types may be studied in a similar way; the interlocking of the environments should be apparent.

(1) In the environment *{(n)č-, y-}__hu, *a is reconstructed from Mz a : Ay o : Cq o : Ja ø : Do o : Hu a : Ji o : So a : Ix u : Mg ø : Lo i : Te i as in set 298 *nča³hú³, *ča³hú³ dust:

Mz	čahú	So	ča ³ hó ³
Ay	čohó	Ix	čuhú
Cq	čohó	Mg	čo
Ja	nǰhó ²	Lo	čihí
Do	nǰohó	Te	čihú
Hu	čau ³		

Additional examples: 54, 299, 300, and 677-680.

(2) In the environment *nt^y__hu, *a is reconstructed from Mz a : Ay ø : Cq o : Ja ø : Do o : Hu a : Ji o : So a : Ix ø : Mg ø in set 406 *nt^ya⁴hú⁴ stone:

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Mz ɔlahó	Hu laú ⁴
Ay ntihó	Ji lohó
Cq ntiohó	So ntya ⁴ hó ⁴
Ja ndhió ³	Ix ntihú
Do ndiohó	Mg ló

(3) In the environment *w__hu, *a is reconstructed from Mz a : Ay o : Cq o : Ja ∅ : Do o : Hu a : So a : Ix a : Lo ɿ : Te i in set 633 *wa³hú² hungry:

Mz wahóra	Hu waú ³
Ay wohó	So wa ³ hó ¹ re ⁴
Cq wohó	Ix wahú
Ja whó ²	Lo wihi
Do wohó	

(4) In the environment *nt^y__ha, *a is reconstructed from Mz ∅ : Ay ∅ : Cq a : Ja ∅ : Do a : Hu ∅ : Ji a : So a : Ix ∅ : Lo o : Te a as in set 405 *nt^ya⁴há⁴ horn (animal):

Mz ntihá	Ji nɕahá
Ay ntiháre	So ntya ⁴ há ⁴
Cq ntiahá	Ix ntihá
Ja ndhiá ³	Lo nɕohó
Do ndiahá	Te nɕahá
Hu nɕá ⁴	

Additional example: 404.

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(5) In the environment *nč__ha, *a is reconstructed from Mz a : Ay a : Cq a : Ja Ø : Do a : Hu Ø : So a : Ix i : Mg Ø : Lo o : Te i in set 297 *nča³há¹ corn drink (atole):

Mz nčahá	So nča ³ há ²¹
Ay nčahá	Ix nčihá
Cq nčahá	Mg nčá
Ja nĵhá ¹ -	Lo nčohó
Do nĵahá-	Te nčihá
Hu nčá ²¹	

(6) In the environment *č__ha, *a is reconstructed from Ay a : Cq a : Ja a : Do a : Hu Ø : Ix i : Mg Ø : Lo o : Te i in set 66 *ča⁴há¹ cramp:

Ay čahá	Ix čihá
Cq čahá	Mg čá
Ja ča ² há ¹	Lo čohó
Do čahá	Te čihá
Hu čá ⁴²	

(7) In the environment *ñ__ha, *a is reconstructed from Mz a : Ay a : Cq a : Ja Ø : Do a : Hu Ø : Ji a : So a : Ix i : Mg Ø : Lo o : Te Ø as in set 421 *ñā³há⁴³ nine:

5.1.3

Mz	ñahá	Ji	ñahá
Ay	ñahá	So	ñá ³ há ^{3 2}
Cq	ñahá	Ix	ñihá
Ja	ñhá ²	Lo	ñohó
Do	ñahá		

Additional examples: 236 and 313.

(8) In the environment *ʔy__CV, *a is reconstructed from Mz a : Ay ∅ : Cq a : Ja syllable ∅ : Do syllable ∅ : Hu syllable ∅ : Ji syllable ∅ : So a : Ix ∅ : Mg a : Lo o : Te ∅ as in set 728 *ʔya³ší^{4 3} sweet:

Mz	ʔaší	So	ʔa ³ ší ^{3 2}
Ay	ʔiší	Ix	ʔiší
Cq	ʔaší	Mg	ʔaší
Ja	ší ²	Lo	yoší
Hu	ší ^{4 3}	Te	ʔiší
Ji	ší		

Additional examples: 725, 726, 727, and 729.

(9) In the environment *ñ__čV, *a is reconstructed from Mz a : Ay e : Cq a : Ja ei : Do ei : Hu a : Ji i : So a : Ix i : Lo o : Te ∅ as in set 425 *ñá⁴čá³ (*³ - 1 , *¹ - 1) forty:

Ay	yečá	Ji	ñičá
Cq	yačá	So	ya ^{2 1} čá ^{2 1}
Ja	yei ² čá ¹	Ix	yičá
Do	yeičá	Lo	yočotá <u>fifty</u>
Hu	ñá ⁴ čá ³	Te	ʔičá

5.1.3

Additional example (same morpheme): 423.

(10) In the environment *ñ__tV, *a is reconstructed from Mz a : Ay e : Cq a : Ja a : Do a : Hu a : Ji i : So a : Ix i : Mg a : Lo o : Te ∅ in set 422 *ñ³a³tú⁴³ seven:

Mz yatú	Ji ñ _i tú
Ay yetú	So ya ³ tú ³²
Cq yatú	Ix yitú
Ja ya ² tú ²	Mg yatú
Do yatú	Lo yatí
Hu ñ _a ³ tú ⁴³	Te ʔitiú

(11) In the environment *č__CV when C is not a laryngeal (*h, *ʔ), *a is reconstructed from Mz a : Ay a : Cq a : Ja a : Do a : Hu a : Ji a : So a : Ix i : Mg a : Te i as in set 64 *č³a³yá³ forgets:

Mz čayá	Hu ča ³ yá ³
Ay -čayá	So ča ³ yá ³
Cq -čayá-	Ix -čiyá
Ja -ča ² yá ²³	Mg čayá-
Do -čayá	

Additional examples: 55, 56, 57, and 58.

(12) In weakly stressed syllables preceding *-ʔa, *a is reconstructed from Mz a : Ay a : Cq a : Ja ∅ : Do ∅ : Hu a : Ji a : So a : Ix a : Mg ∅ : Lo o : Te ∅ as in set 163 *hwa³ʔá³ passes by:

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Ay -hwaʔá	Ji hwaʔá
Cq -hwaʔá	So fa ^s ʔá ^s
Ja -hwʔá ^{2s}	Mg hwʔá
Do -hwʔá	Lo hwoʔó
Hu wha ^s ʔá ^s	Te tihwá

Additional examples: 2, 31, 59, 60, 69, 161, 162, 174, 181, 357, 456, 500, 506, 629, and 681.

(13) In weakly stressed syllables other than (1) through (12), and in all stressed syllables, *a is reconstructed from Mz a : Ay a : Cq a : Ja a : Do a : Hu a : Ji a : So a : Ix a : Mg a : Lo o : Te a as in set 491

*šá¹ work:

Mz šá	Ji šá
Ay šá	So šá ²¹
Cq šá	Ix šá
Ja šá ¹	Mg šá
Do šá	Lo šó
Hu šá ¹	Te šá

Additional examples: 3, 4, 6-9, 17, 27, 29, 30, 32, 35, 40, 43, 46, 53, 61-63, 67, 68, 73, 74, 83, 85, 91, 99, 100, 102, 103, 106, 111, 114, 115, 120-123, 126, 135, 139, 143, 147, 149, 155-157, 160, 164, 171-173, 179, 180, 182, 185-187, 193, 195, 197, 198, 201, 203, 207, 208, 213, 216, 218-221, 227, 229, 231-233, 235, 237, 241-263, 265-282, 284, 287, 288, 294, 296, 303, 304, 306, 307, 314-318, 324, 328, 330, 339-343, 345,

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349, 350, 352-356, 358-361, 362, 364-367, 370, 371, 380, 381, 387, 390, 392, 393, 395, 396, 401-403, 417, 418, 420, 428, 431-433, 436-444, 446-450, 453-455, 458, 465, 466, 472-475, 478-482, 488, 493, 494, 496-499, 501-505, 507, 508, 521, 526-530, 532, 533, 536, 541, 549, 555, 556, 559, 561, 563-566, 572, 584, 590, 593, 596, 598, 602, 604, 609-611, 613, 618, 621, 622, 624, 626-628, 630-632, 634-648, 656-670, 672, 673, 676, 683, 684, 690-695, 698, 703, 704, 709, 710, 713, 718, and 730.

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CHART 15

CORRESPONDENCE SETS FOR THE RECONSTRUCTION OF *a

	Mz	Ay	Cq	Ja	Do	Hu	Ji	So	Ix	Mg	Lo	Te
(1)	a	o	o	∅	o	a	o	a	u	∅	i	i
(2)	a	∅	o	∅	o	a	o	a	∅	∅		
(3)	a	o	o	∅	o	a		a	a		i	
(4)	∅	∅	a	∅	a	∅	a	a	∅		o	a
(5)	a	a	a	∅	a	∅		a	i	∅	o	i
(6)		a	a	a	a	∅			i	∅	o	i
(7)	a	a	a	∅	a	∅	a	a	i	∅	o	∅
(8)	a	∅	a	S∅	S∅	S∅	S∅	a	∅	a	o	∅
(9)	a	e	a	ei	ei	a	i	a	i		o	∅
(10)	a	e	a	a	a	a	i	a	i	a	o	∅
(11)	a	a	a	a	a	a	a	a	i	a		i
(12)	a	a	a	∅	∅	a	a	a	a	∅	o	∅
(13)	a	a	a	a	a	a	a	a	a	a	o	a

S∅ represents syllable zero

- (1) In the environment *{(n)č-, y-}__hu
- (2) In the environment *nt^y__hu
- (3) In the environment *w__hu
- (4) In the environment *nt^y__ha
- (5) In the environment *nč__ha
- (6) In the environment *č__ha

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- (7) In the environment *ñ__ha
- (8) In the environment *ʔy__CV
- (9) In the environment *ñ__ɕV
- (10) In the environment *ñ__tV
- (11) In the environment *ɕ__CV where C is not a
laryngeal (*h, *ʔ)
- (12) Preceding *__ʔa
- (13) In other weakly stressed syllables and in all
heavily stressed syllables

5.1.4 *u is reconstructed from fourteen types of non-contrastive sets; Chart 16 summarizes the complementary environments. This large number of non-contrastive sets is composed of the complex intersection of a relatively small number of basic parameters. Presence or absence of palatal environments (*ɕ, *ñ, *y) in the consonantal margin intersect with heavily stressed or weakly stressed syllables, with presence or absence of a following laryngeal, and with difference of vowel quality following the laryngeal.

Some of the environments are weakly attested when inspected individually. But when compared with the total pattern their validity can be seen because of their perfect fit.

Environment (1) accounts both for heavily stressed vowels with palatals preceding them and for one weakly stressed set with *ʂt- in the consonantal margin. It might

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seem that *ʃt- weakly stressed should be excluded, but close inspection indicates that it fits perfectly--*ʃt > Lo /ɕ/ before *u > Lo /i/ when /ɕ/ was in the consonantal margin; the apparently aberrant form fits perfectly.

The reflexes of environment (2) parallel (14) except for Te which gives /iu/ rather than /u/, but environment (2) seems adequately attested and may reflect an earlier palatal-like allophonic quality of *t in some environments (cf. §4.11.1.3).

Environments (3) and (4) differ only in presence or absence of palatal consonantal onset and this difference is reflected in the expected Lo reflex of /i/ after palatals and /ɪ/ elsewhere.

Environments (5) and (6) show the development after non-palatal initials before *-hu. The difference between them is reflected in the development of *h (cf. §4.1.1). Although environment (6) is attested by only two sets, the results fit the expected pattern.

Environment (7) accounts for the development in weakly stressed syllables after an initial cluster containing *ʃ when the following syllable is not {*h, *ʷ}V [environment (3)]; it has both parallels and expected differences (because of the stress difference) as compared with environment (1). Environment (7) is well attested.

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Environments (8) and (9) have in common the presence of *ñ- initial and differ in the presence or absence of *-hu. Environment (8) has parallels with (5) and (6) because of the presence of *-hu but differs, as would be expected, because of the presence of the palatal initial.

Environments (10) and (11) have in common the presence of *t^y and differ in the presence or absence of *w following the vowel. As would be expected, the environment with *w shows homorganic assimilation with *w and thus the loss of evidence of *u in some languages (cf. §4.12.1.2). *u is also lost after *t^y (cf. §4.2.2).

Environments (12) and (13) have in common weakly stressed environment preceding *-ʔa. They differ in presence or absence of *č-onset, which correlates with expected differences in the Lo reflexes.

Environment (14) shows the typical expected reflexes and includes environments other than (1) through (13).

(1) (a) In heavily stressed syllables preceded by *č(h)-, *(h, ʔ)y-, *(h, ʔ)ñ-, or *ñuh-; or (b) in weakly stressed syllables with *št in the consonantal margin, *u is reconstructed from Mz u : Ay u : Cq u : Ja u : Do u : Hu u : Ji u : So u : Ix u : Mg u : Lo i : Te u as in set 107 *čú⁴ animal:

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Mz	čú	Ji	čú
Ay	čú	So	čú ⁴
Cq	čú	Ix	čú
Ja	čú ³	Mg	čú
Do	čú	Lo	čí
Hu	čú ⁴	Te	čú

Additional examples: 86, 105, 110, 118, 158, 170, 200, 243, 252, 261, 263, 268, 322, 332, 339, 367, 391, 394, 426, 427, 549, 556, 668, 715, 721, and 731.

(2) In heavily stressed syllables preceded by *(?)nt-, *u is reconstructed from Mz u : Ay u : Cq u : Ja u : Do u : Hu u : Ji u : So u : Ix u : Mg u : Lo i : Te iu as in set 112 *ču⁴ntú³¹ worm:

Mz	čuntú	Ji	čuntú
Ay	čintú	So	ču ⁴ ntú ³²
Cq	čuntú	Ix	čuntú
Ja	čhu ³ ntú ²	Mg	čuntú
Do	čhintú	Lo	čintí
Hu	ču ⁴ ntú ³	Te	čintiú

Additional examples: 183, 319-321, 331, 696, and 717.

(3) Following *{(n)č, y}a{h, ?}-, *u is reconstructed from Mz u : Ay o : Cq o : Ja o : Do o : Hu u : Ji o : So o : Ix u : Mg o : Lo i : Te u as in set 298 *nča³hú³, ča³hú³ dust:

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Mz	čahú	Ji	čó
Ay	čohó	So	ča ³ hó ³
Cq	čohó	Ix	čuhú
Ja	nʝhó ²	Mg	čó
Do	nʝohó	Lo	čihí
Hu	čaju ³	Te	čihú

Additional examples: 54, 65, 70, 300, and 677-680.

(4) Following *Ca{h, ʔ}- where C is other than *(n)č- or *y-, *u is reconstructed from Mz u : Ay o : Cq o : Ja o : Do o : Hu u : Ji o : So o : Ix u : Mg o : Lo ɿ : Te u as in set 633 *wa³hú² hungry:

Ay	wohó	So	wa ³ hó ¹ re ⁴
Cq	wohó	Ix	wahú
Ja	whó ²	Lo	wɿhí
Do	wohó	Te	ʔihú
Hu	waú ³		

Additional examples: 1, 5, 43, 406, 492, and 612.

(5) In the environment *nt__hu, *u is reconstructed from Mz u : Ay u : Cq u : Ja ∅ : Do u : Hu ∅ : Ji u : So u : Ix u : Mg ∅ : Lo ɿ : Te u as in set 397 *ntu³hú² long:

Mz	ntuhú	Ji	ntuhú
Ay	ntuhú	So	ntu ³ hú ¹
Cq	ntuhú	Ix	ntuhú
Ja	ndhú ²	Mg	ntú
Do	nduhú	Lo	ntɿhí
Hu	ntú ⁴³	Te	ntuhú

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Additional examples: 235, 400, and 670.

(6) In the environment $\{t, \text{ʃ}\}_\text{hu}$, $*u$ is reconstructed from Mz u : Ay u : Cq u : Ja u : Do u : Hu $\emptyset$: Ji $\emptyset$: So u : Ix u : Mg $\emptyset$: Lo ɿ : Te u as in set 560 $*\text{ʃu}^4\text{h}\dot{\text{u}}^4$
paper:

Mz	$\text{ʃuh}\dot{\text{u}}$	Ji	$\text{ʃ}\dot{\text{u}}$
Ay	$\text{ʃuh}\dot{\text{u}}$	So	$\text{ʃu}^4\text{h}\dot{\text{u}}^4$
Cq	$\text{ʃuh}\dot{\text{u}}$	Ix	$\text{ʃuh}\dot{\text{u}}$
Ja	$\text{ʃu}^3\text{h}\dot{\text{u}}^3$	Mg	$\text{ʃ}\dot{\text{u}}$
Do	$\text{ʃuh}\dot{\text{u}}$	Lo	$\text{ʃih}\dot{\text{ɿ}}$
Hu	$\text{ʃ}\dot{\text{u}}^4$	Te	$\text{ʃuh}\dot{\text{u}}$

Additional example: 601.

(7) In the environment $\{(C)\text{ɕ}(C), y\}_\text{C}'(C)V$ where C' is other than non-clustered laryngeal, $*u$ is reconstructed from Mz u : Ay u : Cq u : Ja u : Do u : Hu u : Ji i : So u : Ix u : Mg u : Lo i : Te i as in set 96 $*\text{ɕu}^4\text{c}\dot{\text{ɿ}}^1$
glass:

Mz	$\text{ɕuc}\dot{\text{ɿ}}$	Ji	$\text{ɕic}\dot{\text{ɿ}}$
Ay	$\text{ɕuc}\dot{\text{ɿ}}$	So	$\text{ɕu}^4\text{c}\dot{\text{ɿ}}^{21}$
Ja	$\text{ɕu}^3\text{c}\dot{\text{ɿ}}^1$	Mg	$\text{ɕhuc}\dot{\text{ɿ}}$
Do	$\text{ɕuc}\dot{\text{ɿ}}$	Lo	$\text{ɕic}\dot{\text{ɛ}}$
Hu	$\text{ɕu}^4\text{c}\dot{\text{ɿ}}^1$	Te	$\text{ɕic}\dot{\text{ɿ}}$

Additional examples: 85, 102, 106, 108, 109, 111, 113, 114, 116, 307, 308, 458, 561, 562, and 689.

(8) In the environment $*\tilde{n}_\text{hV}$, $*u$ is reconstructed from Mz u : Ay u : Cq u : Ja $\emptyset$: Do u : Hu $\emptyset$: Ji i :

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So u : Ix i : Mg ∅ : Lo i : Te i as in set 426 *ñy³hú²
four:

Mz ñy _h hú	Ji ñ _i hú
Ay ñy _h hú	So ñy ³ hú ¹
Cq ñy _h hú	Ix ñ _i hú
Ja ñhú ²	Mg ñú
Do ñy _h hú	Lo ñ _i hí
Hu ñú ⁴³	Te ñ _i hú

(9) In the environment *ñ__CV where C is not *h, *u is reconstructed from Mz i : Ay i : Cq u : Ja i : Do i : Hu u : Ji i : So u : Ix i : Mg u : Lo i : Te i as in set 430 *ñy³nkú³ fingernail:

Mz n _i nkú	Ji ʔinkú
Ay n _i nkú	So ñy ³ nkú ³
Cq yunkú	Ix n _i nkú
Ja n _i ² nkú ²	Mg ñy _h nkú
Do n _i nkú	Lo yikí-
Hu yu ³ nkú ³	Te ʔinkú

Additional examples: 428-436.

(10) In the environment *(C)t^y(C)__wV, *u is reconstructed from M₇ ∅ : Ay ∅ : Cq u : Ja ∅ : Do ∅ : Hu u : Ji ∅ : So u : Ix ∅ : Mg ∅ : Lo i : Te u as in set 417 *nt^yu³wá¹ comes:

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Ay hentiwá	So ntyu ³ wá ²¹
Cq sei ² eintuwá	Ix cintiwá
Ja ni ² wá ¹	Mg ntiá
Do niwá	Lo yanč ¹ wó
Hu nčuá ²¹	Te nčuá

Additional examples: 608, 609, 611, and 613.

(11) In the environment *(C)t^y(C)__(C)C'V where C' is other than non-clustered *w, *u is reconstructed from Mz ∅ :
 Ay ∅ : Cq u : Ja ∅ : Do e : Hu u : Ji u : So u : Ix ∅ :
 Mg u : Lo i : Te u as in set 617 *t^yhu³nkú¹ gum:

Ay thinkú	Ji čhunkú
Cq thiunkú	Ix thinkú
Ja thi ² nkú ¹	Mg thiunkú
Do thenkú	Lo čh ¹ nkí
Hu šu ³ nkú ¹	Te čhunkú

Additional examples: 418, 616, 618, 619, and 620.

(12) In the environment *(C)č__²a, *u is reconstructed from Mz u : Ay ∅ : Cq u : Ja ∅ : Do ∅ : Hu u : Ji ∅ :
 So u : Ix u : Mg ∅ : Lo i : Te i as in set 683 *ya⁴nču³á¹ fence:

Mz yanču ² á	So č ² uá ²¹
Ay yanč ² á	Ix nč ² uá
Cq nčuá	Mg yanč ² á
Ja ² i ³ ya ² nč ² á ¹	Lo nči ² wó
Do č ² á	Te ² inčiwá
Hu nč ² uá ¹	

Additional example: 103.

(13) In the environment *(C)C'__'a where C' is other than *č, *u is reconstructed from Ay ∅ : Cq u : Ja ∅ : Do ∅ : Hu u : Ji ∅ : So u : Ix u : Mg ∅ : Lo ± : Te u as in set 343 *nka⁴ncu⁴ʔá⁴, *ka⁴ncu⁴ʔá⁴, *-cu⁴ʔá⁴ stomach:

Ay	kancʔá	So	nka ⁴ cʔuá ⁴
Cq	kaʔnčuá	Ix	nkacʔuá
Ja	ka ³ ncʔá ¹	Mg	cʔá
Do	kacʔá	Lo	konciwó
Hu	cʔuá ⁴	Te	kancuwá
Ji	cʔá		

Additional example: 628.

(14) In environments other than (1) through (13), *u is reconstructed from Mz u : Ay u : Cq u : Ja u : Do u : Hu u : Ji u : So u : Ix u : Mg u : Lo ± : Te u as in set 419 *nú¹ year:

Mz	nú	Ji	nú
Ay	nú	So	nú ²¹
Cq	nú	Ix	nú
Ja	nú ¹	Mg	nú
Do	nú	Lo	ní
Hu	nú ¹	Te	nú

Additional examples: 3, 4, 23, 24, 46-51, 53, 56, 58, 62, 92, 97, 119, 145, 146, 150-154, 159, 203, 209-214, 221, 226, 248, 250, 257, 258, 267, 272, 278, 281, 284, 291, 294, 326,

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341, 347, 350, 354, 355, 359, 364, 365, 375, 379, 380, 395, 396, 398, 401, 402, 412, 414, 416, 422, 438, 441, 444, 473, 476, 478, 487-490, 496, 499, 501-503, 535, 539, 548, 550, 551, 553-555, 557, 559, 563, 566, 568, 573, 587, 588, 597, 598, 600, 602-607, 623, 636, 640, 651, 662-664, 672, 702, 710, and 729.

CHART 16

CORRESPONDENCE SETS FOR THE
RECONSTRUCTION OF *u

	Mz	Ay	Cq	Ja	Do	Hu	Ji	So	Ix	Mg	Lo	Te
(1)	u	u	u	u	u	u	u	u	u	u	i	u
(2)	u	u	u	u	u	u	u	u	u	u	ɿ	iu
(3)	u	o	o	o	o	u	o	o	u	o	i	u
(4)	u	o	o	o	o	u	o	o	u	o	ɿ	u
(5)	u	u	u	∅	u	∅	u	u	u	∅	ɿ	u
(6)	u	u	u	u	u	∅	∅	u	u	∅	ɿ	u
(7)	u	u	u	u	u	u	i	u	u	u	i	i
(8)	u	u	u	∅	u	∅	i	u	i	∅	i	i
(9)	i	i	u	i	i	u	i	u	i	u	i	i
(10)	∅	∅	u	∅	∅	u	∅	u	∅	∅	ɿ	u
(11)	∅	∅	u	∅	e	u	u	u	∅	u	ɿ	u
(12)	u	∅	u	∅	∅	u	∅	u	u	∅	i	i
(13)		∅	u	∅	∅	u	∅	u	u	∅	ɿ	u
(14)	u	u	u	u	u	u	u	u	u	u	ɿ	u

(1) (a) In heavily stressed syllables preceded by
*č(h)-, *(h, ʔ)y-, *(h, ʔ)ñ-, or *ñyh-; or (b)
in weakly stressed syllables with *št in the
consonantal margin

(2) In heavily stressed syllables preceded by *(ʔ)nt-

(3) Following *{(n)č, y}a[h, ʔ]-

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- (4) Following *Ca{h, ʔ}- where C is other than *(n)č-,
*y-
- (5) In the environment *nt__hu
- (6) In the environment *{t, ʃ}__hu
- (7) In the environment *{(C)č(C), y}__C'(C)V where C'
is other than non-clustered laryngeal
- (8) In the environment *ñ__hV
- (9) In the environment *ñ__CV where C is not *h
- (10) In the environment *(C)t^y(C)__wV
- (11) In the environment *(C)t^y(C)__(C)C'V where C' is
other than non-clustered *w
- (12) In the environment *(C)č__ʔa
- (13) In the environment *(C)C'__ʔa where C' is other
than *č
- (14) In environments other than (1) through (13)

5.2 Vowel Clusters

(*ia, *iu, *ei, *ai, *ui, *ue, *au, *ua)

Since a detailed reconstruction of PMaz grammar is yet to be written, the evidence for some of the vowel clusters is meager. For example, only one etymon is presented in this monograph with a *ui cluster. However, this is simply one example of a class of nouns ending in third person possessive *-u which form second person possessive with the suffix *-i (cf. set 284 with 295). Other nouns have third person

possessive endings in *a or *e, with second person possessive forms in *-ai and *-ei respectively. Adequate attestation of some of these clusters must await the reconstruction of PMaz grammar.

It seems likely that vowel clusters developed from the loss of an intervening consonant. But at the present stage of study it appears that this loss was probably earlier than the PMaz horizon. Gudschinsky in 1956 conjectured that her *a¹ and *o might "with further study prove to be reconstructed as disyllabic sequences with two simple vowels separated by a consonant which has been lost in all dialects so far studied" (Gudschinsky 1956:19).

From the extended breadth and depth of the present study it is possible to suggest that this lost consonant was one of the laryngeals, probably *h. In support of this conjecture the following observations seem pertinent:

(a) fifty-five of the fifty-nine etyma in which vowel clusters are reconstructed have these clusters in the heavily stressed syllable; this suggests the consonant that was lost was in the syllable following the heavily stressed syllable of the word; (b) many of the modern Mazatec languages have weakly stressed personal suffixes following the heavily stressed syllable of the word: e.g., -hi second person sg., -hi 1st person pl. exclusive, -hy second person pl.; (c) in Hu *-ahú > /au/ (cf. §4.1.1). From these observations a

5.2

plausible hypothesis can be suggested: just as $*-Vh\acute{V} > VV$, so at an earlier stage $*-VhV > VV$. If this can later be demonstrated for the PMaz horizon, then what is presented here as $*VV$ can simply be restated as $*VhV$. But for the present, vowel clusters are postulated for PMaz.

5.2.1 $*ia$ is reconstructed from Mz ia : Cq e :

Ja ia : Do ia : Hu ia : Ji ia : So a¹ : Ix ia : Mg ia :
Lo ia : Te ia as in set 586 $*thi\acute{a}^3(*^1)$ let's go:

Mz thi ₁ á	So thá ¹³ ñá ³²
Ja thi ₁ á ²¹	Ix thi ₁ á
Do thi ₁ á	Mg thi ₁ á
Hu thi ₁ á ¹	Te thi ₁ á
Ji thi ₁ á	

Additional examples: 21, 224, 351, and 477.

5.2.2 $*iu$ is reconstructed from Mz yu : Ay iu :

Cq iu : Ja iu : Do iu : Hu iu : Ji iu : So yu : Ix iu:
Mg io : Lo í : Te iu as in set 712 $*nkiú^1$ cocoa bean:

Mz nk ² yú	So k ² yú ²¹
Ay nk ² iú	Ix nk ² iú
Cq ² nkiú	Mg nk ² io
Ja nk ² iú ¹	Lo nkí ² í (< Pre-Lo
Do nk ² iú	$*nki2í$)
Hu nk ² iú ¹	Te nkiú

Additional examples: 22, 495, 513, and 706.

5.2.3

5.2.3 *ei is reconstructed from Ay e : Ja ei : Do ei :
Hu e : Ji i : So e : Ix e : Mg e : Lo i : Te e as in
set 84 *čhu³weí¹(*⁴ - ³) take it:

Ay čhuwé	Ji čhuwí
Ja čhu ³ weí ²	Ix čhuwé
Do čhuweí	Lo ntíwí
Hu thue ²¹ , thu ³ wé ¹	

Additional examples: 264 and 399.

5.2.4 *ai is reconstructed from two types of non-contrastive sets. The first postulated environment (preceded by *t^yh) is attested by only one example. Yet this set fits the development of the *t^y environment with its loss of back vowels, cf. §4.2.2.

(1) When preceded by *t^yh, *ai is reconstructed from
Ay ai : Cq ai : Ja i : Do i : Hu ai : Ji ai : So i :
Ix i : Mg e : Lo e : Te ai as in set 675 *ya¹t^yhaí¹
corn stalk:

Ay yatháí	So ya ²¹ thí ²¹
Cq yatháí	Ix yathí
Ja ya ¹ thí ¹	Mg yathé
Do yathí	Lo yočhé
Hu ya ¹ čhaí ¹	Te ʔačhaí
Ji yačhaí	

(2) Elsewhere, *ai is reconstructed from Mz e :
Ay ai : Cq ei : Ja ai : Do ai : Hu ai : Ji ai : So ai :

5.2.4

Ix ai : Mg e : Lo e : Te i as in set 466 *-shaí² look for:

Ay tihwinkankishai	Ji kihnčishai
Cq kuankaseí	So ti ⁴ nči ⁴ chaf ¹
Ja ti ¹ hwi ² ngi ² shaí ²	Ix c ² ahwinkisai
Do tihwingishai	Lo kowikoche ² é
Hu wa ²¹ shaí ²	Te khuinčishé

Additional examples: 124, 125, 176, 188, 228, 230, 234, 283, 363, 368, 542, 574, and 671.

5.2.5 *ui is reconstructed from Ja ui : Hu ui : Lo i in set 295 *ncu⁴kuí³, *cu⁴kuí³ foot (your sg.):

Ja cu ³ kuí ²	Lo ncokí
Hu ncu ⁴ kuí ³	

5.2.6 *ue at present is attested in only one set [for discussion see §5(1)]; it is reconstructed from Mz ie : Ay e : Cq ue : Ja e : Do e : Hu ue : Ji e : So ue : Ix ue : Mg e : Lo a : Te e in set 467 *shué² hot:

Mz chié	Ji shé
Ay shé	So sué ¹
Cq sué	Ix sué
Ja shé ²	Mg sé
Do shé	Lo cháyo
Hu shué ² , shé ²	Te ché

5.2.7 *au is reconstructed from three types on non-contrastive sets. The complementary environments are

5.2.7

summarized in Chart 17.

(1) When preceded by *šh or *Cñ, *au is reconstructed from Mz o : Ay o : Cq u : Ja u : Do u : Hu au : Ji o : So o : Ix u : Mg u : Lo i : Te u as in set 509 *šhaú^{4s} six:

Mz	šhó	Ji	hó
Ay	hó	So	hó ^{3s}
Cq	šhú	Ix	hú
Ja	hú ²	Mg	hú
Do	hú	Lo	hí
Hu	haú ^{4s}	Te	hú

Additional examples: 552, 719, and 720.

(2) When preceded by *č or *čh, *au is reconstructed from Mz o : Ay o : Cq o : Ja o : Do o : Hu au : Ji o : So o : Ix u : Mg o : Lo i : Te u as in set 75 *čhaú⁴¹ egg:

Mz	čhó	Ji	čhó
Ay	čhó	So	čhó ^{4s}
Cq	čhó	Ix	čhú
Ja	čhó ³¹	Mg	čhó
Do	čhó	Lo	čhí
Hu	čhaú ^{4s}	Te	čhú

Additional example: 71

(3) Elsewhere, *au is reconstructed from Mz o : Ay o : Cq o : Ja o : Do o : Hu au : Ji o : So o : Ix u : Mg o : Lo i : Te u as in set 614 *t^yhaú¹ cornhusk:

5.2.7

Mz	thyó	Ji	ǵhó
Ay	thió	So	thyó ²¹
Cq	thió	Ix	thiú
Ja	thió ¹	Mg	ǵhó, thió
Do	thió	Lo	ǵhí
Hu	ǵhau ¹ , ǵhaú ¹	Te	ǵhú

Additional examples: 18, 19, 128, 165, 177, 184, 189, 217, 222, 238, 342, 350, 575, 576, 615, and 723.

CHART 17

CORRESPONDENCE SETS FOR THE RECONSTRUCTION OF *au

	Mz	Ay	Cq	Ja	Do	Hu	Ji	So	Ix	Mg	Lo	Te
(1)	o	o	u	u	u	au	o	o	u	u	ǵ	u
(2)	o	o	o	o	o	au	o	o	u	o	i	u
(3)	o	o	o	o	o	au	o	o	u	o	ǵ	u

(1) When preceded by *ǵh or *Cñ

(2) When preceded by *ǵ or *ǵh

(3) Elsewhere

5.2.8 *ua is reconstructed from Mz ua : Ay a : Cq ua :
Ja a : Do a : Hu ua : Ji a : So ua : Ix ua : Mg a :
Lo o : Te a as in set 25 *chuá³ gives:

5.2.8

Mz	chuá	So	chwá
Ay	shá	Ix	chuá
Cq	suá-	Mg	kichá
Ja	chá ²	Lo	chó
Do	chá	Te	chá-
Hu	chuá ³		

Additional examples: 87, 217, and 352.

CHAPTER VI
RECONSTRUCTION OF PROTO-MAZATEC
STRESSES AND TONES

PMaz had two degrees of word stress with heavy stress on the last syllable of the stem; weak stress occurred elsewhere. This system of stress is patterned after the system found in the daughter languages. In Cq a few forms have a stress different from this general pattern; the stress of these Cq forms is not accounted for in this study.

Gudschinsky (1959:18-20) reconstructed PMaz tones from two daughter languages, Hu and So. The present study further substantiates her work in two ways: (1) it expands the corpus to include a number of additional cognate sets; and (2) it broadens the base to include an additional daughter language, Ja. (See §2 and §3.3 for discussion of tone systems and tone symbols.)

For the most part the new tone data from Ja fit neatly into the PMaz tone system presented by Gudschinsky (1959). In a few places, however, I have posited different tone etyma, because of the possibility of choosing various internal tone reconstructions in So to match with the Hu and Ja reflexes. (For discussion of the So evidence see §3.3.) This

has permitted reconstruction of tone glides only with stressed syllables. Horizons earlier than PMaz may not have had tone glides at all (if this is true it accounts for the difficulty of finding extensive sets to justify the tone glide reconstructions). PMaz tone glides may well have developed from syllable fusion due to loss of an intervening consonant (which may have been one of the laryngeals *h or *ʔ). This conjecture is based on the fact that a few glides arise in such a way in daughter Mazatec languages from PMaz; cf. set 594. Gudschinsky (1959:48-49) reconstructs only a register system without glides for Proto-Popolocan-Mixtecan, but the details of how the PMaz tone glides fit into this system remain to be worked out.

In the tone reconstruction in this chapter I have not attempted to account for the CVʔV environments because of the difficulty of interpreting the syllable structure of the reflexes (cf. §4.1.2).

In the discussion that follows I have listed as examples only the more certain tone reconstructions. In the cognate sets in the Appendix, I have reconstructed tones on etyma that are to some extent indeterminate because of the lack of decisive evidence. In these instances I have chosen the most likely reconstruction and indicated other alternatives in the notes following the reflexes.

For simplicity of presentation, the discussion that follows treats tone reconstruction of monosyllables before disyllables, although the underlying patterns of tone correspondences are the same for both. However, complications caused by syllable loss in some modern Mazatec languages and the innovation of an intricate tone sandhi system in Soyaltepec Mazatec (see §3.3) make it expedient to present the proto-disyllables after the tone correspondences in monosyllables are clearly seen.

6.1 Monosyllables

6.1.1 Level Tones on Monosyllables

6.1.1.1 *¹ in monosyllables is reconstructed from Ja ¹ :

Hu ¹ : So ²¹ as in set 419 *nú¹ year:

Ja nú¹

So nú²¹

Hu nú¹

Additional examples: 17, 71, 103, 127, 136, 142, 148, 153, 155, 165, 179, 187, 305, 416, 436, 452, 454, 457, 461, 483, 491, 505, 510, 526, 540, 543, 550, 551, 585, 586, 614, 623, 627, 654, 661, 704, 708, 712, and 721.

6.1.1.2 *² in monosyllables is reconstructed from Ja ² :

Hu ² : So ¹ as in set 135 *hmá² black:

Ja hmá²

So hmá¹

Hu hmá²

6.1.1.2

Additional examples: 23, 24, 47, 74, 78, 87, 128, 152, 166, 169, 291, 344, 466, 467, 489, 508, 516, 524, 569, 591, 701, and 719.

6.1.1.3 *³ in monsyllables is reconstructed from Ja ² :

Hu ³ : So ³ as in set 570 *té³ ten:

Ja té³

So té³

Hu té³

Additional examples: 11, 12, 50, 61, 79, 105, 137, 143, 144, 149, 165, 167, 176, 227, 287, 296, 309, 409, 437, 446, 449, 450, 459, 465, 482, 487, 493, 511, 532, 542, 545, 546, 550, 554, 574, 583, 586, 592, 596, 610, 690, 692, 698, 699, 709, 717, and 723.

6.1.1.4 *⁴ in monosyllables is reconstructed from

Ja ³ : Hu ⁴ : So ⁴ as in set 107 *čú⁴ animal:

Ja čú³

So čú⁴

Hu čú⁴

Additional examples: 7, 14, 22, 39, 72, 73, 123, 141, 143, 154, 157, 177, 182, 187, 216, 253, 288, 289, 293, 303, 369, 385, 403, 409, 416, 479, 480, 482, 485, 497, 498, 507, 511, 525, 528, 534, 535, 537, 539, 551, 579, 580, 597, 622, 686, 700, 703, 705, 716, 718, and 730.

6.1.2 Tone Glides on Monosyllables

Gudschinsky (1959:18) reconstructed six tone glides,

6.1.2

which may well be correct. However, three of these glides are poorly attested. $*^{21}$ with the correspondence of Ja ¹ : Hu ¹ : So ³² is attested only by sets 538 and 553; $*^{32}$ with the correspondence of Ja ² : Hu ² : So ³² is attested only by set 6; $*^{42}$ with the correspondence Ja ² : Hu ⁴³ : So ³¹ is attested only by one monosyllable (653) and one disyllable (639). These are tentatively reconstructed in this manner in the Appendix although they are not included in the following discussion of the better attested glides. All the poorly attested glides involve tone ²; the better attested glides are $*^{31}$, $*^{41}$, and $*^{43}$.

6.1.2.1 $*^{31}$ in monosyllables is reconstructed from Ja ² : Hu ³ : So ³² in set 301 $*kh_1^{31}$ far:

Ja	kh_1^{32}	So	kh_1^{32}
Hu	kh_1^{31}		

Additional examples: 119, 146, 164, 514, and 605.

6.1.2.2 $*^{41}$ in monosyllables is reconstructed from Ja ³¹ : Hu ⁴² : So ⁴² as in set 86 $*\check{ch}_1^{41}$ woman, wife:

Ja	$\check{ch}_1^{31}$	So	$\check{ch}_1^{42}$
Hu	$\check{ch}_1^{42}$		

Additional examples: 75, 283, and 302.

6.1.2.3 $*^{43}$ in monosyllables is reconstructed from Ja ² : Hu ⁴³ : So ³² as in set 578 $*th_1^{43}$ itch:

6.1.2.3

Ja thé²

So thé³²

Hu thé⁴³

Additional examples: 20, 42, 175, 194, 415, 460, 470, 509, 648, 711, and 724.

CHART 18

CORRESPONDENCE SETS FOR THE RECONSTRUCTION OF TONE IN MONOSYLLABLES

PMaz	Ja	Hu	So
*1	1	1	21
*2	2	2	1
*3	2	3	3
*4	3	4	4
*31	2	2	32
*41	31	42	42
*43	2	43	32

6.2 Disyllables

Some disyllabic tone combinations are poorly attested and are not treated in the following discussion although they are tentatively reconstructed in the Appendix:

*4 - 2 is poorly attested; expected reflexes are Ja³ - 2:
Hu⁴ - 2 : So⁴ - 1, which are reflected in part in sets
15, 69, 222, and 383.

6.2

*³ - ⁴ is only partially evidenced in set 603.

*² - ³ is only partially evidenced in set 410.

*¹ - ² is only partially evidenced in set 672.

*⁴ - ^{4s} is only partially evidenced in set 304.

*³ - ^{4s} may be evidenced in set 639.

6.2.1 *⁴ - ⁴ is reconstructed from four types of non-contrastive sets (the first three involve the loss or metathesis of *h, cf. §4.1.1):

(1) In environments of *šVhV and *CV{w, ñ}V, *⁴ - ⁴ is reconstructed from Ja ³ - ³ : Hu ⁴ : So ⁴ - ⁴ as in set 560 *š^u⁴h^u⁴ paper:

Ja š^u³h^u³

So š^u⁴h^u⁴

Hu š^u⁴

Additional examples: 85, 114, 332, 364, and 609.

(2) In environments of *{y, nC}VhV when the vowels contiguous to *h are both front or both back, *⁴ - ⁴ is reconstructed from Ja ³ : Hu ⁴ : So ⁴ - ⁴ as in set 406 *nt^ya⁴h^u⁴ stone:

Ja ndhio³

So ntya⁴ho⁴

Hu lau⁴

Additional examples: 218, 300, 342, 378, 400, 405, 413, and 687.

(3) In the environment *nVhV when the vowels contiguous to *h are both front or both back, *⁴ - ⁴ is reconstructed from Ja ³ : Hu ⁴ - ⁴ : So ⁴ - ⁴ as in set 329 *ni⁴hi⁴ corn:

6.2.1

Ja nhí³

So ní⁴hí⁴

Hu ní⁴hí⁴

Additional examples: 264 and 310.

(4) In environments other than (1) through (3),
*⁴ - ⁴ is reconstructed from Ja ³ - ³ : Hu ⁴ - ⁴ : So ⁴ - ⁴
as in set 275 *ná⁴ší⁴ cliff, mountain:

Ja ná³ší³

So ná⁴ší⁴

Hu ná⁴ší⁴

Additional examples: 9, 67, 81, 83, 97, 100, 183, 204, 208,
209, 255, 257, 260, 263, 267-269, 271, 274, 278, 279, 284,
308, 330, 334-336, 338, 339, 352, 367, 377, 379, 433, 435,
444, 501-504, 523, 561-563, 619, and 620.

6.2.2 *⁴ - ³ is reconstructed from two types of non-contrastive sets:

(1) In the environment *ntVhV when the vowels contiguous to *h are both front or both back, *⁴ - ³ is reconstructed from Ja ³² : So ⁴ - ³ in set 375 *nta⁴haí³ sugar cane:

Ja ndhaí³²

So nta⁴haí³

(2) elsewhere, *⁴ - ³ is reconstructed from Ja ³ - ² : Hu ⁴ - ³ : So ⁴ - ³ as in set 363 *ní⁴sé³ bird:

Ja ní³sé²

So ní⁴sé³

Hu ní⁴sé³

Additional examples: 125, 126, 186, 201, 259, 282, 295, 331, 337, 366, 394, 402, 418, 425, and 566.

6.2.3

6.2.3 $*^4 - ^1$ is reconstructed from three types of non-contrastive sets:

(1) In environments of $*nCvVhV$ when the vowels contiguous to $*h$ are both front or both back, $*^4 - ^1$ is reconstructed from Ja 3 : Hu 4 : So $^4 - ^2$ in set 594 $*ti^4hí^1$, $*nti^4hí^1$ cooking pot:

Ja ndhí³¹

So ti⁴hí²¹

Hu tí⁴²

(2) In environments $*CVyV$ or $*CVhV$ when the vowels contiguous to $*h$ are both front or both back, $*^4 - ^1$ is reconstructed from Ja $^3 - ^1$: Hu 4 : So $^4 - ^2$ as in set 392 $*nti^4yá^1$ road:

Ja n_i³yá¹

So nti⁴yá²¹

Hu ntiá⁴²

Additional example: 66.

(3) In environments other than the preceding two, $*^4 - ^1$ is reconstructed from Ja $^3 - ^1$: Hu $^4 - ^1$: So $^4 - ^2$ as in set 277 $*nā^4šf^1$ deer:

Ja nā³šf¹

So nā⁴šf²¹ horse

Hu nā⁴šf¹ horse

Additional examples: 8, 68, 82, 96, 184, 220, 254, 256, 261, 266, 270, 272, 273, 280, 281, 306, 408, 431, 432, 434, 443, 499, 530, 616, and 618.

6.2.4 $*^3 - ^3$ is reconstructed from three types of non-contrastive sets:

6.2.4

(1) In environments *CV{w, ñ}V, *^s - ^s is reconstructed from Ja ² - ² : Hu ³ : So ³ - ³ as in set 608 *t^ya^swá^s, *t^yu^swá^s white:

Ja ta²wá²

So tya^swá^s

Hu čuá^s

Additional examples: 322 and 611.

(2) In environment *{y, ñ, nC}VhV when the vowels contiguous to *h are both front or both back, *^s - ^s is reconstructed from Ja ² : Hu ³ : So ³ - ³ as in set 678 *ya^shu^s meat:

Ja yho²

So ya^sho^s

Hu yaú^s

Additional examples: 298, 427, and 685.

(3) In environments other than the preceding two, *^s - ^s is reconstructed from Ja ² - ² : Hu ³ - ³ : So ³ - ³ as in set 62 *ča^skú^s holy:

Ja ča²kú²

So ča^skú^s

Hu či³kú³

Additional examples: 63, 64, 90, 160, 203, 237, 243, 244, 294, 307, 318, 324, 327, 345, 348, 375, 388, 389, 429, 430, 473, 478, 490, 527, 533, 556, 593, 604, 631, 642, 646, 689, and 720.

6.2.5 *^s - ² is reconstructed from three types of non-contrastive sets:

6.2.5

(1) In the environment *CVwV, *³ - ² is reconstructed from Ja ² - ² : Hu ⁴³ : So ³ - ¹ as in set 441 *su³wá², *sa³wá² ashamed:

Ja su²wá²

So sa³wá¹

Hu suá⁴³

Additional example: 488.

(2) In environments *{ñ, m, y, w, nC}VhV, *³ - ² is reconstructed from Ja ² : Hu ⁴³ : So ³ - ¹ as in set 426 *ñy³hú² four:

Ja ñhú²

So ñy³hú¹

Hu ñy⁴³

Additional examples: 228, 239, 240, 299, 346, 397, 633, and 677.

(3) In environments other than the preceding two, *³ - ² is reconstructed from Ja ² - ² : Hu ³ - ² : So ³ - ¹ as in set 469 *si³né² yellow:

Ja si²né²

So si³né¹

Hu si³né²

Additional examples: 145, 207, 319, and 347.

6.2.6 *³ - ¹ is reconstructed from three types of non-contrastive sets:

(1) In environments *CV{y, w}V, *³ - ¹ is reconstructed from Ja ² - ¹ : Hu ²¹ : So ³ - ²¹ as in set 417 *nt^yu³wá¹ comes:

6.2.6

Ja ni²wá¹

So ntyu³wá²¹

Hu nčua²¹

Additional examples: 250, 260, 549, and 607.

(2) In environments $\{w, nC\}VhV$ when the vowels contiguous to $*h$ are both front or both back, $*^3 - ^1$ is reconstructed from Ja ¹ : Hu ²¹ : So ³ - ²¹ as in set 297 $*nča^3há^1$ corn drink (atole):

Ja nɲhá¹-

So nča³há²¹

Hu nčá²¹

Additional examples: 301 and 632.

(3) In environments other than the preceding two, $*^3 - ^1$ is reconstructed from Ja ² - ¹ : Hu ³ - ¹ : So ³ - ²¹ as in set 248 $*na^3šú^1$ flower:

Ja na²šú¹

So na³šú²¹

Hu na³šú¹

Additional examples: 4, 19, 35, 51, 84, 95, 197, 198, 229, 234, 242, 247, 249, 324, 361, 399, 428, 438, 440, 494, 495, 519, 521, 555, 557, 572, 617, 634, 636, 638, 651, and 658.

6.2.7 $*^2 - ^4$ is reconstructed from Ja ² - ³ : Hu ² - ⁴ : Pre-So $*^1 - ^4$ as in set 350 $*nku^2hñá^4$ yesterday:

Ja ngu²hñá³

So nku²hñá⁴ (< Pre-So

Hu nku²hñá⁴

$*^1 - ^4$)

Additional examples: 205, 351, and 517.

6.2.8 $*^1 - ^4$ is reconstructed from Ja ¹ - ³ : Hu ¹ - ⁴ : Pre-So $*^21 - ^4$ as in set 590 $*ti^1wá^4$ pig louse:

6.2.8

Ja	ti ¹ wa ³	So	ti ³ wa ²⁴ (< Pre-So
Hu	ti ¹ wa ⁴		* ²¹ - 4)

Additional examples: 56, 88, 356, 453, 458, 552, 568, 649, and 715.

6.2.9 *¹ - ³ is reconstructed from Ja ¹ - ² : Hu ² - ³ :
Pre-So *²¹ - ³ as in set 46 *cu¹wa³ walk:

Ja	cu ¹ wa ²	So	cu ³ wa ² (< Pre-So
Hu	cu ² wa ³		* ²¹ - 3)

Additional examples: 57, 102, 171, 188, 455, 625, 671, and 676.

6.2.10 *¹ - ¹ is reconstructed from Ja ¹ - ¹ :
Hu ¹ - ¹ : So ²¹ - ²¹ as in set 210 *ku¹tú¹ toad:

Ja	ča ¹ ku ¹ tú ¹	So	ku ²¹ tú ²¹
Hu	ku ¹ tú ¹		

Additional examples: 386, 395, 396, 673, 675, and 722.

6.2.11 *⁴ - ³¹ is reconstructed from Ja ³ - ² :
Hu ⁴ - ³ : So ⁴ - ³² as in set 112 *ču⁴ntú³¹ worm:

Ja	ču ³ ntú ²	So	ču ⁴ ntú ³²
Hu	ču ⁴ ntú ³		

Additional example: 113.

6.2.12 *³ - ³¹ is reconstructed from two types of non-contrastive sets:

(1) In the environment *CVñV, *³ - ³¹ is reconstructed from Hu ³ : So ³ - ³² in set 621 *t^yi³ñā³¹ near:

6.2.12

Hu ɕiá³

So ti³ñá^{3 2}

(2) Elsewhere, *³ - ^{3 1} is reconstructed from Ja ² - ² :

Hu ³ - ³ : So ³ - ^{3 2} as in set 326 *ni³sú^{3 1} gourd:

Ja ni²sú²

So ni³sú^{3 2}

Hu ni³sú³

Additional examples: 34, 317, 321, and 541.

6.2.13 *³ - ^{4 3} is reconstructed from three types of non-contrastive sets:

(1) In the environment *ʔVCV, *³ - ^{4 3} is reconstructed from Ja ² : Hu ³ - ^{4 3} : So ³ - ^{3 2} as in set 695 *ʔi³ntá^{4 3} soft:

Ja ntá²

So ʔi³ntá^{3 2}

Hu ʔi³ntá^{4 3}

Additional example: 696.

(2) In the environment *ñVhV when the vowels contiguous to *h are both front or both back, and in the environment *ʔyVCV, *³ - ^{4 3} is reconstructed from Ja ² : Hu ^{4 3} :

So ³ - ^{3 2} as in set 728 *ya³ʃí^{4 3} sweet:

Ja ʃí²

So ʔa³ʃí^{3 2}

Hu ʃí^{4 3}

Additional examples: 421 and 729.

(3) In environments other than the preceding two, *³ - ^{4 3} is reconstructed from Ja ² - ² : Hu ³ - ^{4 3} :

So ³ - ^{3 2} as in set 422 *ñá³tú^{4 3} seven:

Ja ya²tú²

So ya³tú^{3 2}

Hu ñá³tú^{4 3}

Additional examples: 211 and 641.

6.2.14

6.2.14 *¹ - ⁴³ is reconstructed from Ja ¹ - ² :
Hu ¹ - ⁴³ : So ²¹ - ³² as in set 674 *ya¹té⁴³ board:

Ja ya¹té²

So ya²¹té³²

Hu ya¹té⁴³

Additional example: 582.

CHART 19

CORRESPONDENCE SETS FOR THE RECONSTRUCTION OF TONE IN DISYLLABLES

The environments are indicated in the table by letters in the far right column. Four classes of environments are relevant in the reconstruction of tone:

- (a) (1) *{š, c, č}VhV with the vowels contiguous to *h both front or both back; (2) *{nti-, nte-, ti-}yV; (3) *CV{y, w}V; (4) *{t^y, n}VñV
- (b) (1) *{y, w, m, ñ, nC}VhV with the vowels contiguous to *h both front or both back; (2) *^oyVCV
- (c) (1) *nVhV with the vowels contiguous to *h both front or both back; (2) *^oVCV
- (d) Environments other than (a) through (c) (except that environment *CV^oV is not treated in this study)

6.2.14

<u>PMaz</u>	<u>Ja</u>	<u>Hu</u>	<u>So</u>	<u>Environment</u>
*4 _ 4	3 _ 3	4	4 _ 4	a
	3	4	4 _ 4	b
	3	4 _ 4	4 _ 4	c
	3 _ 3	4 _ 4	4 _ 4	d
*4 _ 3	3 2		4 _ 3	b
	3 _ 2	4 _ 3	4 _ 3	d
*4 _ 1	3 1	4 2	4 _ 2 1	b
	3 _ 1	4 2	4 _ 2 1	a
	3 _ 1	4 _ 1	4 _ 2 1	d
*3 _ 3	2 _ 2	3	3 _ 3	a
	2	3	3 _ 3	b
	2 _ 2	3 _ 3	3 _ 3	d
*3 _ 2	2 _ 2	4 3	3 _ 1	a
	2	4 3	3 _ 1	b
	2 _ 2	3 _ 2	3 _ 1	d
*3 _ 1	2 _ 1	2 1	3 _ 2 1	a
	1	2 1	3 _ 2 1	b
	2 _ 1	3 _ 1	3 _ 2 1	d
*2 _ 4	2 _ 3	2 _ 4	Pre-So *1 _ 4	d
*1 _ 4	1 _ 3	1 _ 4	Pre-So *2 1 _ 4	d

6.2.14

<u>PMaz</u>	<u>Ja</u>	<u>Hu</u>	<u>So</u>	<u>Environment</u>
*1 _ 3	1 _ 2	2 _ 3	Pre-So *21 _ 3	d
*1 _ 1	1 _ 1	1 _ 1	21 _ 21	d
*4 _ 21	3 _ 2	4 _ 3	4 _ 32	d
*3 _ 31		3	3 _ 32	a
	2 _ 2	3 _ 3	3 _ 32	d
*3 _ 43	2	3 _ 43	3 _ 32	c
	2	43	3 _ 32	b
	2 _ 2	3 _ 43	3 _ 32	d
*1 _ 43	1 _ 2	1 _ 43	21 _ 32	d

CHAPTER VII
REFLEXES OF PROTO-MAZATEC PHONEMES IN
THE DAUGHTER LANGUAGES

This chapter outlines the development of PMaz phonemes in each daughter language. Illustrative examples of sound developments are not cited since these may easily be found by consulting the appropriate section in the reconstruction chapters (Chapters IV through VI). Nor does this discussion treat the plausibility of environments (also covered in the reconstruction chapters), or the intermediary reconstructions, for which see Chapter III. The development of tones and stresses is not included since this can readily be seen in Chapter VI, particularly Charts 18 and 19.

In the following discussion N represents any nasal, C any consonant, V any vowel, V oral vowel replacing its nasalized counterpart, and ~ preceding a sound indicates metathesis. The absence of an environmental statement after the first reflex for the proto-phoneme indicates that this reflex occurs in environments other than those specified immediately below.

7.1 Mazatlán Reflexes

<u>PMaz</u>	<u>Mz</u>	<u>Environment</u>
*t	t	
	∅	In *nt- clusters followed by *-VʔyV
	h	In cluster with dorsal stops
*tʲ	t	Before front vowels
	ti/y	Before back vowels
	h	In cluster with dorsal stops
	l	The *ntʲ cluster > /l/ preceding *i or *-ahu
*k	k	
*kʷ	kw	
*c	c	
*ç	ç	
*s	s	
	h	In cluster with *c or *ç
	c	In the *sh cluster
	∅	In the *st cluster
*š	š	
	∅	In the *šh cluster
*m	m	
*n	n	
	∅	In the *[h, ʔ]n clusters preceding front vowels, or in the clusters *nkh and *ntʲk
	l	The *ntʲ cluster > /l/ preceding *i or *-ahu

<u>PMaz</u>	<u>Mz</u>	<u>Environment</u>
*ñ	ñ	
	ni	Unclustered preceding *-V(C)N(C)V'
	yV	Unclustered preceding *-V{t, ʃ}V'
	∅	In the *ʔñ cluster preceding *au
*y	y	
	∅	In the *ʔy cluster in weakly stressed syllables
*w	w	
	∅	In the *ʔw cluster preceding *au
*h	h	
	∅	In the clusters *hnt ^y , *skh, and *ʃ{k, k ^w }h
*ʔ	ʔ	
	∅	In the *ʔnt cluster
	~ʔ	Metathesized in the *ʔnk cluster > /nkʔ/
*i	i	
	∅	Followed by *-ʔi'
	e	The *ai cluster > /e/
*e		For problems in development see §5.1.2
*a	a	
	∅	In the environment *nt ^y __ha
	e	The *ai cluster > /e/
	o	The *au cluster > /o/
*u	u	
	i	In the environment *ñ__CV where C is not *h; also the cluster *ue > /i/
	∅	In weakly stressed syllables with consonantal margin *(C)t ^y (C)-
	o	The *au cluster > /o/

7.2

7.2 Ayautla Reflexes

<u>PMaz</u>	<u>Ay</u>	<u>Environment</u>
*t	t	
	Ø	In the *ntVʔyV sequence, or in cluster with dorsal stops
*tʲ	t	Before front vowels
	tɪ	Before back vowels
	Ø	In cluster with dorsal stops
*k	k	
*kʷ	kw	
*c	c	
*č	č	
	č̣	Preceding back vowels in the *čh cluster
*s	s	
	Ø	In cluster with *t, *c, or *č
*š	š	
	Ø	In the *šh cluster
	s	In the *št cluster
*m	m	
	Ø	In *ʔm cluster contiguous to *u
*n	n	
	Ø	In the *{h, ʔ}n cluster preceding front vowels; or in the clusters *nkh and *ntʲk(h)
	š	The *hn cluster in the *hntʲ sequence > /š/
*ñ	ñ	
	nɪ̥	Unclustered preceding *-V(C)N(C)V̆
	yV̆	Unclustered preceding *-V{t, č}V̆
	Ø	In the *ʔñ cluster preceding *au

<u>PMaz</u>	<u>Ay</u>	<u>Environment</u>
*y	y	
	i	In the * ^o y cluster
*w	w	
*h	h	
	ʔ	In the *hnt cluster
	ʃ	In the *hnt ^y cluster
	∅	In the clusters *hnk and *nt ^y kh
*ʔ	ʔ	
	~ʔ	Metathesized in the *ʔnk cluster > /nkʔ/
*i	i	
	∅	In the *ei cluster
*e	e	
*a	a	
	o	In the environment *{(n)ʃ, y, w}__hu; also, the *au cluster > /o/
	∅	In the environments *nt ^y __hV and * ^o y__CV
*u	u	
	o	Following *Ca{h, ʔ}-; also, the *au cluster > /o/
	i	In the environment *ñ__CV where C is not *h
	∅	In the clusters *ue and *ua; or in weakly stressed syllables preceded by *(C)t ^y (C)-; or in weakly stressed syllables followed by *-ʔa

7.3 Chiquihuitlán Reflexes

<u>PMaz</u>	<u>Cq</u>	<u>Environment</u>
*t	t	
	r	In cluster with dorsal stops
*t ^y	t	Before front vowels
	tɪ	Before back vowels
	r	In cluster with dorsal stops
	ʈ	In the *hnt ^y cluster
*k	k	
*k ^w	ku	
*c	c	
*ʈ	ʈ	
*s	s	
	∅	In cluster with *t, *c, or *ʈ
*ʂ	ʂ	
*m	m	
*n	n	
	∅	In the clusters *n{stop}h and *nt ^y k
	ɳ	The *hn of the *hnt ^y cluster > /ɳ/
*ñ	ñ	
	yV	Unclustered preceding *-V{t, -ʈ}V and *-V(C)N(C)V
*y	y	
	∅	In the *ʔy cluster in weakly stressed syllables
	i	In the *ʔy cluster in heavily stressed syllables
*w	w	
	∅	In the *ʔw cluster preceding *au
	u	In the *ʔw cluster preceding vowels other than *au

7.3

<u>PMaz</u>	<u>Cq</u>	<u>Environment</u>
*h	h	
	Ø	In the clusters *hn{t, k}, *skh, *š{t ^y , k, k ^w }h, and *sh
	š	In the *hnt ^y cluster
*ʔ	ʔ	
*i	i	
	e	The *ia cluster > /e/
*e	e	
	ei	(1) In heavily stressed syllables when the vocalic nucleus is nasalized; or (2) in weakly stressed syllables where *h was lost in the clusters *hn{t, k}, *skh, *š{t ^y , k, k ^w }h, and *sh; or (3) in weakly stressed syllables when *e was contiguous to *y or was preceded by word-initial *t or *nt; or (4) followed by *-ʔé
*a	a	
	o	In the environment *{(n)č, y, w, nt ^y }__hu; also the *au cluster > /o/ unless preceded by *šh- or *Cñ-
	Ø	In the *au cluster preceded by *šh- or *Cñ-
*u	u	
	o	Preceded by *Ca{h, ʔ}-; also, the *au cluster > /o/ unless preceded by *šh- or *Cñ-

7.4 Jalapa Reflexes

<u>PMaz</u>	<u>Ja</u>	<u>Environment</u>
*t	t	
	∅	In the *nt cluster followed by *-V{(ʔ)y,w,s,c}V́; or in cluster with dorsal stops
	d	In the *nt cluster not followed by *-V{(ʔ)y,w,s,c}V́
*tʸ	t	
	∅	In cluster with dorsal stops
	ti	In the *(n)tʸ(h) clusters before back vowels
*k	k	
	g	In the *nk cluster in weakly stressed syllables
*kʷ	kʷ	
	gʷ	In the *nkʷ cluster in weakly stressed syllables
*c	c	
	j	In the *nc cluster in weakly stressed syllables
*č	č	
	ǰ	In the *nč cluster in weakly stressed syllables
*s	s	
	∅	In cluster with *t, *c, *č, or *kʷ
*š	š	
	∅	In the *šh cluster
	s	In the *š{t, tʸ}(h) clusters
*m	m	
	∅	In the *ʔm cluster contiguous to *u

<u>PMaz</u>	<u>Ja</u>	<u>Environment</u>
*n	n	
	∅	In the *ʔn cluster preceding *e, or in the *nč cluster in weakly stressed syllables when the consonantal margin of the following syllable is neither *h or *ʔw
*ñ	ñ	
	ni	Unclustered preceding *-V(C)N(C)V'
	yV	Unclustered preceding *-V{t, č}V'
	∅	In the *ʔñ cluster preceding *au
	i	In the *{h, ʔ}ñ cluster preceding *u
*y	y	
	i	In the *ʔy cluster in heavily stressed syllables
	∅	The syllable *ʔyV when weakly stressed > ∅
*w	w	
	∅	In the *ʔw cluster preceding *au
*h	h	
	∅	In the *hn{stop} and *hy clusters
	~h	In the *-VhV sequence when the vowels contiguous to *h were both front or both back and when the consonantal margin preceding it was *y, *w, *m, *n(stop), or *ñ
*ʔ	ʔ	
	∅	In the *ʔn{t, č} clusters
	~ʔ	Metathesized in *ʔnk cluster > /nkʔ/
*i	i	
	∅	In weakly stressed syllables when *h metathesized and the vowel following *h was *i

<u>PMaz</u>	<u>Ja</u>	<u>Environment</u>
*e	e	
	∅	In weakly stressed syllables when *h metathesized and the vowel following *h was *e; or when followed by *-'é
*a	a	
	∅	In weakly stressed syllables where *h metathesized and the vowel following *h was *a; or when followed by *ʔá; or in the *ai cluster preceded by *t ^y h-; or in the *au cluster preceded by *ʃh-, *Cñ
	eɪ	In the environment *ñ__ɔV
	o	In the *au cluster when not preceded by *ʃh- or *Cñ-
*u	u	
	o	Preceded by *Ca{h, ʔ}-; also the *au cluster > /o/ when the consonantal margin was other than *ʔsh- or *Cñ-
	∅	In the *ue or *ua clusters; or in the environments *{ñ, nt}__hu, *(C)t ^y (C)__(C)CV, and *(C)C__ʔa
	i	In the environment *ñ__CV where C is not *h

7.5

7.5 Domingo Reflexes

<u>PMaz</u>	<u>Do</u>	<u>Environment</u>
*t	t	
	d	In the *nt cluster in weakly stressed syllables
*t ^y	t	
	∅	In cluster with dorsal stops
	ti	In the *(n)t ^y (h) cluster before back vowel
*k	k	
	g	In the *nk cluster in weakly stressed syllables
*k ^w	k ^w	
*c	c	
	j	In the *nc cluster in weakly stressed syllables
*č	č	
	ǰ	In the *nč cluster in weakly stressed syllables
*s	s	
	∅	In cluster with *t, *c, *č, or *k ^w
*š	š	
	∅	In the *šh, *š{k, k ^w }(h) clusters
	s	In the *š{t, t ^y }(h) clusters
*m	m	
	∅	In the *ʔm cluster contiguous to *u
*n	n	
	∅	In the *ʔn cluster preceding *e; or in the *nč cluster in weakly stressed syllables when the consonantal margin of the following syllable is neither *h nor *ʔw

<u>PMaz</u>	<u>Do</u>	<u>Environment</u>
*ñ	ñ	
	ni	Unclustered preceding *-V(C)N(C)V'
	yV	Unclustered preceding *-V{t, č}V'
	∅	In the *ʔñ cluster preceding *au
	i	In the *hñ cluster preceding *u
*y	y	
	i	In the *ʔy cluster in heavily stressed syllables
	∅	The *ʔyV weakly stressed syllable > ∅
*w	w	
	∅	In the *ʔw cluster preceding *au
*h	h	
	∅	In the *hn{stop} clusters
*ʔ	ʔ	
	∅	In the *ʔn{t, č} clusters
	~ʔ	Metathesized in *ʔnk cluster > /nkʔ/
*i	i	
	∅	Followed by *-ʔí
*e	e	
	∅	Followed by *-ʔé
*a	a	
	o	In the environment *{(n)č, nt ^V , y, w}__hu; also, the *au cluster > /o/ unless preceded by *šh- or *Cñ-
	∅	Followed by *-ʔá; or in the *au cluster preceded by *šh- or *Cñ-
	ei	In the environment *ñ__čV

<u>PMaz</u>	<u>Do</u>	<u>Environment</u>
*u	u	
	o	Preceded by *Ca{h, ʔ}-; also, the *au cluster > /o/ when the consonantal margin was other than *ʂh- or *Cñ-
	∅	In the *ue or *ua clusters; or in the environment *(C)t ^y (C)__wV; or when followed by *-ʔá
	i	In the environment *ñ__CV where C is not *h

7.6

7.6 Huautla Reflexes

<u>PMaz</u>	<u>Hu</u>	<u>Environment</u>
*t	t	
	∅	Followed by *-V ² yV ¹
	h	In cluster with dorsal stops
*t ^y	ɬ	
	ʂ	In cluster with dorsal stops
	l	The *nt ^y cluster > /l/ preceding *i and *-ahu
*k	k	
*k ^w	ku	
*c	c	
	s	Unclustered in antepenult syllables preceding *-i ² iCV ¹
*ɕ	ɕ	
*s	s	
	h	In cluster with *t, *c, or *ɕ
*ʂ	ʂ	
	∅	In the clusters *ʂh and *ʂ{t, t ^y }h
	h	In the *ʂt cluster
*m	m	
	∅	In the * ² m cluster contiguous to *u
*n	n	
	∅	In the * ² n cluster preceding *e; or in the clusters *nkh and *nt ^y k(h)
	l	The *nt ^y cluster > /l/ preceding *i and *-ahu

<u>PMaz</u>	<u>Hu</u>	<u>Environment</u>
*ñ	ñ	
	ni	In the *hñ cluster initial in the word
	∅	Unclustered and preceded by *{t ^y , n}V-; or in the *ʔñ cluster preceding *au
*y	y	
	∅	Unclustered and preceded by *(n)t{i, e}-; also, the *ʔyV weakly stressed syllable > ∅
*w	w	
	∅	Unclustered in the environment *-u__{a, e}
*h	h	
	∅	In the *-VhV sequence with vowels contiguous to *h either both front or both back and when the consonantal margin was *y, *w, *n{stop}, *m, *ñ, *š, *c, *č; or in the *{s, š}{k, k ^w }h clusters
	~h	Metathesized with following consonant in *hn cluster preceding front vowels and in the *hñ and *hw clusters when word initial
*ʔ	ʔ	
	~ʔ	Metathesized in the *ʔnk and *ʔw clusters to > /nkʔ/ and /wʔ/ respectively
*i	i	
	∅	In the *-ihi sequence when *h was lost; or when followed by *-ʔí
*e	e	
	∅	In the *-ehe sequence when *h was lost; or when followed by *-ʔé

<u>PMaz</u>	<u>Hu</u>	<u>Environment</u>
*a	a	
	∅	In the environment $\{nt^y, (n)\check{c}, \tilde{n}\}_\text{ha}$
*u	u	
	∅	In the environment $\{nt, t, \check{s}, \tilde{n}\}_\text{hu}$

7.7 Jiotes Reflexes

<u>PMaz</u>	<u>Ji</u>	<u>Environment</u>
*t	t	
	∅	Followed by *-VʔyV
	h	When in cluster with dorsal stops
*tʲ	ʧ	
	ʃ	In cluster with dorsal stops
	l	The *ntʲ cluster > /l/ preceding *i and *-ahu
*k	k	
*kʷ	ku	
*c	c	
	s	Unclustered in antepenult syllables preceding *-iʔiCV
*ʧ	ʧ	
*s	s	
	h	In cluster with *t, *c, or *ʧ
*ʃ	ʃ	
	∅	In the *ʃh, *ʃ{t, tʲ}h clusters
	h	In the *ʃt cluster
*m	m	
	∅	In the *ʔm cluster contiguous to *u
*n	n	
	∅	In the *ʔn cluster preceding *e; or in the *n{stop}h clusters
	l	The *ntʲ cluster > /l/ preceding *i and *-ahu

<u>PMaz</u>	<u>Ji</u>	<u>Environment</u>
*ñ	ñ	
	ʔi	Preceding *-V(C)N(C)V̌
	∅	In the *ʔñ cluster preceding *au
*y	y	
	∅	Weakly stressed *ʔyV syllable > ∅
*w	w	
	∅	In the environment *-u__{a, e}
*h	h	
	∅	In the *-VhV sequence with vowels contiguous to *h either both front or both back and with the preceding consonantal margin *š, *c, *č; or in the *{s, š}kh clusters
*ʔ	ʔ	
*i	i	
	∅	Followed by *-ʔí
*e	e	
	∅	Followed by *-ʔé, or in the *ei cluster
*a	a	
	o	In the environment *{(n)č, nt ^y , y}__hu; also, the *au cluster > /o/
	i	In the environment *ñ__{č, t}V
*u	u	
	o	Following *Ca{h, ʔ}-; also, the *au cluster > /o/
	∅	In the *ue and *ua clusters; or in the environment *{t, s}__hu, *(C)t ^y (C)__wV; or when followed by *-ʔ _a
	i	In the environment *{(C)č(C), y}__C'(C)V where C' is other than unclustered laryngeal; or in weakly stressed syllables with the consonantal margin *ñ-

7.8

7.8 Soyaltepec Reflexes

<u>PMaz</u>	<u>So</u>	<u>Environment</u>
*t	t	
	Ø	Followed by *-V ^o yV'
*t ^y	t	Before front vowels
	ty	Before back vowels
*k	k	
*k ^w	kw	
*c	c	
*č	č	
	č̣	Preceding back vowels when in the *čh cluster
*s	s	
	c	In the *sh cluster
	Ø	In cluster with *t, *c, or *č
*š	š	
	Ø	In the *šh, *š{t, t ^y }(h) clusters
*m	m	
	Ø	In the * ^o m cluster contiguous to *u
*n	n	
	Ø	In the *{h, ^o }n clusters preceding front vowels, of in the clusters *n{stop}h and *nt ^y k
*ñ	ñ	
	yV	Preceding *-V{t, č}V'
	Ø	In the * ^o ñ cluster preceding *au

<u>PMaz</u>	<u>So</u>	<u>Environment</u>
*y	y	
	∅	In the *ʔy cluster in weakly stressed syllables
*w	w	
	∅	In the *ʔw cluster preceding *au
	f	The *hw cluster > /f/ word initial
*h	h	
	∅	In the clusters *hn{stop}, *{s, ʃ}{k, k ^w }h and *hy
	f	The *hw cluster > /f/ word initial
*ʔ	ʔ	
	∅	In the *ʔn{t, ʈ} clusters
	~ʔ	Metathesized in the *ʔnk cluster > /kʔ/
*i	i	
	∅	In the *ei cluster, or when followed by *-ʔf
*e	e	
*a	a	
	o	The cluster *au > /o/
	a ⁱ	The cluster *ia > /a ⁱ /
*u	u	
	o	In the environment *{(n)ʈ, nt ^y , y}__hu; also the *au cluster > /o/

7.9 Ixcatlán Reflexes

<u>PMaz</u>	<u>Ix</u>	<u>Environment</u>
*t	t	
*t ^y	t	Before front vowels
	ti	Before back vowels or in cluster with dorsal stops
*k	k	
*k ^w	ku	
*c	c	
*č	č	
	č̣	In the *čh clusters preceding back vowels
*s	s	
	∅	In cluster with *t or *k ^w
*š	š	
	∅	In the *šh cluster
*m	m	
	∅	In the *ʔm cluster contiguous to *u
*n	n	
	∅	In the *{h, ʔ}n clusters preceding front vowels
	ñ	Unclustered when *c occurred in the following syllable margin
*ñ	ñ	
	y _V	Unclustered preceding *-V{t, č}V'
	∅	In the *ʔñ cluster preceding *au
*y	y	
	∅	In *ʔy weakly stressed syllables
	i	In *ʔy heavily stressed syllables

<u>PMaz</u>	<u>Ix</u>	<u>Environment</u>
*w	w	
*h	h	
	∅	In the clusters *hn{stop}, *skh, *st ^y h, and *sh
*ʔ	ʔ	
	∅	In the *ʔn{t, ʃ} clusters
	~ʔ	Metathesized in *ʔnk cluster > /nkʔ/
*i	i	
	∅	In the *ei cluster; or when followed by *ʔf
*e	e	
	i	In weakly stressed syllables of the type where *h metathesized or was lost (see §4.1.1); or in weakly stressed syllables when *e was contiguous to *y; or preceded by *t or *nt word initial; or in the environment *c__ʔe
*a	a	
	u	In the environment *{(n)ʃ, y}__hu
	∅	In the *au cluster; or in the environment *nt ^y __hV or *ʔy__CV
	i	In the environments *{nʃ, ñ}__ha, *n__{ʃ, t}V, and *ʃ__CV (where C is not a laryngeal)
*u	u	
	∅	In weakly stressed syllables when the consonantal margin was *(C)t ^y (C)-
	i	In weakly stressed syllables when the consonantal margin was *ñ-

7.10 Miguel Reflexes

<u>PMaz</u>	<u>Mg</u>	<u>Environment</u>
*t	t	
	∅	In the *nt cluster followed by *-VʔyV; or in cluster with dorsal stop
*tʲ	t	Before front vowels
	ti	Before back vowels
	ʂ	In cluster with dorsal stops
	l	The cluster *ntʲ > /l/ preceding *i and *-ahu
*k	k	
*kʷ	kʷ	
*c	c	
	s	In antepenult syllables preceding *-iʔiCV
*ç	ç	
*s	s	
	∅	In cluster with *t, *c, or *ç
*ʃ	ʃ	
	∅	In the *ʃh, *ʃ{t, tʲ}h clusters
*m	m	
	∅	In the *ʔm cluster contiguous to *u
*n	n	
	∅	In the *hn cluster preceding front vowels; or in the *n{stop}h clusters
	l	The *ntʲ cluster > /l/ preceding *i and *-ahu
*ñ	ñ	
	yV	Preceding *-V{t, ç}V́ or *-V(C)N(C)V́
	∅	In the *ʔñ cluster preceding *au

<u>PMaz</u>	<u>Mg</u>	<u>Environment</u>
*y	y Ø	Unclustered and preceded by *(n)t{1, e}-; or in *ʔy weakly stressed syllables
*w	w Ø	In the environment *-u__{a, e}
*h	h Ø	In the *-VhV sequence when the vowels contiguous to *h are both front or both back and when the preceding consonantal margin is *y, *w, *n{stop}, *m, *ñ, *ʃ, *c, *č; or in the clusters *hn{stop}, *{s, ʃ}{k, k ^w }h, *sh, and *hy
*ʔ	ʔ ~ʔ	Metathesized in the *ʔC(C) clusters > /C(C)ʔ/
*i	i Ø e	In weakly stressed syllables when *h was lost (see §4.1.1); or when followed by *-ʔi The *ai cluster > /e/
*e	e Ø	In weakly stressed syllables when *h was lost (see §4.1.1); or when followed by *-ʔé
*a	a Ø e o	In the environment *{(n)č, ntʲ, y, ñ}__hV; or in the *au cluster when preceded by *ʃh-, *Cñ- in the consonantal margin The *ai cluster > /e/ The *au cluster > /o/ when the consonantal margin was other than *ʃh- or *Cñ-

<u>PMaz</u>	<u>Mg</u>	<u>Environment</u>
*u	u	
	o	Following *Ca{h, ʔ}-; also the *au cluster > /o/ when the consonantal margin was other than *ʂh- or *Cñ-
	∅	In the clusters *ue and *ua; or in the environment *{(n)t, ʂ, ñ}__hu and *(C)t ^y (C)__wV; or followed by *-ʔá

7.11

7.11 Lorenzo Reflexes

<u>PMaz</u>	<u>Lo</u>	<u>Environment</u>
*t	t	
	∅	In the *nt cluster when followed by *-VʔyV'; or in cluster with dorsal stops
*tʸ	ɬ	Preceding front vowels
	ɬ̥	Preceding back vowels
	ʂ	In cluster with dorsal stops
	∅	In the *ntʸ cluster preceding *i and *-ahu
*k	k	
*kʷ	kʷ	
	k	In cluster with spirants (*s, *ʂ)
*c	c	
	s	Unclustered in antepenult syllables preceding *-iʔiCV'
*ɕ	ɕ	
*s	s	
	c	In the *sh cluster
	∅	In cluster with *t, *c, and *ɕ
*ʂ	ʂ	
	∅	In the clusters *ʂh, *ʂt(h)
	s	In the *ʂtʸh cluster
*m	m	
*n	n	
	∅	In the clusters *n{stop}h and *ntʸk(h); or in the *ʔn cluster preceding *e

<u>PMaz</u>	<u>Lo</u>	<u>Environment</u>
*ñ	ñ	
	yV	Preceding *-V{t, ʃ}V or *-V(C)N(C)V
	∅	In the *ʔñ cluster preceding *au
*y	y	
*w	w	
	f	The *hw cluster not initial in the word > /f/
*h	h	
	ʔ	In the *hnt cluster
	∅	In the clusters *hn{t ^y , k}, *ʃt ^y h, and *ʃkh
	f	The *hw cluster not initial in the word > /f/
*ʔ	ʔ	
	~ʔ	Metathesized in *ʔnkV cluster > /nkVʔ-/
	∅	In the *ʔy cluster in weakly stressed syllables; or in *ʔw clusters preceding *au
*i	i	
	e	Preceded by *{s, ʃ}{stop}(C)- or *hN(C)-; or in heavily stressed syllables of polysyllabic words when the vocalic nucleus preceding the heavily stressed syllable contained a back vowel unless *y also occurred in the consonantal margin preceding the back vowel; also, the *ai cluster > /e/
*e	a	
	∅	In the *ei cluster
	ia	In heavily stressed syllables preceded by *(ʃ){k, k ^w }hV-

<u>PMaz</u>	<u>Lo</u>	<u>Environment</u>
*a	o	
	i	In the environment *{(n)č, y}__hu; or in the *au cluster preceded by *č(h)-
	∅	In the *au cluster and not preceded by *č(h)-
	ɨ	In the environment *w__hu
*u	ɨ	
	i	In heavily stressed syllables preceded by *č(h)-, *(h, ʔ){y, ñ}-, *ñuh- or *{(n)č, y}a{h, ʔ}-; or in weakly stressed syllables with *st in the consonantal margin; or in the environment *{(C)č(C), y}__C'(C)V where C' is other than unclustered laryngeal; or in weakly stressed syllables with *ñ- in the consonantal margin
	a	The *ue cluster > /a/
	o	The *ua cluster > /o/

7.12 Tecoatl Reflexes

<u>PMaz</u>	<u>Te</u>	<u>Environment</u>
*t	t	
	∅	In the *nt cluster followed by *-V ^o yV́
	s	In cluster with dorsal stops
*t ^y	č̣	
	š	In cluster with dorsal stops
	∅	In the *nt ^y cluster preceding *i or *-ahu
*k	k	
*k ^w	ku	
*c	c	
	s	Unclustered in antepenult syllables preceding *-i ^o iCV́
*č	č	
*s	s	
	c	In the *sh cluster
	∅	In cluster with *t or *č
*š	š	
	∅	In the clusters *šh and *šth
	h	In the *št cluster
	s	In the *št ^y h cluster
*m	m	
	∅	In the * ^o m cluster contiguous to *u
*n	n	
	∅	In the * ^o n cluster preceding *e; or in the clusters *n{stop}h and *nt ^y k(h)

<u>PMaz</u>	<u>Te</u>	<u>Environment</u>
*ñ	ñ	
	ʔi	Preceding *-V{t, ʃ}V́ or *-V(C)N(C)V́
	∅	In the *ʔñ cluster preceding *au
*y	y	
	∅	In the *ʔy cluster in weakly stressed syllables
*w	w	
	∅	In the *ʔw cluster preceding *au
*h	h	
	∅	In the clusters *hnk and *{s, ʃ}{k, k ^w }h
*ʔ	ʔ	
	∅	Unclustered and not initial in the word; or in cluster with consonants
*i	i	
	∅	Followed by *-ʔí; or in the *ei cluster
*e	e	
	i	In weakly stressed syllables contiguous to *y or preceded by *t or *nt
	∅	Followed by *-ʔé
*a	a	
	∅	In the *au cluster; or in weakly stressed syllables which have as consonantal margin *ñ- or *ʔy-
	i	In the environment *{(n)ʃ, y}__CV
*u	u	
	iu	In stressed syllables preceded by *(ʔ)nt-
	∅	In the *ue and *ua clusters
	i	In the environment (C)ʃ(C)__C'(C)V where C' is other than unclustered laryngeal; or in weakly stressed syllables with *ñ in the consonantal margin; or in the environment *(C)ʃ__ʔa

APPENDIX

LIST OF COGNATE SETS

The cognate sets are arranged according to their reconstructed form. Normal alphabetical order is followed apart from the following exceptions: 1) č follows c , k^w follows k , ñ follows n , š follows s , t^y follows t , and ʔ occurs last; 2) tone, indicated by superscript numerals with $(^1)$ high, $(^2)$ mid-high, $(^3)$ mid, $(^4)$ low, is alphabetized according to the order just given and is considered prior to the consonant of the following syllable or to the vowel of the syllable to which it is attached, if that vowel is nasalized; 3) tone glides are alphabetized according to the beginning point of the glide and follow the single tone of that beginning point; 4) nasalized vowels are alphabetized following their respective homorganic oral vowel and precede vowel clusters; and, 5) vowel clusters are alphabetized following the vowel of the first member of that cluster. In short, words similar to these would be alphabetized as follows: *tá^4 , *tá^{41} , *tā^3 , *taí^1 .

The format used in the presentation of each cognate set is to first give the reconstructed etymon followed by an analysis of its constituent parts when it is complex in form.

Next is given the English gloss of the reconstructed form. The various language reflexes used to support the reconstruction are presented in tabular form below the etymon. Next follows a system of cross references to previous Mazatec reconstructions. PPn followed by a numeral refers to cognate sets in Gudschinsky (1959); PMS followed by a numeral refers to cognate sets in Gudschinsky (1956). Numerals without a prefixed PPn or PMS refer to cognate sets in this work. When necessary or deemed useful, a paragraph of supplementary information outlines difficulties encountered in the reflexes; when possible, any part of a form in any of the languages that does not figure in the reconstruction is explained.

Reflexes from the following twelve Mazatec languages are cited: Mazatlán de Flores (Mz), San Bartolomé Ayautla (Ay), San Juan Chiquihuitlán (Cq), San Felipe Jalapa de Díaz (Ja), Santo Domingo del Río (Do), Huautla de Jiménez (Hu), Santa María Jiotes (Ji), San Miguel Soyaltepec (So), San Pedro Ixcatlán (Ix), San Miguel Huautla (Mg), San Lorenzo Guaunecuiltitla (Lo), and San Jerónimo Tecoaatl (Te).

1. *caʔú limps.

Ay	khicʔó-	Ix	cʔihwikicuʔú <u>1p.</u> ,
Ja	ti ¹ hwi ² ki ³ cʔó ³²		cʔihwikicú <u>3p.</u>
Do	tihwikicʔó	Te	hekiciú

Expected reflexes: Ay -coʔó; Ix cʔú; it is clear that the reflexes are derived from *a - u, but the precise

development is not explained. Ja, Do, Ix -hwi- < *hwí² goes 169; Ay khi- < *khi³- completive aspect 196; Ja, Do, Ix, Te ki- < *ki³- completive aspect 206; Te he- < *hé³ finished 131. The tone reconstruction is rather indeterminate from simply a Ja tone 3 reflex.

2. *ca³khá¹ʔá³ (*ʔá³ opening 692) stutters.

Mz sakhaʔá	So cakhaʔá
Ay cakhaʔá	Ix cakhaʔá
Ja ca ² khá ¹ ʔá ²	Te cakhaʔá
Hu ca ³ khá ¹ ʔá ³	

Expected reflexes: Ja -khʔa; Te -kha; Mz ca-. Mz, Ay lack of nasalization unexplained; perhaps contamination with *kha³ʔá¹ 181.

3. *ca³nká³, *thu³khá⁴² runs.

Ay timankacanká	So tho ³ khá ³ ¹
Cq tiwanká	Ix cʔamanká
Ja ti ¹ wa ² nka ² ca ² nká ²	Lo conkó
Do tiwankacanká	Te tiwanká
Hu ma ³ nká ³ <u>chases, flees</u> ;	
tu ³ ká ⁴ ³ , thu ³ ká ⁴ ³ <u>runs</u>	

PPn 284. Expected reflex: So thu-. Ix cʔa- probably continuative aspect; loss of /n/ probably a development in Hu; Ay, Cq, Ja, Do, Te ti- < *ti¹- continuative aspect 589; Cq, Ja, Do -wanka < *wa³nká⁴² flees 639. So /o/ unexplained,

the expected reflex is /u/. Gudschinsky also reconstructed *thu^ská^{4s}, but this is suspect as being a development in Hu.

4. *ca^snhú¹, *cu^snhú¹ fears.

Mz cakhú	So ca ^s khú ^s re ^{s4} (< Pre-So
Ay cakhú	* ^s - ^{s1} - ⁴), we ^{s1} tykú ^{s2}
Cq cakhú	Ix cakhú
Ja ca ^s nhú ¹	Mg ticakhú
Do cankhú	Lo cakhú
Hu cu ^s khú ¹	Te ticakhú
Ji cukhú	

PPn 80. Expected reflex: Ix cankhú. Ji oral /u/ unexplained. Gudschinsky reconstructed *-khú¹ rather than *-nhú¹; in addition she also reconstructed *t^yku^s apparently from one of the So forms.

5. *ca^sʔú^s goes out (fire).

Hu whi ^s cʔaú ^s <u>he puts out</u>	Mg hwecʔó <u>he puts out</u>
Ji kawicʔó <u>he puts out</u>	Lo kiciʔí
So kicʔó <u>he puts out</u>	Te kiciú niʔí
Ix kicʔuyá	

Expected reflexes: So -caʔú; Ix -cuʔú; it is clear that the reflexes are derived from *a - u, but the precise development is unexplained. Ix -ya < *yá inside 660; Hu hwi^s- verb auxiliary, cf. 717; Ji -wi < *wi^s- verb auxiliary 655; Mg hwe- < *whé^s use up 167; So, Ix, Lo, Te ki- < *ki^s-

completive aspect 206; Ji ka- < *ka²- completive aspect 172.

The tone reconstruction is partially indeterminate; it may be reconstructed as *^s - ^s, *^s - ^s₁, or *^s - ⁴₂.

6. *cá^s₂ if.

Ay	cá	So	cá ^s ₂
Cq	cá	Ix	cá
Ja	cá ²	Lo	có
Do	cá	Te	cá
Hu	cá ²		

PPn 101. Expected reflex: Hu tone 3.

7. *cá⁴ fast.

Ay	kicá	So	ki ⁴ cá ⁴
Ja	ki ^s cá ^s	Ix	cá
Do	kicá	Lo	kimq cá-

Expected reflex: Lo -co-. Lo mɔ- < *má^s do 227; Ay, Ja, Do, So, Lo ki- < *ki^s- completive aspect 206.

8. *ca⁴khí¹ girl.

Ja	ca ^s khí ¹	So	cakhí
Do	cakhí	Ix	cakhí

9. *ca⁴nká⁴ cotton.

Mz	canká	Ji	canká
Ay	canká	So	ca ⁴ nká ⁴
Cq	čánka	Ix	canká
Ja	ca ³ nká ³	Lo	conkó
Do	canká	Te	canká
Hu	ca ⁴ nká ⁴		

10. *ce²ʔé² lazy.

Mz	cʔí, cʔé	Hu	cʔé ²
Ay	ceʔé	So	ceʔé
Cq	ceʔé	Ix	ciʔé
Ja	cʔé ²	Lo	čocaʔá
Do	ceʔé	Te	cé

Expected reflexes: Cq ceiʔé; Do cʔé.

11. *cé³ big.

Hu	cé ³ (<u>sg.</u>)	Ix	cé
Ji	cé	Mg	cé
So	cé ³	Lo	cá

PPn. 94. This etymon likely is related to *cé³ full 12.

12. *cé³ full.

Mz kicí	So ki ³ cé ³
Ay kicé	Ix kicé
Cq kicé	Mg kicé
Ja ki ² cé ²	Lo kicá
Do kicé	Te kicé
Hu ki ³ cé ³	

PPn 94. In all languages ki- < *ki³- completive aspect 206. This etymon likely related to *cé³ big 11.

13. *cé³ lights (a fire).

Ay tecé	Hu w ² e ¹ cé ³
Cq cice	Ix wacé
Ja te ² cé ²	Te tecí
Do k ^w ecé	

PPn 97. Expected reflex: Te -ce. Ix wa- < *wa³- verb auxiliary 630; Hu w²e¹- < *we³é¹ hits 652; Ay, Ja te-, Do k^we- probably imperative. The tone reconstruction is partially indeterminate; it is either *³ or *³¹.

14. *-cé⁴ new.

Mz čacé	Ji thacé
Ay cacé	So tha ⁴ cé ⁴
Cq šacá	Ix thacé
Ja ce ³ cé ³	Mg čacé
Do cecé	Lo čocá
Hu ču ⁴ cé ⁴	Te šicé

A.15

Expected reflex: Cq -ce. First syllable ča-, ca-, ša-, ce-, ču-, tha-, čo-, ši- unexplained.

15. *ce⁴hé² coyote.

Mz	cihé	Mg	ncehé
Ay	thiucehé	Lo	cahá
Hu	cé ⁴²	Te	cihé
Ji	cé		

Expected reflex: Te cé. Mg /n/ in /nc/ cluster unexplained; Ay thiuc- < *t^yhu-³(*⁴) nominal 616-620.

16. *ce⁴ʔé⁴ his.

Mz	cʔé	Ji	ceʔé
Ay	k ^w iceʔé	So	ceʔé
Ja	k ^w i ¹ cʔé ³	Ix	ciʔé
Do	k ^w icʔé	Lo	caʔá
Hu	cʔé ⁴	Te	cé

Expected reflex: Ji cʔé. Ay, Ja, Do k^wi- < *k^wi³- this 224.

17. *chá¹ coati.

Ay	thiuchá	So	chá ²¹
Cq	čuchá	Ix	chá
Ja	chá ¹	Lo	chó
Do	chá	Te	chá
Hu	chá ¹		

Cq ču- < *čú⁴ animal 107; Ay thiu- < *t^yhu³-(*)
nominal 616-620.

18. *chau³ky³ pretty (animals, books)

Ay ntaký	Do choký
Cq ntaký	Ix chaký
Ja cho ² ky ²	Te cuký

Expected reflexes: Ix chuký; Te chuký. Ja, Do cho-,
 Ix cha-, Te cu- < *-chau³ happiness 217; Ay, Cq nta- <
 *nta³há² good 358. The tone reconstruction on the last
 syllable is rather indeterminate; it is either *², *³, *³¹,
 *⁴², or *⁴³.

19. *chau³thí¹ pretty (persons).

Ay ntathí	Hu na ³ ská ¹ thí ¹
Ja cho ² thí ¹	Te cuthí
Do chothí	

Expected reflex: Te chutí. Ja, Do cho-, Te cu- <
 *-chau³ happiness 217; Hu ska < *ská¹ plays 472; Hu na³- <
 *ná³- nominal 241; Ay nta- < *nta³há² good 358.

20. *ché⁴³ clean.

Mz ché	So ché ³²
Ay hé	Ix ché
Ja hé ²	Mg ché
Do hé	Lo chá
Hu ché ⁴³	Te ché
Ji ché	

PMS 27. Loss of /c/ in Ay, Ja, Do unexplained.

21. *chiá¹ moss

Ja chiá¹ rusty, dirty

Hu chiá¹ moss

Do chiá rusty, dirty

The tone reconstruction is partially indeterminate; it is either *¹ or *²¹.

22. *chiú⁴ tobacco.

Ja chiú³

So chyú

Do chiú

Ix chiú

23. *chú² toasted.

Mz chú

So chú¹

Ay chú

Ix chú

Cq chú

Mg chú

Ja chú²

Lo chǎ

Hu chú²

Te chú

Ji s'ichú

Ji s'i- probably < *-ci¹i¹- do 26, but the /' / is unexplained.

24. *chú² kicks.

Ay tichú

So chú²

Cq tichú

Ix c'achú

Ja ti¹chú²

Lo chǎ

Do tichú

Te tichú

Hu chú²

Expected reflex: So tone 1. Ix. c'a- probably continuative aspect; Ay, Cq, Ja, Do, Te ti- < *ti¹- continuative aspect 589.

25. *chuá^s gives.

Mz	chuá	So	chwá
Ay	shá	Ix	chuá
Cq	suá-	Mg	kichá
Ja	chá ^s	Lo	chó
Do	chá	Te	chá-
Hu	chuá ^s		

Expected reflexes: Ay chá; Cq chuá. The tone reconstruction is partially indeterminate; it is either *^s or *^{s1}.

26. *-ci¹ʔi¹- do.

Mz	ticiská <u>plays</u>	Ji	sikʔaški <u>criticize</u>
Ay	ticʔintá <u>construct</u>	So	ci ^{s1} ntá ^{s1} <u>construct</u>
Cq	ticintahá <u>construct</u>	Ix	ticʔintá <u>construct</u>
Ja	ti ¹ cʔi ¹ khʔá ^s <u>purges</u>	Mg	sikeýá <u>lends</u>
Do	ticʔikhʔá <u>purges</u>	Lo	sikañá <u>lends</u>
Hu	si ¹ kha ^s ʔá ^s <u>purges</u>	Te	tisikhá <u>purges</u>

Development of *ʔ unexplained.

27. *ci¹ʔi¹ke^syá^s (*ci¹ʔi¹- do 26) lends.

Mz	ticikéyá	So	ti ⁴ kye ^s yé ^{1s} (<u>lend!</u>)
Ay	sik ^ʔ eyá-	Ix	ci ^ʔ ikiya ^{ʔá}
Ja	c ^ʔ i ¹ ke ^s yá ^s	Mg	sikeyá
Do	c ^ʔ ikeyá	Lo	sikañá
Hu	si ¹ ki ^s yá ^s	Te	sikiñá

PPn 45. Expected reflexes: So -ya; Lo -yo; Ay si- is perhaps borrowed from Hu since expected reflex is c^ʔi-; So tones are unexplained; Lo, Te /ñ/ unexplained, expected /y/; development of *ʔ unexplained. Mz, So ti- < *ti¹- continuative aspect 589.

28. *ci¹ʔi¹ki^sʔí^s (*ci¹ʔi¹- do 26) paints.

Mz	k ^ʔ í	Hu	si ¹ k ^ʔ í ^{4s} <u>dye, paint</u>
Ay	ticik ^ʔ iyá	So	k ^ʔ í
Cq	cikí-	Ix	thiñá ^ʔ ak ^ʔ iyá
Ja	ti ¹ c ^ʔ i ¹ k ^ʔ í ^s	Lo	siki ^ʔ iyó
Do	tic ^ʔ ikí	Te	ticikinká

PPn 47. Expected reflexes: Ay -c^ʔiki^ʔi-; Cq -ki^ʔí; Do -k^ʔí; Te -siki^ʔi-. Development of *ʔ in *ci¹ʔi¹- unexplained. Ay, Ix -ya, Lo -yo < *ya inside 660; Ay, Ja, Do, Te ti- < ti¹- continuative aspect 589.

29. *ci¹ʔi¹kha¹yá³ (*ci¹ʔi¹- do 26) rests.

Mz	ticikhayá	So	ci ²¹ kha ³ yá ² (< Pre-So
Ay	sikhʔayá		* ²¹ - ²¹ - ³)
Ja	ti ¹ cʔi ¹ kha ¹ yá ²	Ix	ticʔikhayá
Do	ticʔikhayá	Lo	sikhoyoʔó
Hu	si ¹ kha ¹ yá ³	Te	tisikhayá

PPn 336. Lo -ʔó unexplained; Ay khʔ cluster unexplained, but perhaps lag from larynealized cʔi in preceding syllable; Ay si- apparently a loan from Hu since cʔi- is the expected reflex. Development of *ʔ unexplained. Mz, Ja, Do, Ix, Te ti- < *ti¹- continuative aspect 589.

30. *ci¹ʔi¹kha³né³ (*¹ - ¹ - ¹ - ³) (*ci¹ʔi¹- do 26) plays (an instrument).

Ay	ticikhané	So	ci ³ kha ² né ³ (< Pre-So
Cq	cihanéí		* ²¹ - ³ - ³)
Ja	ti ¹ cʔi ¹ kha ² né ²	Ix	khihwañé
Do	ticʔikhané	Lo	sikhoná
Hu	si ¹ kha ³ né ³	Te	tisikhané

PPn 241. Expected reflexes: Ay -cʔi¹-; development of *ʔ unexplained; Cq -khanéí. Ix khi- < *khi³- completive aspect 196; Ix -hwa- < *wha³ʔá³ passes by 163; Ay, Ja, Do, Te ti- < *ti¹- continuative aspect 589.

31. *ci¹ʔi¹kha³ʔá³ (*ci¹ʔi¹- do 26) purges.

Ay	ticʔikhʔahé	Hu	si ¹ kha ³ ʔá ³ <u>he makes to pass</u>
Ja	ti ¹ cʔi ¹ khʔá ²	Te	tisikhá
Do	ticʔikhʔá		

Expected reflex: Ay -khaʔá. Development of *ʔ in *ci¹ʔi¹- unexplained. Ay, Ja, Do, Te ti- < *ti¹- continuative aspect 589. The tone on the last syllable is partially indeterminate; it is either *³ or *³¹.

32. *ci¹ʔi¹nta³há², *we¹ʔe¹nta³há² (*ci¹ʔi¹- do 26; *we³ʔe¹- hits 652) constructs, makes.

Mz	tiwʔentá	Hu	wʔe ¹ ntá ⁴³
Ay	ticʔintá	So	ci ²¹ ntá ³¹ , ʔwe ²¹ ntá ³¹
Cq	ticintahá	Ix	ticʔintá
Ja	ti ¹ cʔi ¹ ndá ²	Lo	khinowantohó
Do	ticʔindá	Te	satisintiá

Expected reflexes: So weʔe-; Lo -woʔo-. Te /i/ of /ia/ cluster unexplained; development of *ʔ unexplained; the condition under which the final syllable was lost is obscure. Mz, Ay, Cq, Ja, Do, Ix, Te ti- < *ti¹- continuative aspect 589; Lo khi- < *khi³- completive aspect 172; Lo -wa- < *wa³- verb auxiliary 630.

33. *ci¹ci¹té⁴³ (*ci¹ci¹- do 26; *té⁴³ wide 572) pats
(corn cakes).

Ja	ti ¹ c ¹ i ¹ té ²	Lo	sitá
Do	tic ¹ ité	Te	tisité
Hu	si ¹ té ⁴³		

Development of *² unexplained. Ja, Do, Te ti- < *ti¹-
continuative aspect 589. The tone on the last syllable is
partially indeterminate; it is either *⁴³ or *⁴².

34. *ci³ni³¹ uncle.

Ay	ciní	So	ci ³ ni ³²
Cq	ciní	Ix	ciní
Ja	ci ² ni ²³	Mg	ciní
Do	ciní	Lo	ciní
Hu	ci ³ ni ³	Te	ciní
Ji	ciní		

Ja tone 3 probably phrase final glide.

35. *ci³ñá¹ shrimp.

Ay	ciñá	So	ci ³ ñá ²¹
Cq	ciñá	Ix	ciñá
Ja	ci ² ñá ¹	Lo	ciñó
Do	ciñá	Te	ciñá
Hu	ci ³ ñá ¹		

36. *ci³ti³ crooked.

Ay	ci ³ ti ³	khi ² í	Hu	ci ³ ti ³
Ja	ci ³ ti ³		Lo	ci ³ ti ³
Do	ceiti ³		Te	ci ³ ti ³

Expected reflexes: Lo ci³ti³; Do /e/ of /ei/ cluster unexplained. Ay khi²í < *khi³í³ appearance of 199. The tone reconstruction on the last syllable is partially indeterminate; it is either *³, *³¹, or *⁴².

37. *ci³í³ everything.

Mz	nkací	Mg	nkac ² í
Ay	nkaci ² í	Lo	nkoce ² é
Hu	nka ³ cí ³	Te	nkací

Expected reflex: Lo -ci²í. Mz, Ay, Hu, Mg, Te nka-, Lo nko- < *nka³- subordinating conjunction 340. The tone reconstruction on the last syllable is partially indeterminate; it is either *³, *³¹, or *⁴².

38. *ci³í³ nausea.

Ay	timac ² í-	Hu	cí ³
Cq	ci ² í	Ix	cí ²
Ja	cí ³	Mg	cí ²
Do	cí ²	Te	cí

Expected reflex: Ay ci²í. Mg nasalization of /i/ unexplained. Ay ti- < *ti¹- continuative aspect 589; Ay -ma- < *má³ able 227.

39. *ci⁴ yours (sg.).

Mz	cihí, cí	Ji	cí
Ay	cí	So	cí
Cq	cíhi	Ix	hicí
Ja	hi ¹ cí ³	Lo	cihí
Do	hicí	Te	cihí
Hu	cí ⁴		

Mz, Cq, Ja, Do, Ix, Lo, Te -hi- < *hi³ you (sg.) 133.

40. *ci¹ʔá² penis.

Ay	cʔíá	So	ciá ¹
Cq	ciáʔá	Ix	cʔíá ¹
Ja	cʔíá ²	Lo	ciʔó
Do	cʔíá	Te	ciʔá
Hu	ciá ¹³		

Expected reflexes: Hu, So cʔíá; Te ciá; Cq, So, Ix ciʔá.

41. *ci² non-existent.

Hu	ci ²	Mg	cí
Ji	cí	Te	cí

The tone reconstruction is partially indeterminate; it is either *² or *³².

42. *cɪ⁴³ born.

Ay	kicɪ	So	kicɪ
Cq	kacɪ	Ix	kicɪ
Ja	ki ² cɪ ²	Lo	kicɪ
Do	kicɪ	Te	kicɪ
Hu	ki ³ cɪ ⁴³		

Ay, Ja, Do, Hu, So, Ix, Lo, Te ki- < *ki³- completive aspect 206; Cq ka- < *ka²- completive aspect 172.

43. *cutəhɪ plays with.

Ja	ti ¹ cu ³ tq ³	So	cu ¹ tq ³² hó ²
Do	ticutq		

PPn 24. Ja, Do loss of *hɪ is obscure; So expected -təhɪ, but the vowel reflexes make it clear that it came from *-ahu. Ja, Do ti- < *ti¹- continuative aspect 589. The tone development is obscure.

44. *cu¹ʔé¹ curassow.

Mz	cʔí	Ji	cʔé
Ay	nɪsecʔé	So	cʔué
Cq	naḡḡucʔué	Ix	cʔué
Ja	cʔé ¹	Lo	caʔá
Do	cʔé	Te	cé
Hu	cʔé ¹		

Expected reflexes: Ay -cVʔé; development of unstressed *u is not explained; Cq cuʔé. Ay nɪse- < *nɪ⁴sé³ bird 333;

Cq nahñy- < *na⁴hñy⁴ turkey 268.

45. *cu¹ʔú¹ blouse.

Mz	cʔú	Ji	cʔú
Ay	cʔú	So	cʔú
Cq	cuʔú	Ix	cʔú
Ja	cʔú ¹	Mg	cʔú
Do	cʔú	Lo	cɿʔɿ
Hu	cʔú ¹	Te	cú

Development of unstressed *u is not explained.

46. *cu¹ʔwá^s walk.

Mz	cuwá	So	cu ^s ʔwá ^s (< Pre-So * ²¹ - s)
Ay	cuʔwá	Ix	cuwá
Ja	cu ¹ ʔwá ^s	Mg	cuwʔó
Do	cuʔwá	Lo	cɿʔwó
Hu	cu ^s ʔwá ^s	Te	cuwá
Ji	cuʔwá, cuwá		

Expected reflexes: Mz, Ix cuʔwá. Development of Hu tone 2 is obscure. Gudschinsky (1959:20) reconstructed this etymon with tones *43 - 3 which she derived from Pre-So *32 - 4. But Pre-So *21 - 3 can also yield So 3 - 2, I posit Pre-So *21 - 3 as the source of this modern So 3 - 2 which makes possible the reconstruction of the PMaz etymon as *1 - 3. This solution seems preferable since it fits the reconstruction of tone clusters on only heavily stressed syllables.

47. *cú² says.

Mz	ticú	Ji	cú
Ay	ticú	So	cú ¹
Ja	ti ¹ cú ²	Ix	c ² ucú
Do	ticú	Mg	cú
Hu	cú ²	Lo	ni ¹ cí

PPn 102. Lo ni¹- < *ni¹³- (*⁴) nominal 312; Mz, Ay, Ja, Do ti- < *ti¹- continuative aspect 589.

48. *-cú² (*cú² says 47) pretty (music, sound).

Ay	ntacú	Hu	na ³ ská ¹ cú ²
Ja	cho ² cú ²	Ix	chacú
Do	chocú	Te	ntacú

Ay, Te nta- < *nta³há² good 358; Ja, Do cho-, Ix cha- < *-chau³- happiness 316; Hu ska < *ská¹ plays 472; Hu na³- < *na³-(*⁴) nominal 241. The tone reconstruction is partially indeterminate; it is either *² or *³².

49. *cu²tí³ girl.

Hu	cu ² tí ³	Mg	cutí
Ji	cutí	Lo	cité

50. *-cú^s raft, boat.

Ay	šucú	So	cocó
Cq	šucú	Ix	thucú
Ja	cu ² cú ²	Lo	čicí
Do	cucú	Te	čiciú
Hu	či ^s cú ^s		

Expected reflex: So -cú; reflexes of the first syllable (šu-, cu-, či-, thu-) unexplained; development of /i/ in Te /iu/ cluster unexplained. The tone reconstruction is partially indeterminate; it is either *^s or *^{s1}.

51. *cu^smí¹ (*⁴ - 1) sand.

Mz	cumí	Hu	cu ⁴ mí ¹
Ay	cumí	So	cu ^s mí ^{s1}
Cq	cumí	Ix	cumí
Ja	cu ² mí ¹	Mg	cumí
Do	cumí	Te	cumí

52. *cu^sʷwí¹ sun.

Ay	naʷaícʷwí	So	cu ^s ʷwí ^{s1}
Cq	cúʷi	Ix	cʷuí
Ja	cʷiú ¹	Mg	cʷí
Do	cʷí, naʷmícʷína	Lo	ciʷwé
Hu	cʷuí ¹	Te	ci-
Ji	cʷí, cuʷwí		

PPn 303. Ay, Cq, Ja, Do, So, Hu, Ix, Mg do not display the expected reflex of *ʷ after /cu/, see walk 46; however, it could be argued that this is the unique development when *ʷ follows /cu/ and precedes /i/. Note also the unexplained vowel metathesis in Ja. Ay na- < *na^s-(*) nominal 241.

53. *cu⁴wa³khá¹ (*^s - s - ¹) hugs.

Ay	ticuwakhá-	Hu	cua ^{4s} khá ¹
Cq	ticuwakhá	Ix	cahwanikhá
Ja	ti ¹ cu ² wa ² khá ¹	Lo	kiciwokhó
Do	ticuwakhá	Te	ticuwakhá

Ix ca-hwa-ni- < ca- continuative aspect, *-wha^sʷa^s passes by 163, *ni^s-(*) nominal 312; Ay, Cq, Ja, Do, Te ti- < *ti¹- continuative aspect 589.

54. *čahú (likely same morpheme as *ča^shú^s dust 298 with extension of semantic area) ashes.

Mz	čahú	Lo	čihí
Ay	čahó	Te	čihú
Hu	čau ^s lʷí ^{1s}		

Expected reflex: Ay čohó. Hu ·lʷí^{1s} < *nt^yi^sʷi¹ fire 412. The tone reconstruction is indeterminate but likely *^s - s.

55. *ča¹- person prefix (singular male).

Mz	čahnú <u>squirrel</u>	Do	čá
Ay	čanayí <u>devil</u>	Hu	ča- (followed by person's
Cq	ča- <u>male or female</u>		name); čá ¹ <u>male</u>
	<u>speaker with male</u>	Ji	čahnú <u>squirrel</u>
	<u>referent</u>	Ix	čá <u>female speaker with</u>
Ja	čá ¹ <u>female speaker with</u>		<u>male referent</u>
	<u>male referent</u>	Mg	čihnú <u>squirrel</u>
		Lo	čiyohní <u>squirrel</u>
		Te	čihnú <u>squirrel</u>

Expected reflexes: Ix čí-; Lo čo-. The tone reconstruction is partially indeterminate; it is either *¹ or *²¹.

56. *ča¹hnú⁴ (*ča¹- person prefix 55) squirrel.

Mz	čahnú	Ix	čihnú
Ay	časñú	Mg	čihnú
Cq	šñú	Lo	čiyohní
Hu	ča ¹ hnú ⁴	Te	čihnú
Ji	čahnú		

PPn 206; PMS 30. Expected reflexes: Mg ča-, Lo čo-; Ay, Cq -hnú.

57. *ča¹sé³ (*ča¹- person prefix 55) opossum.

Ja	ča ¹ sé ²	Do	časé
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58. *ča¹tu⁴ya¹ (*ča¹- person prefix 55) squirrel.

Ja	ča ¹ tu ³ ia ¹	Do	čatu ¹ ia ¹
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59. *ča¹ʔá¹ load.

Ay	čʔá	So	čʔá ²¹
Cq	čaʔá	Ix	čʔá
Ja	čʔá ¹	Mg	čʔá
Do	čaʔá	Lo	čoʔó
Hu	čʔá ¹	Te	čá
Ji	čʔá		

PMS 36. Expected reflexes: Ay, Hu, Ji, So, Ix čaʔá;
Do čʔá.

60. *ča¹ʔá¹ parent-in-law.

Hu	-čá ¹	So	čʔá ²¹
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PPn 124. Expected reflexes: Hu, So -čaʔá.

61. *čǎ́³ brown.

Ay	čǎ́	So	čǎ́
Cq	čǎ́	Ix	čǎ́
Ja	čǎ́ ²	Lo	čǒ́
Do	čǎ́	Te	čǎ́
Hu	čǎ́ ³		

The tone reconstruction is partially indeterminate; it is either *³ or *³¹.

62. *ča³kú³, *či³kú³ holy.

Mz	čakú	Ji	ntačikú
Ay	čikú	So	ča ³ kú ³
Cq	čačakú	Ix	čikú
Ja	ča ² kú ² <u>baptize</u>	Mg	čikú
Do	čakú	Lo	škú
Hu	či ³ kú ³	Te	čikú

PPn 71; PMS 29. Lo /š/ in /šk/ cluster unexplained; perhaps contraction of ča- > š. Mg expected reflex ča-. Ji nta- perhaps < *nə⁴nta¹(*³ - ¹) water 270.

63. *ča³khá³, *či³khá³, *wa³khá¹ (*wa³- verb auxiliary 630) breaks, broken.

Mz	tiwakhá <u>breaks</u>	Hu	či ³ khá ³ <u>broken</u> ; wa ³ khá ¹ <u>breaks</u>
Ay	cikhá <u>broken</u> ; tiwakhá <u>breaks</u>	So	ca ³ khá ³ <u>broken</u>
Cq	čakhá <u>broken</u> ; kuakhá <u>breaks</u>	Ix	čakhá
Ja	ča ² khá <u>broken</u> ; ti ¹ wa ² khá ¹ <u>breaks</u>	Mg	čakhá <u>broken</u>
Do	čakhá <u>broken</u> ; tiwakhá <u>breaks</u>	Lo	čokhó <u>broken</u> ; hakowokhó <u>breaks</u>
		Te	nčikhá <u>broken</u> ; tiwukhá <u>breaks</u>

PPn 77. Expected reflexes: Ay čikhá; Te /n/ of /nč/ cluster unexplained. Mz, Ay, Ja, Do, Te ti- < *ti¹- continuative aspect 589.

64. *ča³yaá³ forgets.

Mz	čayá <u>forget</u> (<u>lose</u>	So	ča ³ yaá ³
	<u>inside</u>)	Ix	kičiyá
Ay	ričayá-	Mg	čayále, čahí
Cq	kačayá-	Lo	kočiyó
Ja	k ^w a ² ča ² yaá ²³	Te	kičayá
Do	k ^w ačayá		
Hu	ča ³ yaá ³		

Expected reflexes: Lo -čo-; Te -čiya. Ja, Do k^wa- may have developed from *ka- completive aspect 172; Ay, Ix, Te ki- < *ki³- completive aspect 206; Cq ka-, Lo ko- < *ka²- completive aspect 172. Ja tone 3 of 23 glide probably is an analogical development in phrase final position.

65. *ča³uú³ bad, wicked.

Ay	čóó	Hu	č ² au ³ čú ³ <u>bad place</u> ,
Cq	čóó		č ² au ³ nhé ⁴ <u>stink</u>
Ja	čóó ²	Ix	čúú
Do	čoóó	Lo	či ² ičí
		Te	čo

Expected reflexes: Ay, Cq čoóó; Do čóó; Ix čiúú; Te čiú; it is clear that the reflexes come from *a - u but the exact development of *a is not explained. Hu -čú³ < *čú³ place 118; Hu -nhé⁴ < *hné⁴ smells 141.

66. *ča⁴há¹ cramp.

Ay	čahá	Ix	čihá <u>rheumatism</u>
Cq	čahá	Mg	čá
Ja	ča ² há ¹ <u>rheumatism</u>	Lo	čohó
Do	čahá	Te	čihá
Hu	čá ⁴ ²		

67. *ča⁴hnká⁴, *či⁴hnká⁴ liver.

Mz	čahnká	Hu	ču ⁴ hnká ⁴
Ay	čhu ² nká	So	ča ⁴ nká ⁴
Cq	čanká	Ix	činkantá
Ja	ča ³ nká ³	Lo	čohnkó
Do	čhanká	Te	čihnká

Expected reflexes: Ay činká; Hu čihnká; Lo nkó; Te činká; Ay, Ja, Do /h/ unexplained. Ix -ntá < *nta³há² good
358.

68. *ča⁴kí¹, *či⁴kí⁴ (*³ - ¹) firewood.

Mz	čikí	Ji	čikí
Ay	čikí	So	ča ³ kí ²¹
Cq	čakí	Ix	čikí
Ja	či ² kí ¹	Mg	čakí
Do	čikí	Lo	čoké
Hu	či ⁴ kí ¹	Te	čikí

69. *ča⁴ʔá² armadillo.

Mz	čaʔá	Ji	čaʔá
Ay	čeʔá	So	ča ⁴ ʔá ¹
Cq	čaʔá	Ix	čaʔá
Ja	čʔá ³²	Lo	čiʔó
Do	čaʔá	Te	čiʔá
Hu	ča ⁴ ʔá ²		

PMS 31. Expected reflexes: Ay čaʔá; Do čʔá;
Ix čiʔá; Lo čoʔó; Te čá.

70. *ča⁴ʔú⁴ thunder-lightning.

Ay	čqʔó	So	ča ⁴ ʔú ⁴
Cq	čúʔú	Ix	čiʔú
Ja	čʔó ³	Mg	čʔú
Do	čʔó	Te	čú
Hu	čʔaú ⁴		

PMS 32. Expected reflexes: Cq čqʔó; So -ʔó; Mg čʔó;
Te čiú; it is clear that the reflexes result from *a - u, but
the precise development is not explained. Gudschinsky
reconstructed the etymon of these reflexes as *čaʔnú but I
reconstruct *ʔnV from sets such as 703, 707, and 708, none of
which Gudschinsky reconstructed.

71. *čau¹ earthquake.

Ay	čó	So	čó ²¹
Ja	čó ¹	Ix	čý
Do	čó	Mg	čý
Hu	čau ¹	Lo	čí
Ji	čó	Te	čó

72. *čé⁴ trap.

Mz	čí	Hu	čé ⁴
Ay	čé	Ji	čí _é
Cq	čé	So	čé ⁴
Ja	čé ³	Ix	čé
Do	čé	Te	čá-

Expected reflexes: Te čé; Cq čé_í; Ji /i/ of /i_é/ cluster unexplained.

73. *čhá⁴ brother of spouse.

Ay	čhá	So	čhá ⁴
Cq	čačhá-	Ix	čhá
Ja	nda ³ čhé ³ ha ¹ -, ča ¹ -, hni ¹ -	Mg	čhá
Do	ndačhé ha-, ča-, hmi-	Lo	čhá
Hu	čhá ⁴	Te	sačhá-

Expected reflexes: Ja, Do -čhá; Lo čhó.

74. *čhá² cooks.

Ay	tiwečhá	Ji	tičhá
Cq	tiwačhá	So	čhá ¹
Ja	ti ¹ we ¹ čhá ²	Ix	ticičhá
Do	tiwečhá	Lo	kinəčhó
Hu	si ¹ čhá ¹	Te	tiwičhá

PPn 134; PMS 34. Ay, Ja, Do -we- perhaps < *wé⁴² knows 653; Lo ki- < *ki³- completive aspect 206; Lo -no- unexplained; Cq -wa- < *wa³- verb auxiliary 630; Te -wi- < *wi³- verb auxiliary 655; Hu si-, Ix ci- < *-ci¹·i¹- do 26; Ay, Cq, Ja, Do, Ji, Ix, Te ti- < *ti¹- continuative aspect 589. Hu expected reflex tone 1 - 2.

75. *čháú⁴¹ egg.

Mz	čhó	Ji	čhó
Ay	čhó	So	čhó ⁴²
Cq	čhó	Ix	čhú
Ja	čhó ³¹	Mg	čhó
Do	čhó	Lo	čhí
Hu	čháú ⁴²	Te	čhú

PPn 189. Expected reflex: So čhó⁴².

76. *čhí¹ expensive.

Ay	čhí	Hu	čhí ¹
Cq	nkačhí-	Ix	čhí
Ja	čhí ¹	Lo	čhí
Do	čhí	Te	čhí

Cq nka- < *nka^s- subordinating conjunction 340. The tone reconstruction is partially indeterminate; it is either *¹ or *²¹.

77. *čhí¹ pays.

Mz	tiw ² ečhí	Ji	w ² ečhí
Ay	tiw ² ečhí	So	ʔwe ²¹ čhí ²¹
Cq	kuačhé	Ix	c ² a ² wičhí
Ja	ti ¹ w ² e ¹ čhí ¹	Mg	cew ² ičhí
Do	tiw ² ečhí	Lo	cew ² ičhí
Hu	w ² e ¹ čhí ¹	Te	tiwičhí

PMS 93. Expected reflexes: Cq -čhí; Ix c²awičhí; Lo cewa²ačhí. Ay kua- future aspect; Mz, Ay, Ja, Do, Hu, Ji w²e-, So ʔwe- < *we^sʔé¹ hits 652; Mg, Lo w²i-, Te -wi- perhaps < *we^sʔé¹ hits 652, but vowel contaminated by verb auxiliary *wi^s- 655; Mz, Ay, Ja, Do, Te ti- < *ti¹- continuative aspect 589.

78. *čhí² ripens.

Mz	tičhí	So	ki ^s čhí ¹
Ay	kičhí	Ix	kičhí
Cq	kičhí	Mg	kičhí
Ja	ki ² čhí ²	Lo	kičhí
Do	kičhí	Te	kičhí
Hu	ki ^s čhí ²		

PPn 131. Ay, Cq, Ja, Do, Hu, So, Ix, Mg, Lo, Te ki- < *ki³- completive aspect 206; Mz ti- < *ti¹- continuative aspect 589.

79. *čhí³ chirimoya.

Mz	čhí	Hu	čhí ³
Ay	čhí	So	čhí ³
Cq	čhí	Ix	čhí
Ja	čhí ²	Lo	čhé
Do	čhí	Te	čhí

PPn 142. Expected reflex: Lo čhí.

80. *čhi³nkí³ iguana.

Ay	čhiaʔnkí	So	činkí
Ja	čhi ² nkí ²	Ix	činkí
Do	čhinkí		

Expected reflexes: So, Ix čhi-; Ay /a/ of /ia/ cluster unexplained; Ay /ʔ/ unexplained. The tone reconstruction on the last syllable is rather indeterminate, it is either *², *³, *³¹, *⁴², or *⁴³.

81. *čhi⁴né⁴ (*³ - ³) sews, embroideries.

Ay	čhiné	So	čhi ⁴ né ⁴
Ja	čhi ² né ²	Ix	čhiñé
Do	čhiné		
Hu	čhiné		<u>lace</u>

82. *čhi⁴nté¹ (*³ - ¹) zapote.

Mz	šintí	Hu	čhi ⁴ nté ¹
Ay	čhinté	So	čhi ³ nté ²¹
Cq	čhinté	Ix	čhinté
Ja	čhi ² nté ¹	Lo	či [?] ntá
Do	čhinté	Te	čhinté

PPn 256. Expected reflexes: Mz čhintí; Lo čhintá.

83. *čhi⁴ʔyá⁴ (*³ - ⁴) cherry.

Cq	čhí	Ix	čhi [?] ia
Ja	čhi ² ʔia ³	Mg	čhiy [?] á
Do	čhi [?] ia	Lo	čhi [?] yó
Hu	čhi ⁴ ʔyá ⁴	Te	čhiyá

84. *ču³weí¹ (*⁴ - ³) take it.

Ay	čhuwé	Ji	čhuwí
Ja	ču ³ weí ²	Ix	čhuwé
Do	čuweí	Lo	nti [?] wí
Hu	thué ²¹ , thu ³ wé ¹	<u>he takes</u>	

PPn 305. Hu /th/, Lo nti- unexplained; Ay expected reflex čhuwé; Ji čhuí.

85. *ču⁴wá⁴, *ča⁴wá⁴ grasshopper, locust.

Ay	thiučhawá	Do	čhuwá
Cq	thiuwá	Hu	ču ⁴ wá ⁴
Ja	ču ³ wá ³	Ix	čhuwá

Expected reflexes: Ay ɕhawá; Hu ɕhuá. Ay, Cq thi- < *tʰhu³-(*)nominal 616 through 620.

86. *ɕhú⁴¹ woman, wife.

Mz	ɕhú	Ji	ɕhú
Ay	ɕhú	So	ɕhú ⁴²
Cq	ɕhú	Ix	ɕhú
Ja	ɕhú ³¹	Lo	ɕhí
Do	ɕhú	Te	ɕhú-
Hu	ɕhú ⁴²		

PPn 111; PMS 35.

87. *ɕhua² closes, shuts.

Mz	tiweɕhá	So	ʔwe ¹ ɕhiá ¹
Ay	tiweɕhá	Ix	cawiɕhá
Cq	kueiɕhá	Mg	wʔeɕhó
Ja	thi ¹ ɕhá ² <u>it is closed</u>	Lo	tiɕhó
Do	thiɕhá		
Hu	wʔe ¹ ɕhua ² ntiá ¹ <u>closed</u>		

road

Expected reflexes: Mz -ɕhua, Cq -ɕhua, Ix -ɕhua, So -ɕhwá, Mg -ɕhá, unless these are the reflexes after *ɕh, cf. gives 25; Mz, Ay -we-, So ʔwe-, Hu, Mg wʔe- < *we³ʔé¹ hits 652; Mz, Ay, Lo ti- < *ti¹- continuative aspect 589; Ja, Do thi- unexplained.

88. *či¹kí⁴ parrot.

Ay	načikí	Do	čikí
Ja	či ¹ kí ³	Ix	čikí

Ay na- < *na³-(*) nominal 241.

89. *či³kí³ breast.

Ay	čikí	So	čikí
Cq	čikí	Ix	čikí
Ja	či ² kí ²	Mg	čikí
Do	čikí	Lo	čikí-
Hu	či ³ kí ³ <u>nipples</u>	Te	čikí

The tone reconstruction on the last syllable is partially indeterminate; it is either *³, *³¹, or *⁴².

90. *či³sé³ fly (n).

Ay	thiũčusé	Ji	čisé
Cq	čuseí	So	či ³ sé ³
Ja	čʷi ² sé ²	Ix	čisé
Do	čisé	Mg	čisé
Hu	či ³ sé ³	Lo	čisé <u>spider</u>

PPn 149. Expected reflex: Lo čisá. Ja /ʷ/ in /čʷ/ cluster unexplained; Ay, Cq ču- < *čú⁴ animal 107; Ay thiũ- < *t^yhu³-(*) nominal 616 through 620.

91. *či³tá³ uvula.

Ay čitá

Ix čitá

Ja či²tá²³

Te čitiá

Do čitá

Te /i/ in /iá/ cluster unexplained. Ja tone 3 probably developed analogically in phrase final position. The tone reconstruction on the last syllable is rather indeterminate; it is either *², *³, *³¹, *⁴², or *⁴³.

92. *či³thú³ hunchback.Ja či²thú²

Do čithú

The tone reconstruction on the second syllable is partially indeterminate; it is either *², *³, *³¹, *⁴², or *⁴³.

93. *či³ʋí³ fever.

Ay čiʋí

So či³ʋí³

Cq čiʋí

Ix čiʋí

Ja čʋí²Mg čʋintʋé malaria, čʋí

Do čʋí

sicknessHu čʋí³

Lo čiʋí

Ji čʋintʋé malaria,

Te čí

čiʋí sickness

PPn 230. Expected reflexes: So, Ix čʋí³; Mg oral /i/ unexplained.

94. *č¹í³ŋ¹scé¹ (*č¹í³ŋ¹ fever 93) cold (sickness).

Ay	č ¹ í ¹ cé	So	č ¹ í ³ cé ²¹
Cq	č ¹ icé	Ix	č ¹ í ¹ scé
Ja	č ¹ í ² ce ¹ ký ²³	Mg	č ¹ í ¹ cé
Do	č ¹ í ¹ ceký	Lo	č ¹ icá
Hu	č ¹ í ³ hcé ¹	Te	č ¹ ihcé

PPn 230. Expected reflexes: Ay, Cq, Lo č¹í¹-; Ix č¹í¹-; development of *ŋ unexplained; Te -hce perhaps borrowed from Hu; expected -ce; Do -ký unexplained.

95. *č¹í³ŋ¹nté¹, *č¹hi³ŋ¹nté¹ unmatured.

Ay	č ¹ í ¹ nté	Ji	č ¹ í ¹ nté
Cq	č ¹ í ¹ nté	Ix	č ¹ hinté
Ja	č ¹ hi ² nté ¹	Mg	č ¹ int ¹ é
Do	č ¹ hinté	Lo	č ¹ í ¹ ntá
Hu	č ¹ í ³ nté ¹	Te	č ¹ hinté

Expected reflexes: Mg, Lo č¹hi-; Hu č¹í¹nté.

96. *č⁴u⁴cí¹ glass.

Mz	č ⁴ ucí ¹	Ji	č ¹ icí ¹
Ay	č ⁴ ucí ¹	So	č ⁴ u ⁴ cí ²¹
Cq	ntiohocí ¹	Ix	č ¹ icí ¹
Ja	č ³ u ³ cí ¹	Mg	č ⁴ hucí ¹
Do	č ⁴ ucí ¹	Lo	č ¹ icé ¹
Hu	č ⁴ u ⁴ cí ¹	Te	č ¹ icí ¹

Expected reflexes: Ix čucí; Mg /h/ in /čh/ cluster unexplained. Cq ntiho- < *nt^ya⁴hú⁴ stone 406.

97. *či⁴hnú⁴ arrow.

Cq	yančišnú	So	čihú
Ja	či ³ hnú ³ <u>bow and arrow</u>	Ix	čuhnó
Do	čihnú		

Expected reflexes: Cq, So, Ix čihnú. Cq ya- < *yá¹ tree 662.

98. *či⁴ní³ dream.

Ay	číní	Do	číní
Ja	nči ³ ní ² , čí ³ ní ² (< Pre-	Ix	číní
	Ja *nči ³ ní ²)	Lo	číné

Lo expected reflex číní; Ja /n/ in /nč/ cluster unexplained. The reconstruction of tone on the last syllable is indeterminate, either *², *³, *³¹, *⁴², or *⁴³ is possible.

99. *či⁴nká³ shirt.

Ay	čínká	Hu	či ⁴ nká ³
Cq	čínká	So	sínká
Ja	či ³ nká ²	Ix	čínká
Do	čínká	Mg	čínká

So expected reflex čínká. The tone reconstruction is partially indeterminate; it is either *⁴ - ³ or *⁴ - ³¹.

100. *či⁴nká⁴ pig.

Mz	činká	Ji	činká
Ay	činká	So	či ⁴ nká ⁴
Cq	činká	Ix	činká
Ja	či ³ nká ³ , či ³ nkó ³ (< Pre- Ja *činká)	Mg	činká
Do	činká	Lo	činkó
		Te	činká
Hu	či ⁴ nká ⁴		

101. *či⁴ʔí⁴ drunk, intoxicated.

Mz	čʔí	Ji	čʔí
Ay	čʔí	So	čʔí ⁴
Cq	čiʔičá	Ix	čʔí
Ja	čʔí ³	Mg	čʔí
Do	čʔí	Lo	čiʔí
Hu	čʔí ⁴	Te	čí

PPn 302. Expected reflexes: Ay čiʔí; Cq -ča unexplained.

102. *ču¹yá³ wait (imper. pl.)

Ay	čuyá	So	čuyái
Ja	ču ² yá ²³²	Ix	čiyé
Do	čuyá	Lo	čiñó
Hu	ču ¹ yá ³	Te	čiñá-
Ji	čuyá		

Expected reflexes: Ji či-; Ix ču-; So /ai/, Ix /e/
probably imperative; Lo, Te /ñ/ unexplained, expected /y/;
Ja tones unexplained, expected ¹ - ².

103. *č¹u¹ʔá¹ parrot.

Ay	čʔanǿ	Ji	čʔá
Cq	čuʔáni	So	čuanǿ <u>red</u> <u>parrot</u>
Ja	čʔa ¹ nǿ ²	Ix	nčʔuǿ
Do	čʔanǿ	Mg	čʔá
Hu	čuá ¹ <u>green</u> <u>parrot</u>	Lo	čiʔwó

Expected reflex: So čʔua-; Ix /n/ of /nč/ cluster unexplained. Ay, Cq, Ja, Do, So -nǿ < *ʔya³nǿ² red 726.

104. *č¹u¹ʔmǿ¹ chayote.

Ay	čʔǿ	So	čʔuǿ ²¹
Cq	čuʔmǿ	Ix	nčʔuǿ
Ja	čʔǿ ¹	Mg	čʔǿ
Do	čʔǿ	Lo	čoʔmé
Hu	čʔuǿ ¹	Te	čǿ
Ji	čʔǿ		

PPn 226. Expected reflex: Lo či-; Ix /n/ of /nčʔ/ cluster unexplained. An additional difficulty in the reconstruction of this etymon is that Ay, Ja, Do, Ji, and Mg do not show the expected reflexes of *u; however, the environment preceding *ʔm could be posited.

105. *čú^s(*¹) arrives at, reaches.

Ay he ^o ečú	So fi ^s čú ¹
Ja k ^w i ² čú ²	Ix khuačú
Do k ^w ičú	Mg k ^w ečú <u>he will arrive</u>
Hu whi ^s čú ¹	Lo yakačí
Ji ʔičú	Te hesčú

Ay he^oe- perhaps < *he^shé^s finished 131; Ja, Do k^wi-,
Mg k^we- unexplained, perhaps < *k^whí^s(*¹) will go 225; Hu whi-,
So fi- < *hwí² goes 169; Ji ʔi- unexplained. So tone is
unexplained.

106. *čú^st^yha^swa^shⁿká^s (*čú⁴ animal 107; *t^yha^swá^s
skin 613; *hⁿká^s wing 143) bat.

Ja čú ^s tha ^s wa ^s h ⁿ ká ^s	Do čuthawanká
--	---------------

107. *čú⁴ animal.

Mz čú	Ji čú
Ay čú	So čú ⁴
Cq čú	Ix čú
Ja čú ^s	Mg čú
Do čú	Lo čí
Hu čú ⁴	Te čú

PPn 66.

108. *č⁴ki³š³ (*č⁴ animal 107; *ki³- completive aspect 206; *š³ foam 551) weevil.

Ay	načukišú	Ix	čukišú
Cq	čukišú	Lo	čikiší
Ja	ču ³ ki ² š ²	Te	čukišú
Do	čukišú		

Expected reflex: Te čikišú; Cq nasalized /y/ unexplained. Ay nač- < *nač³-(*) nominal 241. The tone on the last syllable is partially indeterminate; it is either *³ or *³¹.

109. *č⁴ne¹hé⁴ (*č⁴ animal 107) centipede.

Ay	thiunehé	Lo	čiñahá <u>centipede</u> <u>that</u>
Ja	ču ³ nu ¹ nhé ³		<u>bites</u>
Do	čunehé	Te	čuncehé
Ix	čunihé		

Expected reflex: Te či-; Ix -ñ-; Lo /ñ/ unexplained, expected /n/; Te /c/ unexplained. Ay thi- < *t^yhu³-(*) nominal 616-620.

110. *č⁴ni³ñ³ (*č⁴ animal 107; ni³- nominal 312) porcupine.

Mz	čuniñú	Ix	čuniñú
Ay	čuniñú	Lo	čiñí
Cq	čuniñú	Te	čiñú
Hu	ču ⁴ ñ ³		

The tone on the last syllable is partially indeterminate; it is either *^s or *^{s1}. Note that *-n₁- was lost before *ñ < Ø in Hu when preceded by /n/, cf. dog 246.

111. *č⁴nta^swá¹, *č⁴ntu^swá¹, ča⁴- (*nta^swá¹, *ntu^swá¹ sunshine 370) hot season.

Ay	čuntawá	So	čontawá
Cq	čantawá	Ix	čuntuwá
Ja	ču ^s ny ² wá ¹	Lo	činti ^{wó}
Do	čundu ^{wá}	Te	chentu ^{wá}
Hu	ča ⁴ ntuá ^{s1}		

Expected reflexes: Lo, Te či-.

112. *č⁴ntú^{s1} (*č⁴ animal 107, *ntu^{s1} probably derived from *ntu^shú¹ long 397) worm.

Mz	čuntú	Ji	čuntú
Ay	čintú	So	ču ⁴ ntú ^{s2}
Cq	čuntú	Ix	čuntú
Ja	čhu ^s ntú ^s	Mg	čuntú
Do	čhintú	Lo	činté
Hu	ču ⁴ ntú ^s	Te	čintiú

PPn 266. Ja, Do /h/ in /čh/ cluster unexplained; Ay, Do expected reflex čuntú.

A.113

113. *ču⁴té^{s1} (*čú⁴ animal 107, te^{4s} wide 572) cockroach.

Ay	načuté	So	ču ⁴ té ^{s2}
Ja	ču ^s té ^s	Ix	čuté
Do	čuté		

Ay na⁴' < *na^s-(*) nominal 241.

114. *ču⁴wá⁴ measure, mark.

Mz	čuwá	Hu	čuá ⁴ , ču ⁴ wá ⁴
Ay	čuwá	Ix	čuwá
Cq	čuwá	Lo	čiwó
Ja	ču ^s wá ^s	Te	čuwá
Do	čuwá		

PPn 313. Expected reflex: Te čiwá.

115. *ču⁴ntá^s servant.

Ay	ču ⁴ ntá	Mg	čunt ⁴ á
Hu	ču ⁴ ntá ^s	Lo	či ⁴ ntó
Ji	ču ⁴ ntá	Te	čintiá

Expected reflex: Ji či-. Te /i/ of /ia/ cluster unexplained. The tone reconstruction of the final syllable is partially indeterminate; it is either *^s or *^{s1}.

116. *ču⁴ú¹ (*čú⁴ animal 107) bedbug.

Ay	thiuči ⁴ ú	Hu	ču ⁴ ú ¹
Ja	ču ^s ú ²	Ix	ču ⁴ ú
Do	ču ⁴ ú	Te	či ⁴ ú

Expected reflex: Te číú; development of unstressed *u unexplained. Ay thiú- < *t^yhu³-(*) nominal 616-620.

117. *ču⁴ú⁴, *-yú bud.

Ay čú-	Ix našuú
Ja na ³ šu ² ú ³	Mg čú
Do našuú	Lo číá
Hu čú ⁴	Te yú

Expected reflexes: Lo číyí; Ay číú; Hu čú; development of unstressed *u unexplained. Ja, Do, Ix našu- < *na³šú¹ flower 248. The tone reconstruction is partially indeterminate; it is either *⁴ - ⁴, or *⁴ - ³.

118. *čú³ time, place.

Ay čóčú	Ix čúčú
Ja čó ² čú ²	Lo čí ² í ² čí ² <u>bad place</u>
Do čóčú	Te čóčú
Hu čóau ³ čú ³	

Ay, Ja, Do čó-, Hu čóau-, Ix čú-, Lo čí²í²-, Te čó- < *ča³ú³ bad 65. The tone reconstruction is partially indeterminate; it is either *³ or *³¹.

119. *čú³¹ appearance, similarity.

Hu čú ³	So čú ³²
J1 čú	

120. *haʔí name.

Mz heʔí	Ji heʔére <u>his name</u>
Ay haʔaí	So hí ²¹
Ja hʔaí ¹³	Ix haʔaí
Do hʔaí	Mg hʔí
Hu ha ³ ʔaí ¹	

PMS 70. Expected reflexes: Ay, Ji, Mg hʔaí; So, Ix haʔí; Mz /e/ unexplained. Gudschinsky reconstructed this etymon as *haʔmí but such reconstruction seems doubtful for PMaz though it may be correct for a more remote layer and may be related to *ʔmí named 701. The tone development in these reflexes is obscure.

121. *ha¹- person prefix (plural male referent, male speaker)

Ja há ¹ <u>male speaker</u>	Ix haciní <u>uncles with male</u>
	<u>with male referent</u> <u>speaker</u>
Do há	

Ix -ciní < *ci³ní³¹ uncle 34. The tone reconstruction is partially indeterminate; it is either *¹ or *²¹.

122. *ha³ʔí³ arrives.

Ay hehaʔá	Hu ha ³ ʔaí ³
Cq khuehʔá	Ix haʔaí
Ja hʔaí ²	Te há

PPn 190. Expected reflexes: Ay h²af, Cq -ha²f. Cq khue-unexplained; Te he < *he³hé³ finished 131.

123. *-há⁴ worm (intestinal).

Mz	yahá	Hu	ya ¹ há ⁴
Ay	yihá	So	ya ³ há ²⁴ (< Pre-So * ²¹ - ⁴)
Cq	yehé	Ix	yihá
Ja	ču ³ ka ¹ há ³	Lo	yohó
Do	čukahá	Te	yihá, ² ihá

Expected reflex: Cq -há. Ja, Do ču- < *ču⁴ animal 107.

The unstressed syllable is not reconstructed because of the wide variety of unexplained reflexes.

124. *ha⁴nkha¹₁ face.

Ay	kha ¹ ₁	Ji	kha ¹ ₁
Ja	ñ ³ khí ¹ (< Pre-Ja *ha ³ nkhi ¹)	So	nka ⁴ kha ¹ ₁ ²¹
		Ix	nkha ¹ ₁
Do	hankhi ¹ ₁ <u>3p.</u> , hankhiá <u>lp.</u>		
Hu	nkha ¹ ₁		

PPn 56. Hu /n/ of /nkh/ cluster unexplained; Ja, Do expected -a¹₁. So nka- < *nka³- subordinating conjunction 340.

125. *ha⁴ntaí³ around.

Ay	ntaí	So	nka ⁴ ntaí ³ , ntaí ³¹
Ja	ñ ³ daí ² (< Pre-Ja *ha ³ ndaí ²)	Ix	nkantaí
Do	handai	Lo	kontí
Hu	ha ⁴ ntaí ³	Te	nkathantí

Expected reflex: Lo -nté. So, Ix, Te nka- < *nka^s-
subordinating conjunction 340. The development of the
 voiced stop /d/ in Ja and Do is obscure since such develop-
 ment is expected only in unstressed syllables. It seems
 likely that in PMaz there was an additional syllable--perhaps
 a laryngeal (that was lost in all languages) interrupted the
 vowel cluster.

126. *ha⁴ská³ afterwards.

Mz	haská	Ji	ʔaskani
Ay	haská	So	ha ⁴ ská ³
Cq	nkaská	Ix	haská
Ja	ʔi ³ ská ²	Lo	koskó
Do	haská	Te	ʔiská, kiská
Hu	ha ⁴ ská ³		

PPn 15. Cq nka- < *nka^s- subordinating conjunction 340.

127. *há¹ there.

Mz	hahá	Ji	há
Ay	há	So	há ²¹
Cq	nkahá	Ix	há
Ja	há ²¹	Lo	hó
Do	há	Te	há
Hu	há ¹		

Ja expected reflex tone 1. Cq nka- < *nka^s-
subordinating conjunction 340.

128. *hau² two.

Mz hó

Ji hó

Ay hó

So hó¹

Cq hó

Ix hó

Ja hó²

Mg hó

Do hó

Lo hwí

Hu hau²

Te hú

PPn 352; PMS 71. Expected reflex: Ix hú.

129. *hé long.

Ay hé

Te hé

130. *hé² he, this.

Hu hé²

Te hé

PPn 182. The tone reconstruction is partially indeterminate; it is either *² or *³².

131. *he³hé³ finished.

Ay hehé	Ix hehé
Ja he ² hé ²	Lo yahá
Do hehé	Te hyehyé
Hu he ³ hé ³	

PPn 184. Expected reflex: Ix hi-. Te /y/ unexplained in /hy/ cluster; Lo expected reflex hahá. The tone reconstruction on the last syllable is partially indeterminate; it is either *³, *³¹, or *⁴².

132. *hé³ downward.

Ay hwi _h hé	Ix kihwahé
Ja si ¹ hé ² , hé ²	Lo wi _h há
Do si _h hé, hé	Te hweh _h é
Hu tʔa ³ hé ³	

Ja, Do si- unexplained; Hu tʔa³- unexplained.

Ix kihwa- < *wha³ʔá³ passes by 651; Ay hwi- < *hwí² goes 177; Lo wi- < *wí³- verb auxiliary 655; Te hwe- < *hwé³ use up 167. The tone reconstruction is partially indeterminate; it is either *³ or *³¹.

133. *hí^s you (sg.)

Ay hí

Hu hí^s

Ja hí²

Ix hí

Do hí

Te ʔahí

Te ʔa- perhaps < *ʔa^s- interrogative 691. The tone reconstruction is partially indeterminate; it is either *^s or *^{s1}.

134. *-hí^{4s} (*², *^s) among.

Cf. 162, 240, 313, 464, 582.

135. *hmá² black.

Mz hmá

So hmá¹

Ay hmá

Ix hmá

Cq hmá

Mg hmá

Ja hmá²

Lo hmó

Do hmá

Te hmá

Hu hmá²

PPn 190.

136. *hmí² thing.

Mz cahmyá	Ji cuhmí
Ja na ² hmí ² <u>no</u>	So nahmí
Do nahmí <u>no</u>	Mg cahmí
Hu cu ³ hmí ²	

PPn 197. Expected reflex: Mz -hmí. Mz, Mg ca-
perhaps < *cá³² if 6; Ja, Do, So na- < *na³-(*) nominal
241; Hu, Ji cu- perhaps < *cú² says 47. The tone
reconstruction is partially indeterminate; it is either
*² or *³².

137. *hmí³(*) sky.

Mz nkahmí	Hu nk ² a ³ hmí ³
Ay nk ² ahmí	Ji nkahmí
Ja ndhio ³ hmí ²	So ntyu ⁴ hmí ²¹
Do ndehmí	Ix nk ² ahmí

PPn 196; PMS 86. Expected reflexes: Mz nk²a-;
Ji ²nka-. Mz, Ji nka-, Ay, Hu, Ix nk²a- < *²nka³-
high 709; Ja ndhio³-,

Do nde-, So ntyu⁴- perhaps < nt^ya⁴hú⁴ stone 406.

138. *hmi⁴- person prefix (plural).

Ja hmi ⁴ <u>female speaker:</u>	Do hmi ⁴
<u>women, men; male</u>	Ix hmi ⁴ ciní <u>female speaker:</u>
<u>speaker: women</u>	<u>uncles</u>

Ix -cini < *ci³ni³¹ uncle 34.

139. *hná light (in weight).

Ay kihná	Ji hná
Cq nkihná	So kihná
Ja ki ² hná ²	Lo hnó
Do kihná	Te kihná

Expected reflex: Ay kihná; Cq nki- unexplained. Ay, Ja, Do, So, Te ki- perhaps < *ki³- completive aspect 206. The tone reconstruction is rather indeterminate; Ja tone 2 may < *2, *3, *31, *32, *42, or *43.

140. *hné falls (v.).

Cq khañenkí <u>fall</u> , tiwihné	Lo kihno
<u>to go down</u>	Te kawihné-

Ja k^wi²hné²

Expected reflexes: Cq -hneí; Lo -hná; Cq kha- unexplained. Lo ki- < *ki³- completive aspect 206; Te ka- < *ka²- completive aspect 172; Te -wi- < *wi³- verb auxiliary 655. The tone reconstruction is rather indeterminate; Ja tone 2 reflex may < *2, *3, *31, *32, *42, *43.

141. *hně⁴ smells.

Ay tikuhě <u>smell</u> , c'ohě <u>stink</u>	Ix c'ukuhě <u>smell</u> , č'uhě <u>stink</u>
Cq teirkuhñěí	Lo kohná <u>smell</u> , čohná <u>stink</u>
Ja ti ¹ ku ² hně ³ , hně ³ <u>smell</u> (n.), č'o ² hně ³ <u>stink</u>	Te tikihně- <u>smell</u> , čohně <u>stink</u>
Do tikuhně	
Hu ku ³ nhě ⁴ <u>smell</u> , č'au ³ nhě ⁴ <u>stink</u>	

Expected reflexes: Cq -hněí; Cq /r/ of /rk/ cluster unexplained. Ix c'u- probably continuative aspect; Ay, Ja, Do, Te ti- < *ti¹- continuative aspect 589; -ku- probably verb auxiliary; Ay, Ja č'o-, Hu č'au³-, Ix č'u-, Lo, Te čo- < *ča³ú³ bad 65.

142. *hní¹ blood.

Mz hí	So hí ²¹
Ay hí	Ix hí
Cq hní	Mg hí
Ja hní ¹	Lo hně
Do hní	Te hní
Hu nhí ¹	

PPn 213; PMS 78. Gudschinsky reconstructed *hñí¹ as the etymon of this set. There appears to be no basis for *ñ in this set; Longacre (1962:239) is correct in revising Gudschinsky's reconstruction to *hní.

143. *hnká⁴(*³) wing.

Mz lahnká	Hu hnká ³
Ay nká-	Ji hnká
Cq thiunká	So thyu ⁴ nká ⁴
Ja ncha ³ nká ³ , cha ³ nká ³	Ix nká
(< Pre-Ja *ncha ³ nká ³)	Mg nká
Do nchanká	Lo nkó
	Te nká

Mz la- unexplained. Ja, Do ncha- < *nchá³ hand 298;
 Cq thi- , So thyu- < *t^yhu³- nominal 616-620.

144. *hnkí³ day after tomorrow.

Ay nkíní	So nkí ³ re ⁴
Cq nkíní	Ix nkí
Ja nkí ² ni ³	Mg nkí
Hu hnkí ³	Lo kíli
Ji hnkí	Te nkí

PPn 211. Expected reflexes: Lo nke-; So -re⁴, Lo -li
 unexplained. Ay, Cq, Ja -ni_í < *-ní³ thing 311.

145. *hnku³thú² (*hnkú³ one 146) moment.

Ay nkuthú	So nku ³¹ thú ²
Ja nku ² thú ²	Ix nkuthú
Hu hnku ³ thú ²	Lo nkotó
Ji tuhnkuthú	

Expected reflexes: Lo nkithí; So tones ³ - ¹; Ay, Ix
 nasalization of /u/ unexplained.

146. *hnkú^{s1} one.

Mz hnkú	Ji hnkú
Ay nkú	So nkú ^{s2}
Cq nkú	Ix nkú
Ja nkú ² , kú ² (< Pre-Ja *nkú ²)	Mg nkú
Do nkú, kú (< Pre-Do *nkú)	Lo nkí
Hu hnkú ³	Te hnkú

PPn 212; PMS 74. Expected reflex: Te nkú.

Gudschinsky reconstructed the tone as *43 (PPn 212) although she states that from Hu ³: So ^{s2} she would reconstruct *^{s1} (1959:18).

147. *hntá we (incl.) sing.

Hu hntá^{s2}

PPn 208. Hu tone is unexplained.

148. *hntí¹ dirty.

Ay nɛ [?] ntí	Ji hntí
Ja ču ³ ntí ¹	So ntí ^{s1}
Do čuntí	Ix ntí
Hu hntí ¹	Mg ntí

PPn 209. Ay nɛ- unexplained. Ja, Do ču- < *čú⁴
animal 107.

149. *hnt^{yá}^s salty.

Mz ntyá	So ntyá ^s
Ay štiá	Ix ntiá
Cq ščiá	Mg ntiá
Ja ntiá ²	Lo nčó
Do ntiá	Te hnčá
Hu hnčá ^s	

PPn 210; PMS 73. Gudschinsky reconstructed *ši^shnt^{yá}^s but Ay, Cq /š/ are regular reflexes of *h in this environment and there is no evidence for Gudschinsky's *ši-.

150. *hnt^{yú}^s too long.

Ja ntiú ² , tiú ² (< Pre-Ja	Hu hnčú ^s
*ntiú ²)	Ix ntiú
Do ntiú, tiú (Pre-Do *ntiu)	

The tone reconstruction is partially indeterminate; it is either *^s or *³¹.

151. *hnú smooth.

Ay sinehú	Ix šiñehú
Ja ši ² ne ¹ hnú ²	Lo khihnú <u>scratches</u>
Do šinehnú	Te tikinihnú

Expected reflexes: Ay šinehnú; Ix -hnú; Te tikini- unexplained. Ay, Ja, Do šine-, Ix šiñe- < lard 519. The tone reconstruction is rather indeterminate; Ja tone 2 reflex may < *2, *3, *31, *32, *42, or *43.

152. *hnú² laugh.

Mz	tiwihnú	Hu	wi ³ hnú ²
Ay	tiwehú	So	mi ³ hnú ¹
Cq	tiweihnú	Ix	camahnú
Ja	ti ¹ wa ² hnú ²	Lo	wahnú
Do	tiwihnú	Te	tiwihnú

PPn 250. Expected reflexes: Ay, Te -hnu. Mz, Do, Hu, Te -wi- < *wi³- verb auxiliary 655; Ja, Lo wa- < *wa³- verb auxiliary 630; Ay we-, Cq wei- perhaps < *wé⁴² knows 653; Mz, Ay, Cq, Ja, Do, Te ti- < *ti¹- continuative aspect 589.

153. *hnú¹ owl.

Mz	čohnú	Ji	hnú
Ay	thiuhnú	So	hnú ²¹
Cq	hunú	Ix	hnú
Ja	khu ¹ hnú ¹	Mg	hnú
Do	čakhuhnú	Lo	hnú
Hu	hnú ¹	Te	hnú

Expected reflexes: Ay, Cq, Ja -hnú; Ja, Do khu-unexplained. Mz čo- perhaps < *čú⁴ animal 107; Ay thiuh- < *t^yhu³-(*) nominal 616-620; Do ča- < *ča¹- person prefix 55.

154. *hnú⁴ cornfield.

Mz	hnú	Ji	hnú
Ay	hnú	So	hnú ⁴
Cq	hnú	Ix	hnú
Ja	hnú ³	Mg	hnú
Do	hnú	Lo	hnú
Hu	hnú ⁴	Te	hnú

PPn 251; PMS 77.

155. *-hñá¹ woods, wild place.

Mz	hñá	Hu	hñá ¹
Ay	nkihñá	Ji	hñá
Cq	nkihñáčá	So	hñá ²¹
Ja	hñá ¹ čá ¹ <u>woods</u> , hñá ¹	Ix	nk [?] ihñásčá
	<u>brush</u>	Lo	kihñóčó
Do	hñáčá <u>woods</u>	Te	[?] ihñásčá

PPn 217; PMS 80. Ix /[?]/ unexplained. Gudschinsky reconstructed the etymon *[?]ihñá¹ but there is insufficient evidence for reconstruction of the first syllable. Cq, Ja, Do -čá, Ix, Te -sčá, Lo -čo < *hčá¹ old 454.

156. *-hñá³ sits, is.

Ay	sehñá	Hu	ti ¹ hñá ³
Cq	kiseihñá	Ix	khihñású <u>on</u>
Ja	si ¹ hñá ²	Lo	sahñó
Do	sihñá	Te	sihñá

Ay se-, Ja, Do, Te si-, Lo sa- unexplained. Cq ki- < *ki³- completive aspect 206; Ix khi- < *khi³- completive aspect 196; Ix -sú < *sú² on 489; Hu ti- < *ti¹- continuative aspect 589. The tone reconstruction is partially indeterminate; it is either *³ or *³¹.

157. *hñá⁴ chile pepper.

Mz	hñá	Ji	hñá
Ay	hñá	So	hñá ⁴
Cq	hñá	Ix	hñá
Ja	hñá ³	Mg	hñá
Do	hñá	Lo	hñó
Hu	nhíá ⁴	Te	hñá

PPn 218; PMS 79.

158. *hñý² dark.

Mz	hñý <u>dark</u> , tahñý <u>early morning</u>	Hu	nhíý ²
Ay	hñý	Ji	hñý
Cq	hñý	So	hñý
Ja	hiý ¹ <u>dark</u> , k ^w i ³ ta ³ hiý ¹ <u>early morning</u>	Ix	khamahñý <u>it became dark</u>
Do	hiý	Mg	hñý
		Lo	hñí
		Te	tahñý <u>early morning</u>

PMS 81. Ja expected reflex tone 2. Te ta- < *ta⁴- no longer 565. The tone reconstruction is partially indeterminate; it is either *² or *³².

159. *hú³ on the surface.

Mz	-hú	Hu	-hú ³
Ay	nahú <u>step-mother</u>	So	-hú
Cq	nyhú <u>step-mother</u>	Ix	nahú <u>step-mother</u>
Ja	na ³ hú ² <u>step-mother</u>	Lo	nəhú <u>step-mother</u>
Do	nahú <u>step-mother</u>	Te	nahú- <u>step-mother</u>

PPn 193. Cq ny- unexplained; expected na-. Ay, Ja, Do, Lo, Te na- < *ná⁴ mother 253. *na- + *-hú was compounded after the vowel changes and *h metathesis or loss in the *-ahu environment. The tone reconstruction is partially indeterminate; it is either *³ or *³¹.

160. *hwa³né³ sounds, resounds.

Mz	hwaní	So	fa ³ né ³
Ay	tihwané	Ix	khihwané
Cq	hwáneí	Mg	hwané
Ja	ti ¹ hwa ² né ²	Lo	hwaná
Do	tihwané	Te	tiwané
Hu	wha ³ né ³		

Expected reflexes: Ix kihwañé; Lo hwo-; Te tihwané. Ix khi- < *khi³- completive aspect 196; Ay, Ja, Do, Te ti- < *ti¹- continuative aspect 589.

161. *hwa^sʔa¹cé^s (*wha^sʔá¹ passes by 163) sighs.

Mz	tihwacyeʔó	So	hweceʔó
Ay	tihwacé-	Ix	kihwaiceʔú
Ja	ti ¹ hwei ¹ ce ² ʔú ²	Lo	kicaʔí
Do	tihweiceʔú	Te	tihwacé-
Hu	wha ^s ʔa ¹ cé ^s <u>breathe</u>		

PMS 83. Expected reflex: Mz, Ay, Ix hwaʔa-; So faʔa-; Ja Do -ei- unexplained. Mz, So -ʔó, Ja, Do, Ix -ʔú, Lo -ʔí < *ʔmý hurt 702; Mz, Ay, Ja, Do, Te ti- < *ti¹- continuative aspect 589; Ix, Lo ki- < *ki^s- completive aspect 206. The tone on the last syllable is partially indeterminate; it is either *^s or *^{s1}.

162. *hwa^sʔa¹hí^{4s} (*wha^sʔá¹ passes by 163, *hí^{4s} among 134) chooses.

Mz	tikhʔahí	Hu	wha ^s ʔa ¹ hí ^{4s}
Ay	tihwahí	So	hwa ^{s1} hí ^{s2}
Cq	našihí	Ix	cuhwahí
Ja	ti ¹ hwa ¹ hí ²	Lo	hwohí
Do	tihwahí		

PPn 181. Expected reflexes: Mz, Ay khaʔa-; So faʔa; Ix hwaʔa-; Lo hwoʔohé; development of *ʔ unexplained. Mz -khʔa- < *kha^sʔá¹ carries 181; Ix cu- continuative aspect; Cq na- < *ná^s- nominal 241; Mz, Ay, Ja, Do ti- < *ti¹- continuative aspect 589. Gudschinsky says (PPn 181) that So hwa^{s1}- is probably a combining form of Pre-So *fa^sʔá¹.

163. *hwa^sʔa^s passes by.

Ay	tihwaʔá <u>diarrhea</u>	Ji	hwaʔá <u>diarrhea</u>
Cq	hwaʔá <u>diarrhea</u>	So	fa ^s ʔá ^s <u>passes by, diarrhea</u>
Ja	ti ¹ hwʔá ^s <u>diarrhea</u>	Mg	hwʔá
Do	tihwʔá <u>diarrhea</u>	Lo	hwoʔó
Hu	wha ^s ʔá ^s <u>passes by,</u>	Te	tihwá
	<u>diarrhea</u>		

PPn 224. Ja tone 3 of 23 glide probably is an analogical development which indicates phrase final.

164. *-hwa^{s1} clear, clean.

Ay	ʔihwá	So	ntyu ^{s1} hwá ^{s2} <u>drinking water</u>
Cq	yuhwá	Ix	ntahwá <u>water</u>
Ja	ni ^s hwá ^s	Lo	ʔihwó
Do	ni ^s hwá	Te	ʔihwá
Hu	nta ¹ hwá ^s <u>clear water</u>		

PPn 223. Expected reflex: Lo -fó. Ay, Lo, Te ʔi-unexplained; Cq yu- unexplained. Ja, Do ni^s < *ni^s-(*)nominal 312. Gudschinsky reconstructed this set *yu^shwá^{s1}. Reflexes from Cq and So would seem to indicate this possibility; however, if this is *yu- then the daughter languages do not reveal the expected reflexes.

165. *hwaú¹(*)^s lonesome.

Ay	tihwó-	Hu	whaú ¹ <u>sad</u>
Ja	ti ¹ hó ^s	Ix	khihwú
Do	tihó	Te	tihú

Expected reflex: Ix kihwú. Ix khi- < *khi³- completive aspect 196; Ja, Do, Te loss of *w unexplained. Ay, Ja, Do, Te ti- < *ti¹- continuative aspect 589. Ja tone 3 of 23 glide probably developed by analogy to indicate phrase final.

166. *hwé² sleeps.

Mz	-hwí	Ji	hwé
Ay	kihvé	So	-fé ¹
Cq	hiñahvé	Ix	kihvé
Ja	ki ² hwé ²	Mg	hwé
Do	kihvé	Lo	kifá
Hu	-whé ²	Te	kihvé

PPn 221; PMS 82. Expected reflex: Lo -hwá. Cq hiñah- unexplained. Ay, Ja, Do, Ix, Lo, Te ki- < *ki³- completive aspect 206.

167. *hwé³ use up.

Mz	hwyé <u>finish off</u>	Ja	hwé ²
Ay	hwé	Hu	whé ³ <u>finish off</u>
Cq	kahvé	So	fé ³

PPn 184. Mz /y/ before /e/ unexplained; phonemically doubtful. Cq ka- < *ka²- completive aspect 172.

168. *-hwí² slowly.

Mz tahwí	Ji tahwí
Ay tahwítahwí	So tífí
Cq tahwítahwí	Mg tahwí
Ja hwi ² hwí ²	Lo fífí
Do tuhwítuhwí	Te tuhwí
Hu tu ⁴ hwí ² , tuí ⁴²	

PMS 2. Expected reflexes: Lo -fé; So -hwi. Mz, Ay, Cq, Ji, Mg ta- < *ta⁴- no longer 565; Do, Hu, Te tu- unexplained unless related to *ta⁴- 565 with a ~ u. The tone reconstruction is partially indeterminate; it is either *² or *³².

169. *hwí² goes.

Mz hwí	So hwe ¹¹
Ay tihwí	Ix c ² ahwí
Ja ti ¹ hwí ²	Lo kohwí
Do tihwí	Te hwí
Hu whí ²	

PPn 180. Expected reflex: So fí. Ay, Ja, Do ti- < *ti¹- continuative aspect 583; Ix c²a- probably continuative aspect. Lo ko- < *kau⁴- and 177 was compounded after *i > e when preceded by back vowels.

170. *hyú³ willing.

Ja yú ²³	So yú ³ -
Hu hyú ³	Mg yú

Ja tone 2 of 23 glide probably has developed by analogy and indicates phrase final. The tone reconstruction is partially indeterminate; it is either *³ or *³¹.

171. *ka¹si³ neck.

Ja ka¹si²

So ka³si² (< Pre-So *²¹ - ³)

Do kasí

Ix kasí

PPn 139.

172. *ka²- completive aspect.

Mz kamanká accustomed to

Hu ka²ma³hnkú³ it became one

Ay kamahé fulfilled

Ix kamantuhú fulfilled

Cq kamachú roasted

Lo yakomqntohó fulfilled

Ja ka³ma³ finished

Te kamantuhú fulfilled

Do kamanduhú fulfilled

The tone reconstruction is partially indeterminate; it is either *² or *²¹.

173. *ka³hwá³ curassow.

Ay nakahwá

Ix kahwá

Cq ninkahwá

Lo kohwó

Ja ka²hwá²

Te ntikahwá

Do kahwá

Expected reflexes: Cq nīkahwá; Lo -fó; Te nti- unexplained. Ay na- < *na³-(*) nominal 241. Cq nī- < *nī³-(*) nominal 312. The tone reconstruction on the last syllable is rather indeterminate; it is either *², *³, *³¹,

*⁴², or *⁴³.

174. *ka²ʔá² alone.

Mz	šutaká <u>person alone</u>	Ji	šʔikʔá <u>widower</u>
Ay	kʔá	Ix	kʔá
Cq	kaʔá	Lo	kʔʔ
Ja	kʔá ² <u>alone</u> ; šu ³ ta ³ kʔá ²	Te	kaʔá
	<u>person alone</u>		

Do kʔá, kaʔá

Hu kʔá²

PPn 61. Expected reflexes: Mz, Ay, Hu, Ji, Ix -kaʔá;
Te ká. Mz šuta- < *šu⁴tá⁴ person 561.

175. *ká⁴³ twenty.

Mz	ká	Ji	ká
Ay	ká	So	ká ³²
Cq	ká	Ix	ká
Ja	ká ²	Mg	ká
Do	ká	Lo	kʔ
Hu	ká ⁴³	Te	ká

PPn 57.

176. *kaí³ unwilling.

Ay	kwimakaíre	Hu	kaí ³ le ⁴
Ja	kaí ²	Mg	kéle
Do	kaí		

Ay -re, Hu, Mg -le pronominal reference; Ay kwi- < *nti²k^wí³ no 410; Ay -ma- < *má³ do 227. The tone

reconstruction is partially indeterminate; it is either *^s or *^{s1}.

177. *kaú⁴- and.

Ay kó	So kú
Cq kó	Ix kú
Ja kó ^s	Lo kó
Do kó	Te kú
Hu kaú ⁴	

PPn 58. Expected reflexes: So kó; Lo kí. Gudschinsky's reconstruction of *kahú (PPn 58) is possible, though unlikely; such an etymon requires a unique statement that *h is lost in all dialects except Ix in the environment *ka__u. The So form kho with which Gudschinsky included in this set is, in my judgment, misassigned. It should be included in set 189 together, with.

178. *ke^sʔé^s dead.

Mz mikʔyé	Ji sikʔé <u>he kills</u>
Ay kʔé	So si ^s kʔyé ^s (< Pre-So * ^{s1} - ^s)
Ja kʔé ^s	<u>he kills</u>
Do kʔé	Ix kʔé
Hu kʔé ^s <u>is dead</u> , si ¹ kʔé ^s	Mg sikʔié <u>he kills</u>
<u>he kills</u>	Lo kiaʔá
	Te ké

PPn 230; PMS 15. Expected reflexes: Ay ke²é; So -ke²é;
 Ix ke²é; Mg -k²é; Lo ka²á. Mz /y/ before /e/ unexplained,
 phonemic status doubtful; Mz m₂- unexplained. Hu, Ji, Ix, Mg
 si- probably < *-ci¹i¹- do 26.

179. *khá¹ skunk.

Mz	šikhá	Ji	šikhá
Ay	thiušikhá	So	khá ²¹
Cq	čikhá	Ix	khá
Ja	ču ³ khá ¹	Lo	čikhó
Do	čukhá	Te	šikhá
Hu	ši ¹ khá ¹		

PPn 78; PMS 45. Ay thiu- < *t^yhu³-(*) nominal 616-620;
 Cq či-, Ja, Do ču- < *čú⁴ animal 107; Mz, Ay, Hu, Ji, Lo, Te
 ši- < *ši³- connective 518. PPn 78 gives So form as kah²¹,
 but this is a typographical transposition since PMS 45 gives
 it as kha²¹; the latter is the expected reflex.

180. *khá¹ across.

Ay	nkuwahá	Ix	nkuwakhá
Cq	kuankeikhá	Lo	ko ² okhó
Ja	nga ² wa ² khá ¹ , ga ² wa ² khá ¹		

(< Pre-Ja *nga²wa²khá¹)

Expected reflexes: Ay -kha; Cq nasalized /a/ unexplained;
 Lo ko²o- unexplained; Cq kuankei- unexplained. Ay, Ja, Ix
 -wa- < *wa³- verb auxiliary 630; Ay, Ix nku- < *hnkú³¹ one

146; Ja nka- < *nka³- subordinating conjunction 340. The tone reconstruction is partially indeterminate; it is either *¹ or *²¹.

181. *kha³ʔá¹(*³ - ³) carries, fetches.

Ay	tihwikhaʔá	So	ki ³ kha ² ʔá ³²	<u>carried</u> ,
Cq	khuihaʔačá		ʔwa ³ kʔá ³	<u>carry</u>
Ja	ti ¹ hwi ² khʔá ¹	to go get	Ix	kikhaʔá <u>fetches</u>
Do	tihwikhʔá		Lo	kikhoʔó <u>fetches</u>
Hu	kha ³ ʔá ¹		Te	kikhá <u>grabs</u>

PPn 59. Expected reflex: Cq -khaʔa-; So ʔwa- unexplained. Ay, Ja, Do, Ix -hwi- < *hwi² goes 177; Ix, Lo, Te ki- < *ki³- completive aspect 169; Cq khui- future aspect; Ay, Do ti- < *ti¹- continuative aspect 589.

182. *kha⁴má⁴, *ha⁴má⁴ root.

Mz	hamá	Ji	hamá
Ay	hamá	So	hamáyá
Cq	thiamá	Ix	hamá
Ja	kha ³ ma ³ yá ¹	Mg	hamá
Do	khamá	Lo	homó
Hu	ha ⁴ má ⁴	Te	hamáyá

PPn 231. Cq thia- unexplained, perhaps < *t^yha³ shoulder 610. Ja, Do, Te -ya < *yá¹ wood 662.

183. *kha⁴ntú⁴, *ku⁴ntú⁴, *ha⁴ntú⁴ gourd (for carrying water).

Ay	kuntú	Hu	ku ⁴ ntú ⁴
Cq	kuntú	Ix	khantú
Ja	ñ ³ tú ³ (< Pre-Ja *ha ³ ntú ³)	Lo	kítí
Do	hantú	Te	ntikatú

Expected reflex: Te ntikantiú.

184. *kha⁴nt^yhau¹, *ha⁴nthau¹ step (n.)

Ja	ñ ³ thió ¹ (< Pre-Ja	Do	hanthió
	*ha ³ nthió ¹)	Ix	khithiú

Expected reflex: Ix khanthiú. The tone reconstruction is partially indeterminate; it is either *¹ or *²¹.

185. *kha⁴ʔí²¹ different.

Ay	khʔaí	So	kha ⁴ ʔí ³²
Cq	khái	Ix	khaʔaí
Ja	khʔaí ²¹	Mg	khʔé
Do	khʔaí	Lo	kheʔé
Hu	kha ⁴ ʔaí ¹	Te	khái

Expected reflexes: Ay, Cq, Ix khaʔí; Mg khʔaí.

186. *kha⁴ʔntá³, *ha⁴ʔntá³ daughter-in-law.

Ay	khaʔntá	So	kha ⁴ ntá ³
Cq	haʔntá-	Ix	khantá
Ja	ñ ³ tá ² (< Pre-Ja *ha ³ ntá ²)	Mg	hantʔá
Do	hantá-	Lo	khoʔntó
Hu	ha ⁴ ʔntá ³	Te	khantá-

PPn 263.

187. *khá¹(*⁴) fights.

Mz	nčakhá	Hu	ti ¹ khá ¹
Ay	nčakhá <u>anger</u>	Ji	thiukhá
Cq	tikhá	Ix	cakhá
Ja	ti ¹ khá ^{3 2}	Mg	cakhá
Do	tikhá	Te	tikhá

Mz, Ay nča- unexplained; Ji thi- unexplained; Ja ^{3 2} glide unexplained. Cq, Ja, Do, Hu, Te ti- < *ti¹- continuative aspect 589; Ix, Mg ca- may also be continuative aspect.

188. *khai¹nká³ very.

Ay	hainká	Ix	khenká
Hu	khai ¹ nká ³	Mg	khinká
So	khainká		

Expected reflexes: Ay khainká; Ix khainká; Mg nasalized /i/ unexplained, perhaps < *khí^{3 1} far 202.

189. *khaú³ together, with.

Ay	tikikhó <u>fits together</u>	So	khó <u>with</u>
Ja	s ^ʔ é ² khó ² <u>fits together</u>	Ix	sikhú <u>fits together</u>
Do	s ^ʔ ékhó <u>fits together</u>	Lo	sakhí ^ʔ ó <u>fits together</u>
Hu	s ^ʔ é ³ khaú ³ <u>fits together</u>	Te	tikhú <u>fits together</u>

Lo -^ʔo unexplained; Ay -ki- unexplained. Ja, Do, Hu s^ʔé-, Lo sa-, and perhaps Ix si- < *sé³é³ enters 463;

Ay, Te ti- < *ti¹- continuative aspect 589. The tone reconstruction is partially indeterminate; it may be either *^s or *^{s1}.

190. *khé^s not yet.

Ay	khé	Ji	khé
Cq	khé	So	khyé
Ja	kh'é ^{s2}	Ix	khé
Do	kh'é	Lo	khiá
Hu	khé ^s	Te	khé

Cq and Ja /ʔ/ unexplained; So /y/ unexplained; Ja tone 3 of 32 glide is unexplained. The tone reconstruction is partially indeterminate; it is either *^s or *^{s1}.

191. *khé spins (thread).

Ay	tikhé	Ji	nikhé <u>cloth</u>
Cq	tikhéí	Lo	nikhiá <u>cloth</u>
Ja	ti ¹ khé ^{s2}	Te	nikhé <u>cloth</u>
Do	tikhé		

Ji, Te oral /e/ and Lo oral /ia/ unexplained; Cq /i/ of /eí/ cluster unexplained. Ji, Lo, Te ni₂- < *ni₂^s-(*⁴) nominal 312; Ay, Cq, Ja, Do ti- < *ti¹- continuative aspect 589. The tone reconstruction is rather indeterminate; Ja tone 2 reflex may < *², *^s, *^{s1}, *^{s2}, *⁴², or *⁴³.

192. *khé³ retches, cramps, pulls.

Ay tikhé	So khənta ² é <u>breath</u>
Ja khé ²	Ix khé
Do khé	Lo khiá
Hu khé ³ htá ³ <u>breath</u>	Te khé

PPn 76. Ay ti- < *ti¹- continuative aspect 589; Hu htá³, So -nta²é < *khé³hntá³ breathes 193. The tone reconstruction is partially indeterminate; it is either *³ or *³¹.

193. *khé³stá³, *khé³ntá³ (*khé³ pulls 192) breathes.

Ay tikhəntá	Hu khé ³ htá ³
Cq kahweintána	So khənta ² é
Ja ti ¹ khé ² ntá ² <u>he breathes</u>	Ix cikhəntá
Do tikhəntá	Te tikhəntá-

So -²e unexplained. Ix ci- probably continuative aspect; Ay, Ja, Do, Te ti- < *ti¹- continuative aspect 589; Cq -hwei- < *hwé³ use up 167. This etymon appears to be related to *htá³, *ntá³ tired 481. The tone reconstruction on the last syllable is partially indeterminate; it is either *³, *³¹, or *⁴².

194. *khé^{4s} smokes (tobacco).

Mz	tikyé	Hu	khé ^{4s}
Ay	tikhé	Ji	tikhé
Cq	tikhé	So	khyé ^{s2}
Ja	khé ²	Lo	khiašš
Do	khé	Te	tikhé

Expected reflexes: Mz -khé; Cq -khé₁; So /y/
unexplained. Mz, Ay, Cq, Ji, Te ti- < *ti¹- continuative
aspect 589; Lo -šš < *šú¹(*⁴) foam 551.

195. *khi¹ʔá¹ (*^s - ^s) when.

Mz	khyá	Hu	kʔiá ¹
Ay	khiʔá-	Ji	khé
Cq	khué	Ix	khiʔáni
Ja	khʔiá ²	Mg	kʔiá
Do	khʔiá-	Te	khé-

Expected reflexes: Mz khʔá; Cq, Ji /e/ unexplained;
Te khiá. Ix -ni < *-ni³ thing 311.

196. *khi^s- completive aspect.

Mz	tikhintayá <u>cries</u>	So	khi ^s ntá ^{s2} <u>barks</u>
Ay	tikhiʔntá <u>cries</u>	Ix	cʔakhintá <u>cries</u>
Ja	ti ¹ khi ² ntá ¹ <u>cries, barks</u>	Mg	sikhintʔá <u>cries</u>
Do	tikhintá <u>cries, barks</u>	Lo	khiʔntó <u>cries</u>
Hu	khi ^s ʔntá ¹ <u>cries</u>	Te	khintayá <u>cries</u>
Ji	khiʔntá <u>cries</u>		

The specific function of this morpheme, although glossed as completive aspect, is questionable; perhaps it should be treated as a verb auxiliary.

197. *khi³ntá¹ (*khi³- completive aspect 196) cries.

Mz	tikhintayá	Ji	khi ³ ntá
Ay	tikhi ³ ntá	So	khi ³ ntá ^{s2} <u>barks</u>
Cq	tihi ³ ntá	Ix	c ³ akhintá
Ja	ti ¹ khi ² ntá ¹ <u>cries</u> , <u>barks</u>	Mg	sikhint ³ á
Do	tikhintá <u>cries</u> , <u>barks</u>	Lo	khi ³ ntó
Hu	khi ³ ntá ¹	Te	khintayá

Expected reflex: Cq khi³ntá. Mg si- < *-ci¹ɔi¹- do 26; Ix c³a- probably continuative aspect; Mz -yá perhaps < *yá inside 660; Mz, Ay, Cq, Ja, Do ti- < *ti¹- continuative aspect 589. So expected tone reflexes ³ - ²¹.

198. *khi³nt^{yá}á¹ (*khi³- completive aspect 196) famine.

Ay	khintíá	Ix	khintíá
Cq	hintíá	Mg	khintíá
Ja	khi ² ntíá ¹	Lo	khi ³ ntó
Do	khintíá	Te	khinčá
Hu	khi ³ nčá ¹		

Expected reflexes: Cq khintíá; Lo khinčó.

199. *khi^sʔí^s appearance of.

Mz	khí	Ix	chakhiʔí <u>pretty person</u>
Ay	khiʔí, khí	Mg	khʔí
Cq	hiʔí	Lo	khiʔí
Hu	khi ^s ʔí ^s	Te	khí

PMS 13. Expected reflexes: Mz, Hu, Ix khʔí; Cq khiʔí.
Ix cha- < *-chua^s happiness 227. The tone reconstruction on the last syllable is partially indeterminate; it is either *^s, *^{s1}, or *^{s2}.

200. *khi^sʔñý^s (*khi^s- completive aspect 196) barks,
howls.

Ay	thiʔñý	Lo	khíʔñí
Hu	khi ^s ʔñý ^s	Te	khiñý
Mg	khiñʔý		

PMS 14. Expected reflex: Lo khiʔñí; Ay /th/ cluster unexplained. The tone reconstruction on the last syllable is partially indeterminate; it is either *^s, *^{s1}, or *^{s2}.

201. *khi⁴ʔnká^s, *či⁴ʔnké¹ (*-ʔnká^s high 709) lame.

Ay	tikhinkʔá	Ji	čiʔnké
Ja	ti ¹ khe ^s nkʔá ^s	Ix	cʔakhinkʔá
Do	tikhankʔá	Mg	činkʔé
Hu	či ⁴ ʔnké ¹		

Expected reflexes: Hu -nkʔé; Ja, Do -khi-. Ay, Ja, Do ti- < *ti¹- continuative aspect 589; Ix cʔa- continuative aspect.

202. *khí³¹ far.

Mz	khí	Ji	khí
Ay	khí	So	khí ³²
Cq	khí	Ix	khí
Ja	khí ²	Mg	khí
Do	khí	Lo	khí
Hu	khí ³	Te	khí

PPn 75.

203. *khu³yá³ sews.

Mz	tikhuyá <u>sews, weaves</u>	Hu	khú ³ yá ³
Ay	tikhoyá	So	hú ³ há ²³
Cq	tihwuyá	Ix	c ² ukhuyá <u>weaves</u>
Ja	ti ¹ khu ² yá ²	Te	tikuñá
Do	tikhuyá		

Expected reflexes: Ay -khu-; So khu³há³, Te khuyá; Cq /hw/ unexplained; Mz, Hu, So nasalized /y/ unexplained. Ix c²u- probably continuative aspect; Mz, Ay, Cq, Ja, Do, ti- < *ti¹- continuative aspect 589.

204. *ki¹cí⁴ (*4 - 4) ticklish.

Ay	kící-	Hu	ki ¹ cí ⁴
Cq	kící	Ix	kíce
Ja	ki ³ cí ³	Mg	kíc ² í
Do	kící	Lo	kící

Expected reflex: Ix -cí; Mg, Lo nasalization of /í/ unexplained; Mg /²/ unexplained.

205. *ki²ʒí⁴(*¹ - ⁴) straight, right (adj.).

Mz	kiʒí	Hu	ki ² ʒí ⁴
Ay	kiʒí	So	ki ³ ʒí ²⁴ (< Pre-So * ²¹ - ⁴)
Cq	kiʒí	Ix	kiʒí
Ja	ki ² ʒí ³	Lo	kiʒí
Do	kiʒí	Te	kiʒí

Gudschinsky (1959:20) reconstructs the tone as *⁴³ - ⁴, but So ³ - ²⁴ can come from Pre-So *²¹ - ⁴ as well as Pre-So *³² - ⁴ which Gudschinsky chooses in her reconstruction. It seems to me more likely that the basic form was *²¹ - ⁴ which then permits the reconstruction of a single tone rather than a cluster on the weakly stressed syllable.

206. *ki³- completive aspect.

cf. 7, 12, 42, 78, 516, 679.

207. *ki³hntá² everywhere.

Hu	nka ³ ki ³ hntá ²	Te	nkakihntá
Mg	nkakintá		

Hu, Mg, Te nka- < *nka³- subordinating conjunction 241.

208. *ki⁴čá⁴ metal.

Mz	kičá	So	ki ⁴ čá ⁴
Ay	kičá	Ix	kičá
Cq	kičá	Mg	kičá
Ja	ki ³ čá ³	Lo	kičó
Do	kičá	Te	kičíá
Hu	ki ⁴ čá ⁴		

PPn 118.

209. *ki⁴šú⁴ charcoal.

Ay	kišú	So	ki ⁴ šú ⁴
Cq	kišú	Ix	kišú
Ja	ki ³ šú ³	Mg	kišú
Do	kišú	Lo	kišú
Hu	ki ⁴ šú ⁴	Te	kišú
Ji	kišú		

210. *ku¹tú¹ toad.

Ay	nakutú	So	ku ²¹ tú ²¹
Ja	ča ¹ ku ¹ tú ¹	Ix	kutú
Do	čakutú	Lo	kítí
Hu	ku ¹ tú ¹	Te	kutú
Ji	katú		

PPn 25. Ix nasalization of /u/ unexplained; Ji /a/ unexplained. Ja, Do ča- < *ča¹- person prefix 55.

211. *ku³ní⁴³ monkey.

Mz	kuní	Ji	kuní
Ay	čakuní	So	ku ³ ní ³²
Ja	ča ¹ ku ² ní ²	Ix	kuní
Do	čakuní	Mg	kuní
Hu	ku ³ ní ⁴³	Lo	kíné

Ay, Ja, Do ča- < *ča¹- person prefix 55.

212. *ku^stú^s truncated, limb (of person) cut off.

Ay	kutú	Ix	kutú
Ja	ku ^s tú ^s	Te	ntikutuchá <u>short hair</u>
Hu	ku ^s tú ^s <u>limb cut off</u> ,		
	<u>short hair</u>		

Ix nasalization of /y/ unexplained. Te cha- < *nchá⁴ hair 288; Te nti- < *ntí¹ little 714. The tone reconstruction on the last syllable is partially indeterminate; it is either *^s, *^{s1}, or *⁴².

213. *ku^sntá^s guards.

Ay	tiku ^s ntá	Ix	cukuntá
Ja	ti ¹ ku ^s ntá ^s	Mg	kunt ^s á
Do	tikuntá	Lo	ki ^s ntó
Hu	ku ^s ntá ^s <u>guards animals</u>		

PPn 262. Ix cu- probably continuative aspect; Ay, Ja, Do ti- < *ti¹- continuative aspect 589. The tone reconstruction on the last syllable is partially indeterminate; it is either *^s, *^{s1}, or *⁴².

214. *kú^s alive, awake.

Ay	tihnəkú	Ji	-kú
Cq	kahwekakú	Ix	tikú
Ja	ti ¹ kú ^s	Lo	tinəkí
Do	tikú	Te	-kú, tihnəkú
Hu	-kú ^s , tihnəkú ^s		

Cq kahweka- unexplained. Ay, Hu, Te -hna-, perhaps
 Lo -nq- < *-hñá³ is 156; Ay, Ja, Do, Hu, Ix, Lo, Te ti- <
 *ti¹- continuative aspect 589. The tone reconstruction is
 partially indeterminate; it is either *³ or *³¹.

215. *k^we⁴ní³ (*-ní³ thing 311) look.

Hu kue⁴ní³, ne³ní³ Ji kuiní

PPn 244. Expected reflex: Ji kuení. The reconstruction
 of tone on the final syllable is partially indeterminate; it
 is either *³ or *³¹.

216. *k^whá⁴ abstract thing.

Mz khwathú <u>gift</u>	Ji khuathó <u>gift</u>
Ay k ^w hačá <u>war</u>	So khwa ⁴ ki ² ší ⁴ <u>law</u>
Cq khuačá <u>war</u>	Ix khuasčá <u>war</u>
Ja k ^w há ³ <u>thing</u> , k ^w ha ³ čá ¹	Mg k ^w haweyá <u>death</u>
<u>war</u>	Lo k ^w hočq <u>war</u>
Do k ^w hačá <u>war</u>	Te khuasčá <u>war</u> ,
Hu khuá ⁴ abstract thing,	khuakiší <u>truth</u>
khua ⁴ wi ³ yá ³ <u>death</u>	

PPn 86; PMS 17.

217. *k^wha⁴chua³, *k^wha⁴chau³ happiness.

Ay k ^w hachá	Ix khuachúa
Ja k ^w ha ³ chó ²	Mg k ^w hachá
Do chó <u>he likes</u>	Lo khochó
Hu khua ⁴ chua ³ <u>joy</u>	Te khuachá
Ji machá <u>he is happy</u>	

A.218

Lo expected reflex k^Who-. Ay, Ja, Mg k^Wha-, Hu, Ix, Te
 khua- < *k^Whá⁴ abstract thing 216; Ji ma- < *má³ able 227.
 The *-chau³ etymon is reconstructed from Ja and Do reflexes.
 The reconstruction of tone on the last syllable is partially
 indeterminate; it is either *³ or *³¹.

218. *k^Wa⁴há⁴, *nk^Wa⁴há⁴ puts on.

Ay	k ^W ahá	So	kwa ⁴ há ⁴ <u>carries</u>
Ja	ng ^W há ³	Ix	kuahá
Do	ng ^W ahá		

219. *k^Wha⁴ki²śí⁴ (*k^Whá⁴ abstract thing 216, *ki²śí⁴
straight 205) truth.

Ay	šik ^W hakiśí	So	khwa ⁴ ki ³ śí ²⁴ (< Pre-So
Cq	khuakiśí		* ⁴ - ²¹ - ⁴)
Ja	k ^W ha ³ ki ² śí ³	Ix	khuakiśí
Do	k ^W hakiśí	Lo	k ^W hokiśí
Hu	khua ⁴ ki ² śí ⁴	Te	khuakiśí

220. *k^Wha⁴sčá¹ (*k^Whá⁴ abstract thing 216) war.

Ay	k ^W hačá	Ix	khuasčá
Cq	khuačá	Mg	k ^W ačá
Ja	k ^W ha ³ čá ¹	Lo	k ^W hočá
Do	k ^W hačá	Te	khuasčá
Hu	khua ⁴ hčá ¹		

221. *k^wha⁴te¹ʃu³má³ (*k^whá⁴ abstract thing 216) law,
order, ruler.

Ay	k ^w hatešumá	Ix	khuatešumá
Cq	skantéšuma	Mg	k ^w hatešomá
Ja	k ^w ha ³ te ¹ ʃu ² má ²	Lo	wotašimó
Do	k ^w hatešumá	Te	khuatešumá
Hu	khua ⁴ te ¹ ʃu ³ má ³		

Expected reflexes: Cq -tei-; Ix -ti-; Mg -šu-; Lo k^whotašimó. Tone is partially indeterminate on the last syllable; it is either *³ or *^{s1}.

222. *k^wha⁴thau² (*k^whá⁴ abstract thing 216, *thau² loves 576) gift.

Mz	khwathó	So	thu ¹ hí ¹ re ⁴ <u>he gives</u>
Ay	k ^w hathó	Ix	khua [?] athú
Cq	kuathó	Mg	k ^w hathó
Hu	khua ⁴ thau ²	Lo	khotí
Ji	khuathó	Te	khuathú

PPn 18. Expected reflexes: Cq khuathó; So tho-; Lo k^whothí; Ix -[?]a- unexplained.

223. *k^whé finish off.

Ja	he ² k ^w é ² <u>finish off</u>	Hu	khue ² ^{s1} <u>he takes</u>
Do	hek ^w hé		

Ja, Do he- finished; Hu tone is unexplained. The reconstruction of the etymon is rather indeterminate from

a Ja tone 2 reflex; it may be derived from *2, *3, *31, *32, *42, or *43.

224. *k^Whí³ 3p., *k^Whí¹ 1p. will go.

Ay	k ^W hí ¹	I will go	Hu	khui ¹ ³	I will go
Cq	khue		So	khwe ¹ ¹	
Ja	he ² k ^W hí ²	he went, k ^W hí ¹	Ix	khui	
	I will go		Te	khui ¹ ¹	
Do	k ^W hí				

PPn 180. So expected reflex khwa¹²¹; Hu tone ³ of ¹³ glide probably indicates phrase final; the tone reconstruction is quite indeterminate.

225. *k^Wí³ this, he.

Mz	kwí	Do	k ^W í
Ay	k ^W í	Hu	kuí ³
Cq	wi ¹ ¹	Ix	kuí
Ja	k ^W í ²		

PMS 16. Cq form unexplained. Tone reconstruction is partially indeterminate; it is either *³ or *³¹.

226. *k^Wi³su³ʔwí⁴ (*k^Wí³ this 225) this.

Ay	k ^W ikiʔwí	Ix	kui ³ suʔwí
Ja	k ^W i ² su ² ʔwí ³	Lo	hawí
Do	k ^W i ³ suʔwí	Te	ti ³ suwé
Hu	kuí ³ <u>this</u> (previously referred to)		

Expected reflexes: Lo -wé; Te -wí; Lo ha- unexplained;
Te ti- unexplained.

227. *má³ do, able, make.

Mz	ʔakwimá-	Hu	má ³ -
Ay	má-	So	ku ³ má ¹ -
Cq	má-	Ix	má
Ja	má ²³	Lo	mó
Do	má-	Te	má-

Mz ʔa- < *ʔa³- interrogative 691; Mz -kwi- < *k^{wí} he
225; So ku- perhaps < *ka²- completive aspect 172. Ja tone
3 of 23 glide probably developed by analogy to indicate
phrase final. So tone unexplained.

228. *ma³haí² (*má³ able 227) no.

Mz	nahí	Mg	mahí
Cq	mahí <u>it can't be done</u>	Lo	mahé
Hu	maí ³ , ma ³ haí ²	Te	mahé
Ji	mahaí		

Expected reflexes: Mz mahé; Cq -heí; Mg mé; Te -hí.

229. *ma³ché¹ (*³ - ³) (*má³ able 227) needs, uses.

Mz	tima ³ chéna <u>I need</u>	So	ché ²¹
Ay	ma ³ ché	Ix	ché
Ja	ma ² ché ²	Mg	ma ³ ché
Do	ma ³ ché	Lo	móchá-
Hu	ma ³ ché ²¹ <u>needs</u>	Te	ma ³ ché
Ji	ma ³ ché <u>needs</u>		

PMS 33. Ay oral /e/ and Lo oral /a/ unexplained. Mz
ti- < *ti¹- continuative aspect 589.

230. *ma³chi¹nthai² (*ma³ able 227, *chi¹ expensive 76,
*nthai² over the edge 368) fine, tax.

Ay	ma ³ chinthaí	Hu	ma ³ chi ¹ nthai ²
Cq	ma ³ chituhú	Ix	ma ³ chithé
Ja	ma ² chi ¹ nthai ²	Lo	mo ³ chithí
Do	kama ³ chinthaí	Te	khua ³ chití

Expected reflexes: Ix ma³chinthaí; Lo -thé; Te -chithí.
Cq -tuhú perhaps < *ntu³hú¹ long 397 but Cq nasalized /u/ is
unexplained; Te khua- < *k^whá⁴ abstract thing 216.

231. *ma³ci³né³ (*ma³ able 227) edible.

Ay	ma ³ ciné	Ix	ma ³ ciné
Cq	kuma ³ siné	Mg	ma ³ ciné
Ja	ma ² ci ² né ²	Lo	mo ³ ciná
Do	ma ³ ciné	Te	ma ³ ciné
Hu	ma ³ ci ³ né ³		

Expected reflexes: Cq -ciné³; Ix -ciñé³. The tone on
the last syllable is partially indeterminate; it is either
*³ or *³¹.

232. *ma³nce³hé⁴³, *ma³ce³hé⁴³ (*má³ able 227) visible.

Ay timancehé	So ce ³ hé ³²
Cq macehé	Ix kamacehé
Ja njhé ²	Mg macé
Do timanjehé	Lo ʔamočhicaḥá
Hu ma ³ cé ³	Te timacehé-

Expected reflexes: Cq -ceiḥéí; Ix -cihé; Ay, Cq, Do oral final /e/ unexplained. Lo ʔa- < *ʔa³- interrogative 691; Ay, Do, Te ti- < *ti¹- continuative aspect 589; Ix ka- < *ka²- completive aspect 172. Hu expected tone reflexes 3 - 43.

233. *ma³nká³ (*má³ able 227) accustomed to.

Mz kamanká	Hu ma ³ nká ³ li ⁴
Ay kamanká	Ix kamanká
Cq kamanká-	Mg manká
Ja ti ¹ ma ² nká ²³	Lo yakhonká
Do kamanká	

Lo yakho- unexplained. Mz, Ay, Cq, Do, Ix ka- < *ka²- completive aspect 172; Ja ti- < *ti¹- continuative aspect 589. Ja tone ³ of ²³ glide has probably developed by analogy to indicate phrase final. The tone reconstruction on the last syllable is partially indeterminate; it is *³, *³¹, or *⁴².

234. *ma³nkhaí¹ (*³ - ³) (*ma³ able 227) understand.

Mz makhí-	Ji makháí-
Ay makhí	Ix mankhí
Ja ma ² nkhi ^{2s}	Mg makhí-
Do mankhí	Lo mōkhí-
Hu ma ³ khaí ¹	Te timakhí

Expected reflexes: Mz -khé-; Ay -khaí; Ja, Do -aí; Ix -nkhaí; Mg, Lo -ē. Ja tone ³ of ^{2s} glide probably an analogical development indicating phrase final.

235. *ma³ntu⁴hú¹ (*ma³ able 227) fulfill.

Ja ka ² ma ² ndhú ³¹ <u>becomes</u>	Ix kamantuhú
<u>fulfilled</u>	Lo yakomqntohó
Do kamanduhú	Te kamantuhú

Expected reflex: Lo komqntihí; Lo ya- unexplained.
Ja, Do, Ix, Te ka-, Lo ko- < *ka²- completive aspect 172.

236. *ma³ñā⁴há³ (*ma³ able 227) gathered together.

Ja ka ² ma ² ñhá ³²	Lo komqñqohó
Do kamaññahá	Te kamaññahá
Hu ma ³ ñā ⁴³	

Ja, Do, Te ka-, Lo ko- < *ka²- completive aspect 172.
Te *ñ word initial > yV, then > ?i.

237. *ma³sé³, *wa³sé³ half.

Mz	wasé	Hu	wa ³ sé ³
Ay	masé	So	wa ³ sé ³
Cq	waseí	Ix	masé
Ja	ma ² sé ²	Lo	wosá
Do	masé	Te	ʔusé

238. *maú² clears land.

Ay	thimó	Hu	maú ³ sú ²
Cq	timú	Ix	cumú
Ja	ti ¹ mó ²	Lo	timí:sí
Do	timó	Te	timúsú

Expected reflexes: Ay, Cq timó. Hu, Te -sú, Lo -sí
 < *sú² level 489; Cq, Ja, Do, Lo, Te ti- < *ti¹- continuative aspect 589; Ix cu- probably continuative aspect. The tone reconstruction is partially indeterminate; it is either *² or *³².

239. *mē³hé² wants.

Mz	míhé	Ji	mé
Ay	mēhé-	So	mē ³ hé ¹
Cq	mēi:heí	Ix	míhé
Ja	mhé ²	Mg	mé
Do	mēhé	Lo	mahá-
Hu	mé ³	Te	mēhé

PMS 53. Expected reflex: Ji məhé; Ay, Cq, Do oral /e/,
Lo oral /a/ in *-hé³ syllable unexplained. Hu expected tone
reflex ⁴³.

240. *m_i³h_i² upgrade, slope up.

Hu	m _i ⁴³	Ix	m _i h _i ¹
Ji	m _i h _i ¹	Lo	m _i h _i ¹
So	m _i ³ h _i ³	Te	m _i h _i ¹

So expected reflex ³ - ¹.

241. *n_a³-(*) nominal.

Cf. 242 -247, etc.

242. *n_a³hñá¹, *n_i³hñá¹ (*n_a³- nominal 241, *n_i³ -
nominal 312) corn cob.

Mz	nəhñá	Ji	nəhná
Ay	nəhñá	So	n _a ³ hñá ²¹
Cq	nəhñá	Ix	n _i hñá
Ja	n _a ² hñá ¹	Lo	nəhnó
Do	nəhñá	Te	nəhná
Hu	n _a ³ hná ¹		

PPn 216; PMS 60. Expected reflexes: Hu, Ji, Lo, Te
-hñV.

243. *nā³hñý³, *nī³hñý³ (*nā³- nominal 241, *nī³-
nominal 312) cloth, clothes.

Ay nāhñýnā	Ji nāhñý
Ja nā ² hiý ²	So nā ³ hñý ³
Do nāhiý	Ix nīhñý
Hu nā ³ hñý ³	

244. *nā³nkí³ (*nā- nominal 241) land, country.

Mz nānkí <u>earth</u> , nki- <u>under</u>	So nā ³ nkí ³ <u>earth</u> , khi ² nkí ³
Ay nānkí	<u>under</u>
Cq nānkí	Ix nānkí
Ja nā ² nkí ²	Lo nōnké
Do nānkí	Te nānkí <u>earth</u> , ʔinkí
Hu nā ³ nkí ³ <u>earth</u> , <u>floor</u> ,	<u>under</u>
nkí ³ <u>under</u>	

PPn 275.

245. *nā³nkí³ (*nā³- nominal 241) low.

Ay nānkí	Hu nā ³ nkí ³ <u>below</u>
Cq nānkí	Ji nkí <u>under</u>
Ja nā ² nkí ²	Lo nōnké
Do nānkí	Te ʔankí <u>below</u>

Te /ʔ/ seems to be in the process of replacing some initial consonants such as /n, y/. The tone reconstruction on the last syllable is partially indeterminate; it is either *³, *³¹, or *⁴².

246. *nã³ñã¹ (*² - ¹) (*nã³- nominal 241) dog.

Mz	nãñã	Ji	nãñã
Ay	thiunañã	So	nã ³ ñã ²¹
Cq	nãñã	Ix	nãñã
Ja	nã ² ñã ¹	Lo	nõñõ
Do	nãñã	Te	nãñã
Hu	nã ²¹		

PPn 337. Gudschinsky reconstructed this etymon as *nã³nã³yã¹; a similar set with *-ñã 621 (PPn 294; PMS 4) she reconstructed as disyllabic rather than trisyllabic. It seems clear that both should be reconstructed disyllabic.

247. *nã³šã¹ (*nã³- nominal 241) net (square).

Cq	nã ² iã yalašã	So	nã ³ šã ²¹
Ja	nã ³ ia ² nã ² šã ¹	Ix	nta ² ianašã
Do	nda ² ianašã	Lo	nõšõ
Hu	nã ³ šã ¹	Te	nãšã

PPn 168. Cq /l/ unexplained. Cq, Ja nã²ia-, Do, Ix nta²ia < *nta⁴ia³ net bag 366. Gudschinsky reconstructed the tone *⁴ - ¹, but I find no evidence for this either in her data or in mine.

248. *nə³ʂú¹ (*nə³- nominal 241) flower.

Mz	nəʂú	So	nə ³ ʂú ²¹
Ay	nəʂú	Ix	nəʂú
Cq	nəʂú	Mg	nəʂú
Ja	nə ² ʂú ¹	Lo	nəʂí
Do	nəʂú	Te	nəʂú
Hu	nə ³ ʂú ¹		

PPn 174.

249. *nə³tí¹ (*nə³- nominal 241) louse.

Mz	natí	Ji	natí
Ay	natí	So	nə ³ tí ²¹
Cq	ʂití	Ix	natí, ħtí (< Pre-Ix *natí)
Ja	nə ² tí ¹	Lo	nəté
Do	natí	Te	natí
Hu	nə ³ tí ¹		

PPn 115. Cq ʂi- < *ʂi³- connective 518.

250. *nə³ya¹, *ntu³ya¹ (*nə³- nominal 241) scorpion.

Mz	ʂunayá	Ji	ʂunaʔyá
Ay	ʂanuyá	So	nayá
Cq	ʂunayá	Ix	ntayá
Ja	ʂa ¹ nə ² ya ¹	Lo	nayó
Do	ʂanduyá	Te	ʂunaʔyá
Hu	ʂu ⁴ nə ³ ʔya ¹		

Hu, Ji, Te /ʔ/ in /ʔy/ cluster unexplained. Mz, Cq, Hu, Ji ɕu- < *ɕú⁴ animal 107; Ay, Ja, Do ɕa- < *ɕa¹- persor prefix 55.

251. *nǎ³ʔí² father.

Ay	nǎʔí-	Lo	nǎʔí-
Hu	nʔǎí ⁴³	Te	nǎʔí-
Mg	nʔǎí		

PPn 227; PMS 61. Expected reflexes: Ay nʔǎí; Hu nǎʔǎí; Lo nǎʔé; Te nǎí.

252. *nǎ³ʔñý¹, *nǐ³ʔñý¹ (*nǎ³- nominal 241, *nǐ³ nominal 312) vine.

Mz	nǎʔñý, nʔǎ <u>rope</u>	Ji	nǎʔñý <u>rope</u>
Ay	nǎʔñý	So	nǎ ³ ʔñý ²¹ <u>rope</u>
Cq	nǎʔñý	Ix	nǐʔñý
Ja	nʔý ¹	Lo	nǎʔñí
Do	nǎʔý	Te	nǎñý
Hu	nʔý ¹ <u>vine</u> , <u>rope</u>		

PPn 253. Expected reflexes: Ja ʔǐý, Do ʔñý.

253. *ná⁴ mother.

Mz	ná	Ji	ná
Ay	ná	So	nǎ ⁴³
Cq	ná	Ix	ná
Ja	nǎ ³ <u>3p.</u> , ʔei ² nǎ ² nǎ ³ <u>lp.</u>	Mg	ná
Do	ná	Lo	nǎ
Hu	ná	Te	ná

Ja 'ei^2 - unexplained. Tone development of So is obscure; expected tone 4 .

254. $*\text{n}\dot{\text{a}}^4\text{ce}^1$, $*\text{n}\dot{\text{i}}^4\text{ce}^1$ ($*\text{n}\dot{\text{a}}^4$ - nominal 241, $*\text{n}\dot{\text{i}}^4$ - nominal 312) rabbit.

Mz	$\text{n}\dot{\text{a}}\text{cí}$, $\text{n}\dot{\text{a}}\text{cyé}$	So	$\text{n}\dot{\text{a}}^4\text{cé}^{21}$
Ay	$\text{n}\dot{\text{a}}\text{cé}$	Ix	$\text{n}\dot{\text{i}}\text{cé}$
Ja	$\text{ča}^1\text{n}\dot{\text{a}}^3\text{cé}^1$	Mg	$\text{n}\dot{\text{a}}\text{cé}$
Do	$\text{čan}\dot{\text{a}}\text{cé}$	Lo	$\text{n}\dot{\text{o}}\text{cá}$
Hu	$\text{n}\dot{\text{a}}^4\text{cé}^1$	Te	$\text{n}\dot{\text{a}}\text{cé}$

PPn 98. Mz /y/ unexplained; it is phonemically doubtful.
Ja, Do ča - < $*\text{ča}^1$ - person prefix 56.

255. $*\text{n}\dot{\text{a}}^4\text{cé}^4$ ($*\text{n}\dot{\text{a}}^4$ - nominal 241) coffee-fly.

Ay	$\text{n}\dot{\text{a}}\text{cé}$	Hu	$\text{n}\dot{\text{a}}^4\text{cé}^4$
Cq	$\text{n}\dot{\text{a}}\text{cé}$	Ix	ñcé (< Pre-Ix $*\text{n}\dot{\text{a}}\text{cé}$)
Ja	$\text{n}\dot{\text{a}}^3\text{cé}^3$	Lo	$\text{n}\dot{\text{o}}\text{cá}$
Do	$\text{n}\dot{\text{a}}\text{cé}$	Te	$\text{n}\dot{\text{a}}\text{cé}$

256. $*\text{n}\dot{\text{a}}^4\text{cí}^1$ ($*^3 - ^1$) ($*\text{n}\dot{\text{a}}^4$ - nominal 241) grind stone (metate).

Mz	$\text{n}\dot{\text{a}}\text{cí}$	Ji	$\text{n}\dot{\text{a}}\text{cí}$
Ay	$\text{n}\dot{\text{a}}\text{cí}$	So	$\text{n}\dot{\text{a}}^3\text{cí}^{21}$
Cq	$\text{n}\dot{\text{a}}\text{cí}$	Ix	$\text{n}\dot{\text{a}}\text{cí}$, ñcé (< Pre-Ix $*\text{n}\dot{\text{a}}\text{cí}$)
Ja	$\text{n}\dot{\text{a}}^2\text{cí}^1$	Lo	$\text{n}\dot{\text{o}}\text{cé}$
Do	$\text{n}\dot{\text{a}}\text{cí}$	Te	$\text{n}\dot{\text{a}}\text{cí}$
Hu	$\text{n}\dot{\text{a}}^4\text{cí}^1$		

PPn 88.

257. *nā⁴cú⁴ (*nā⁴- nominal 241) cactus (maguey).

Mz	nācú	Hu	nā ⁴ cú ⁴
Ay	nācú	Ix	nācú
Cq	nācu	Mg	nācú
Ja	nā ³ cú ³	Lo	nōcǎ
Do	nācú	Te	nācú

PPn 104.

258. *nā⁴ča³kú³, *nā⁴či³kú³ (*nā⁴ mother 253, *ča³kú³ holy 62) godmother.

Mz	nāčakú	Ix	nāčikú
Ay	nāčikú	Mg	nāčakú
Cq	nāčákú	Lo	nōčokǎ
Ja	nā ³ ča ² kú ²³	Te	nāčakú
Hu	nā ⁴ či ³ kú ³		

Expected reflex: Te čikú. Ja tone ³ of ²³ glide probably has developed by analogy and indicates phrase final. The tone on the final syllable is indeterminate. It is either *³ or *³¹.

259. *nā⁴čā³ (*nā⁴- nominal 241) bed, offering table.

Ay	nāčā	So	nā ⁴ čā ³
Cq	nāčā	Ix	nāčā, ħčā (< Pre-Ix *nāčā)
Ja	nā ³ čā ²	Mg	nāčā
Do	nāčā	Lo	nōčó
Hu	nā ⁴ čā ³	Te	nāčā
Ji	nāčā		

260. *nə⁴čhá⁴ (*nə⁴- nominal 241) banana.

Ay	nəčhá	So	nə ⁴ čhá ⁴
Cq	nəčha	Ix	nəčhá
Ja	nə ³ čhá ³	Mg	nəčhá
Do	nəčhá	Lo	nəčhó
Hu	nə ⁴ čhá ⁴	Te	nəčhá

PPn 122. It seems likely that the semantic range of mamey was extended to banana; parallels can be noted for deer > horse with the modern term for deer becoming a compound of deer + woods.

261. *nə⁴čhú¹ (*³ - ¹) (*nə⁴- nominal 241) thread.

Mz	nəčhú	Ji	nəčhú
Ay	nəčhú	So	nə ³ čhú ³¹
Cq	nəčhú	Ix	nəčhú, ħčhú (< Pre-Ix *nəčhú)
Ja	nə ³ čhú ¹		
Do	nəčhú	Lo	nəčhí
Hu	nə ⁴ čhú ¹	Te	nəčhú

PPn 136.

262. *nə⁴či¹ʔyá³ (*nə⁴ mother 253) mother-in-law.

Mz	nəʔyá	Ji	nəčhiyá
Ay	nəčiʔiá-	Ix	nəčiʔiá
Cq	nəʔiá-	Lo	nəčiʔyomó
Ja	nə ³ nči ¹ ʔiá ²	Te	nəčiyá
Do	nənčiʔiá		

Expected reflex: Ji -ʔyá; Ja, Do /n/ of /nč/ cluster unexplained; Ji /h/ of /čh/ cluster unexplained; Lo -mɔ unexplained.

263. *nə́⁴čú⁴ (*nə́⁴- nominal 241) squash.

Mz	nə́čú	Ji	nə́čú	—
Ay	nə́čú	So	nə́⁴čú⁴	
Cq	nə́ču	Ix	ñčú ($<$ Pre-Ix *nə́čú)	
Ja	nə́³čú³	Mg	nə́čuyʔá	
Do	nə́čú	Lo	nɔ́čí	
Hu	nə́⁴čú⁴	Te	nə́čú	

PPn 127. Mg -yʔá unexplained.

264. *nə́⁴hɛ́í⁴ *nɪ́⁴hɛ́í⁴ (*³ - ³) (*nə́⁴- nominal 241; *nɪ́⁴- nominal 312) tongue.

Mz	nɪ́hí	So	nə́⁴hí⁴, ʔnə́¹-
Ay	nə́hái	Ix	nə́hí
Cq	nɛ́ihɛ́í	Mg	nɛ́hɛ́
Ja	nə́hái³	Lo	nə́hɛ́ <u>lp.</u> , nə́hí <u>3p.</u>
Do	nə́hɛ́í <u>lp.</u> , <u>3p.</u>	Te	nɛ́hɛ́
Hu	nɪ́⁴hɛ́⁴, nɪ́³hɛ́³		

PPn 214. Expected reflexes: Ay, So, Ix -hɛ́; Ja -hɛ́í; Lo nɛ́hɛ́; Te nɪ́hí; Ay, Cq, Ja, Do oral vowel in stressed syllable unexplained.

265. *nə⁴hnə¹nəcá⁴ lp., *nə⁴hnə¹nchá⁴ 3p. (*nə⁴-
nominal 241) finger.

Mz	nəhnəncá	Hu	nə ⁴ hnə ¹ nchá ⁴
Ay	nəhməncá <u>lp.</u> , nəhməncá <u>3p.</u>	Ix	nəhnəncə ² á <u>lp.</u> , nəhnəncá <u>3p.</u>
Cq	ncá <u>lp.</u> , ncháča <u>3p.</u>	Mg	nəhnəncá
Ja	nə ³ hnə ¹ ncá ³ <u>lp.</u> , nə ³ hnə ¹ nchá ³ <u>3p.</u>	Lo	kĩncáhá <u>lp.</u> , kĩchó <u>3p.</u>
Do	nəhnəncá <u>lp.</u> , nəhnəncá <u>3p.</u>	Te	hnəncá <u>lp.</u> , hnəchá <u>3p.</u>

Expected reflexes: Cq chá; Lo kĩncəchá; Te hnə-; Ix
-²a unexplained; Ay expected reflex is /hn/ cluster rather
than /hm/ cluster. Lo kĩ- perhaps < *t^ykú¹ knee 623.

266. *nə⁴hní¹, *ní⁴hní¹ (*³ - ¹) (*nə⁴- nominal 241,
*ní⁴- nominal 312) violin.

Ay	nəhní	So	nə ³ hní ²¹ <u>stringed</u>
Ja	nə ³ hní ¹		<u>instrument</u>
Do	nəhní	Ix	níhní
Hu	nə ⁴ hní ¹	Mg	nəhní <u>string music</u>
Ji	nəhní		

PPn 203. There may be considerable borrowing since
expected reflex for Ay, So, Ix, Mg is /n/ rather than /hn/,
and for Hu /nh/ rather than /hn/.

267. *nə́⁴hnú́⁴ (*nə́⁴- nominal 241) tobacco.

Mz	nə́hnú	Mg	nə́hnú
Ay	ʃkanə́hñú	Lo	nə́hnú
Hu	nə́ ⁴ hnú́ ⁴	Te	nə́hnú
Ji	nə́hnú		

PPn 252. Expected reflex: Ay -hnú. Ay ʃka- < *ʃká⁴
leaf 528.

268. *nə́⁴hñú́⁴, *ní⁴hñú́⁴ (*nə́⁴- nominal 241, *ní⁴-
nominal 312) turkey (female).

Mz	nə́hñú	Ji	nə́hñú
Ay	nə́hñú	So	nə́ ⁴ hñú́ ⁴
Cq	nə́hñú	Ix	níhñú
Ja	nə́ ³ hiú́ ³	Mg	nə́hñú
Do	nə́hiú	Te	nə́hñú
Hu	nə́ ⁴ hñú́ ⁴		

PPn 219.

269. *nə́⁴nká́⁴ (*nə́⁴- nominal 241) deep.

Mz	nə́nká	Hu	nə́ ⁴ nká́ ⁴
Ay	nə́nká	So	nə́ ⁴ nká́ ⁴
Cq	ný́nku	Ix	nə́nká
Ja	nə́ ³ nká́ ³	Lo	nə́nkó
Do	nə́nká	Te	nə́nká

PPn 283. Cq vowels /u...u/ unexplained; expected /a...a/.

270. *nā⁴ntá¹ (*³ - ¹) (*nā⁴- nominal 241) water, liquid.

Mz	nāntá	Ji	nāntá
Ay	nāntá, nta ² ihwá	So	nā ⁴ ntá ²¹ <u>spring</u>
Cq	nāntá	Ix	ntahwá
Ja	nté ¹ , nda ¹ ni ² hwá ²	Mg	nāntá
Do	ndan ¹ hwá	Lo	nōntó
Hu	nā ³ ntá ¹	Te	nāntá

PPn 259. Ay -²ihwá, Ja, Do -ni²hwá, Ix -hwá < *hwá³¹
clear 164.

271. *nā⁴ntá⁴ (*nā⁴- nominal 241) cactus (nopal).

Mz	nāntá	So	nā ⁴ ntá ⁴
Ay	nāntá	Ix	nāntá
Cq	nānta	Mg	nāntá
Ja	nā ³ ntá ³	Lo	nōntó
Do	nāntá	Te	nāntá
Hu	nā ⁴ ntá ⁴		

PPn 258.

272. *nā⁴nū¹ (*nā⁴- nominal 241) duck.

Ja	nā ³ nū ¹	Ix	nānū
Do	čanānū		

Do ča- < *ča¹- person prefix 55.

273. *nə́⁴sčá¹ (*nə́⁴ mother 273, *sčá¹ old 454)

grandmother.

Cq	nčawé-	Ix	naščá
Ja	na ³ čá ¹ -	Lo	nqčó
Do	načá-	Te	naščá
Hu	na ⁴ hčá ¹		

Cq -wa unexplained; Cq nə- apparently contracted with *he > nč.

274. *nə́⁴šá⁴ (*nə́⁴- nominal 241) salt.

Mz	našá	Ji	našá
Ay	našá	So	na ⁴ šá ⁴
Cq	náša	Ix	našá
Ja	na ³ šá ³	Lo	nqšó
Do	našá	Te	našá
Hu	na ⁴ šá ⁴		

PPn 166.

275. *nə́⁴ší⁴ (*nə́⁴- nominal 241) cliff, mountain.

Mz	naší <u>big rock</u>	Ji	naší
Cq	náši	So	na ⁴ ší ⁴
Ja	na ³ ší ³	Ix	naší
Do	naší	Lo	nqšé
Hu	na ⁴ ší ⁴	Te	naší

276. *na⁴si⁴na³ntá¹ (*na⁴si⁴ cliff 275, *na³ntá¹ water 270) town.

Mz	na ³ sinantá	Hu	na ⁴ si ⁴ na ³ ntá ¹
Ay	na ³ sinantá	So	na ⁴ si ⁴ na ³ ntá ²¹
Cq	na ³ sinantá	Ix	na ³ sinantá
Ja	na ³ si ³ na ² ntá ¹ ,	Mg	na ³ sinantá
	na ³ si ³ na ² ntó ¹³ (< Pre-	Lo	nq ³ sinontó
	Ja *na ³ si ³ na ² ntá ¹)	Te	na ³ santá
Do	na ³ sinantá		

Expected reflex: Te na³sinantá.

277. *na⁴si¹ (*na⁴- nominal 241) deer.

Mz	na ³ si ¹ <u>horse</u> , na ³ siní <u>deer</u>	Ji	na ³ si ¹ <u>horse</u>
Ay	na ³ si ¹ <u>horse</u> , na ³ sikihñá	So	na ⁴ si ²¹ <u>horse</u>
	<u>deer</u>	Ix	na ³ si ¹
Cq	na ³ si ¹ <u>horse</u>	Mg	na ³ si ¹ <u>horse</u>
Ja	na ³ si ¹	Lo	nq ³ sé
Do	čana ³ si ¹	Te	na ³ si ¹ <u>horse</u>
Hu	na ⁴ si ¹ <u>horse</u>		

PPn 161. Ay oral /i/ unexplained. Do ča- < *ča¹-
person prefix 55.

278. *nə⁴ʃú⁴ (*nə⁴- nominal 241) throat.

Mz	nəʃuhtá	Hu	nə ⁴ ʃa ⁴ htá ⁴
Ay	nəʃuntá-	So	nə ⁴ ʃó ⁴
Cq	nəʃuštá-	Ix	nəʃú
Ja	nə ³ ʃú ³	Lo	nəʃotó
Do	nəʃú	Te	nəʃustá-

Expected reflexes: Hu, So nə⁴ʃú⁴; Lo nqʃí. Mz -htá-, Ay -ntá-, Cq -štá-, Lo -tó, Te -stá < *hntá³ breathes 193; but the expected reflex for Cq is -ntá- and for Te -htá.

279. *nə⁴thí⁴, *nǐ⁴thí⁴ (*nə⁴- nominal 241, *nǐ⁴- nominal 312) spindle.

Ay	nəthí	Ix	nǐthí, ñthí (< Pre-Ix *nǐthí)
Cq	nəthí		
Ja	nə ³ thí ³	Mg	nəthí
Do	nəthí	Lo	nqthé
Hu	nə ⁴ thí ⁴	Te	nəthí
So	nəthí ⁴		

Cq, Do nə- unexplained; Cq, Te nasalized /ǐ/ in heavily stressed syllables unexplained.

280. *nə⁴tǐ¹, *nǐ⁴tǐ¹ (*³ - ¹) (*nə⁴- nominal 241, *nǐ⁴- nominal 312) corn flower.

Mz	nətǐ	Hu	nə ⁴ tǐ ¹
Ay	nətǐ	So	nə ³ tǐ ²¹
Cq	ntatǐ	Ix	nǐtǐ
Ja	nə ³ tǐ ¹	Lo	nqte
Do	nətǐ	Te	nətǐ

Cq /t/ of /nt/ cluster unexplained.

281. *nə⁴t^yú¹, *nɪ⁴t^yú¹ (*nə⁴- nominal 241, *nɪ⁴- nominal 312) coconut.

Ay	nətiú	Do	nətiú
Cq	nətiú <u>small nut</u>	Ix	nɪtiú
Ja	nə ³ tiú ¹	Te	nəçú

Ja, Do /i/ is unexplained.

282. *nə⁴ʔmɪ³ (*⁴ - ¹) (*nə⁴- nominal 241) father.

Mz	nəʔmɪ <u>priest, father</u>	Ji	nəʔmɪ <u>priest</u>
Ay	nəʔmɪ <u>priest</u>	So	nə ⁴ ʔmɪ ²¹ <u>priest</u>
Cq	nəʔmɪ <u>father, priest</u>	Ix	nəʔmɪ <u>father, čanaʔmɪ</u>
Ja	nə ³ ʔmɪ ² <u>father,</u>		<u>priest</u>
	{nda ³ -, ha ¹ -, ča ¹ -}	Mg	nəʔmɪ <u>priest</u>
	nə ³ ʔmɪ ² <u>priest</u>	Lo	nəʔmɛ <u>priest</u>
Do	ndanaʔmɪ <u>priest</u>	Te	namɪ <u>priest</u>
Hu	nə ⁴ ʔmɪ ³ <u>priest</u>		

PPn 227; PMS 61. Expected reflex: Mg nam³ɪ. Ja nda³- < *nta⁴- person prefix 362; Ja ha¹- < *ha¹- person prefix 121; Ja ča¹- < *ča¹- person prefix 55.

283. *nəɪ⁴¹ devil.

Mz	šutá nə <u>demon</u>	Mg	nəɪ
Ay	čanaɪ	Lo	čhitonəɪ
Hu	nəɪ ⁴²	Te	šitá nəɪ
Ji	nəɪ		

Expected reflexes: Ay -naí; Mg, Lo né; Te ní. Mz šutá, Lo čhito-, Te šitá < *šu⁴tá⁴, *ču⁴tá⁴ person 561; Ay ča- < *ča¹- person prefix 55. The tone reconstruction is partially indeterminate; it is either *⁴¹ or *⁴².

284. *nca⁴kú⁴, *ncu⁴kú⁴, *cu⁴kú⁴ foot.

Mz	ncakú <u>his foot</u> , ncukwá	Hu	ncu ⁴ kú ⁴
	<u>our (incl.) feet</u>	Ji	ncukú
Ay	ncakú	Ix	ncukú
Cq	ncakú	Mg	ncaká <u>our (incl.) feet</u>
Ja	cu ³ kú ³	Lo	ncokí
Do	cukú	Te	ncukú <u>3p.</u> , ncukwá <u>lp.</u>

PPn 68; PMS 37.

285. *nce³é³, *ce³é³ intestine.

Ay	nce ³ é-	So	c ³ é ³
Cq	ncei ³ éí	Ix	ci ³ é
Ja	c ³ é ²	Mg	c ³ é <u>membrane</u>
Do	ce ³ é	Lo	čica ³ á
Hu	c ³ é ³ <u>membrane</u>	Te	ci ³ é

PPn 99. Expected reflexes: So ce³é; Do c³é; Te cé.
Lo čí- unexplained.

286. *nce⁴ʔé⁴ (*¹ - ¹) brother.

Mz	(ča)ncʔí	Do	ndancʔé, ha-, ti-, hmi-, ča-
Ay	cʔiá	Hu	ncʔé ⁴
Cq	čaceiʔá (ča- prefix used	Ji	ncʔé
	by both male and female	So	cʔé ⁴
	speakers)	Ix	ncʔé
Ja	nda ³ ncʔé ¹ , ha ¹ -, ti ¹ -,	Lo	ncaʔá
	hmi ¹ -, ča ¹ -	Te	ncé

Expected reflexes: Ay nceʔé; Cq -ceiʔé; So nce⁴ʔé⁴; Ix nciʔé. Ja /c/ unexplained, expected /j/ in stressed syllable; Cq /i/ of /ei/ cluster unexplained. Ja, Do prefixes: *nta⁴- 374; *ha¹- 121; *ti¹- 586; *hmi¹- 147; *ča¹- 56.

287. *nchá³, ncá⁴ hand.

Mz	nchá, ncá	Do	nchá, chá (< Pre-Do *nchá)
Ay	nchá <u>3p.</u> , ncá <u>lp.</u>		<u>3p.</u> , ncá, cá (< Pre-Do
Cq	ncháča <u>3p.</u> , ncá <u>lp.</u> ,		*ncá) <u>lp.</u>
Ja	nchá ² , chá ² (< Pre-Ja	Hu	nchá ³ , ncá ⁴
	*nchá ²) <u>3p.</u> , ncá ^{3 2} ,	So	chá ³ , ncá ⁴
	cá ^{3 2} (< Pre-Ja *ncá ^{3 2})	Ix	nchá <u>3p.</u> , ncaʔá <u>lp.</u>
	<u>lp.</u>	Lo	chó <u>3p.</u> , ncahá <u>lp.</u>

PPn 291. Expected reflexes: Cq chá; Lo ncohó. Ja tone ² of ^{3 2} glide unexplained, perhaps emphasis.

288. *nchá⁴ hair.

Mz	nchá	Hu	nchá ⁴
Ay	nchá	Ji	chá
Cq	chá	So	chá ⁴
Ja	nchá ³ , chá ³ (< Pre-Ja *nchá ³)	Ix	nchá
Do	nchá, chá (< Pre-Do *nchá)	Mg	chá
		Lo	chó
		Te	chá

PPn 172.

289. *nché⁴ huaje.

Mz	nchyé	Hu	nché ⁴
Ay	nché	So	ché ⁴
Cq	ché	Ix	nché
Ja	nché ³ , ché ³ (< Pre-Ja *nché ³)	Lo	chá
Do	nché, ché (< Pre-Do *nché)	Te	ché

PPn 106. Mz /y/ before /e/ unexplained, phonemically doubtful.

290. *nché¹ honey.

Mz nchyé, chyé	Hu nché ¹
Ay nché	Ji ché
Cq ché	So ché
Ja nché ¹ , ché ¹ (<Pre-Ja *nché ¹)	Ix nché
Do nché, ché (< Pre-Do *nché)	Lo ntochá
	Te ché

PPn 163. Expected reflex: Cq cheí. Mz /y/ before /e/ unexplained, phonemically doubtful. Lo nto- < *nə⁴ntá¹ liquid 270. The tone reconstruction is partially indeterminate; it is either *¹ or *²¹.

291. *nchú⁴ (*²) onion.

Mz tunchú	Ji tuchú
Ay tunchú	So chú ⁴
Cq tuchú	Ix nchú
Ja tu ² nchú ³ , tú ² <u>fruit</u>	Mg tuchú
Do tuncú	Lo tíchí
Hu tu ³ nchú ²	Te tuchú

Mz, Ay, Cq, Do, Hu, Ji, Mg, Te tu-, Lo tí- < *tú³¹ fruit 605. The root meaning of this etymon may well be roasted, toasted, brittle.

292. *ncí narrow.

Ja ncí, cí (< Pre-Ja *ncí) Te ncí

Do ncí, cí (< Pre-Do *ncí)

293. *ncí⁴ hummingbird.

Ay natunčí Ix tuncí

Ja tu²ncí³ʔná² Lo ncikó

Do turuncí Te ncíká

Hu tu³ncí⁴

Expected reflex: Ay -ncí; Ay, Lo oral /i/ unexplained.
 Do -ru- possibly < *ʂu relator particle; Ay, Ja, Do, Hu, Ix
 tu- < *tú^{s1} fruit 605; Ja -ʔná² < *ʔná⁴ brilliant 704, a
 recent compound; Lo ko-, Te ka- perhaps < *hncá⁴ wing 143.

294. *ncu³ʔwá³, *cu³ʔwá³ (*³ - 1) mouth.Mz cuʔá, cʔwá, ncuwá Hu ncʔuá³, cʔuá³ mouth;Ay ncʔwá ča³ncu³ʔwá³² lips

Cq ncuwá Ji ncʔwá, cʔá

Ja nju³ʔwá¹, ju³ʔwá¹ (< Pre- So cʔuá³Ja *nju³ʔwá¹) lips, Ix ncʔuá 3p., ncʔwaʔá lp.mouth

Mg ncuwʔá, cʔá

Do njuʔwá, juʔwá (< Pre-Do Lo ncʔwó

*njuʔwá)

Te ncuwá, cuwá

PPn 326. Expected reflexes: Cq -ʔuá; So, Ix cuʔwá;
 Lo ncí.

295. *ncu⁴kuí³, *cu⁴kuí³ foot (your sg.).

Ja cu³kuí² Lo ncokí

Hu ncu⁴kuí³

Expected reflex: Lo ncɪ-.

296. *nčá³ swamp.

Ay nčasí So činčá

Ja ši³nčá², ši³nčó²³ (< Pre- Ix ntačinčá

Ja *ši³nčá²) Lo sinčó

Do ndašinčá Te nčá

Hu ču³nčá³

Ja, Do -ši- unexplained; Hu ču³-, So, Ix, či- unexplained.
Ix nta- < *na⁴ntá¹ liquid 270; Ay, Do, Lo -si- < *si⁴³ dirt
470, recent compounds. The tone reconstruction is partially
indeterminate; it is either *³ or *³¹.

297. *nča³há¹ corn drink (atole).

Mz nčahá tawá J1 nčá

Ay nčahá So nčá³há²¹

Cq nčahá Ix nčihá

Ja nɲha¹šú¹ chocolate drink Mg nčá.

Do nɲahašú chocolate drink Lo nčohó

Hu nčá²¹ Te nčihá

PMS 38. Expected reflex: J1 nčahá. Ja, Do -šú < *šú¹
foam 551.

298. *nča³hú³, *ča³hú³ dust.

Mz	čahú	Ji	čo
Ay	čohó	So	ča ³ hó ³
Cq	čohó	Ix	čuhú
Ja	nĵhó ²	Mg	čo
Do	nĵohó	Lo	čihí
Hu	čau ³	Te	čihú

PPn 123.

299. *nča³hú², *nču³hú², *nči³hú² tomorrow.

Mz	nčahý	Ji	nčihý
Ay	nčuhý-	So	nča ³ hú ¹
Cq	nčuhýni	Ix	nčihý
Ja	nĵhý ² ni ³	Mg	nčý
Do	nĵuhýni	Lo	nčihí
Hu	nčau ³	Te	nčihú

PPn 194. Expected reflexes: So -hó; Hu tones ⁴³. Cq, Ja, Do -ni < *-ni³ thing 311.

300. *nča⁴hú⁴ broom.

Ay	nčohó	Do	nĵohó
Cq	nteinčohó	Ix	nčuhú
Ja	nĵhó ³		

PPn 120.

301. *nče^shé¹, *ce^shé¹ secretly, thief.

Mz	čihé	Ji	čé
Ay	nčehé	So	če ^{s1} hé ²¹
Cq	čehé	Ix	čihé
Ja	nǰhé ¹ <u>thief</u> , nǰhé ^{s2} <u>steal</u>	Mg	čé
Do	nǰehé	Lo	čahá
Hu	čé ²¹	Te	čihé <u>steal</u>

Expected reflexes: Cq čei-; Te če-. Do nasalized /e/ unexplained. So expected tone reflexes: ^s - ²¹.

302. *nčé⁴¹ cooked corn.

Mz	nčé	Ji	nčé
Ay	nčé	So	nčé ⁴²
Cq	nčé	Ix	nčé
Ja	nčé ^{s1} , čé ^{s1} (< Pre-Ja *nčé ^{s1})	Lo	nčá
Do	nčé, čé (< Pre-Do *nčé)	Te	nčé
Hu	nčé ⁴²		

303. *nčhá⁴ talks.

Mz	tinčhá	Ji	čhá
Ay	tinčhayá	So	čhá ⁴
Cq	čhá	Ix	cančhayá
Ja	ti ¹ nčha ^s yá ²	Mg	čhá
Do	tinčhayá	Lo	čhó
Hu	nčhá ⁴	Te	tičhá

PPn 133; PMS 39. Ay, Ja, Do, Ix -ya < *yá inside 660;
Mz, Ay, Ja, Do, Te ti- < *ti¹- continuative aspect 589.

304. *nčha⁴tí⁴³ complain.

Cq	tičhatá	Hu	nčha ⁴ tí ⁴³
Ja	ti ¹ nčha ³ tí ²	Ix	cančhatí
Do	tinčhatí		

Cq, Ja, Do ti- < *ti¹- continuative aspect 589.

305. *nčhí¹ women, wives.

Ay	yančhí	So	ya ²¹ čhí ²¹
Cq	nayačhí	Ix	ʔinčhí
Ja	hmi ³ nčhí ¹	Lo	čočhí
Do	hmi ¹ nčhí	Te	ʔičhí
Hu	ya ¹ nčhí ¹		

PPn 111. Ja, Do hmi¹-, Ix ʔi- < *hmi⁴- person prefix 138;
Lo čo- < *chú⁴¹ woman 86, a recent compound after *i > e when
preceded by back vowel. Cq na- < *nā⁴- nominal 241; Ay, Hu,
So ya-, Te ʔi- unexplained; So oral /i/ unexplained.

306. *nči⁴nā¹ rich.

Ay	nčiná	Ji	nčiná
Cq	nčiná	So	nčiná
Ja	či ³ nā ¹	Mg	nčiná
Do	činá	Te	nčiñá
Hu	nči ⁴ nā ¹		

Te expected reflex /n/ rather than /ñ/.

307. *nčus^sk^whă^s aunt.

Ay	nčuk ^w hă-	So	nčus ^s khwă ^s
Cq	nčukhuă-	Ix	nčukhuă
Ja	(nă ^s)čus ^s k ^w hă ^s -	Mg	nčuk ^w hă
Do	čuk ^w hă	Lo	nčikhó
Hu	nčus ^s khă ^s	Te	nčikhă

PPn 84. Expected reflex: Lo nčik^whó; Ay, Cq oral stressed vocalic nuclei unexplained.

308. *nčus^stí^s corn on the cob.

Mz	nčutí	Hu	nčus ^s tí ^s
Ay	nčutí	So	nčus ^s tí ^s
Cq	nčutí	Ix	nčití
Ja	čus ^s tí ^s	Lo	nčité
Do	čutí	Te	nčití

PPn 6. Expected reflex: Ix nčutí.

309. *nê^s bite.

Mz	khiné	Ji	khiné
Ay	kiskiné	So	khi ^s nê ^s <u>eat</u>
Cq	kahiné-	Ix	khiné
Ja	khi ^s nê ^s <u>bite</u> , <u>eat</u> , ti ¹ nê ^s <u>eat</u>	Mg	khiné
Do	khiné	Lo	khiná
Hu	khi ^s nê ^s	Te	kiskiñé-

PPn 240. Ix expected reflex /ñ/ rather than /n/; Te expected reflex /n/ rather than /ñ/; Cq expected reflex -neí; Ay, Te -ski- unexplained; Mz expected reflex khiní. Mz, Do, Hu, J1, So, Mg, Lo khi- < *khi³- completive aspect 196; Ay, Te ki- < *ki³- completive aspect 206; Cq ka- < *ka³- completive aspect 172.

310. *ni⁴hé⁴ braids.

Ja ču³nhé³

So ne⁴hé⁴

Do čhanehé

Ix ncaníhé

So nasalized /e/ unexplained; Do čha- unexplained. Ja ču⁴- probably < *čú⁴ animal 107; Ix nca- < *nchá⁴ hair 288.

311. *-ni³ thing.

Ay nkíní day after tomorrow Hu hmé¹ni³ what

Cq nkíní day after tomorrow Ix míní what

Ja mí¹ni³ what Lo mání what

Do míní what Te mēní what

The tone reconstruction is partially indeterminate; it is either *³ or *³¹.

312. *ni³-(*) nominal.

Cf. 314-321, etc.

313. *n_i³h_i², *ñ_a³h_i² (*n_i³- nominal 312, *ñ_a³- nominal, *h_i² among 134) buries.

Ay tiwiseyanih _i ² (ti-	Hu w'e ¹ ñ _a ⁴ h _i ³ <u>he</u> <u>buries</u>
<u>present tense</u>)	So ʔwe ²¹ ñ _a ³ h _i ¹ <u>he</u> <u>buries</u>
Cq khueiseiyanih _i ²	Ix khinih _i ²
Ja ghi ² ya ² nh _i ²	Te kohwisah _i ²
Do khiyanih _i ²	

PPn 181. Ay -se-, Cq -sei- unexplained. Ay, Cq, Ja, Do -ya- < *yá inside 660; khi- < *khi³- completive aspect 196; Te -hwi- < *hwí² goes 169; Hu w'e-, So ʔwe²¹- < *we³ʔé¹ hits 652.

314. *n_i³hñ_a¹, *n_a³hñ_a¹ (*n_i³- nominal 312; *n_a³- nominal 241) sleepy.

Mz ni _i hñ _a ¹ <u>dream</u>	So n _a ³ hñ _a ²¹ <u>dream</u>
Ay ni _i hñ _a ¹	Ix ni _i hñ _a ¹
Cq ni _i hñ _a ¹ <u>sleepy, dream</u>	Mg ni _i hñ _a ¹ <u>dream</u>
Ja ni _i ² hñ _a ¹	Lo nqñ _o ¹
Do ni _i hñ _a ¹	Te ni _i hñ _a ¹ <u>sleep, dream</u>
Hu ni _i ³ hñ _a ¹ <u>dream</u>	

PPn 215.

315. *n_i³hñá³ (*n_i³- nominal 312) mat.

Mz	n _i hñá	J1	n _i hñá
Ay	n _i hñá	So	n _i hná
Cq	n _i hñá	Ix	n _i hñá
Ja	n _i ² hñá ²	Mg	n _i hñá
Do	n _i hñá	Lo	n _i hñó
Hu	n _i ³ hñá ³	Te	n _i hñá

PPn 249. The tone reconstruction on the last syllable is partially indeterminate; it is either *³, *³¹, or *⁴².

316. *n_i³nta³ya¹ (*n_i³ntá³ bone 317, *ya¹ inside 660) spinal column.

Ay	ntayá-	Hu	n _i ³ nta ³ ya ¹ cʔí ³
Cq	ntayá-	Ix	n _i ntaʔiyací
Ja	na ² ya ¹	Lo	ntoyó- <u>waist</u>
Do	ndayá	Te	ntayá-

Expected reflex: Hu -ntia³-; Hu -cʔí³; Ix -cí. Ix -ʔi- unexplained, although perhaps < *ya inside 660.

317. *n_i³nta³¹ (*n_i³- nominal 312) bone.

Mz	n _i ntá	Hu	n _i ³ ntá ³
Ay	n _i ntá	So	n _i ³ ntá ³²
Cq	n _i ntá	Ix	n _i ntá
Ja	n _i ² ntá ²	Lo	n _i ntó
Do	n _i ntá	Te	n _i ntá

PPn 269.

318. *n_i³thá³ (*n_i³- nominal 312) clay griddle.

Mz	n _i thá	Ji	n _i thá
Ay	n _i thá	So	n _i ³ thá ³
Cq	n _i thá	Ix	n _i thá, ñthá (< Pre-Ix
Ja	n _i ² thá ²		*n _i thá)
Do	n _i thá	Mg	n _i thá
Hu	n _i ³ thá ³	Lo	n _i thó
		Te	n _i thá

PPn 32.

319. *n_i³ntú² (*n_i³- nominal 312) slippery.

Ay	n _i ntú	So	n _i ³ ntú ¹
Cq	n _i ntú	Ix	n _i ntú
Ja	n _i ² ntú ²	Mg	n _i ntú
Do	n _i ntú	Te	n _i ntiú
Hu	n _i ³ ntú ²		

320. *n_i³ntú³ (*n_i³- nominal 312) hill.

Mz	n _i ntú	Ji	n _i ntú
Ay	n _i ntú	Mg	n _i ntú
Ja	sy ² ntú ² <u>top of a hill</u>	Lo	n _i ntí
Do	syntú <u>top of a hill</u>	Te	n _i ntiú
Hu	n _i ³ ntú ³		

Ja, Do sy- < *sú² on 489. The tone reconstruction on the last syllable is partially indeterminate; it is either *³, *³¹, or *⁴².

321. *n_i³ntú³¹ (*n_i³- nominal 312) needle, spine.

Mz	n _i ntá	Ji	n _i ntú
Ay	n _i ntú	So	n _i ³ ntú ³²
Cq	n _i ntú	Ix	n _i ntú
Ja	n _i ² ntú ²	Mg	n _i ntó
Do	n _i ntú	Lo	n _i ntí
Hu	n _i ³ ntú ³	Te	n _i ntiú

Expected reflexes: Mz, Mg -ntú.

322. *n_i³ñú³ (*n_i³- nominal 312) star.

Mz	n _i ñú	Ji	n _i ñú
Ay	n _i ñú	So	n _i ³ ñú ³
Cq	n _i ñú	Ix	n _i ñú
Ja	n _i ² ñú ²	Mg	n _i ñú
Do	n _i ñú	Lo	n _i ñí
Hu	n _i ³ ñú ³	Te	n _i ñú

PMS 55. Expected reflex: Hu n_iú³.

323. *n_i³ñú³ce³ (*n_i³ñú³ star 322, *cé³ big 12, full 13) morning star.

Mz	n _i ñúcí	Hu	n _i ³ ñú ³ cé ³
Ay	n _i ñúcé	Ix	n _i ñúcé
Ja	n _i ² ñú ² cé ²	Lo	n _i cá
Do	n _i ñúcé	Te	n _i ñúcé

PPn 95; PMS 55. Expected reflex: Hu n_iú³cé³. Lo has lost the syllable *-ñú-. The tone reconstruction is partially

indeterminate; it is either $*^3$ or $*^{31}$. $*-cé^3$ was compounded after the sound shifts involving unstressed $*ñy-$.

324. $*ni^3sá^3$ ($*ni^3-$ nominal 312) water jug.

Ay	$ni^3sá$	Hu	$ni^3sá^3$
Cq	$ni^3sá$	So	$ni^3sá^3$
Ja	$ni^2sá^2$, $ni^2só^{23}$ (< Pre-	Ix	$ni^3sá$
	Ja $*ni^2sá^2$)	Lo	$ni^3só$
Do	$ni^3sá$	Te	ni^3sia

PPn 154. Te /i/ of /ia/ cluster unexplained.

325. $*ni^3sé^3$ ($*ni^3-$ nominal 312) mouse.

Mz	$ni^3syé$ <u>rat</u>	Ji	$ni^3sé$
Ay	$thiuni^3sé$	So	$ni^3sé$
Cq	$ni^3seí$	Ix	$ni^3sé$
Ja	$ča^1ni^2sé^2$	Lo	$ni^3sá$
Do	$čan^3sé$	Te	$ni^3sé$
Hu	$ni^3sé^3$		

Mz /y/ before /é/ unexplained, phonemically doubtful.

Ay thiun- < $*t^yhu^3-$ nominal 616-620; Ja, Do $ča-$ < $*ča^1-$ person prefix 55. The tone reconstruction on the last syllable is partially indeterminate; it is either $*^3$, $*^{31}$, or $*^{42}$.

326. *ni³sú³¹ (*ni³- nominal 312) gourd.

Mz	ni ₂ sú [?]	Ji	ni ₂ sú
Ay	ni ₂ sú	So	ni ³ sú ³²
Cq	ni ₂ sú	Ix	ni ₂ sú
Ja	ni ² sú ²	Lo	ni ₂ sí
Do	ni ₂ sú	Te	ni ₂ siú
Hu	ni ³ sú ³		

Mz /[?]/ final in syllable unexplained; Te /i/ in /iu/ cluster unexplained.

327. *ni³nté³ (*ni³- nominal 312) land.

Mz	ni ₂ nt [?] í	Ji	nté
Ay	ni ₂ nté	So	ni ³ nté ³
Cq	ni ₂ nté	Ix	ni ₂ nté
Ja	ni ² nté ²	Mg	ni ₂ nt [?] é
Do	ni ₂ nté	Lo	ni ₂ ntá
Hu	ni ³ nté ³	Te	ni ₂ nté

PPn 268; PMS 58. Expected reflex: Mz ni₂nté.

328. *ni³ñá³ (*ni³- nominal 312) pen.

Ja	ncha ³ ni ² ñá ² , cha ³ ni ² ñá ²	Ji	ni ₂ ñá
	(< Pre-Ja *ncha ³ ni ² ñá ²)	Ix	ni ₂ ñá
Do	nchani ₂ ñá, chani ₂ ñá	Mg	ni ₂ ñ [?] á
	(< Pre-Do *nchani ₂ ñá)	Te	ni ₂ ñá
Hu	ni ³ ñá ³		

Ja, Do ncha-, cha- < *nchá⁴ hair 288. Tone on the last syllable is partially indeterminate.

329. *n_i⁴h_i⁴ (*n_i⁴- nominal 312) corn (dry ear).

Mz	n _i h _i	Ji	n _i h _i
Ay	n _i h _i	So	n _i ⁴ h _i ⁴
Cq	n _i h _i	Ix	n _i h _i
Ja	nh _i ³	Mg	n _i h _i
Do	n _i h _i	Lo	nəh _e
Hu	n _i ⁴ h _i ⁴	Te	n _i h _i

PPn 239. Expected reflex: Lo n_ih_i.

330. *n_i⁴ntá⁴ (*n_i⁴- nominal 312) fox.

Mz	n _i ntá	So	n _i ⁴ ntá ⁴ <u>coati</u>
Ay	thiun _i ntá	Ix	n _i ntá <u>coati</u>
Cq	n _i ntá	Mg	n _i ntá
Hu	n _i ⁴ ntá ⁴	Lo	čon _i ntó
Ji	n _i ntá	Te	ʔint _i á

PPn 270. Ay thi- < *t^yhu³- nominal 616-620; Lo čo- < *čú⁴ animal 107; Te /ʔi/ rather than expected n_i- probably due to present replacement of certain consonants by /ʔ/.

331. *n_i⁴ntú³ (*n_i⁴- nominal 312) pimple.

Ay	n _i ntú	So	n _i ⁴ ntú ³
Cq	n _i ntú	Ix	n _i ntú
Ja	n _i ³ ntú ²	Mg	n _i ntó
Do	n _i ntú	Lo	n _i ntí
Hu	n _i ⁴ ntú ³	Te	n _i ntiú

Expected reflex: Mg -ntú.

332. *nĩ⁴ñũ⁴ (*nĩ⁴- nominal 312) corn cake.

Mz	nĩñũ	Ji	nĩũ
Ay	nĩñó	So	nĩ ⁴ ñũ ⁴
Cq	nĩñq	Ix	nĩñũ
Ja	nĩ ^s ñũ ^s	Lo	nĩñĩ
Do	nĩñũ	Te	nĩñũ
Hu	nĩũ ⁴		

PPn 351; PMS 56. Expected reflexes: Ay, Cq, Ji nĩñũ.

333. *nĩ⁴sé^s (*nĩ⁴- nominal 312) bird.

Mz	nĩsyé, sí	So	nĩ ⁴ sé ^s
Ay	nĩsé	Ix	nĩsé
Cq	nĩsé	Mg	nĩsé
Ja	nĩ ^s sé ^s	Lo	nĩsá
Do	nĩsé	Te	nĩsé
Hu	nĩ ⁴ sé ^s		

PPn 145. Mz /y/ before /e/ unexplained, phonemically doubtful.

334. *nĩ⁴sĩ⁴ (*nĩ⁴- nominal 312) basket.

Mz	nĩsiyá	Ji	nĩsiyá
Ay	nĩsí	So	nĩ ⁴ sĩ ⁴
Cq	nĩsí	Ix	nĩsí
Ja	nĩ ^s sĩ ^s <u>small basket</u> ,	Mg	nĩsiyá
	nĩ ^s sĩ ^s yá <u>large basket</u>	Lo	nĩsiyó
Do	nĩsí	Te	nĩsí <u>small basket</u> , nĩsiyá
Hu	nĩ ⁴ sĩ ⁴ yá ¹		<u>large basket</u>

PPn 140. Mz oral vowel in -si- syllable unexplained;
Lo /i/ unexplained, expected /e/. Mz, Hu, Ji, Lo, Te -ya <
*ya¹ wood 662.

335. *ni⁴si⁴ (*ni⁴- nominal 312) rib.

Ay	ni ⁴ si ⁴ <u>chest</u>	Do	ngini ⁴ si ⁴ <u>epigastrium</u>
Cq	ntani ⁴ si ⁴ <u>chest</u>	Hu	nta ³ ni ⁴ si ⁴
Ja	ngi ³ ni ⁴ si ⁴ <u>epigastrium</u>		

Ay, Cq oral stressed vowel unexplained. Ja, Do ngi- <
*na³ni⁴si⁴ low 245; Cq, Hu nta- < *ni⁴nta³si⁴ bone 317.

336. *ni⁴sthe⁴ (*ni⁴- nominal 312) night.

Mz	ni ⁴ thi ⁴	Hu	ni ⁴ the ⁴
Ay	ni ⁴ sthe ⁴	Ji	ni ⁴ the ⁴
Cq	ni ⁴ sthe ⁴ <u>middle of the</u> <u>night</u>	So	ni ⁴ the ⁴
Ja	ni ³ sthe ³	Ix	ni ⁴ sthe ⁴
Do	ni ⁴ sthe ⁴	Lo	ni ⁴ thi ⁴
		Te	ni ⁴ the ⁴

PPn 30. Expected reflexes: Mz, Ay -sthe⁴; Cq -sthe⁴.

337. *ni⁴st^yhi³ (*ni⁴- nominal 312) day.

Mz	ni ⁴ thi ⁴	Ji	ni ⁴ chi ⁴
Ay	ni ⁴ sthi ⁴	So	ni ⁴ thi ³
Cq	ni ⁴ sti ⁴	Ix	ni ⁴ sti ⁴
Ja	ni ³ sthi ³	Mg	ni ⁴ thi ⁴
Do	ni ⁴ sthi ⁴	Lo	ni ⁴ sthe ⁴
Hu	ni ⁴ chi ³	Te	ni ⁴ sti ⁴

PPn 38; PMS 54. Expected reflexes: Mz -sth-; Te nĩthĩ.
Lo, Te oral vowels in heavily stressed syllable are unexplained.

338. *nĩ⁴ʔntĩ⁴ (*nĩ⁴- nominal 312) smoke.

Mz	nĩʔntĩ	Ji	nĩnté
Ay	nĩʔntĩ	So	nĩ ⁴ ntĩ ⁴
Cq	nĩʔntĩ	Ix	nĩntĩ
Ja	nĩ ³ ntĩ ³ <u>smoke</u> , <u>cloud</u>	Mg	nĩntʔĩ
Do	nĩntĩ	Lo	nĩʔnté
Hu	nĩ ⁴ ʔntĩ ⁴	Te	nĩntĩ

PPn 7; PMS 57. Expected reflexes: Mz nĩntĩ; Ji, Lo nĩʔntĩ.

339. *nĩ⁴ʔñý⁴, *nǎ⁴ʔñý⁴, *nte⁴ʔñǎ⁴ (*³ - ³) (*nĩ⁴-
nominal 312, *nǎ⁴- nominal 241) teeth.

Mz	nĩʔñý	Ji	nĩʔñý
Ay	nteʔñǎ	So	nǎ ⁴ ʔñý ⁴
Cq	nǎĩʔñý	Ix	nĩʔñý
Ja	nĩ ² ʔĩý ²	Mg	nǎñʔý
Do	nĩʔñý	Lo	nǎʔĩ
Hu	nĩ ⁴ ʔñý ⁴ , nĩ ³ ʔñý ⁴	Te	nĩñý

PPn 300. Lo nǎʔĩ unexplained, expected nĩʔñĩ.

340. *nka³- subordinating conjunction.

Mz nka-	Ji nka ³ ñú <u>strong</u>
Ay nkayehé <u>everything</u>	So nka ³ -
Cq nkahá <u>there</u>	Ix nka-
Ja nga ³ -	Mg nkacá <u>cheek</u>
Do nga-	Lo nkosi <u>level</u>
Hu nka ³ -	Te nkahyé <u>everything</u>

PPn 280.

341. *nka³sú³ leg.

Mz nkasú	So gasú
Ay nkasú-	Hu nka ³ sú ³
Ja ga ³ sú ²	Te kasú

Ja, Do, Te loss of *n unexplained. The tone reconstruction on the last syllable is partially indeterminate; it is either *³, *³¹, or *⁴².

342. *nka⁴haú⁴, *nki⁴haú⁴ (*³ - ³) cave.

Ay nkihó	Ji nkahó
Cq nkeího	So nki ³ hó ³
Ja ngi ² hó ²	Ix nkihú
Do ngihó	Lo nkohwí
Hu nka ⁴ haú ⁴	Te nkihó

PPn 191. Expected reflex: Te nkihú; Cq /e/ of /ei/ cluster unexplained; Lo /w/ of /hw/ cluster unexplained.

343. *nka⁴ncu⁴ʔá⁴, *ka⁴ncu⁴ʔá⁴ (*⁴ - 1 - 1), *-cu⁴ʔá⁴
stomach.

Mz	cʔwá, nowá	Ji	cʔá, ncʔá
Ay	kancʔá	So	nka ⁴ cʔuá ⁴
Cq	kaʔnčua	Ix	nkacʔuá
Ja	ka ³ ncʔá ¹	Mg	cʔá, ncʔá
Do	kacʔá	Lo	konciwó
Hu	cʔuá ⁴ , ncʔuá ⁴	Te	kancuwá

PFn 325. Expected reflex: Mz cʔuá; Ja /c/ unexplained;
 Cq /č/ unexplained.

344. *nkhí² many.

Mz	mānkhí become many;	Hu	nkhí ²
	khí mā <u>there are many</u>	Ji	khí
Ay	nkhí	So	khí ¹
Cq	khí	Ix	khí
Ja	nkhí ¹ , khí ¹ (< Pre-Ja	Mg	khí
	*nkhí ¹)	Lo	khí
Do	nkhí, khí (< Pre-Do *nkhí)	Te	khí

PMS 26. Expected reflexes: Mz, Ay, Hu kh-; Ix nkh-.
 Ja expected tone ².

345. *nki¹si³, *ya¹si³ (*³ - ³) neck.

Mz nkisi ₁	Hu ya ¹ si ³
Ay nkisi ₁	Ji yas ₁
Cq nkise ₁	Ix nkisi ₁
Ja ngi ² si ² , gi ² si ² (< Pre-Ja Mg yas ₁	
*ngi ² si ² <u>nape of the</u>	Lo nkise ₁
<u>neck</u>	Te ʔisi ₁ (< Pre-Te *yas ₁)
Do ngisi ₁ , gisi ₁ (< Pre-Do	
*ngisi ₁) <u>nape of the</u>	
<u>neck</u>	

PPn 139. Cq /e/ in /e₁/ unexplained; Lo expected -si₁.

346. *nki³hi², *ki³hi² went.

Ay kihí	So ki ³ hi ¹
Cq kihíčá	Ix kihí
Ja ghi ²	Lo kihí
Do kihí	Te kí
Hu kí ⁴³	

PPn 180. Ja evidentially developed from Pre-Ja *ngihí < *nkihí. Expected reflexes; Hu ki⁴hi²; Te kihí; Cq -čá unexplained.

347. *nki³šú² afternoon afternoon.

Mz	nki ³ šúra <u>afternoon</u> ,	Hu	má ³ šú ²
	kyānkišú <u>evening</u>	Ji	nkišú
Ay	k ^w ankišó	So	nki ³ šú ¹
Cq	nkičú-, kišú-	Ix	kamānkišú
Ja	gi ² šú ¹	Lo	kišú
Do	gišú	Te	kyānkešú <u>evening</u>

PPn 70. Ja, Do, Lo loss of *n unexplained. Ay k^wa- unexplained; Ay expected reflex -šú; Hu má³- < *má³ do 227. Ja expected tones ² - ².

348. *nki³ʔnté³, *ki³ʔnté³ under.

Ay	kiʔnté	Do	kinté
Cq	nkiʔnté	So	nki ³ nté ³
Ja	ki ² nté ²	Ix	nkinté

349. *nki³ʔwá³ chin, jaw.

Mz	nkiʔwá	Ji	chaʔankiʔwá
Ay	nkiʔwá	So	nānkiʔwá
Cq	nkiʔuá	Ix	nkiwá
Ja	ngi ² ʔwá ²	Mg	nkiwʔá
Do	ngiʔwá	Lo	nkiʔwó
Hu	nki ³ ʔwá ³	Te	nkiwá

Ix expected reflex nkiʔwá. Ji chaʔa- perhaps < *nchá⁴ hair 288 + *ʔá³ opening 692; So nā- < *nā³-(*) nominal 241. The tone reconstruction on the last syllable is partially indeterminate; it is either *³, *³¹, or *⁴².

350. *nku²hñǎ́⁴ yesterday.

Mz	nkuhñǎ́	Hu	nku ² hñǎ́ ⁴
Ay	nkuhñǎ́	Ji	nkuhñǎ́
Cq	nkuhñǎ́	So	nku ² hñǎ́ ⁴ (< Pre-So * ¹ - ⁴)
Ja	ngu ² hñǎ́ ³ , gu ² hñǎ́ ³ (< Pre-	Ix	nkuhñǎ́
	Ja *ngu ² hñǎ́ ³)	Mg	nkuhñǎ́
Do	nguhñǎ́, guhñǎ́ (< Pre-	Te	nkuhñǎ́
	Do * nguhñǎ́)		

PMS 25.

351. *nku²skiá́⁴, *nku²čá́⁴ day before yesterday.

Mz	nkuskiá́	Hu	nku ² skiá́ ⁴
Ay	nkučá́	Ji	nkuskié
Cq	nkučá́	So	nku ² čá́ ⁴ (< Pre-So * ¹ - ⁴)
Ja	ngu ² čá́ ³ , gu ² čá́ ³ (< Pre-	Ix	nkučá́
	Ja *ngu ² čá́ ³)	Mg	nkuskiá́
Do	ngučá́, gučá́ (< Pre-Do	Lo	nkiskió
	*ngučá́)	Te	nkoské

Expected reflexes: Ji, Te nkuskiá́, Lo nkiskió; Lo nki-unexplained.

352. *nk^wha⁴nthuá́⁴ door.

Mz	nkanthuá́	Do	hank ^w há
Ay	šunthá	Hu	šu ⁴ nthuá́ ⁴
Cq	nĩnkothó	Ix	nkanthuá́
Ja	ñ ^s k ^w há́ ³ , ñ ^s k ^w hó́ ³ (< Pre-	Mg	nkathá
	Ja *ha ^s nk ^w há́ ³	Te	šuntuá

PPn 265; PMS 22. Expected reflexes: Cq -nkhathuá; Te -thá; Ay, Hu, Te šu- unexplained. Cq nĩ- < *nĩ^s- nominal 312.

353. *nta¹na^st^yá¹, *nta¹na^sté¹ (*ntá¹ liquid 270, *na^s- nominal 241) saliva.

Mz	tyá	Ji	w [?] ečá <u>he soits</u>
Ay	ntatiá	So	nta ^{s1} té ^{s1}
Cq	na _{ti} á	Ix	ntañtiá (< Pre-Ix *ntana _{ti} á)
Ja	nda ¹ na ^s té ¹	Mg	w [?] etiá <u>he soits</u>
Do	ndanaté	Lo	ntonqčó
Hu	čá	Te	ntanačú

PPn 34. Te /u/ unexplained, expected /a/; So expected -tyá; Ji, Mg w[?]e- < *we^sé¹ hits 652.

354. *nta¹ntu^swá¹ (*ntá¹ liquid 270; *ntu^swá¹ sunshine 359) sweat.

Ay	ntantu _{wá} na	Ix	ntantu _{wá}
Ja	nda ¹ ny ^s wá ¹	Lo	nqnti _{wó}
Do	ndany _{wá}		

Expected reflex: Do ndandu_{wá}, the occurring form probably is borrowed from Ja. Lo nq- < *na^s- (*⁴) nominal 241.

355. *nta¹ntu⁴wá⁴ (*ntá¹ liquid 270, *ntu⁴wá⁴ nest 364) urine.

Ay	ntantu _{wá}	So	ntantu _{wá}
Cq	ntantu _{wá}	Ix	ntantu _{wá}
Ja	nda ¹ ny ^s wá ^s	Lo	nti _{wó}
Do	ndandu _{wá}	Te	ntantu _{wá}
Hu	nta ¹ ntu _{wá} ⁴		

PPn 319.

356. *nta¹šhé⁴ (*ntá¹ liquid 270, *šhé⁴ big 511) river.

Mz	ntahyé	Hu	nta ¹ hé ⁴
Ay	ntahé	So	nantahé <u>swollen river</u>
Cq	ntašhé	Ix	ntahé
Ja	nda ¹ hé ³	Te	ntahé
Do	ndahé		

Mz /y/ before /e/ unexplained, perhaps not phonemic.

357. *nta¹ʔá³ (ntá¹ liquid 270, *ʔá³ opening 692) saliva.

Ay	ntaʔá	Hu	nta ¹ ʔá ³
Ja	nta ¹ ʔá ² <u>slobber</u>	Te	ntaʔakhí
Do	ntaʔá		

Ja, Do /t/ unexplained; expected CʔV; Te expected ntakhí.
 Te -khi perhaps < *khi³ʔí³ appearance of 199.

358. *nta³há² good.

Mz	ntathí <u>it is good</u>	Hu	ntá ⁴ ³
Ay	ntá	So	ntá ³ ¹
Cq	ntá <u>good</u> ; ntahá <u>gentle</u> , tame; čhontahá <u>good</u> egg	Ix	ntá
		Lo	ntohó, ntó <u>good</u> ; čintohó <u>good egg</u>
Ja	ndá ²	Te	ntá thí <u>it is good</u>
Do	ndá		

PPn 261. The conditions under which the final syllable was lost are obscure. I posit that So ³¹ glide reflects a

Pre-So disyllabic tone pattern of ³ - ¹; the correspondence then of Ja ²: Hu ⁴³: So ³ - ¹ reflects a *³ - ² analagous to sets long 397, went 346, buries 313, four 426. Gudschinsky reconstructed *^ʔntá³ as well as *ntá⁴² but I can find no support for an initial /^ʔ/.

359. *nta³wá¹, *ntu³wá¹ sunshine.

Ay	ntawá	Hu	ntuá ²¹
Cq	ntawá	Ix	ntawá
Ja	ny ² wá ¹ , ny ² wó ¹³ (< Pre- Ja *ny ² wá ¹)	Lo	nti ¹ wó
Do	nduwá	Te	ntuwá

360. *nta³yá³, nti³yá³ waist.

Mz	ntayá	Ix	ntayá
Hu	kha ¹ ntiá ³	Mg	khantiá
Ji	ntayá	Lo	ntoyá
So	ntaiyá	Te	ntayá

Hu, Mg kha- < *khá¹ across 180. Reconstruction of tone is partially indeterminate; it is either *³ - ³ or *³ - ³¹.

361. *nta³ʔyá¹ thorn.

Mz	na ³ ʔyá	Ji	na ³ ʔyá
Ay	na ³ ʔiá	So	na ³ ʔyá ²¹
Cq	na ³ ʔiá	Ix	nta ³ ʔiá
Ja	na ³ ʔiá ²	Mg	na ³ ʔyá
Do	nda ³ ʔiá	Lo	nq ³ ʔyó
Hu	na ³ ʔyá ¹	Te	na ³ yá

PPn 347; PMS 62. Mg expected reflex nay^{a} , occurring
Mg form likely is a loan form Hu; Cq expected nt-.

362. $*\text{nta}^4$ - person prefix (singular male, male speaker)
Ja nda^{s} , $\text{nda}^{\text{s}}\text{ci}^{\text{s}}\text{ni}^{\text{s}}$ Ix ntá , $\text{ntacini}^{\text{s}}$
Do nda

363. $*\text{nta}^4\text{hai}^{\text{s}}$ sugar cane.
Mz ntahi Ji ntihí
Ay ntahai So $\text{nta}^4\text{hi}^{\text{s}}$
Cq nteihei Ix ntahé
Ja ndhai^{s} Lo ntehé
Do ndeihei Te ntihí
Hu $\text{nta}^4\text{hai}^{\text{s}}$

PPn 179. Expected reflexes: Mz -hé; Do ndahai ; Hu
 ntai^{s} ; Ji -hai; Ix -hai.

364. $*\text{nta}^4\text{wá}^4$, $*\text{ntu}^4\text{wá}^4$ nest.
Ay ntawá Do nduwá
Cq ntawá So ntawá
Ja $\text{ny}^{\text{s}}\text{wá}^{\text{s}}$ Ix ntuwá

365. $*\text{nta}^4\text{wa}^4\text{ša}^4\text{yá}^4$, $*\text{ntu}^4\text{wa}^4\text{ša}^4\text{yá}^4$ ($*\text{nt}\{\text{a}, \text{u}\}^4\text{wá}^4$
nest 364, $*\text{ša}^4\text{yá}^4$ emanation 504) funeral.

Ay $\text{ntawaša}^{\text{a}}\text{ia}$ Do $\text{nduwaša}^{\text{a}}\text{ia}$
Cq $\text{ša}^{\text{a}}\text{ia}$ Ix $\text{nti}^{\text{a}}\text{iaša}^{\text{a}}\text{ia}$
Ja $\text{ny}^{\text{s}}\text{wa}^{\text{s}}\text{ša}^{\text{s}}\text{ia}^{\text{s}}$

366. *nta⁴ʔyá^s net bag, hammock.

Mz	naʔyá	Hu	na ⁴ ʔyá ^s
Ay	naʔiá	So	na ⁴ ʔyá ^s
Cq	naʔiá	Ix	ntaʔiá
Ja	na ^s ʔiá ²	Lo	nqʔyó
Do	ndaʔiá	Te	naýá

PPn 346. Expected reflex: Cq nt-.

367. *nta⁴ʔyú⁴ dough.

Mz	naʔyú	Ji	naýú, naʔyú
Ay	naʔiú	So	na ⁴ ʔyú ⁴
Cq	naʔiú	Ix	ntaʔiú
Ja	na ^s ʔiú ^s	Mg	naýʔú
Do	ndaʔiú	Lo	nqʔí
Hu	na ⁴ ʔyú ⁴	Te	naýó

PPn 353. Expected reflexes: Lo nqʔyí; Te naýú.

368. *nthai² over the edge of.

Mz	ticikanthiyá	Do	nekontaiyá
Ay	cikanthai ¹ <u>cross legs</u>	Hu	si ² kʔa ^s nthai ²
Cq	nĩnteiyá	Ix	khiʔwanthai ¹ <u>sun sets</u>
Ja	na ^s ko ¹ nthai ² yá ¹	Mg	sikʔathé
	<u>exchange; ci¹ka²nthai²</u>	Lo	sikhothiyó
	<u>cross legs</u>	Te	sikathí-

Expected reflexes: Mz -nthe-; Lo -the-; Ay cʔi-; Cq -tei-; Do -nthai-. Mz, Ay, Te -ka-, Ja, Do -ko-, Hu, Mg -kʔa-,

Lo -kho- unexplained. Mz, Ay ci-, Hu, Mg, Lo, Te si- < *-ci¹ɿ¹- do 26; Mz ti- < *ti¹- continuative aspect 589; Cq ni-, Ja na-, Do ne- perhaps nominals; Mz -yá, Cq -yá, Lo -yó perhaps < *yá inside 660. The tone reconstruction is partially indeterminate; it is either *² or *³².

*369. *nthau⁴ wind.

Mz	thó (< Pre-Mz *nthó)	Hu	nthau ⁴
Ay	nthó	Ji	thó
Cq	thó	So	thó ⁴
Ja	nthó ³ , thó ³ (< Pre-Ja *nthó ³)	Ix	nthú
Do	nthó, thó (< Pre-Do *nthó)	Mg	w ^o ethá <u>he blows</u>
		Lo	thí
		Te	thú

PPn 273; PMS 21. Expected reflex: Mg -thó. Mg w^oe < *we³é¹ hits 652. In Mz forms when /nth/ is not word initial as in 352 and 368 the /n/ is lost.

370. *ntekhá, *tekhá owl (small variety)

Ay	ntekhá	Ja	te ² khá ²
Cq	teikhá	Do	tekhá

The tone reconstruction is rather indeterminate.

371. *nte^oyá⁴ rainbow.

Mz	nte ^o yá	Ix	nti ^o ia
Hu	o ^o yá ⁴	Mg	y ^o á
So	o ^o yá ⁴		

PMS 19. Loss of Hu, So, Mg first syllable unexplained.
The reconstruction of tone on the first syllable is
indeterminate.

372. *nte¹ʔé¹ gentle, tame.

Mz	ntʔí	Ji	ntʔé
Ay	ntʔé	Ix	ntʔé
Ja	ntʔé ¹	Mg	ntʔé
Do	ntʔé	Te	nté
Hu	ntʔé ¹		

Expected reflexes: Ay, Ix nteʔé; Ja, Do /e/ unexplained.

373. *nte¹ʔí⁴ steam, fever.

Mz	nteʔí <u>steam</u>	Ji	nteʔé <u>steam</u> , ʔʔinteʔé
Ay	ntʔeí		<u>malaria</u>
Cq	ʔnteíra	So	tʔá ¹⁴
Ja	ntʔei ² ntó ¹³	Ix	ntʔaí <u>fever</u>
Do	ntʔeintó	Mg	ʔʔintʔé <u>malaria</u>
Hu	ntʔaí ⁴		

PMS 20. Expected reflexes: Mz ntʔV; Ay nteʔí; Cq
nteíʔí; Hu ntʔeí⁴; Ji nteʔí; So nteʔí; Mg -ntʔí; Ja, Do
/t/ unexplained. Ji, Mg ʔʔí- < *ʔi³ʔí³ fever 93; Ja, Do
-ntó < *na⁴ntá¹ liquid 270.

374. *nte³ci²ʔí³ (*nte³- perhaps related to buttocks
384) tail.

Mz	škatocí	So	ni ³ cʔí ³
Ay	ntecʔí	Ix	nəcʔí, ħcʔí (< Pre-Ix *nəcʔí)
Cq	nteiciʔí		
Ja	ni ² cʔí ²	Mg	ntecʔí
Do	ni ² cʔí	Lo	ntaciʔí
Hu	nti ³ cʔí ³	Te	nticí

Expected reflex: Ay -ciʔí; Mz škato- unexplained. Ja,
Do, So ni²- < *ni³- nominal 312; Ix nə- < *nə³- nominal 241.

375. *nte³sú³ ashes.

Cq	nteisú	So	nte ³ sú ³
Ja	ne ² sú ²	Ix	ntisú

376. *nte⁴ci⁴ market.

Mz	ntecí	Ji	nticí
Ay	ntecí	So	nte ⁴ ci ⁴
Cq	nteicí	Ix	nticí
Ja	nʔe ³ ci ³	Mg	ntecí
Do	ndʔecí	Lo	ntací
Hu	nti ⁴ ci ⁴	Te	nticí

PMs 18. Ja, Do /ʔ/ unexplained.

377. *nte⁴cí⁴ (*³ - ³, *⁴ - ³) outside.

Mz ntecyá	Ji nticí
Ay nkantecí	So khi ⁴ nte ⁴ cí ²¹
Cq ntaceí	Ix ntecí
Ja n ² é ³ cí ²	Lo ntacé
Do nd ² ecí	Te nticí
Hu nti ³ cí ³	

Expected reflexes: Mz ntecí; Cq nteicí; Lo ntací; Ja, Do /²/ unexplained; So khi- perhaps < *khi³¹ far 202; Ay nka- < *nka³- subordinating conjunction 340.

378. *nte⁴hé⁴ deer.

Ja ndhé ³ <u>horse</u> , ndhe ⁴ hñá ¹	So nte ⁴ hé ⁴ <u>horse</u>
<u>deer</u> (-hñá ¹ <u>woods</u>)	Ix ntihé <u>horse</u>
Do ndehé <u>horse</u>	

379. *nte⁴thú⁴ nose.

Mz ntethú	So nte ⁴ thú ⁴ <u>his nose</u>
Ay ntethú	Ix nathú, ñthú (< Pre-Ix
Cq nteithú	*nathú)
Ja nā ³ thú ³²	Mg ntethú
Do nethú <u>his nose</u>	Lo ntathú <u>3p.</u> , ntathé <u>lp.</u>
Hu nti ⁴ thú ⁴	Te ni ⁴ thú
Ji ntithú	

PPn 42. Ja, Ix nā-, Do nē- perhaps < *nā³- nominal 241; Te ni⁴- < *ni³- nominal 312. Ja expected reflex ³ - ³.

380. *nte⁴yá⁴, *nte⁴ya⁴skú³ herb.

Mz nteskú	Hu ntia ⁴ , ntia ⁴ skú ³
Ay nteyá	So nté ⁴
Cq nteiskú	Ix ntiyá
Ja ni ³ ya ³ skú ³	Lo ntayó, ntaskí
Do ndeyaskú	Te ntiyá, ntiskú

PPn 341. Cq nasalization of /y/ unexplained. Ja ni- < *ni³- nominal 312. The tone on -sku is partially indeterminate; it is either *³ or *³1

381. *nte⁴ya⁴chí⁴ (*nte⁴yá⁴ herb 380) purslane.

So nte⁴chí⁴

PPn 130. *-ya⁴- in this set is reconstructed by analogy to *nte⁴yá⁴ herb 380; I assume that this is also that Gudschinsky did. However, it seems to me that the vowel in the first syllable was *e rather than *i.

382. *nte⁴yá⁴hú¹ (*nte⁴yá⁴ herb 380; *hú⁴ on the surface of 159) saltwort.

Mz ntehú	Hu ntia ⁴ hú ¹
Ay ntehú	So ntyahó
Cq nteihñú	Ix nti ^h hú
Ja ne ³ hú ¹	Lo ntayó
Do ndehú	Te nti ^h hú

PPn 195. Expected reflex: So nteyahú; Cq -ñ- unexplained. Apparently *-hú¹ was compounded after the vowel shift that involved the *-ahu environment.

383. *nte⁴ʔé² herb-greens.

Ay	nteʔé	Ix	ntiʔé
Ja	ndʔé ^{3 2}	Lo	ntaʔá
Do	ndeʔé	Te	nteʔé
Hu	ntia ⁴ ʔé ²		

Expected reflexes: Do ndʔé; Ix nteʔé; Te nté. The Hu reflex is < Pre-Hu *nteyaʔé.

384. *nte⁴ʔé⁴ buttocks, bottom.

Ja	ndʔé ³	Do	ndʔé
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The tone reconstruction is rather indeterminate from simply Ja tone 3 reflex; it is likely *⁴ - ⁴.

385. *nthé⁴ seed.

Mz	thyé (< Pre-Mz *nthé)	Hu	nthé ⁴
Ay	nthé	So	thé ⁴
Cq	thé	Ix	nthé
Ja	nthé ³ , thé ³ (< Pre-Ja *nthé ³)	Lo	thá
		Te	thé
Do	nthé, thé (< Pre-Do *nthé)		

PPn 255. Mz /y/ before /e/ unexplained, phonemically doubtful. In Mz when /nth/ is not word medial as in 352 and 368 the /n/ is lost.

386. *nti¹kié¹ buzzard.

Mz	likyí	So	tariskú
Ay	thiun ₁ ké	Ix	riké
Ja	li ¹ kié ¹ , ča ¹ li ¹ kié ¹	Mg	n ₁ ké
Do	čalikié	Lo	n ₁ kiá
Hu	n ₁ ¹ ké ¹ , ndi ¹ ké ¹ , li ¹ ké ³	Te	likié
Ji	n ₁ kyé		

PPn 48. So -skú unexplained. Development of *nt is unexplained unless a special environment *-iki is posited. The stressed vocalic nucleus is not explained; it is not clear whether a unique cluster *ie should be reconstructed or whether simply *e. Ay thiū- < *t^yhu³- nominal 616-620; Ja ča- < *ča¹- person prefix 55.

387. *nti³čhá³ sister.

Ay	ntičhá	Hu	nti ³ čhá ³
Cq	tičhá	Ix	ntičhá
Ja	n ₁ ³ čhá ³	Te	ntičhá
Do	n ₁ čhá		

Expected reflex: Cq ntičhá. Ja, Do n₁- < *n₁³- nominal 312. The tone reconstruction on the last syllable is partially indeterminate; it is either *³, *³¹, or *⁴².

388. *nti^ssé^s, *nči^ssé^s midday.

Mz ntisyé	Ix ntisēc ^u é
Ay nčusé	Mg ntisé
Cq nčiseí	Lo nčisá
Hu nči ^s sé ^{s4}	Te nčisé
So nči ^s sé ^s	

Expected reflex: Ay nčisé; Mz /y/ before /e/ is unexplained and is phonemically doubtful. Ix -c^ué < *cu^swí¹ sun 52; however the final /e/ is unexplained since the expected reflex is -c^uí. Hu tone ⁴ of ^{s4} cluster probably phrase final glide.

389. *nti^sʔyá^s house.

Mz ni ^ʔ yá	So ni ^s ʔyá ^s
Ay ni ^ʔ iá	Ix nti ^ʔ iá
Cq nti ^ʔ iá	Mg nt ^ʔ iá
Ja ni ^s ʔiá ^s	Lo ni ^ʔ yó
Do ndi ^ʔ iá	Te ni ^ʔ yá
Hu ni ^s ʔyá ^s , nti ^ʔ iá ^s	

PPn 349. Mg nt- cluster unexplained. Development of Hu nti^ʔiá alternate unexplained.

390. *nti^sʔyá^smá^ssé^s, *nti^sʔyá^swa^ssé^s (*nti^sʔyá^s house
389) town hall.

Mz	ni ^s ʔyawasé	Ji	ni ^s ʔyawasé
Ay	ni ^s ʔiamasé	So	ša ^s wa ^s sé ^s <u>town work</u>
Cq	nti ^s ʔiawaséí	Ix	nti ^s ʔiamasé
Ja	ni ^s ʔia ^s má ^s sé ^s <u>town hall</u> ;	Mg	nt ^s ʔiawasé
	má ^s sé ^s <u>unowned</u>	Lo	ni ^s ʔyowosá
Hu	nt ^s ʔia ^s wa ^s sé ^s	Te	ni ^s ʔyawasé

Ay, Ja, Hu, Ji oral /e/ is unexplained; Hu, Mg nt-cluster unexplained; Hu expected ni^sʔya-. So tone 2 is unexplained. *-má^ssé^s probably is a recent compound.

391. *nti^sʔyú^s gopher.

Ay	tuni ^s ʔiú	Hu	ni ^s ʔyu ^s ʔnté ^s
Cq	čunti ^s ʔiú	Lo	ni ^s ʔyí
Ja	ča ¹ ni ^s ʔiú ^s	Te	ni ^s ʔyó
Do	čanda ^s ʔiú		

Expected reflexes: Te ni^sʔyú; Do -ndi^sʔiú. Ay tu-unexplained; perhaps < *t^yhu^s- nominal 616-620; Cq ču- < *čú⁴ animal 107; Ja, Do ča- < *ča¹- person prefix 55; Hu -ʔnte < *ni^sʔnté^s land 327. The tone reconstruction on the last syllable is partially indeterminate; it is either *^s, *^{s1}, or *⁴².

392. *nti⁴ya¹ road.

Mz	ntiyá	Hu	ntia ⁴²
Ay	ntiyá	Ji	ntiyá
Cq	ntiyá	So	nti ⁴ ya ²¹
Ja	ni ³ ya ¹ , ni ³ yo ¹³ (< Pre- Ja *ni ³ ya ¹)	Ix	ntiyá
Do	ndiyá	Mg	ntiaté <u>main road</u>
		Lo	ntiyó
		Te	ntiyá

PPn 338. Mg -te < *té⁴³ wide 572.

393. *nti⁴ya¹té¹ (*³ - ¹ - ¹) (*nti⁴ya¹ road 392, *té¹ wide 572) road (main).

Ay	ntiyaté	Ix	ntiyaté, ntiyité
Cq	ntiyaté	Mg	ntiaté
Ja	ni ² ya ¹ té ¹ <u>town center</u>	Lo	ntiyotá
Hu	ntia ⁴² té ¹	Te	ntiyaté
So	ntya ³² té ³²		

PPn 338. Expected reflex: So ntiya-, cf. 392. So tone is unexplained.

394. *nti⁴yo³ ant.

Mz	ni ² yú	Ji	ni ² yú
Ay	ni ² iú	So	ni ⁴ yo ³
Cq	nti ² iú	Ix	nti ² iú
Ja	ni ³ yo ² iú ²	Mg	ni ² yú
Do	ndi ² iú	Lo	ni ² yí
Hu	ni ⁴ yo ³	Te	ni ² yú

PPn 79.

395. *ntu¹scé¹, *nta¹scé¹ sweet potato.

Ay	n ² y ₈ cé	Hu	n ² y ₈ ¹ hcé ¹
Cq	ny ₈ cé	Ix	ntascié
Ja	n ² y ₈ ¹ cé ¹	Lo	n ₈ í cá
Do	nducé	Te	ntacé

Ix /i/ in /ie/ cluster unexplained. Ay, Ja, Hu n²y₈-,
Cq ny₈-, Lo n₈í- probably < *n₈³ñy₈¹ vine 252.

396. *ntu¹yá¹, *nta¹yá¹ cassava.

Ay	ny ₈ yá	Hu	n ² y ₈ ¹ yá ¹
Cq	ny ₈ yá	Ix	ntayá
Ja	ny ₈ ¹ yá ¹	Lo	n ₈ íyó
Do	nduyá	Te	ntuyá

Ay, Cq, Lo n₈í-, Hu n²y₈- perhaps < *n₈³ñy₈¹ vine 252.

397. *ntu³hú² long.

Mz	ntuhú	Ji	ntuhú, ntú
Ay	ntuhú	So	ntu ³ hú ¹
Cq	ntuhú	Ix	ntuhú
Ja	ndhú ²	Mg	ntú
Do	nduhú	Lo	ntíhí
Hu	ntú ⁴³	Te	ntuhú

PPn 266.

398. *ntu^ssi^s sad.

Ja	ny ^s si ^s	Lo	khontusé
Do	ndusi	Te	timasi
Ix	ntusi		

Ja, Do nasalized /i/ unexplained; Lo kho- unexplained; Lo expected reflex -ntisé. Te ti- < *ti¹- continuative aspect 589; Te -ma- < *ma^s able 227. The tone reconstruction on the last syllable is rather indeterminate; it is either *², *³, *³¹, *⁴², or *⁴³.

399. *ntu^syei¹, *nta^syei¹ hear (2p. sg.).

Ay	atenyia-	So	ny ^s ye
Cq	ny ^s iei	Ix	nta ^s ie
Ja	ny ^s iei ¹	Lo	any ^s yó-
Do	ndu ^s iei	Te	nyá
Hu	ny ^s ye		

PPn 332. Ay, Lo a- < *a^s- interrogative 691; Ay te- perhaps < *ta⁴- no longer 565. Ay, Lo, and Te probably have 3p. forms < *-a.

400. *ntu⁴hú⁴ soap.

Mz	ntuhú	Ji	ntuhú
Ay	ntuhú	So	ntu ⁴ hú ⁴
Cq	ntuhú	Ix	ntuhú
Ja	ndhú ^s	Mg	ntuhú
Do	nduhú	Lo	ntihí
Hu	ntu ⁴ hú ⁴	Te	ntuhú

Expected reflexes: Hu, Mg ntú⁴.

401. *ntu⁴wa⁴yá¹, *nta⁴wa⁴yá¹ (*nt{u, a}⁴wá⁴ nest 364, *yá¹ wood 661) jail.

Mz ntuyá	Ji ntuyá
Ay ntuyá	So ntu ⁴ yá ²¹
Cq ntawayá	Ix ntuguayá
Ja ny ³ wa ³ yá ¹	Mg ntuyá
Do nduguayá	Lo ntíyó
Hu nta ⁴ yá ¹	Te ntayá

PPn 339.

402. *ntu⁴yá³ steam bath.

Mz ntuyá	Ix ntuyá
Ay ntuyá	Mg ntuyá
Cq kuintuyá	Lo kintíyó
Hu ntu ⁴ yá ³	Te khintuyá
So ntu ⁴ yá ³	

PPn 340. Cq kui- perhaps future aspect; Te khi- < *khi³- completive aspect 196; Lo ki- < *ki³- completive aspect 206.

403. *nt^yá⁴ boss.

Ja nda ³ ntiá ³ , ha ¹ -, ča ¹ -,	So ntyá ⁴
hmi ¹ -	Ix ntiá
Do ndantiá, ha-, ča-, hmi-	

404. *nt^ya⁴há¹ crow.

Hu	nčá ⁴²	Lo	nčó
Ji	nčá	Te	nčá
Mg	ntihá		

PPn 271. Expected reflexes: Ji nčahá; Mg ntiá; Te nčahá; Lo nčohó; Ji, Lo, Te loss of -ha is obscure.

405. *nt^ya⁴há⁴ horn (animal).

Mz	ntihá <u>cattle</u> , <u>horns</u>	Ji	nčahá <u>cattle</u>
Ay	ntiháre <u>horn</u> , <u>cattle</u>	So	ntya ⁴ há ⁴ <u>cattle</u>
Cq	ntiahá	Ix	ntihá
Ja	ndhiá ³	Lo	nčohó <u>cattle</u>
Do	ndiahá	Te	nčahá <u>horn</u> , <u>cattle</u>
Hu	nčá ⁴ <u>horn</u> , nčá ⁴ há ⁴ <u>cattle</u>		

PPn 269. Expected reflex: Ji nča-.

406. *nt^ya⁴hú⁴ stone, rock.

Mz	ʔlahó, yahú	Ji	lohó
Ay	ntihó	So	ntyá ⁴ hó ⁴
Cq	ntiohó	Ix	ntihú
Ja	ndhió ³	Mg	ló
Do	ndiohó	Lo	nohwí
Hu	lau ⁴ , la ⁴ hau ⁴	Te	ntuhú

Expected reflex: Mz -hú. Mz /ʔ/ unexplained. Lo nq-
< *nā³- nominal 241.

407. *nt^ye¹ʔé¹ (*^s - ^s) hears.

Mz ntʔí	So tʔé ²¹ <u>he hears</u> , ntʔé
Ay tentʔé-	<u>he will hear</u>
Cq wiʔnté	Ix canteʔé
Ja (ti ¹)ntʔé ²	Lo kinɕaʔá
Do tintʔé	Te khinɕé
Hu nɕʔué ¹	

PPn 332. Expected reflexes: Ay nteʔe-; Cq -ntiʔé; Hu nɕʔé; So teʔé; Lo -nɕ-. Ix ca- probably continuative aspect; Te khi- < *khi^s- completive aspect 196; Lo ki- < *ki^s- completive aspect 196; Cq wi- < *wi^s- verb auxiliary 655.

408. *nt^ye⁴tí¹ (*^s - ¹) comb.

Mz ntetí	Ji nɕutí
Ay khintetí	So khi ⁴ nte ⁴ tí ²¹
Cq nteití	Ix nití
Ja nɛ ² tí ¹	Mg ntetí
Do nɛtí	Lo khiɕoté
Hu nɕa ⁴ tí ¹	

PPn 116. Expected reflex: Ji nɕu-; development of *e in Mz, Hu, Ji, Ix, Lo unexplained. Ay, So, Hu, Lo khi- < *khi^s- completive aspect 196.

409. *nt^yhí^s (*⁴) forked stick.

Ja	ya ¹ nthí ^s	Ix	yanthí, yinthí
Do	yanthí	Lo	hwíčhí
Hu	nčhí ^s <u>divided like a</u>	Te	yačhé
	<u>cows hoof</u>		

Expected reflex: Te yačhí. Ja, Do, Ix, Te ya- < *yá¹
tree 661. Lo hwí- unexplained, but compounded after *i > *e
 when preceded by back vowels.

410. *nt^yi²k^wí^s (*k^wí^s this 225) no.

Ay	k ^w í	Ji	likuí
Hu	li ² kuí ^s <u>does not</u> ;	Mg	lik ^w í
	nti ² kuí ^s (alternant in	Te	kuí
	overprecise speech)		

411. *nt^yi³ʔí¹ fire.

Mz	lʔí	Ji	lʔí
Ay	ntiʔí	So	nti ³ ʔí ²¹
Cq	ntiʔí	Ix	ntiʔí
Ja	ndʔí ¹	Mg	lʔí
Do	ndʔí	Lo	niʔyé
hu	lʔí ¹	Te	niʔí

PPn 303. Lo -ʔyé unexplained; Te nasalized /ɨ/ unexplained,
 expected ní. Cq has reflex /nt/ when word initial and
 /ʔnt/ when not initial, see pupil of the eye 412; expected
 So, Ix ntʔí.

412. *nt^yi¹ʔi¹ʃky⁴ (*nt^yi¹ʔi¹ fire 411, *ʃky⁴ eye 539)

pupil (eye).

Mz ilíra ʃkwá

Do ndʔinký

Ay ntiʔiʃky

Hu tu⁸lʔi¹ʃky⁴

Cq kiʔntituʃky

Ix ntiʔinčiký

Ja ndʔi¹nký³

Expected reflex: Ix ntʔi-. Ja, Do, and Ix lack of expected reflexes of /ʃ/ unexplained. Mz /-wa/ probably first person, expected /y/ for third person; Mz expected reflex -lʔi-. Ix nči- unexplained. Cq, Hu tu- perhaps < *tú³¹ fruit 605. Cq has reflex /nt/ when word initial and /ʔnt/ when non-initial, see fire 411; expected -ntiʔi-. The reflexes of *ʔ indicate that -ʃky is a recent compound.

413. *nt^yi⁴hi⁴ grass.

Ay ntihi

So ntihi

Cq ntíhi

Ix ntihi

Ja ndhi³

Mg lihi

Do ndihí

Lo ntihithá

Hu li⁴hi⁴

Te ntihi

PPn 354. Expected reflex: Lo nihi-; nti- may be borrowed from Te.

414. *nt^ykhú¹ weak.

Ay	kú	Do	nkhú, khú (< Pre-Do *nkhú)
Cq	heirkú	Ix	ntikú
Ja	nkhú ¹ , khú ¹ (< Pre-Ja *nkhú ¹)		

Cq oral /u/ unexplained. The tone reconstruction is partially indeterminate; it is either *¹ or *²¹.

415. *nt^ykí⁴³ medicine.

Mz	hkí	Hu	škí ⁴³
Ay	kí	So	tkí ³²
Cq	rkí	Ix	ntikí
Ja	nkí ² , kí ² (< Pre-Ja *nkí ²)	Lo	ške
		Te	škí

Do nkí, kí (< Pre-Do *nkí)

PPn 44; PMS 6. The *t^yk cluster > Lo šk before *1 > Lo /e/ in the {s, š}{stop} environment.

416. *-nt^yú¹ (*⁴) marker, boundary.

Ay	ci [?] ntiú	Ji	chinčú
Cq	šintiú	Ix	cintiú
Ja	či ² ntiú ¹	Mg	cintiú
Do	čintiú	Lo	cinčǣ
Hu	či ⁴ nčú ⁴	Te	cinčú

Expected reflex: Ji -nčú. Ay /[?]/ of /[?]nt/ cluster unexplained; development of consonants in first syllable is unexplained.

417. *nt^yu³wá¹ comes.

Ay	hentiwá	So	ntyu ³ wá ²¹
Cq	sei [?] eintuwá	Ix	cintiwá
Ja	ni ² wá ¹	Mg	ntiá
Do	niwá	Lo	yanč [±] wó
Hu	nč ^u á ²¹	Te	nč ^u wá
Ji	nč ^á		

PPn 320; PMS 23. Expected reflex: Cq ntiuwá. Lo ya-unexplained. Cq sei[?]ei- < *sa⁴ʔí⁴ soon 445.

418. *nt^yu⁴hwí³, *nt^ya⁴hwí³ opossum.

Mz	ntehwí	So	ntyu ⁴ hwé ¹³
Ay	thiuntihwí	Ix	ntihwí
Cq	ntiuhwí	Mg	ntiuhwí
Hu	nč ^a hwí ³	Lo	nč [±] fé
Ji	nč ^u hwí	Te	nč ^a hwí

PPn 272; PMS 24. Expected reflexes: Ay thinti-; So -hwí. Mz nte- unexplained.

419. *nú¹ year.

Mz	nú	Ji	nú
Ay	nú	So	nú ²¹
Cq	nú	Ix	nú
Ja	nú ¹	Mg	nú
Do	nú	Lo	ní
Hu	nú ¹	Te	nú

420. *ñá¹ we (incl.).

Ay	cañé	Hu	ñá¹
Cq	nkayaʔá	Ix	cañá
Ja	ñá¹	Lo	nkohñó
Do	ñá		

Expected reflexes: Cq ñá, Lo ñó. Ay, Ix ca- possessive; Cq nka-, Lo nko- < *nka³- subordinating conjunction 340. The tone reconstruction is partially indeterminate; it is either *¹ or *²¹.

421. *ñá³há⁴³ nine.

Mz	ñahá	Ji	ñahá
Ay	ñahá	So	ñá³há³²
Cq	ñahá	Ix	ñihá
Ja	ñhá²	Mg	ñahá
Do	ñahá	Lo	ñohó
Hu	ñá³há⁴³	Te	ñihá

PPn 295; PMS 63. Expected reflexes: Hu ñá³; Mg ñá; Te ʔihá. Ji oral stressed vowel unexplained.

422. *ñá³tú⁴³ seven.

Mz	yatú	Ji	ñitú
Ay	yetú	So	ya³tú³²
Cq	yatú	Ix	yitú, yatú
Ja	ya²tú²	Mg	yatú
Do	yatú	Lo	yotí
Hu	ñá³tú⁴³	Te	ʔitiú

PPn 22. Te /i/ of /iu/ cluster unexplained.

423. *ñā^sʔí^s difficult.

Mz	ñʔí, ñʔé	Ji	ñíʔí
Ay	nʔaícu	So	ní ^s ʔí ^s
Ja	nʔí ² cú ²	Ix	níʔícu
Do	nʔícu	Mg	ñʔí
Hu	ñʔaí ^s	Lo	ñíʔí

PMS 64. Expected reflexes: Mz ñēʔí; Hu naʔaí; Lo ñíʔé; Ay, Ja, Do, So, Ix /n/ unexplained. Development of *a unexplained. Ay, Ja, Do, Ix -cu < *cú² says 47.

424. *ñā⁴čā²té³ (*ñā⁴čā² forty 425, *té³ ten 570) fifty.

Mz	yačatyí	So	ʔi ³ ča ³ té ² (< Pre-So
Ay	yečaté		* ³ - 21 - 3)
Cq	yečaté	Ix	ʔičité
Ja	ča ¹ té ²	Lo	yočotá
Do	čaté	Te	ʔičíté
Hu	ñā ⁴ čā ² té ³		

So, Ix /ʔ/ unexplained; expected /y/. Expected reflexes: Cq, So ya-; Ix yi-. In all languages, nasalized vowel following /č/ is expected, see forty 425. Mz /y/ of /tyi/ cluster unexplained, it is phonemically doubtful.

425. *na⁴čá³ (*³ - 1, *¹ - 1) forty.

Ay yečá	Ji ñičá
Cq yačá	So ya ²¹ čá ²¹
Ja yei ² čá ¹	Ix yičá
Do yeičá	Lo yečó
Hu ña ⁴ čá ³	Te ʔičá

Expected reflex: Lo yo-.

426. *ñy³hú² (*ñý³- nominal) four.

Mz ñyhú	Ji ñihú
Ay ñyhú	So ñy ³ hú ¹
Cq ñyhú	Ix ñihú
Ja ñhú ²	Mg ñý
Do ñyhú	Lo ñihí
Hu ñý ^{4s}	Te ñihú

PPn 298. Mz oral /u/ in stressed syllable is unexplained.

427. *ñy³hú³ ear.

Mz ñyhú	Hu šu ⁴ ñý ³
Ay ñahá <u>my ear</u>	So ña ³ hú ³
Cq thiawañyhú	Ix thiwanihú
Ja ta ³ wa ³ ši ¹ ñhú ²	Mg thiñý
Do tawašiñihú	

Expected reflexes: Ay, Do, So ñyhú; Ix -ñi-. Cq oral /u/ in stressed syllable is unexplained; Hu šu- is unexplained. Cq thiawa-; Ja, Do tawaši-; Ix thiwa-, Mg thi- < *t^yha⁴wa⁴ši¹ skin 613.

428. $\tilde{n}y^3má^1$ avocado.

Mz	$nimá$	Hu	$\tilde{n}y^3má^1, yu^3má^1$
Ay	$nimá$	So	$\tilde{n}y^3má^{21}$
Cq	$yumá$	Ix	$nimá$
Ja	$ni^2má^1, ni^2mó^{13}$ (< Pre- Ja $*ni^2má^1$)	Lo	$nimó$
Do	$nimá$	Te	$yamá$

PPn 233. Expected reflexes: Lo yi-; Te ʔi-.

429. $*\tilde{n}y^3mē^3$ ($*^3 - ^1$) bumblebee.

Ay	$thiulimē$	So	$\tilde{n}y^3mē^1$
Cq	$yuhmē$	Ix	$nimē$
Ja	$ni^2mē^2$	Mg	$yumē$
Do	$nimē$	Lo	$yimá$
Hu	$yu^3mē^{23}$	Te	$ʔimē$

Expected reflexes: Ay - $nimē$; Cq $yumēí$. Ay thiu- < $*t^yhu^3$ - nominal 616-620. Hu tone 2 of 23 glide unexplained.

430. $*\tilde{n}y^3nkú^3$ fingernail.

Mz	$ninkú$	Ji	$ʔinkú$
Ay	$ninkú$	So	$\tilde{n}y^3nkú^3$
Cq	$yunkú$	Ix	$ninkú$
Ja	$ni^2nkú^2$	Mg	$\tilde{n}y^3nkú$
Do	$ninkú$	Lo	$yinkí$
Hu	$\tilde{n}á^3nkú^3, yu^3nkú^3, ya^3nkú^3$	Te	$ʔinkú$

PPn 285. Expected reflex: Mg y-. Ay, Ja, Do nasalization of /y/ unexplained. It is difficult to determine whether Hu /a/ is a development or whether it reflects the older alternation of a ~ u.

431. *ñy⁴hmá¹, *nə⁴hmá¹ (*nə⁴- nominal 241, *ñy⁴- probably a nominal) bean.

Mz	nɪhmá	Ji	nəhmá
Ay	nɪhmá	So	ñy ⁴ hmá ²¹
Cq	yuhmá	Ix	nɪhmá
Ja	nɪ ³ hmá ¹	Mg	nəhmá
Do	nɪhmá	Lo	nəhmó
Hu	nə ⁴ hmá ¹		

PPn 202. Hu, Ji, Mg, Lo witness the *nə- prefix.

432. *ñy⁴hmé¹, *ñə⁴hmé¹ (*ñy⁴- nominal, *nə⁴- nominal 241) corn (kernel).

Mz	nɪhmyé	Ji	nəhmé
Ay	nɪhmé	So	ñy ⁴ hmé ²¹
Cq	yuhmé	Ix	nɪhmé
Ja	nɪ ³ hmé ¹	Lo	nəhmá
Do	nɪhmé	Te	nəhmé
Hu	nə ⁴ hmé ¹		

PPn 199; PMS 59. Mz /y/ before /e/ unexplained; it is phonemically doubtful. Hu, Ji, Lo, Te witness the *nə- prefix.

433. *ñy⁴má⁴ poor.

Mz	nĩmá	So	ñá ⁴ má ⁴
Ja	nĩ ³ má ³ <u>lame</u> , <u>deaf</u> , <u>dumb</u> , <u>poor</u>	Ix	nĩmá
Do	nĩmá	Mg	yumá
Hu	ñy ⁴ má ⁴ , yu ⁴ má ⁴	Lo	yimó
		Te	ʔimá

PPn 232. Expected reflex: So ñy⁴má⁴.

434. *ñy⁴nkú¹ (*³ - ¹) bat.

Mz	nĩnkú	So	ñy ³ nkú ²¹
Ay	thiunĩnkú	Ix	nĩnkú
Hu	ñy ⁴ nkú ¹ , ñá ⁴ nkú ¹ , ya ⁴ nkú ¹	Lo	yinkí
Ji	yunkú	Te	ʔinkú

PPn 286; PMS 65. Expected reflex: Ji ʔinkú. Ay
thiu- < *t^yhu³- nominal 616-620.

435. *ñy⁴nkú⁴ church.

Mz	nĩnkú	Ji	ʔinkú, yankú
Ay	nĩnkú	So	nĩ ⁴ nku ⁴ śí ⁴
Cq	yunkú	Ix	nĩnkuśí
Ja	nĩ ³ nkú ³	Mg	ñyunkú
Do	nĩnkú	Lo	yinkí
Hu	ñy ⁴ nkú ⁴ , ñá ⁴ nkú ⁴ , yu ⁴ nkú ⁴ , ya ⁴ nkú ⁴	Te	ʔinkú

PPn 287. Expected reflexes: So ñy-; Mg y-. So, Ix -śi
perhaps < *śí² apart 524.

436. *sá¹ moon.

Mz	sá	Ji	sá
Ay	sá	So	sá ²¹
Cq	sá	Ix	sá
Ja	sá ¹	Lo	só
Do	sá	Te	sá
Hu	sá ¹		

PPn 152.

437. *sá³ more.

Mz	nkisá	Ji	sá
Cq	sá	So	nki ³ sá ² (< Pre-So * ²¹ - ³)
Ja	sá ²	Ix	nkisá
Do	sá	Lo	nkisó
Hu	nki ³ sá ⁴ , sá ³	Te	sasá

PPn 151. Expected reflex: Lo kisó. Mz, Hu, So, Ix, Lo nki- < *nki³hí² went 346.

438. *sa³kú¹, *su³kú¹ find.

Mz	kasakú	<u>he found</u>	Ji	kasukúle	<u>he found</u>
Ay	sakú		So	sa ³ kú ²¹	
Cq	kasakú	<u>he finds</u>	Ix	kisakú	
Ja	sa ² kú ¹		Mg	sakúna	<u>I find</u>
Do	sakú		Lo	sokí	
Hu	su ³ kú ¹		Te	kasakú	

PMS 40. Mz, Cq, Ji, Te ka- < *ka²- completive aspect 172; Ji -le third person; Mg -na first person.

439. *sa^ssa^s fast.

Mz	sasá	Hu	sa ^s sa ^s
Ay	sasá	Ji	sasá
Cq	sasá	Lo	sosó
Ja	sa ² sa ²	Te	sasá
Do	sasá		

PPn 153. The tone reconstruction on the last syllable is partially indeterminate; it is either *^s, *^{s1}, or *^{2s}.

440. *sa^ssé¹ likes.

Hu	sa ^s sé ¹ le ⁴	Mg	saséle
So	sa ^s sé ^{2s1}	Lo	sosá
Ix	sasé	Te	sasé

Hu, Mg -le third person.

441. *sa^swá^s, *su^swá² ashamed, bashful, alone.

Mz	sawá	So	sa ^s wá ¹
Ay	suwá	Ix	suwá
Cq	kamasúwa	Mg	sawá
Ja	su ² wá ²	Lo	síwá
Do	suwá	Te	suwá
Hu	suá ^{4s}		

PPn 323. Expected reflexes: Mg suá; Lo síwó. Cq ka-
 < *ka²- completive aspect 172; -má- < *má^s able 227.

442. *sa⁴nta³há² (*¹ - s - s) (*sa⁴- < *sá³ more 437, *nta³há² good 358) better.

Ay	tosantá-	So	nkisantá
Cq	tušantahá	Ix	tasantá
Ja	to ² sa ¹ ndá ²	Lo	tosontohó
Do	tosandá	Te	ʔisantá
Hu	nki ² sa ⁴ ntá ⁴³		

Cq /š/ unexplained; expected /s/, cf. more 437; Ay, Ja, Do, Lo to-, Cq tu-, Ix ta-, Te ʔi- unexplained. Hu, So nki- < *nki³hi² went 346. The conditions under which the final syllable was lost are obscure.

443. *sa⁴sé¹ clown.

Ja	ha ¹ ču ³ sé ¹	Ix	sasé
Do	hasasé	Mg	sasé, susé
Hu	sa ⁴ sé ¹ , su ⁴ sé ¹	Lo	sosá
Ja	sasé	Te	sasé
So	sasé		

Ja, Do ha- < *ha¹- person prefix 121; Ja ču- < *ču⁴ animal 107.

444. *sa⁴sé⁴, *su⁴sé⁴ green (color).

Mz	susí	Ji	sasé
Ay	susé khi ^{ʔí}	So	su ⁴ sé ⁴
Cq	susé	Ix	sasé
Ja	se ³ sé ³	Mg	susé
Do	sesé	Lo	sosá
Hu	sa ⁴ sé ⁴	Te	sasé

Expected reflexes: Ja, Do susé; perhaps the presence of /e/ in unstressed syllable is due to anticipation of /e/ in stressed syllable. Ay khi²í < *khi³í³ appearance of 199.

445. *sa⁴í⁴ soon.

Ay	s ² ei-	Ji	s ² á
Cq	sei ² ei	So	s ² ái
Ja	í ³ s ² ei ³²	Ix	s ² ái
Do	í ² as ² ei	Mg	s ² á
Hu	s ² á ⁴ , s ² ái ⁴		

Expected reflexes: Ay, Ja, Do s²ái; Hu sa²ái; Cq, So, Ix sa²í; Ji, Mg s²ái. Ja í²-, Do í²a- perhaps < *í²ya³- nominal 725.

446. *sá³ acid.

Mz	sá	Ji	sá
Ay	sá	So	sá ³
Cq	sá	Ix	sá
Ja	sá ²	Mg	sá
Do	sá	Lo	só
Hu	sá ³	Te	sá

PPn 156. .

447. *scá¹ section (of an orange).

Ay	cá	Hu	hcá ¹
Ja	cá ¹	Ix	scá
Do	cá	Te	hcá

Te hcá perhaps borrowed from Hu; expected cá. The tone reconstruction is partially indeterminate; it is either *¹ or *²¹.

448. *scá³ covers.

Hu wa²¹hcá³

PPn 100. The tone reconstruction is partially indeterminate; it is either *³ or *²¹. Possibly this etymon is related to *scá³ bag 450.

449. *scá³ cheek.

Mz hcá

So nta³cá² (< Pre-So *²¹ - *³)

Ay cá

Ix scána my check

Cq cá

Mg nkacá

Ja cá³

Lo conohó

Do cá

Te ɕuakhía

Hu ha⁴hcá³

Te ɕua- unexplained; expected ca-; Lo -nohó unexplained; Hu ha⁴- unexplained. Te -khía < *kha⁴nkhaí¹ face 124; So ntá³ < *ni³ntá³ bone 317; Mg nka- < *nka³- subordinating conjunction 340. Ja expected tone 2.

450. *scá³ bag, pocket.

Cq cá-

Hu ɕi³hcá³

Ja cá²

Ix scá

Do cá

Lo ɕicó

Hu, Lo ɕi- < *ɕi³- connective 518. The tone reconstruction is partially indeterminate; it is either *³ or *²¹.

451. *scé^s guayaba.

Mz	chyé	Jl	hcé
Ay	cé	So	cé ^s
Cq	cé	Ix	scé
Ja	cé ²	Mg	cé
Do	cé	Lo	cá
Hu	hcé ^s	Te	cé

PPn 96. Expected reflex: Mz hecé

452. *scí¹ rain.

Mz	hcí	So	cí ²¹
Ay	cí	Ix	scí
Cq	cí	Mg	cí
Ja	cí ¹	Lo	cé
Do	cí	Te	cí
Hu	hcí ¹		

PPn 87; PMS 75.

453. *sci¹šá⁴ (*scí¹ rain₄₅₂; *ša⁴ faint₄₉₇) drizzle.

Ay	cinchá	So	cišahó
Cq	cišohó	Ix	scišá
Ja	ci ¹ šá ^s	Lo	cišó
Do	cišá	Te	cišá
Hu	hci ¹ šá ⁴ <u>drizzle</u> , šá ⁴ <u>faint</u>		

Expected reflex: Cq čiša-; Ay -nchá unexplained but perhaps < *nchá^s hand 287. Cq, So -hó perhaps < *hý^s on the surface 159.

454. *sčá¹ old.

Mz	-hčá	Ji	-hčá
Ay	čá	So	čá ²¹
Cq	čanká <u>old</u> , <u>big</u>	Ix	sčá
Ja	čá ¹	Mg	-čá
Do	čá	Lo	kočonkó
Hu	-hčá ¹	Te	sčá

PPn 282; PMS 76.

455. *sčá¹nká³, *sčí¹nká³ (*sčá¹ old 454) big.

Ay	čínká	So	ča ³ nká ² <u>old</u> (< Pre-So
Cq	čanká		* ²¹ - s)
Ja	ča ¹ nká ² (<u>sg.</u>)	Ix	šínká
Do	čanká	Mg	čanká
Hu	hči ¹ nká ³ <u>old</u>	Lo	kočonká <u>old</u>

PPn 282; PMS 76. Expected reflexes: Ix sčínká, Lo -nkó.

456. *sča⁴ʔá⁴ orphan.

Hu	hčʔá ⁴	Te	ntisčá
Lo	kiʔntičʔʔ		

PPn 61. Expected reflex: Hu hčaʔá. Lo kiʔnti-,
 Te ntí- < *ʔntí¹ child 714.

457. *sčí¹ (*⁴) little.

Mz	ličf-	Hu	hčf ⁴
Ay	ʔičf	So	čf ²¹
Cq	ʔičeha _{ni}	Ix	čičf
Ja	ʔi ² čf ¹ , čf ¹	Te	sčf
Do	hačf		

PPn 109. Expected reflexes: Mz lihčf; Ix -sčf; Ay, Cq, Ja ʔi- unexplained; Mz /l/ unexplained unless from *nt^y. Cq -ni₂ < *-ni₂^s thing 311. Gudschinsky reconstructed *-čf⁴(*¹), *ntičf and *ličf also.

458. *sč¹u¹k^whá⁴ able.

Ay	čuk ^w háre	Ix	čukhuá
Ja	č ¹ u ¹ k ^w há ^s	Mg	čuk ^w há
Do	čuk ^w há	Lo	čik ^w há
Hu	hč ¹ u ¹ khuá ⁴	Te	čikhuá

PPn 128. Expected reflexes: Ix, Te sč-; Lo -k^whó.

459. *sé^s thick (liquid).

Ay	sé	So	ci ^s sé ² (< Pre-So * ²¹ - s)
Cq	sé		<u>thicken</u>
Ja	sé ²	Ix	sé
Do	sé	Lo	sá
Hu	sé ^s	Te	sé

PPn 141. So ci- < *-ci¹ʔi¹- do 26.

460. *sé⁴² sings.

Mz	tisyé	Ji	tisé
Ay	tisé-	So	thi ²¹ sé ³²
Cq	tisé	Ix	c ² asé
Ja	ti ¹ sé ²	Lo	sá
Do	tisé	Te	tisé
Hu	ti ¹ sé ⁴³		

PPn 144. Expected reflex: So ti²¹-. Mz /y/ before /e/ unexplained; it is phonemically doubtful. Ix c²a- continuative aspect; Mz, Ay, Cq, Ja, Do, Hu, Ji, Te ti- < *ti¹- continuative aspect 589.

461. *sé¹ candle.

Mz	ʔaséri <u>your face</u>	Hu	ni ⁴ nča ⁴ sé ¹ , ni ⁴ ča ⁴ sé ¹
Ay	séra	So	sé ²¹ <u>candle</u> , ʔa ³ sé ³² <u>light</u>
Cq	nčaseí	Ix	sé
Ja	sé ¹	Lo	sáro
Do	sé	Te	sé

PPn 147. Ay oral /e/ and Lo oral /a/ unexplained. Mz, So ʔa-, Hu ʔi- perhaps < *ʔya³- nominal 725. Mz -ri, Ay -ra, Lo -ro possessive pronoun.

462. *sé³ stench (like decayed flesh or copper).

Ay	sé-	Hu	sé ³ , nhé ⁴
Cq	sé	Ix	sé
Ja	sé ²	Lo	sá
Do	sé	Te	sé

Expected reflex: Cq seí. Hu nhé⁴ < *hné⁴ smells 141.
The tone reconstruction is partially indeterminate; it is
either *³ or *³¹.

463. *se³ʔé³ enters.

Mz	tihwasʔí	Ji	w'esʔéle <u>he stabs him</u>
Ay	tihwasʔé	So	sʔé ³
Cq	kuiséʔé	Ix	sawasé
Ja	hwa ² sʔé ² <u>he enters</u> , sʔé	Lo	tihwosaʔá
	<u>enter</u>	Te	tihwasé
Do	kahwasʔé		
Hu	sʔé ³ <u>motion inward</u>		

PPn 150; PMS 43. Expected reflexes: Cq -seíʔéí; Ay, So,
Ix seʔé-. Mz, Ay, Ja, Do, Te -hwa-, Lo -hwo- < *hwa³ʔá³
passes by 163; Mz, Ay, Te ti- < *ti¹- continuative aspect
589; Do ka- < *ka²- completive aspect 172.

464. *se³ʔé³hí³ (*se³ʔé³ enters 463, *hí³ among 134)
believes.

Ay	sʔéhí-	So	cʔéhí
Cq	cahí	Ix	síhí
Ja	sʔé ² hí ²³	Lo	sahí
Do	sʔéhí	Te	síhí
Hu	wha ³ ʔa ³ sʔé ³ hí ³ <u>to enter in</u>		

Expected reflexes: Cq seíʔéíhí; Ay, So, Ix seʔe-; Te
sehí; Lo saʔá-; development of *ʔ unexplained. Hu hwa³ʔa³ -

< *hwa³ʔá³ passes by 163. Ja tone ³ of ²³ glide probably developed by analogy and indicated phrase final. The tone on the last syllable is partially indeterminate; it is either *³ or *³¹.

465. *shá³ bitter, gall.

Mz chá	So chá ³
Ay shá	Ix sá
Cq sá	Mg sá
Ja shá ²	Lo chó <u>bitter</u> , čikichó <u>gall</u>
Do shá	Te chá <u>bitter</u> , čikichá
Hu shá ³ <u>bitter</u> , čí ³ ki ³ shá ³	<u>gall</u>
<u>gall</u> <u>bladder</u>	

PPn 107. Hu, Lo, Te čiki- < *čí³kí³ breast, nipple 89.

466. *-shai² look for.

Ay tihwinkankishai	So ti ⁴ nči ⁴ chai ¹
Cq kuankasei	Ix cʔahwinkisai
Ja ti ¹ hwi ² ngi ² shai ²	Mg hwasó
Do tihwingishai	Lo kowikocheʔé
Hu wa ²¹ shai ²	Te khuinčishé
Ji kihnčishai	

PMS 42. Expected reflexes: Te -čí; Mg -sé; Lo -ʔé unexplained. Ix cʔa- probably continuative aspect; Cq -nka- < *nka³- subordinating conjunction 340; Ay -nki-, Ja, Do -ngi- < *nki³hí² went 346; Hu wa- < *wa³- verb auxiliary 630;

Ay, Ja, Do -hwi- < *hwí² goes 169; Lo -wi- < *wí³- verb auxiliary 630; Mg hwa- < *hwa³ʔá³ passes by 163; Ay, Ja, Do, So ti- < *tí¹- continuative aspect 589; Ji hnči-, So -nči-, Te -nči- unexplained.

467. *shué² hot.

Mz	chié	Ji	shé
Ay	shé	So	sué ¹
Cq	sué	Ix	sué
Ja	shé ²	Mg	sé
Do	shé	Lo	cháyo
Hu	shué ² , shé ²	Te	ché

PPn 316. Expected reflex: So chué¹. Lo -yo < *yá inside 660.

468. *sí³ci¹ʔí¹ bothers.

Mz	sitis ^{ʔí}	Hu	sí ⁴³ s ^{ʔí} ¹
Ja	sí ² c ^{ʔí} ¹	So	sici ² ʔí ²¹
Do	síc ^{ʔí}	Ix	šic ^{ʔé}

Expected reflexes: So, Ix sic^{ʔí}; Mz, Hu /s/ in stressed syllable rather than expected /c/ probably is due to /s/ in preceding syllable; Mz -ti- unexplained; Ix ši- unexplained; Ix /e/ unexplained; Ja, Do, So nasalized /i/ unexplained. Hu expected tone reflexes ³ - ¹.

469. *si³né² yellow.

Mz	siní	Ji	siné
Ay	siné	So	si ³ né ¹
Cq	sinéí	Ix	siñé
Ja	si ² né ²	Mg	siné
Do	siné	Lo	siná
Hu	si ³ né ²	Te	siné

PPn 242.

470. *sí^{4s} dirt.

Mz	ntasí <u>mud</u>	So	nta ³ si ² hí ^{3s} (< Pre-So * ²¹ - s - ^{3s}) <u>mud</u>
Ay	ntasihí <u>mud</u>		
Cq	ntasí <u>mud</u>	Ix	ntasí <u>mud</u>
Ja	sí ² <u>dirt</u> , nda ¹ sí ² <u>mud</u>	Mg	ntasí <u>mud</u>
Do	sí <u>dirt</u> , ndasí <u>mud</u>	Lo	ntosé <u>mud</u>
Hu	nta ¹ sí ^{4s} <u>mud</u>	Te	ntasí <u>mud</u>

Lo expected -sí; Ay, So -hí perhaps < *hí^{4s} among 134, but loss of nasalized vowel is unexplained. nta-, nda < *na⁴ntá¹ is a recent compound. The tone correspondence between Hu and So is problematical for -si-; either Hu should have ³ or So ^{3s}.

471. *-sí³ tick.

Ay	natesí	Hu	tu ² sí ³
Cq	teísí	Ix	tisí
Ja	te ² sí ²	Lo	tosé
Do	tesí	Te	tusí

Ay, Ja, Do, Lo oral stressed vowel unexplained; expected nasalized vowel. Lo expected -si unless back vowel occurred in front of *-s_i³ when *e > Lo /i/. Ay na- < *na³- nominal 241. The tone reconstruction is partially indeterminate; it is either *³ or *³¹.

472. *ská¹ plays.

Mz	ticiská	Do	hminčhiská <u>prostitute</u>
Ay	ticiská	Hu	khua ⁴ ská ¹ <u>play</u> , čhy ⁴² ská ¹
Cq	skarná <u>prostitute</u>		<u>prostitute</u>
Ja	hmi ³ nčhi ¹ ská ¹ ,	Mg	ská <u>crazy</u>
	hmi ³ nčhi ¹ sko ¹⁴ (< Pre-	Lo	sko <u>crazy</u> , sisko <u>play</u>
	Ja *hmi ³ nčhi ¹ ská ¹)		čhisko <u>prostitute</u>
	<u>prostitute</u>	Te	tisiská <u>play</u> , ičhiská
			<u>prostitute</u>

Expected reflex: Ay tic²iská. Ja, Do hminčhi- < *nčhi¹ women 305; Mz, Ay -ci- < *-ci¹i¹- do 26; Mz, Ay, Te ti- < *ti¹- continuative aspect 589; Hu khua⁴- < *k^whá⁴ abstract thing 216. The tone reconstruction is partially indeterminate; it is either *¹ or *²¹.

473. *ska³ntá³ until.

Ay	ska ² ntá	So	sa ³ ntá ³
Ja	sa ² ntá ²	Ix	nkantá
Do	santá	Lo	skintó
Hu	sa ³ ntá ³	Te	santá

Expected reflex: Lo sko²ntó. Loss of /k/ in Ja, Do, Hu,

So, and Te is unexplained. Ix nka- < *nka^s- subordinating conjunction 340.

474. *ská⁴ (future), *ká⁴ (present) (*⁴³ or *⁴²) able (physically).

Ay	ká, ská	Hu	ká ⁴³ (<u>pres.</u>); ská ⁴ (<u>future</u>)
Cq	ská-	Ix	ská
Ja	ká ²³ , ská ²³	Lo	skó-
Do	ká	Te	ká-

Ja tone ^s of ²³ glide perhaps developed by analogy to indicate phrase final.

475. *ská⁴³ falls.

Hu ki^sská⁴³

Hu ki^s < *ki^s- completive aspect 206.

476. *skhú¹ left (adj.).

Mz	skú	Ji	skú
Ay	thiaskú-	So	-skú
Cq	ncaskú	Ix	skú
Ja	skhú ¹	Mg	skú
Do	skhú	Lo	nkoskí
Hu	skú ¹	Te	skú

Expected reflex: Ay -skhú. Ji oral /u/ unexplained.
 Ay thia- < *t^yhá^s arm 610; Cq nca- < *ncá⁴ hand 287; Lo nko- < *nka^s- subordinating conjunction 340. The tone reconstruction is partially indeterminate; it is either *¹ or *²¹.

477. *skiá belch.

Ay k ^w askiá	Do timaskiá
Ja ti ¹ ma ² skiá ²	Lo koskí

Expected reflex: Lo -skió. Ja, Do ti- < *ti¹-
continuative aspect 589; Do ma- < *má³ able 227. The tone
 reconstruction is rather indeterminate; Ja tone ² reflex may
 be derived from any of the following: *², *³, *³¹, *³², *⁴²,
 or *⁴³.

478. *sku³yá³ wait for (imper. sg.) .

Mz kuyá	Hu ku ³ yá ³
Ay skuyá	So ku ³ yá ³
Ja ku ² yá ²³	Ix skuyá
Do kuyá-	

Loss of /s/ in Mz, Ja, Do, Hu, and So is unexplained.
 Ja tone ³ of ²³ glide is probably an analogical development
 which indicates phrase final.

479. *sk^wá⁴ crane.

Ay čakask ^w á	Hu skuá ⁴
Ja sk ^w á ³	So skwá
Do k ^w á	Ix skuá

Ja sk^wá³ may be borrowed from Ay; expected reflex is
 k^wá; Ay -ka- unexplained; Ix expected kuá. Ay ča- < *ča¹-
person prefix 55.

480. *sk^wá⁴ powder.

Mz	skwá	So	skwá ⁴ <u>powder</u> , nta ^s skwá ^{s4}
Ay	sk ^w á		(< Pre-So * ^{s1} - ⁴) <u>pinole</u>
Cq	skwá	Ix	nčukwá
Ja	k ^w á ^s	Mg	sk ^w á
Do	k ^w á	Lo	skó
Hu	skwá ⁴	Te	skwá

PPn 83; PMS 41. So nta- < *na⁴ntá¹ water, liquid 270;
Ix nču- unexplained.

481. *stá^s, *ntá^s tired.

Ay	tihwentá-	Hu	wi ^s htá ^s
Cq	kahwentá	Ix	kihwentá
Ja	ti ¹ hwe ² ntá ^{2s}	Te	tihwintia-
Do	tihwentá		

Hu wi^s- < *wi^s- verb auxiliary 655; Cq ka- < *ka²-
completive aspect 172; Ix ki- < *ki^s- completive aspect 206;
Ay, Cq, Ja, Do hwe- < *hwé^s use up 167; Ix, Te -hwi- < *hwí^s
goes 169. Ja tone ^s of ^{2s} glide probably developed by
analogy to indicate phrase final. This etymon appears to be
related to *khe^sstá^s, *khe^sntá^s breathes 193. The tone
reconstruction is partially indeterminate; it is either *^s
or *^{s1}.

482. *stá⁴, *ntá⁴(*^s) voice.

Mz	htá	Hu	htá ⁴
Ay	ntá	Ji	htá
Cq	štá-	So	ntá ⁴
Ja	ntá ² , tá ² (< Pre-Ja *nta ²)	Ix	ntá
Do	ntá	Mg	tá

PPn 35; PMS 72.

483. *sté¹, *nté¹ sandal, shoe.

Mz	hté, htí <u>sandal</u>	So	nté ²¹
Ay	nté <u>shoe</u>	Ix	nté
Ja	nté ¹ , té ¹ (< Pre-Ja *nté ¹)	Mg	té
	<u>shoe</u>	Te	šahaté
Hu	hté ¹ <u>sandal</u>		
Ji	hté		

PPn 14. Te ša- unexplained.

484. *sté^s wasp.

Ay	čhaté	Do	čuté
Cq	šaté	Hu	ču ⁴ hté ^s
Ja	čha ^s té ^s	Te	čušité

Expected reflex: Te -hté; Ay, Ja čha-, Cq ša- unexplained. Do, Hu, Te ču- < *čú⁴ animal 107; Te -ši- < *ši- connective 518. The tone reconstruction is partially indeterminate; it is either *^s or *^{s1}.

485. *stí⁴ fish (n.).

Mz	tí	Ji	htí _g
Ay	tí	So	tí ⁴
Cq	tí	Ix	tí
Ja	tí ³	Mg	tí
Do	tí	Lo	té
Hu	htí ⁴	Te	tí _g

PPn 114. Expected reflexes: Mz, Te htí; Ji, Te nasalized /i/ unexplained.

486. *su¹ʔí¹ holiday.

Mz	swí ² , soí ²	Ji	sʔí
Ay	sʔí	So	sʔuí ²¹
Cq	suiʔí	Ix	sʔuí
Ja	sʔí ¹	Mg	sʔí
Do	sʔí	Lo	seʔé
Hu	sʔuí ¹	Te	sé

Cq /i/ of /ui/ cluster unexplained; Mz /w/ and /o/ unexplained; development of unstressed *u is not explained; Mz /ʔ/ final in syllable unexplained, perhaps should have been phonemicised as before the vowel, expected reflex sʔí.

487. *sú³(*¹) vomit.

Mz	tihwesú	Ix	khihwasú
Ay	tihwesú	Mg	wesú
Cq	kueisú-	Lo	wasí- <u>lp.</u> , wasiá <u>3p.</u>
Ja	ti ¹ wi ² sú ²	Te	tiwisiú
Hu	wi ³ sú ¹		

Te /i/ in /iu/ cluster unexplained. Mz, Ay -hwe- < *hwé³ use up 167; Ix -hwa- < *hwa³ʔá³ passes by 163; Ja, Hu, Te -wi- < *wi³- verb auxiliary 655; Ix khi- < *khi³- completive aspect 196; Mz, Ay, Ja, Te ti- < *ti¹- continuative aspect 589; Lo wa- < *wa³- verb auxiliary 630.

488. *su³wá² the same.

Hu	suá ⁴³	So	su ³ wá ¹ re ⁴ <u>himself</u>
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PPn 315. So -re probably a personal pronoun.

489. *sú² on, above.

Mz	khisú <u>on</u>	Hu	nka ³ sú ²
Ay	khihñasuyá <u>on</u> , nkasú <u>level</u>	Ji	sy ² nká <u>above</u>
Cq	nkasú <u>level</u>	So	nka ⁴ sú ¹
Ja	khi ² hñá ² sú ²	Ix	khihñasú
Do	khihñasú	Lo	tihñq ³
		Te	ʔisunká <u>on</u>

Ay, Ja, Do, Ix -hñá, Lo -hñq < *-hñá³ sits 156. Mz, Ay, Ja, Do, Ix khi- < *khi³- completive aspect 196; Lo ti- < *ti¹- continuative aspect 589; Ay -ya < *yá inside 660.

490. *sy³nté³ (*¹ - ⁴) world.

Mz	nkasant ³ i	Ji	sy ³ nté
Ay	nkasu ³ nté	So	so ³ nté ²⁴ (< Pre-So * ²¹ - ⁴)
Cq	nkasu ³ nté	Ix	nkasunté
Ja	ʔi ³ sy ² nté ²	Lo	nkosi ³ ntá
Do	ʔasunté, hasunté	Te	ʔasunté
Hu	sy ³ nté ³		

PPn 268. Expected reflex: Mz -sunté; So su-; Mz, Ay, Cq, Do, So, Ix, Lo, Te expected nasalized vowels in the /sy/ syllable. Ja ʔi-, Do, Te ʔa- perhaps < *ʔya³- nominal 725; Mz, Ay, Cq, Ix nka-, Lo nko- < *nka³- subordinating conjunction 340.

491. *šá¹ work.

Mz	šá	Ji	šá
Ay	šá	So	šá ²¹
Cq	šá	Ix	šá
Ja	šá ¹	Mg	šá
Do	šá	Lo	šó
Hu	šá ¹	Te	šá

PPn 171.

492. *ša¹ʔú¹ skirt.

Mz	šʔothí	Hu	šʔáu ¹
Ay	šʔi ³ ó	So	šʔó
Cq	šoʔó	Ix	šʔi ³ ú
Ja	šʔó ¹	Mg	chʔó
Do	šʔó	Te	šiú

Expected reflexes: Mz šʷú; Ay šoʷó; So šaʷú; Ix šuʷú;
it is clear that the reflexes developed from *a__u but the
precise development is unexplained. Hu /č/, Mg /ch/ unex-
plained, expected /š/. Mz thi- perhaps < *thaíʷ thick 574.

493. *šáʷ jaguar.

Mz	šaʷintú <u>tiger</u>	Hu	šáʷ
Ay	thiušá	So	šáʷ
Cq	šá	Ix	šá
Ja	šáʷ	Lo	šó
Do	šá	Te	šá

Ay thi- < *tʷhuʷ- nominal 616-620; Ay -ʷintu <
*ʷiʷntúʷ embroidery 696.

494. *šaʷtíʷ (*ʷ - ʷ) early.

Ay	šatí	So	šaʷtíʷ
Cq	šáti	Ix	šatí
Ja	šaʷtíʷ	Mg	šatí <u>soon</u>
Do	šatí	Lo	šotí
Hu	šaʷtíʷ, šiʷtíʷ <u>hurry</u>	Te	šatí
Ji	šití <u>fast</u>		

Expected reflex: Lo šoté.

495. *šaʷnkiúʷ (*šáʷ jaguar 493) porcupine.

Ja	šaʷnkʷiúʷ	Do	šankʷiú
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496. *ša³wí³, *šu³wí³ monkey (small variety).

Ja ša²wí²

Ix šu²wí

Do ša²wí

The tone reconstruction on the last syllable is rather indeterminate; it is either *², *³, *³¹, *⁴², or *⁴³.

497. *šá⁴ faint (barely visible).

Ay šá

Hu šá⁴ fuzz (on a peach)

Ja šá³ faint, ni²ya¹šá³

So šá⁴ loose —

small path

Ix šá

Do šá

Te šá

Ja niya < *nti⁴yá⁴ road 392.

498. *šá⁴ mildew.

Ay hešá

Ix kithušá

Ja ne³šá³

Lo kitišó

Do nešá

Te titušá

Hu šá⁴

Ay he-, Ja, Do ne-, Ix kithu-, Lo kiti-, Te titu-unexplained.

499. *ša⁴nká¹, *šu⁴nká¹ ravine, gorge, gully.

Ay šanká

Hu šu⁴nká¹

Cq: šanká

So šanká

Ja ša³nká¹, ša³nkó¹³ (< Pre- Ix šunká

Ja *ša³nká¹)

Lo šonkó

Do šunká

Te šunká

PPn 54. Gudschinsky reconstructed this etymon with tones $*^3 - ^1$. The Vocabulario Mazateco (1957) lists the Hu form as $^4 - ^1$ although in PPn 54 Gudschinsky gives the Hu tones as $^3 - ^1$.

500. $*\text{ša}^4\text{ʔá}^4(*^1 - ^1)$ opens.

Mz	tišʔá	Hu	šʔá ⁴
Ay	tišá	So	khye ¹ šʔá ²¹ <u>open</u> , ti ⁴ šá ⁴
Cq	tišáʔa		<u>hole</u>
Ja	ti ³ šá ³ <u>hole</u> , te ³ ti ² šá ³	Ix	tišá
	<u>it is open</u>	Lo	tišoʔó
Do	tetišá	Te	tišá

PPn 173. Expected reflexes: Mz, Ay, Hu, So, Ix -šaʔá; Ja, Do, Ix -šʔá. So khye- perhaps < $*\text{khé}^3$ not yet 190.

501. $*\text{ša}^4\text{ʔmá}^4$, $*\text{šu}^4\text{ʔmá}^4$ bridge.

Mz	šaʔmá	Mg	šamʔá
Ja	šu ³ ʔmá ³ <u>full of holes</u>	Lo	šɬʔmó
Hu	šu ⁴ ʔmá ⁴	Te	šumá

502. $*\text{ša}^4\text{ʔntá}^4$, $*\text{šu}^4\text{ʔntá}^4$ chicken.

Mz	šantá	Ji	šoʔntá
Ay	thiušuʔntá	Ix	šantá
Cq	šaʔntá	Mg	šantʔá
Ja	ša ³ ntá ³	Lo	šoʔntó
Do	šantá	Te	šantá
Hu	šu ⁴ ʔntá ⁴		

Expected reflex: Ji šu-. Ay thi- < *t^yhu^s- nominal
616-620.

503. *ša⁴ʷá⁴, *šu⁴ʷá⁴ lace.

Mz	šaʷá, šawáʷ	Ji	šuʷá
Ay	šuʷá	So	šoʷá
Cq	šaʷá	Ix	šuʷá
Ja	šu ^s ʷá ^s	Mg	šowá
Do	šaʷá	Lo	šǝʷó
Hu	šu ⁴ ʷá ⁴	Te	šuwá

PPn 328. Expected reflex: Mg šuwá; Mz /ʷ/ final
unexplained.

504. *ša⁴ʷyá⁴ emanation (from non-edible dead body).

Ay	šaʷiá	Ix	ntiʷiašaʷiá <u>funeral</u>
Cq	šaʷiá	Mg	šayʷá
Ja	ša ^s ʷiá ^s	Lo	šoʷyó
Do	šaʷiá	Te	šayá-
Hu	ša ⁴ ʷyá ⁴		

Ix ntiʷia- < *nti⁴yá¹ road 392; but the Ix /ʷ/ is
unexplained.

505. *šǝ¹ liquor.

Mz	šǝ	So	šǝ ²¹
Ay	šǝ	Ix	šǝ
Ja	šǝ ¹	Mg	šǝ
Do	šǝ	Lo	šǝ
Hu	šǝ ¹	Te	šǝ

PPn 170.

506. *ʂa⁴ʔa⁴ poor.

Ay	ʂʔi ⁴ a ⁴	Do	ʂʔa ⁴
Cq	ʂa ⁴ ʔa ⁴ -	So	ʂʔa ⁴ <u>orphan</u>
Ja	ʂʔa ⁴ a ⁴	Ix	ʂʔi ⁴ a ⁴

PPn 61. Expected reflexes: Ay, So, Ix ʂa⁴ʔa⁴.

507. *ʂhá⁴ hawk.

Mz	hyá	Ji	ʂihá
Ay	thiuhá	So	há ⁴
Cq	ʂhá	Ix	há
Ja	há ^s	Mg	há
Do	há	Lo	hó
Hu	há ⁴	Te	há

PPn 187. Mz /y/ before /a/ unexplained, phonemic status doubtful. Ji ʂi- < *ʂi^s- connective 518; Ay thiuh- < *t^yhu^s- nominal 616-620.

508. *ʂhá^s three.

Mz	há	So	há ¹
Ay	há	Ix	há
Cq	ʂhá	Mg	há
Ja	há ^s	Lo	hó
Do	há	Te	há
Hu	há ^s		

PPn 238.

509. *šhaý^{4s} six.

Mz	šhó	Ji	hó
Ay	hó	So	hó ^{3s}
Cq	šhú	Ix	hú
Ja	hú ²	Mg	hú
Do	hú	Lo	hú
Hu	haý ^{4s}	Te	hú

PPn 192. Expected reflex: Mz hó.

510. *šhé¹ sin.

Mz	hyé	Ji	hé
Ay	ni _h hé	So	hé ²¹
Cq	šhé	Ix	hé
Ja	hé ¹	Mg	hé
Do	hé	Lo	há
Hu	hé ¹	Te	lahé

PPn 185. Mz /y/ before /e/ unexplained, perhaps it is not phonemic; Te la- unexplained.

511. *šhé³ (*⁴) big.

Mz	hyé, hí	So	hé ³
Ay	ntahé <u>river</u>	Ix	ntahé <u>river</u>
Cq	šhé	Mg	hé
Ja	nda ¹ hé ³ <u>river</u>	Lo	há
Do	ndahé <u>river</u>	Te	hé
Hu	hé ³ <u>big</u> , nta ¹ hé ⁴ <u>river</u>		

PPn 183. Mz /y/ before /e/ unexplained, perhaps it is not phonemic. Ay, Ix nta-, Ja, Do nda- < *na⁴ntá¹ water 270.

512. *šhe⁴ʔé⁴ corn (young ear).

Mz	hyéʔ	Ji	heʔé
Ay	heʔé	So	he ⁴ ʔé ⁴
Cq	šheʔé	Ix	heʔé
Ja	hʔé ²	Mg	hʔé
Do	hʔé	Lo	haʔá
Hu	he ⁴ ʔé ⁴	Te	hé

PMS 69. Expected reflexes: Cq šhe1ʔé; Hu, Ji hʔé. Mz syllable final /ʔ/ is unexplained; /y/ of /hy/ cluster is also unexplained but its phonemic status is doubtful; the Mz expected reflex is hʔV. Ja expected tone reflex ³.

513. *šhiú³ quiet.

Ay	šiú	Ji	hyú (< Pre-Ji *hiú)
Cq	šhú	So	šyú
Ja	hiú ²	Ix	šiú
Do	hiú	Te	hiú
Hu	hyú ³ (< Pre-Hu *hiú ³)		

PMS 47. Expected reflex: Cq šhiú; Ay, So, Ix expected /h/ rather than /š/. The tone reconstruction is partially indeterminate; it is either *² or *³¹.

514. *ʃhí³¹ eight.

Mz	hí	Ji	hí
Ay	hí	So	hí ³²
Cq	ʃhí	Ix	hí
Ja	hí ²	Mg	hí
Do	hí	Lo	ʃhí
Hu	hí ³	Te	hí

PPn 204. Lo /ʃ/ in /ʃh/ cluster unexplained unless this is the reflex before *i.

515. *ʃi¹ʔí⁴ mosquito.

Ay	naʃiʔí	Do	ʃiʔí
Cq	ʃiʔí	Hu	ʃa ¹ na ⁴ ʃi ⁴ ʔí ³
Ja	ʃi ¹ ʔiú ³		

Ja, Do, Hu expected reflex ʃʔí, explanation may be that /ʔ/ was lost when later compounded with *-ʔyú drinkable 731. Ay, Hu na- < *na⁴ nominal 241.

516. *ʃí² dry.

Mz	kiʃí	Ji	kiʃí
Ay	kiʃí	So	ki ³ ʃí ¹
Cq	kiʃí	Ix	kiʃí
Ja	ki ² ʃí ² , ti ¹ ʃí ²	Lo	kiʃí
Do	kiʃí	Te	tiʃí-
Hu	ki ³ ʃí ²		

PPn 164. Mz, Ay, Cq, Ja, Do, Hu, Ji, So, Ix, Lo ki-
 < *ki³- completive aspect 206; Te ti- < *ti¹- continuative
aspect 589.

517. *ši²ntí⁴ belch.

Hu	ši ² ntí ⁴	Mg	šint ² í
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518. *ši³- connective (that).

Mz	ši-	Ji	ši-
Ay	ši ² nkú <u>another</u>	So	ši-
Cq	šinkú <u>another</u>	Ix	ši-
Ja	ši ³ -	Mg	ši-
Do	ši-	Lo	šinkí <u>another</u>
Hu	ši ³ -	Te	ši-

PPn 160. Ay /²/ in /²nk/ cluster unexplained; Ay, Cq
 -nkú, Lo -nkí < *hnkú one 146. The tone reconstruction is
 partially indeterminate; it is either *³ or *³¹.

519. *ši³ně¹(*¹ - ¹) lard.

Mz	šině	Ji	šině
Ay	šině	So	ši ³ ně ²¹
Cq	šiněí	Ix	šině
Ja	ši ² ně ¹	Mg	šině
Do	šině	Lo	šině
Hu	ši ¹ ně ¹	Te	šině

PPn 245; PMS 46.

520. *š³í³ small.

Ja š³í³

Ix šíší

Do šíší

Te ʔíší

Te /ʔ/ unexplained. The tone reconstruction on the last syllable is rather indeterminate; it is either *², *³, *³¹, *⁴², or *⁴³.

521. *š³ʔyá¹ (*¹ - ¹) flea.

Mz šíʔyá

Hu ší¹ʔyá¹

Ay šíʔiá

So ší³ʔyá²¹

Cq šíʔiá

Ix šíʔiá

Ja ší²ʔiá¹

Lo šíʔyó

Do šíʔiá

Te šiyá

PPn 348.

522. *š⁴ʔí³ man.

Mz šʔí

Ji šʔí

Ay šíʔí

So ší⁴ʔí³

Cq šíʔí

Ix šíʔí

Ja šʔí³

Mg šʔí

Do šíʔí, šʔí

Lo šíʔí

Hu šʔí⁴

Te ší

PPn 227; PMS 52. Expected reflexes: So, Ix šʔí; Cq, Lo nasalization of unstressed /í/ is unexplained except by contiguous nasalized environment.

523. *ʂi⁴ʔnté⁴, *ʂhi⁴ʔnté⁴(*³ - ³) adobe.

Mz	ʂintí	Ji	ʂiʔnté
Ay	ʂiʔnté	So	ni ³ nte ³ thaí ³
Cq	ʂiʔnté	Ix	ʂhinté
Ja	ʂhi ³ nté ³ <u>wall</u> (of a	Mg	ʂintʔé
	<u>house</u>), <u>adobe</u>	Lo	ʂiʔntá
Do	ʂhinté	Te	ʂinté
Hu	ʂi ⁴ ʔnté ⁴		

So -thaí³ < *thaí³ thick 574; So ni³- < *ni³- nominal 312.

524. *ʂí² apart.

Ay	ʂí	So	ʂí ¹
Cq	ʂí	Ix	ʂí
Ja	ʂí ²	Lo	ʂí
Do	ʂí	Te	ʂí
Hu	wha ³ ʔa ¹ ʂí ² <u>separate</u> ;		

ʂí² apart

Hu wha³ʔa¹- perhaps < *hwa³ʔá³ passes by 163.

525. *ʂí⁴ hunt.

Ay	ʂí	Ix	ʂí
Cq	nañāʂí	Mg	niā ² ʂí ⁴ <u>hunting dog</u>
Ja	ʂí ³	Lo	ʂí
Do	ʂí	Te	ʂí
Hu	niā ²¹ ʂí ⁴ <u>hunting dog</u>		

Cq nañā-, Hu, Mg niā- < *na³ñā¹ dog 246.

526. *ška¹ trousers.

Mz	ška	Hu	ška ¹
Ay	ška	So	ška ²¹
Cq	ška [?] ntá	Ix	ška
Ja	ška ¹	Lo	škó
Do	ká	Te	ška

PPn 119. Cq -[?]ntá unexplained.

527. *ška³hntí³(*³ - ²) cricket.

Ay	naška [?] ntí	So	cha ³ ntí ³
Cq	čuntiká	Ix	čhntí
Ja	cha ² ntí ²	Mg	čikantí
Do	čhintí	Lo	ško [?] nté
Hu	ču ⁴ ška ³ hntí ²	Te	škahntí

Cq, Hu ču-, Mg či- < *čú⁴ animal 107; Ja, So cha-, Do či- unexplained; Cq, Mg -ka- perhaps < *tká³ bald 596.

528. *ška⁴ leaf.

Mz	ška	Jl	ška
Ay	ška	So	ška ⁴
Cq	ška	Ix	ška
Ja	ška ³	Mg	ška
Do	ká	Lo	škó
Hu	ška ⁴	Te	ška

PPn 52.

529. *ška⁴čá³ (*šká⁴ leaf 528, *čá³ sweeps 643) broom.

Mz	škačá	Mg	škačá
Ay	k ^w hečašká	Lo	skočo
Ja	k ^w he ³ čá ² <u>swept</u>	Te	škačá
Hu	ška ⁴ čá ³		

Ay, Ja k^whe- finished. The reconstruction of tone on the last syllable is partially indeterminate; it is either *³ or *^{s1}.

530. *ška⁴hé¹ (*šká⁴ leaf 528) palm leaf.

Mz	škahyé	So	ška ⁴ hé ^{s1}
Ay	škahé	Ix	škahé
Cq	hneí	Mg	škahé
Ja	ška ³ hé ¹	Lo	skihá
Do	kihé	Te	škahé
Hu	ška ⁴ hé ¹		

PPn 205. Mz /y/ before /e/ unexplained, perhaps not phonemic; Do, Lo /i/ unexplained, expected /a/. Gudschinsky reconstructed *hné⁴ (PPn 205) as an alternate form; however, the only support for such a form is from Cq which does not appear in her data; Cq hneí may not be cognate and possibly may be derived from *hné³ smells 150.

531. *ške³ʔé¹ thin.

Mz	škyé ¹	So	ške ³ ʔé ²¹ <u>nale</u>
Ay	škʔé	Ix	škʔé
Cq	škeiʔéí	Mg	škʔé
Ja	škʔé ¹	Lo	škiaʔá <u>women giving birth</u>
Do	kʔé	Te	ské
Hu	škʔé ¹		

PMS 51. Expected reflexes: Mz škʔV; Ay, Ix škeʔé; Lo škaʔá. Mz /y/ before /e/ unexplained, its phonemic status is doubtful; Ja oral /e/ is unexplained.

532. *škhá³ alligator.

Ay	škhá	Ix	škhá
Ja	škhá ²	Mg	šká
Do	khá	Lo	škó
Hu	šká ³	Te	šká
So	šká ³		

533. *škha³ʔntá³ spouse of sister or daughter.

Ay	škaʔntá	So	ška ³ ntá ³
Cq	škaʔntá	Ix	škantá
Ja	škha ² ntá ²	Mg	škantʔá
Do	khantá	Lo	khoʔntó
Hu	ška ³ ʔntá ³	Te	škantá

PPn 263. Expected reflexes: Ay, Ix škh-; Lo šk-.

534. *škhé⁴ frog.

Mz	šké	So	šké ⁴
Ay	naškhé	Ix	škhé
Ja	ča ¹ šhé ^s	Mg	šké
Hu	šké ⁴	Lo	škiá
Ji	škié	Te	šké

PMS 50. Ja ča- < *ča¹- person prefix 55; Ji /i/ of /ie/ cluster unexplained.

535. *škhú⁴ weak.

Mz	škú <u>thin</u>	Do	khú
Ay	škhú <u>narrow</u>	Ix	škhú <u>narrow</u>
Cq	škú	Lo	ʔintoški
Ja	škhú ^s		

Lo ʔinto- unexplained.

536. *ški^sʔá² glutton.

Ay	skiʔá	So	ški ^s ʔá ^s
Ja	škai ² ʔá ²	Ix	škeʔá
Do	kaiʔá	Mg	škiʔá
Hu	ški ^s ʔá ²		

Expected reflexes: Ja, Hu škʔiá; Do kʔiá; Ix skiʔá;
So ^s - 1.

537. *ški⁴ numeral.

Ay	ški	Hu	w ² e ¹ ški ⁴ <u>he counts</u>
Cq	ški	Ix	ški
Ja	ški ³	Lo	ške
Do	ki	Te	māna wiške

Expected reflex: Te -ski. Te māna < *mā³ able 227, -na first person; Hu w²e- < *we³é¹ hits 645; Te wi- < *wi³- verb auxiliary 652.

538. *ški²¹ whirlwind.

Ay	ški	Hu	ški ¹
Ja	nkí ¹ , kí ¹ (< Pre-Ja	So	ški ³²
	*nkí ¹) <u>whirlpool</u> ,	Ix	nčikí
	<u>whirlwind</u>	Lo	ške
Do	nkí, kí (< Pre-Do *nkí)	Te	ški

Ja, Do, So, Ix oral /i/ unexplained. Ja, Do, and Ix do not evidence the expected reflex of *š. Ix nči- unexplained but perhaps same morpheme as found in the unexplained morph of Ix eye 539.

539. *šký⁴ eye.

Ay	šký <u>3p.</u> , šk ^w á <u>lp.</u>	Ji	šký
Cq	tušký	So	šký ⁴
Ja	tu ² nký <u>3p.</u> , tu ² nká ³ <u>lp.</u>	Ix	nčiký
Do	stunký <u>3p.</u> , tunk ^w á <u>lp.</u>	Lo	šký <u>3p.</u> , šké <u>lp.</u>
Hu	šký ⁴	Te	šký

PPn 69. Ja, Do, Ix do not give the expected reflex for *s. Cq, Ja, Do tu-, Do stu- unexplained; Ix nči- unexplained.

540. *sk^whě¹ unripe, raw.

Mz	škwí	Hu	škųé ¹
Ay	šk ^w hě	So	škwé ^{s1}
Cq	škųéí	Ix	škhųé
Ja	šk ^w hě ¹	Lo	škiá
Do	k ^w é	Te	škųé

PPn 85. Expected reflex: Do k^whě.

541. *sta^syá^{s1} deaf.

Mz	štayá	So	te ^s yá ^{s2}
Ay	štayá	Ix	štiyá
Ja	sta ^s yá ^s	Mg	tayá
Do	stayá	Lo	tayó
Hu	hta ^s yá ^s <u>deaf</u> (<u>voice not</u>)	Te	tayá

PPn 35. Expected reflexes: Ay st-; Te htayá; So /e/, Ix /i/ unexplained.

542. *sthái^s mushroom.

Mz	sthé	So	thái ^s
Ay	stheí	Ix	sthái
Cq	sta ^s í	Mg	thái
Ja	stheí ^s	Lo	thái
Do	stheí	Te	thái
Hu	thái ^s		

PPn 17; PMS 44. Expected reflexes: Ay -a₁; Cq ʂthé₁; Ja, Do -a₁; Mg, Lo -e; Te ɿ--these vowel irregularities may be conditioned by the preceding *ʂth- environment.

543. *ʂthé¹ rubbish.

Mz ʂthíre	<u>his nest</u>	Ji	thé
Ay ʂthé		So	thé ²¹
Cq ʂthé		Ix	ʂthé
Ja sthé ¹		Lo	thá
Do sthé		Te	thé
Hu thé ¹			

PPn 28. Mz -re 3p.

544. *ʂthé¹ nest.

Mz ʂthíra	n ₁ soí	Lo	thá
Hu thé ¹ le ⁴	n ₁ ⁴ sé ³	Te	ntithé
Ji théle	n ₁ sé		

Te nti- is unexplained. Hu n₁sé < *n₁⁴se³ bird 333. Mz -ra, Hu, Ji -le 3p. The tone reconstruction is partially indeterminate; it is either *¹ or *²¹.

545. *ʂthé³ forehead.

Mz ʂthyé		Ji	thé
Ay sthé		So	thé ³
Cq ʂthé ₁ ʔ ₁ á		Ix	ʂthé
Ja sthé ²		Mg	thé
Do sthé		Lo	tithə ^ʔ á
Hu thé ³		Te	təthé

PPn 29. Expected reflex: Ay šthé; Cq -ʔiǎá unexplained; Mz /y/ before /e/ unexplained, its phonemic status is doubtful; Lo -ʔa unexplained.

546. *stí^s children.

Ja ʔi ² stí ²	Ix ʔiští
Hu ští ^s	Mg ʔaští
Ji ští	Lo čití
So ni ⁴ stí ^s	Te ntiští

Expected reflexes: Hu, Ji, Te -htí; So ni⁴tí; Mg -ti; Lo -te. Lo či- unexplained. Ja, Ix ʔi-, Mg ʔa- perhaps < *ya- nominal 725.

547. *stí^s disrobes.

Ay k ^w hastí	Hu ti ¹ hna ^s htí ^s
Cq kiští	Ix khiʔiští
Ja k ^w ha ² stí ²	Te kihtiá
Do khistí	

PPn 3. Hu ti¹hna^s- < *-hñá^s is 156; Cq, Hu, Ix, Te oral /i/ unexplained; Do, Ix khi- < *khi^s- completive aspect 196; Ja k^wha- < *k^whá⁴ abstract thing 216; Te /a/ of /ia/ probably 1st person. The tone reconstruction is partially indeterminate; it is either *^s or *^{s1}.

548. *štú rotten.

Ay stú	Ix štú
Ja stú ²	Lo tí
Do stú	Te htú

The tone reconstruction is rather indeterminate; Ja tone ² may < *², *³, *^{s1}, *^{s2}, *⁴², or *⁴³.

549. *štu^swá¹ short.

Mz štuwá	Ji htuwá
Ay štuwá	Ix štuwá
Cq štuwá	Mg towá
Ja stu ² wá ¹ <u>round</u>	Lo čiwo
Do stuwá, tuwá <u>round</u>	Te thuwá
Hu htua ^{s1}	

PPn 310. Expected reflexes: Ay st-; Ji hta; Mg tuá; Lo ti-.

550. *štú^s(*¹) behind.

Mz nkaštú	Hu htú ^s
Ay nkastú	So nkató
Cq nkaštú	Ix nkaštú
Ja ʔi ^s štú ¹	Lo nkotí <u>back</u>
Do ngastú	Te hahtó-

PPn 23. Expected reflexes: So -tú; Te -htú; Ja ʔi^s- unexplained. Mz, Ay, Cq, Ix nka-, Do nga-, Lo nko- < *nka^s- subordinating conjunction 340.

551. *šú¹(*⁴) foam, spray.

Mz	šú	Hu	šú ¹ ntú ⁴
Ay	thišú	So	šú ²¹
Cq	seišú	Ix	tišú
Ja	ti ¹ šú ³	Lo	ntošš
Do	tišú	Te	tišó

Expected reflex: Te -šú; Ay thi-, Cq sei- unexplained.
 Hu -ntu, Lo nto- < *nə⁴ntá¹ water 270; Ja, Do, Ix, Te ti- <
 *ti¹- continuative aspect 589.

552. *šú¹hñəú⁴ lime.

Mz	šuhñú	Ji	šuhnó
Ay	šuhñú	Ix	šuhñú
Cq	šuhñú	Mg	šuhnú
Ja	šú ¹ hñó ³	Lo	šihñí
Hu	šú ¹ hnú ⁴	Te	šuhnú

PPn 159. Te /s/ unexplained; expected /š/. Mz, Ay, Ja, Hu reflexes of *au unexplained; Hu, Ji, Mg, Lo and Te reflexes of *hñ unexplained, cf. §4.11.2.3.

553. *šú²¹ landslide.

Ay	tiwišuyá	Hu	ki ³ šú ¹
Cq	tiwišuškaraiyá	So	ki ³ šú ³²
Ja	kwi ² šú ² yá ² , ti ¹ wi ² šú ² yá ²	Ix	khiwišuyá
Do	k ^w išuyá, tiwišuyá	Mg	kišú
		Te	kišú

Ay, Cq, Ja, Do, Ix -yá' < *yá' inside 660; Cq -ška-
unexplained; Ay, Cq, Ja, Do, Ix -wi- < *wi³- verb auxiliary
655; Ix khi- < *khi³- completive aspect 196; Hu, So, Mg, Te
ki- < *ki³- completive aspect 206; Ay ti- < *ti¹-
continuative aspect 589. Ja expected tone ¹ on -šu-. This
etymon is perhaps related to foam 551.

554. *śú³ boils.

Mz -śú	So ci ³ śú ² (< Pre-So * ²¹ - ³)
Cq seśú	<u>boil</u> .
Ja ti ¹ śu ² hí ²	Ix tiśú
Do tiśú	Lo khin ¹ śí
Hu si ¹ śú ³	Te tiśú

PPn 11. Lo khi- < *khi³- completive aspect 196; Lo -n¹-
unexplained; Ja, Do, Ix, Te ti- < *ti¹- continuative aspect
589. The etymon is perhaps related to foam 551.

555. *śu³hmá¹ seed.

Ay śuhmá <u>small seed</u>	Ix śuhmá
Cq śumá	Lo śihmó
Ja śu ² hmá ¹ <u>small seed</u>	Te śuhmá
Do śuhmá <u>small seed</u>	
Hu śu ³ hmá ¹ <u>chile seed</u>	

PPn 158. Expected reflex: Cq -hmá.

556. *su³ñú³, *sa³ñú³ (*¹ - ³) dew.

Ay	suñú	Ji	suñú
Cq	suñú	So	su ² ñú ³ (< Pre-So * ¹ - ³)
Ja	su ² ñú ²	Ix	suñú
Do	suñú	Lo	soñí
Hu	su ³ ñú ³	Te	sañú

557. *su³wí¹ (*sú³ foam 551) termite.

Ay	thiusuwí	Do	suwí
Cq	čiruwí	Ix	suwí
Ja	su ² wí ¹		

Cq /r/ may be regular development of *s following /č/ of preceding syllable. Cq či- probably < *čú⁴ animal 107; Ay thi- < *t^yhu³- nominal 616-620.

558. *su³ʷú³ navel.

Ay	suʷú	Hu	su ³ ʷú ³
Cq	suʷú	Ix	suʷú
Ja	sʷú ²¹	Lo	šíʷí
Do	suʷú	Te	suʷú

Expected reflex: Te sú; development of unstressed *u unexplained. Ja tone ¹ probably is an emphasis glide.

559. *su³ʷá³, *sa³ʷá³ lot (house site).

Ay	suʷá	Hu	su ³ ʷá ³
Cq	saʷá	Ix	suʷá
Ja	s ² ʷá ²	Lo	šíʷó
Do	suʷá	Te	suwá

The tone reconstruction on the last syllable is partially indeterminate; it is either $*^3$, $*^{31}$, or $*^{42}$.

560. $*\text{su}^4\text{h}\acute{\text{u}}^4$ paper.

Mz	šuh _u ́	Ji	šú
Ay	šuh _u ́	So	š ⁴ u ⁴ h _u ́ ⁴
Cq	šuh _u ́	Ix	šuh _u ́
Ja	š ³ u ³ h _u ́ ³	Mg	šú
Do	šuh _u ́	Lo	š ⁴ h _u ́ ⁴
Hu	šú ⁴	Te	šuh _u ́

PPn 177; PMS 48.

561. $*\text{su}^4\text{tá}^4$, $*\text{ču}^4\text{tá}^4$ person.

Mz	šutá	Ji	čitá
Ay	šutá	So	š ⁴ u ⁴ tá ⁴
Cq	šutá	Ix	šutá
Ja	š ³ u ³ tá ³	Lo	čhitó
Do	šutá	Te	šitá
Hu	ču ⁴ tá ⁴ , čhu ⁴ tá ⁴		

PPn 198, 318. Expected reflex: Te either čitá or šutá; Lo /h/ in /čh/ cluster is unexplained.

562. *su⁴ti⁴, *ču⁴ti⁴ tomato.

Mz	čhutí	So	su ⁴ ti ⁴
Ay	šutí	Ix	šutí
Cq	šúti	Mg	čhutí
Ja	ču ³ ti ³	Lo	čhité
Do	čhutí	Te	šiti ⁴
Hu	ču ⁴ ti ⁴		

PPn 2. Expected reflex: Ix šiti⁴; Mg, Te nasalized /i/ unexplained.

563. *su⁴ʷé⁴, *ša⁴ʷé⁴ wasp.

Ja	tha ³ ʷé ³	Ix	suʷé
Do	thaʷé	Mg	šeʷé
Hu	su ⁴ ʷé ⁴	Lo	kišoʷá
Ji	šaʷé	Te	šuwé
So	su ⁴ ʷé ⁴		

PPn 307; PMS 49. Expected reflex: Mg šuwé.

Development of tha- in Ja and Do unexplained. Lo ki- < *ki³- completive aspect 206.

564. *tahá, *ntahá tough, hard.

Mz	tahá	So	ta ³ há ²¹
Cq	táha	Ix	tahá
Ja	ndhá ^{3 2}	Mg	tahá
Do	tahá	Lo	tohó
Hu	ta ² há ^{4 3}	Te	tahá
Ji	tahá		

Tone development in these reflexes is obscure.

565. *ta⁴- no longer.

Ay	tah _i ú <u>early</u>	Hu	ta ⁴ nh _i ú ² <u>early</u> (<u>no longer</u>
Cq	tehñú <u>early</u>		<u>dark</u>)
Ja	ta ⁴ - <u>no longer</u> ; ta ⁴ hiú ¹	So	tahnó <u>early</u>
	<u>early</u>	Ix	tahñú <u>early</u>
Do	ta- <u>no longer</u> ; tah _i ú	Lo	tohñí
	<u>early</u>	Te	tá

Ay expected reflex -hñú; Cq /e/ unexplained, expected /a/. This is a recent compound since Hu -nh_iú is a reflex for initial position. Second syllable of disyllables < *hñú² dark 158.

566. *ta⁴kú³, *tu⁴kú³ (*⁴ - ¹) show me.

Ay	ta ⁴ ku ³ yá ³ -	Hu	ta ⁴ ku ³ naí ¹³
Cq	takúme _i	Ix	tukuyé
Ja	ta ³ ku ¹ yá ² -	Lo	tok _i nq ² ó
Do	takuyá-	Te	takú

PPn 1. Te nasalization of /u/ unexplained; Hu -naí¹³, Lo -nq²ó unexplained; Cq -me_i unexplained; Ix -ye unexplained. Ay, Ja, Do -ya < *yá inside 660.

567. *taú money.

Mz	tó	Ji	tó
Ay	tó	So	tú ^{4s}
Cq	tuhú	Ix	tú
Ja	tó ^{s2}	Mg	tó
Do	tó	Lo	tí
Hu	taú ⁴	Te	tú

Cq -hú < *hú^s on the surface 159; Cq expected reflex tq-, but /y/ may have developed by anticipation of following /y/; So expected reflex tú. The tone development of these reflexes is obscure. This word may be borrowed from Spanish tomín a silver coin.

568. *te¹ncú⁴ goat.

Mz	tencú	So	te ^s ncú ²⁴ (< Pre-So * ^{s1} - 4)
Ay	tencú	Ix	tíncú
Cq	teíncú	Mg	tencú
Ja	te ¹ ncú ^s	Lo	tancí
Do	čutencú	Te	tencú
Hu	ti ² ncú ⁴		

Expected reflex: Te tíncú; Cq nasalization of /y/ unexplained. Hu expected tone ¹.

569. *té² dances.

Ay	tité	Ji	té
Cq	tité	So	té ¹
Ja	ti ¹ te ² nkí ³	Ix	caté
Do	titenkí	Lo	kitá
Hu	ti ¹ té ²	Te	tité

PPn 12. Ix ca- probably continuative aspect; Ja, Do -nkí < *na³nkí³ land 254; Lo ki- < *ki³- completive aspect 206; Ay, Cq, Ja, Do, Hu, Te ti- < *ti³- continuative aspect 589.

570. *té³ ten.

Mz	té	Ji	té
Ay	té	So	té ³
Cq	té	Ix	té
Ja	té ²	Mg	té
Do	té	Lo	tá
Hu	té ³	Te	té

PPn 9.

571. *té³ brilliant, shiny.

Ay	waté <u>to shine</u>	Ix	kihwaté
Cq	tiwaté	Mg	hwaté
Ja	ti ¹ wa ² teí ² <u>to shine</u>	Lo	hwotá
Do	tiwateí	Te	tiwuté
Hu	wha ³ té ³		

Ja, Do /i/ of /ei/ cluster unexplained. Hu, Ix, Mg -hwa-, Lo hwo- perhaps < *hwa³ʔá³ passes by 163; Ay, Cq, Ja, Do -wa-, perhaps Lo -wu- < *wa³- verb auxiliary 630; Ix ki- < *ki³- completive aspect 206; Cq, Ja, Do, Te ti- < *ti¹- continuative aspect 589. The tone reconstruction is partially indeterminate; it is either *³ or *³¹.

572. *te³yá¹ (*⁴ - ³), *té⁴³ wide.

Mz	teyá	So	te ³ yá ²¹ , té ³²
Ay	teyá	Ix	tiyá
Cq	teiyá	Mg	té
Ja	ta ³ yá ²	Lo	tayó
Do	tayá	Te	tiyá
Hu	te ⁴³ yá ³ , té ⁴³		
Ji	teyá		

PPn 335. Expected reflex: Hu, Ji ti-. Ja, Do development of /a/ in first syllable may be due to anticipation of /a/ in second syllable. Hu ⁴³ glide is unexplained.

573. *te⁴kú³ appearance, similarity.

Cq	tankókú	Lo	takokhiʔíní
Ja	wa ³ te ³ kú ²	Te	kuatekú
Do	watekú		

Expected reflexes: Lo taki-; Cq ta- unexplained, expected tei-. Cq -nkq- perhaps < *hnkú³¹ one 146; Ja, Do wa- < *wa³- verb auxiliary 630; Lo -khiʔi < *khi³ʔi³

appearance of 199. The reconstruction of tone on the final syllable is somewhat indeterminate; it may be *², *³, *³¹, *⁴², or *⁴³.

574. *thaí³ thick.

Mz -thé	Ji thaí ³ , thé
Ay thaí	So thaí ³
Cq thaí	Ix thaí
Ja thaí ²	Lo thí
Do thaí	Te thaí
Hu thaí ³	

PPn 16. Expected reflexes: Cq theí³; Lo thé; Te thí.

575. *thau² guards.

Ay skhewethó	Hu khue ²¹ thau ²
Ja ti ¹ we ¹ thó ²	Ix c ² iwithú
Do tiwethó	Lo tinithá

Ay, Ja, Do /e/ unexplained; expected /i/; Ay skhe-unexplained. Ay, Ja, Do -we- < *we³é¹ hits 652; Ix -wi- < *wi³- verb auxiliary 655; Ix c²i- probably continuative aspect. The tone reconstruction is partially indeterminate; it is either *² or *³².

576. *thau² loves.

Ay thó-	Mg thú <u>love</u> , nathú- <u>the virgin</u>
Ja thó ²	<u>Mary</u>
Do thó-	Lo thí-
Hu thau ² ké ⁴³	

Expected reflex: Mg th^ó; Hu -ké^{4s} unexplained. The tone reconstruction is partially indeterminate; it is either *² or *^{3s}.

577. *the^{sʷé^s} magic, sorcery.

Mz	thé	So	the ^{sʷé^s}
Ay	theʷé	Ix	theʷé
Ja	thʷé ²	Mg	thʷé
Do	thʷé, theʷé	Lo	thaʷá
Hu	thi ^{sʷé^s}		

Expected reflexes: Mz thʷV; Hu thʷé^s.

578. *thé^{4s} itch.

Mz	thí	Ji	thé
Ay	thé	So	thé ^{sʷ}
Cq	thé	Ix	thé
Ja	thé ²	Mg	thé
Do	thé	Te	thé
Hu	thé ^{4s}		

PPn 27.

579. *-thé⁴ arises.

Ay	ʷesethé	Ix	hwasuthé
Ja	wi ² si ² thé ³	Lo	wosathá
Do	wisithé	Te	tiwisithé
Hu	wi ³ su ¹ thé ⁴		

Ay ʔe- unexplained; -sV- in all forms unexplained. Ix hwa- < *hwa^sʔá^s passes by 163; Ja, Do, Hu, Te -wi- < *wi^s- verb auxiliary 655; Lo wo- < *wa^s- verb auxiliary 630; Te ti- < *ti¹- continuative aspect 589. This etymon probably is related to flies, follows 580.

580. *thé⁴ flies, follows.

Mz tiwit ^y é	So kithé
Ay kithuthé	Ix cʔahwithé
Cq tiwithé	Mg hwithé
Ja ti ¹ hwi ² thé ^s	Lo tithá
Do tihwithé	Te tuthé
Hu whi ² thé ⁴	

Expected reflexes: Mz -thé; Cq -théí. Ay -thú, Lo tí-, Te tu- perhaps < *t^yhu^s- nominal 616-620. Ay, So ki- < *ki^s- completive aspect 206; Ja, Do, Ix, Mg hwi- < *hwi² goes 169; Mz, Cq -wi- < *wi^s- verb auxiliary 655; Mz, Cq, Ja, Do ti- < *ti¹- continuative aspect 589; Ay, So ki- < *ki^s- completive aspect 206. This etymon probably is related to arises 579.

581. *thé⁴nkí^s (*thé⁴ follows 580) behind.

Ay tihwithenkiá	Hu whi ² thé ⁴ nkí ^s <u>pursue</u>
Cq kuithenki	Ix cʔahwithenki
Ja k ^w i ² thé ^s nkí ^s	Lo withankí
Do k ^w ithenkiá <u>lp.</u>	Te kuithenki-

Expected reflexes: Cq -thɛ́ɪ̯-; Ix -thɪ̯-; Lo hwi-. Ay, Hu, Ix -hwi-, Lo -wi- < *hwí² goes 169; Ay /a/ of /ia/ cluster probably first person; Ix cʔa- probably continuative aspect. The reconstruction of tone on the last syllable is partially indeterminate; it is either *³ or *³¹.

582. *thi¹hi⁴³ (*hi⁴³ among 134) mixes.

Ay	nkatathihí	So	ʔwehí
Cq	kaseikhaʂikhi	Ix	ñakhithihí
Ja	nʔe ² thi ¹ hi ¹²	Lo	sikithihí
Do	nʔethihí	Te	tewathíhi
Hu	wʔe ¹ hi ⁴³		

PPn 181. Lo si- < *-ci¹ʔi¹- do 26; Cq -ʂi- < *ʂi³- connective 518; Ix khi- < *khi³- completive aspect 196; Lo ki- < *ki³- completive aspect 206; Ja, Do nʔe- unexplained; Hu wʔe-, So ʔwe- < *we³ʔé¹ hits 652. Ja expected tone reflexes ¹ - ².

583. *thí³ round.

Mz	thí	Ji	thí
Ay	thihí <u>circle</u>	So	thi ³ tu ¹ wá ²¹
Ja	thí ² <u>circle</u>	Mg	thí
Do	thí <u>circle</u>	Lo	cathí
Hu	thí ³	Te	lithí

PPn 37. Te li- unexplained. Lo ca- perhaps < *cá³² if 6 and compounded after *e > /i/ when preceded by back vowel. So -tu¹wá²¹ perhaps < *ʂtu³wá¹ short 549.

584. *thi³ya³ goes and comes.

Ay	tiwethiyá	Ix	cuhwathi ³ á
Cq	withiyá	Lo	wathiyó
Ja	ti ¹ we ¹ thi ² ya ²	Te	tiwithiyá
Do	tiwethiyá		

Ix expected reflex -yá rather than -³á; Ay, Ja, Do /e/ unexplained, expected /i/. Ix -hwa- < *hwa³³á³ passes by 163; Ix cu- probably continuative aspect; Ay, Ja, Do -we- < *we³³é¹ hits 652; Cq, Te -wi- < *wi³- verb auxiliary 655; Lo -wa- (expected -wo-) < *wa³- verb auxiliary 630; Ay, Ja, Do, Te ti- < *ti¹- continuative aspect 589. The tone reconstruction on the last syllable is rather indeterminate; it is either *², *³, *³¹, *⁴², or *⁴³.

585. *thí¹ there are.

Mz	thyé, th _i í	Ji	th _i í
Ay	th _i í	So	th _i í ²¹
Cq	th _i í	Ix	th _i í
Ja	th _i í ¹	Mg	th _i í
Do	th _i í	Lo	th _i í
Hu	th _i í ¹	Te	th _i í

PPn 137. Mz /y/ before /e/ is unexplained; its phonemic status is doubtful.

586. *thí³ (*¹) let's go.

Mz	thí ³	So	thá ¹³ ñá ³²
Ja	thí ³¹	Ix	thí ³
Do	thí ³	Mg	thí ³
Hu	thí ³¹	Te	thí ³
Ji	thí ³		

PPn 180. So -ñá³² appears to be lp. pl. incl.

587. *thú² first.

Mz	tithú	Ji	tithú
Ay	thú	So	thú, ʃithó, thó
Cq	thú	Ix	thú
Ja	thú ²	Lo	ki ² ntithí <u>oldest child</u>
Do	thú	Te	thú
Hu	ti ¹ thú ²		

Lo ki²nti- < *²ntí¹ young 714; Mz ti- perhaps < *tí³ boy 592. The tone reconstruction is partially indeterminate; it is either *² or *³².

588. *thú³ out of.

Mz	thuyá	<u>swells</u>	Hu	wi ³ thú ³	<u>goes out</u>
Ay	tiwethú	<u>it drips</u>	Ji	withú	<u>goes out</u>
Cq	khueithú		So	hathú	<u>out of, tithú to</u>
Ja	k ^w hi ² thú ²	<u>he comes out of,</u>			<u>drip</u>
	ti ¹ wi ² thú ²	<u>he goes out,</u>	Lo	wathí	
	ti ¹ thú ²	<u>it drips</u>	Te	withú	<u>goes out</u>
Do	k ^w hithú				

Mz -yá < *yá inside 660; Cq khue-, Ja, Do k^whi- < *hwí² goes 169; Ja, Hu, Ji, So, Te wi- < *wi³- verb auxiliary 655; Lo wa- (expected wo-) < *wa³- verb auxiliary 630; Ja, Ix ti- < *ti¹- continuative aspect 589; Ix ha- unexplained. The tone reconstruction is partially indeterminate; it is either *³ or *³¹.

589. *ti¹- continuative aspect.

Mz	tisé	<u>he sings</u>	Ji	tisé	<u>he sings</u>
Ay	tisé	<u>he sings</u>	So	tifí	<u>he goes</u>
Cq	tisé	<u>he sings</u>	Ix	tisenthé	<u>he plants</u>
Ja	ti ¹ sé ³	<u>he sings</u>	Lo	tiwotakhó	<u>he cuts</u>
Do	tisé	<u>he sings</u>	Te	tisé	<u>he sings</u>
Hu	ti ¹ sé ⁴³	<u>he sings</u>			

590. *ti¹ʷá⁴ pig louse.

Ay	tiʷá	So	ti ³ ʷá ²⁴ (< Pre-So
Cq	tiʷá		* ²¹ - 4)
Ja	ti ¹ ʷá ³	Ix	tiʷá
Do	tiʷá	Mg	tiwʷá
Hu	ti ¹ ʷá ⁴	Lo	tiʷó
		Te	tiwá

591. *tí² burns (y.).

Mz	tí	Ji	tití
Ay	tití	So	ʔwe ¹ tí ¹ (< Pre-So * ²¹ - 1)
Cq	seití	Ix	tití
Ja	ti ¹ tí ²	Mg	tí
Do	tití	Lo	khinqtí
Hu	wʔe ¹ tí ²	Te	tití

PPn 113. Lo -nq- unexplained; Cq sei- unexplained. Hu wʔe-, So ʔwe- < *we²ʔé¹ hits 652; Lo khi- < *khi²- completive aspect 196; Ay, Ja, Do, Ji, Ix, Te ti- < *ti¹- continuative aspect 589.

592. *tí² boy.

Ja	tí ² woman speaker with <u>sg. referent</u>	Ji	tí
Do	tí woman speaker with <u>sg. referent</u>	So	tí ²
		Mg	tí
		Te	ntití-
Hu	tí ²		

Te nti- < *ʔntí¹ little 714.

593. *ti²yá² empty.

Mz	kitiyá	Ji	khitiá
Ay	khitiyá	So	ʔwe ² ti ² yá ² (< Pre-So * ²¹ - 2 - 2)
Cq	tiyá		
Ja	ti ² yá ²	Ix	khitiyá
Do	stiyá	Lo	khitiyó
Hu	khi ² tiá ²	Te	thiyá

PPn 334. Expected reflex: Ji khitiyá; Te /h/ in /th/ cluster unexplained; Do /s/ in /st/ cluster unexplained. So ʔwe- < *we³ʔé¹ hits 652; Ay, Hu, Ji, Ix, Lo khi- < *khi³- completive aspect 196; Mz ki- < *ki³- completive aspect 206.

594. *ti⁴hí¹, *nti⁴hí¹ cooking pot.

Mz	tihi	Ji	tí
Ay	tihi	So	ti ⁴ hí ²¹
Cq	tihi	Ix	tihi
Ja	ndhí ³¹	Lo	tehé
Do	tihi	Te	tihi
Hu	tí ⁴²		

PPn 39; PMS 1. Expected reflexes: Hu, Ji, Lo tihi. The presence of Ja nasal is difficult to explain. It was present in Ja before the *h metathesis in the *-VhV environment.

595. *ti³ʔí³ go (imperative).

Ay	tʔí	Hu	tʔí ³
Cq	tiʔí	Ix	tʔaí
Ja	tʔí ²	Lo	tiʔí
Do	tʔí	Te	tí

Expected reflex: Ay tiʔí. Ix /a/ unexplained.

596. *tká³ bald, stubble.

Ay	nkaká <u>stubble</u>	Ix	taká (< Pre-Ix *tká)
Ja	ká ²		
Do	ká	Mg	ká <u>stubble</u>
Hu	hká ³	Lo	kó <u>bald</u> ; nkokó <u>stubble</u>
So	tká ³ <u>bald</u> ; tka ³ tkú ³	Te	ʔiská <u>stubble</u>
	<u>stubble</u>		

Te ʔi- unexplained. Ay nka- < *nka³- subordinating conjunction 340.

597. *tkú⁴ head.

Mz	hkú	So	tkú ⁴
Ay	nɪntakú <u>3p.</u> , nɪntak ^w á <u>1p.</u>	Ix	nɪntatukú (< Pre-Ix
Cq	nɪntarkúča		*nɪntatkú)
Ja	nɪ ² nda ² kú ³	Mg	kú
Do	nɪndakú <u>3p.</u> , nɪndak ^w á <u>1p.</u>	Lo	kí <u>3p.</u> , ké <u>1p.</u>
Hu	hkú ⁴	Te	skú <u>3p.</u> , skuá <u>1p.</u>
Ji	hkú		

PPn 69; PMS 3. Ay, Cq, Ix nɪnta-, Ja, Do nɪnda- < *nɪ³ntá^{3,2} bone 317.

598. *tku⁴nchá³, *tku⁴ncá⁴ (*tkú⁴ head 597) finger tip.

Mz	kuncá	Hu	hku ⁴ na ⁴ hma ¹ nchá ³
Ay	skunchá <u>3p.</u> , skuncá <u>1p.</u>	Ix	tukunchá <u>3p.</u> (< Pre-Ix *tku-),
Cq	rkunchá- <u>3p.</u> , rkuncá <u>1p.</u>		tukunca ^ʔ á <u>1p.</u>
Ja	ku ³ nchá ² <u>3p.</u> , ku ³ ncá ³ <u>1p.</u>	Lo	skuchá <u>3p.</u> , skuncá <u>1p.</u>
Do	kunchá <u>3p.</u> , kuncá <u>1p.</u>		

Expected reflexes: Mz hku-; Ay ku-; Lo ku-; Cq rkuchá;
Lo ski-; Ix -ʔá is unexplained. Hu -nǎ⁴hma¹- < *nǎ⁴hma¹
bean 431. The tone reconstruction on -nchá is partially
indeterminate; it is either *³ or *³¹.

599. *tkʷhé³ rough.

Mz kwí	Hu hkué³
Ay kʷhé	Ji skué
Cq rkhué	Ix tukhué (< Pre-Ix *tkhué)
Ja kʷhé²	Mg kʷé
Do kʷhé	Te skué

Expected reflexes; Mz hkwi; Ji hkué. The tone
reconstruction is partially indeterminate; it is either *³
or *³¹.

600. *tu²ci³ʔí³ tree-trunk.

Ay thucʔí	So yatyokʷací
Ja tu²cʔí²	Ix thucʔí
Do tucʔí	Lo tɬciʔí
Hu tu²cʔí³ <u>trunk, buttocks</u>	Te tucí

Expected reflex: Ay -ciʔí. So -tyokʷacʔí is unexplained;
Ay, Ix /h/ of /th/ cluster unexplained. So ya- < *yá¹ wood
662. The tone on the last syllable is partially indetermi-
nate; it is either *³ or *³¹.

601. *tu³hú³ dove (n.).

Ay	čatuhú	Do	čutuhú
Ja	ču ³ tu ² hú ²	Ix	tuhú

Ay ča- < *ča¹- person prefix 55; Ja, Do ču- < *ču⁴ animal 107. The tone reconstruction on the last syllable is rather indeterminate; it is either *², *³, *³¹, *⁴², or *⁴³.

602. *tu³ku⁴nkhá³ papaya.

Ja	tu ²³ nkhá ²	Ix	tukunkhá
Do	tunkhá		

The tone is partially indeterminate on the last syllable; it is either *³ or *³¹.

603. *tu³ntí⁴ cherry.

Ay	yatuntí	So	yatontí
Ja	tu ² ntí ³	Ix	tuntí
Do	tuntí		

Expected reflex: So -tu-. Ay, So ya- < *yá¹ wood 661.

604. *tu³tá³, *ta¹tá² tree (yolosuchil).

Ay	yanašututá	Hu	ya ¹ tá ² <u>oak</u>
Cq	tutá	So	totahá
Ja	tu ² tá ²	Ix	yatutá
Do	yatutá	Te	tutahá

Ay, Do, Hu, Ix ya- < *yá¹ wood 661; Ay -našu- < *na³šú¹ flower 248.

605. *tú^{s1} fruit.

Mz	tunchú	<u>onion</u>	Ji	tuchú	<u>onion</u>
Ay	tú		So	tú ^{s2}	
Cq	tú		Ix	tú	
Ja	tú ²		Mg	tú	
Do	tú		Lo	tí	
Hu	tú ^s , tú ²	<u>fruit</u> , <u>round</u> <u>thing</u>	Te	tú	

PPn 36. Mz -nchú, Ji -chú < *nchú⁴ onion 291.

606. *tu⁴- just, only.

Ay	tuk ^w áni	Do	tumáni
Cq	tuméni	Hu	tu ⁴ -
Ja	tu ^s má ¹ ni ²	Ix	tahñáni <u>everywhere</u>

PPn 21. Ay -k^wa- is unexplained. Cq -mę, Ja, Do -ma
Ix hñą where; Ay, Cq, Ja, Do, Ix -ni < *-ni^s thing 311.

607. *ty^swé¹ fierce, angry.

Hu	tyá ²¹	<u>fierce</u>	So	tq ^s wé ²¹	<u>he hates</u>
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PPn 317. Hu /a/ unexplained, expected /e/; So expected reflex ty-.

608. *t^ya³wá³, *t^yu³wá³ white.

Mz	tawá	Ji	čá
Ay	tiwá	So	tya ³ wá ³
Cq	tiawá	Ix	tiwá
Ja	ta ² wá ²	Mg	tiá
Do	tawá	Lo	čɬwó
Hu	čuá ³	Te	čuwá

PPn 312; PMS 5. Expected reflex: Mz tiwá.

609. *t^ya⁴wá⁴, *t^yu⁴wá⁴ plate.

Mz	tiwá	Ji	čuwá
Ay	tiwá	So	tyu ⁴ wá ⁴
Cq	tiu ⁴ wá	Ix	tiwá
Ja	ta ³ wá ³	Mg	tiá, tiuwá
Do	tawá	Lo	čɬwó
Hu	čuá ⁴	Te	čuwá

PPn 311. Expected reflex: Ji čá.

610. *t^yhá³ arm, shoulder.

Mz	thyá	Ji	čhá
Ay	thiá-	So	thyá ³
Cq	thiá-	Ix	thiána _ɰ <u>my arm</u>
Ja	thiá ²	Mg	thiá
Do	thiá	Lo	čhó-
Hu	čhá ³	Te	čhá-

PPn 40. Ix -na_ɰ first person singular.

611. *t^yha³wé³, *t^yhu³wé³ transparent, thin.

Ay	thawé	So	thyawé
Cq	thiawé	Ix	thiwé
Ja	tha ² wé ²	Mg	thiawé
Do	thawé	Te	çúwé
Hu	çhué ³		

Expected reflexes: Ay thi-; Mg thié; Te çhuwé. In Hu
*w > Ø before *t^yh > /çh/.

612. *t^yha³ʷú² fifteen.

Mz	thyó	Ji	çhuʷú
Ay	thi _o ʷó	So	thyaʷú
Cq	thi _u ʷó	Ix	thi _o ʷó
Ja	thi _o ʷ ²	Mg	thi _u ʷú
Do	thi _u ʷú	Lo	çh _i ʷí
Hu	çha ³ ʷú ²	Te	çhó

Expected reflexes: Mz thʷú; Cq thi_oʷó; Ja, Do thʷíó;
Hu çhʷú; Ji çhʷó; Ix thi_uʷú; Mg thʷíó; Lo çh-; Te çhi_u.
It is clear that the reflexes developed from *a__u, but the
precise development is not explained.

613. *t^yha⁴wa⁴sí¹, *t^yhu⁴wa⁴sí¹ (*³ - ³ - ¹) skin.

Mz	thawá	Hu	çhua ⁴
Ay	thi _u sí	So	thya ³
Cq	thi _u sí	Ix	thi _i sí
Ja	tha ³ wa ³ sí ¹	Te	çhua
Do	thawasí		

PPn 322. Expected reflexes: Mz thiwá; Ay thiší; Ja, Do thia-; Te ɕhuwá. Ay, Cq, Ja, Do, Ix -ší < *ší² apart 524. In Hu *w > ɕ before *t^yh > /ɕh/.

614. *t^yhaú¹ cornhusk.

Mz	thyó	Ji	ɕhó
Ay	thió	So	thyó ²¹
Cq	thió	Ix	thiú
Ja	thió ¹	Mg	ɕhó, thió
Do	thió	Lo	ɕhí
Hu	ɕhaú ¹ , šhaú ¹	Te	ɕhú

PPn 41; PMS 11.

615. *t^yhaú³ horn (musical instrument).

Ay	thió	Hu	ɕhaú ³ , šhaú ³
Cq	thió	Ix	thiú
Ja	thió ²	Te	ɕú
Do	thió		

Expected reflex: Te ɕhú. The tone reconstruction is partially indeterminate; it is either *³ or *³¹.

616. *t^yhu³cé¹ (*⁴ - ¹) (*t^yhu³ - nominal) pus.

Ay	thiucé	Ji	ntašicé
Cq	ticé	Ix	thicé
Ja	thi ³ cé ¹	Lo	ɕhica
Do	ɕicé	Te	ntašicé
Hu	nta ¹ š ³ i ³ cé ¹		

PPn 92; PMS 9. Expected reflexes: Cq, Ja, Do thi-; Lo ɕhi-. Do ɕi- unexplained. Ji, Te -ɕi- probably borrowed from Hu or else <*ɕi³- connective 518. Hu, Ji, Te nta- < *nə⁴ntá¹ water 270.

617. *t^yhu³nkú¹ (*t^yhu³- nominal) gum.

Ay	thinkú	Ji	ɕhunkú
Cq	thiunkú	Ix	thinkú
Ja	thi ² nkú ¹	Mg	thiunkú
Do	thenkú	Lo	ɕhi ² nkí
Hu	ɕu ³ nkú ¹	Te	ɕhunkú

PPn 288. Expected reflexes: Ja, Do thi-; Hu ɕh-; Ji ɕhunkú; Lo ɕhínkí.

618. *t^yhu⁴hmá¹ (*t^yhu⁴- nominal) mucus.

Ay	thiohmá	So	thyu ⁴ má ²
Cq	thiumá	Ix	tihmá
Ja	te ³ hmá ¹	Mg	ɕuhmá
Do	tehmá	Lo	ɕíhmó
Hu	ɕu ⁴ hmá ¹	Te	ɕuhmá

PPn 201. Expected reflexes: Ay thihmá, Cq thiuhmá; Ja thi-; Do the-; Hu ɕh-; Ix thihmá; Lo ɕhíhmó. Mg, Te ɕu- probably borrowed from Hu or else < *ɕú¹(*⁴) foam, spray 551. Ja, Do te- < *nta¹nə³té¹ saliva 353. So expected tone reflexes ⁴ - ²¹.

619. *t^yhu⁴nkú⁴ (*t^yhu⁴- nominal) fist.

Mz	thinkú	Ji	čhunkú
Ay	thinkú	So	thyu ⁴ nkú ⁴
Cq	thiunkú	Ix	thinkú
Ja	thi ^s nkú ^s	Mg	thiunkú
Do	thenkú	Lo	čhinkí
Hu	šu ⁴ nkú ⁴	Te	čhankú

PMS 10. Expected reflexes: Ja, Do thi-u-; Hu čh-; Lo čhinkí.

620. *t^yhu⁴ʔwí⁴ (*t^yhu⁴- nominal) cradle.

Ay	thiʔwí	So	thyuʔwí
Hu	šu ⁴ ʔwí ⁴	Mg	thiuwʔí

Expected reflex: Hu čh-.

621. *t^yi^sñá^{s1} near.

Mz	tiñá	Ji	čiñá
Ay	tiñá	So	ti ^s ñá ^{s2}
Cq	tiñá	Ix	tiñá
Ja	ti ¹ ñá ²	Mg	tiñá
Do	tiñá	Lo	čiñó
Hu	číá ^s	Te	čiñá

PPn 294; PMS 4. Ja expected tones ² - ².

622. *t^yká⁴ blind.

Mz	hká	Hu	šká ⁴
Ay	ká	So	tyká
Cq	rká	Ix	tiká
Ja	ká ³	Te	šká
Do	ká		

623. *t^yku¹ knee, joint.

Mz	ku	Ji	šku
Ay	ku	So	tyku ²¹
Cq	rkú-	Ix	tikuncukú
Ja	ku ¹³	Mg	šku
Do	ku	Lo	ški ² á <u>3p.</u> , škínq <u>lp.</u>
Hu	šku ¹	Te	šku

PMS 7. Expected reflex: Mz hkú. Ix -ncukú < *nca⁴ku⁴
foot 284, Ja expected tone ¹.

624. *t^yku¹nca³mé³, *t^yku¹ncu³mé³ (*t^yku¹- joint 623)
elbow.

Mz	ncamé	So	tyku ³ nta ² mé ³ (< Pre-So * ²¹ - s - s)
Ay	nkuncá	Ix	tikunca ² á <u>lp.</u> , tikunchá <u>3p.</u>
Cq	ncá	Lo	škincahá
Ja	ku ² ncá ³²	Te	škuncá
Do	kuncá		
Hu	ncu ³ mé ³		

PPn 229. Lo -ha unexplained, also expected -nco-.
Expected reflex in Ay ku- rather than nku-. Ja expected tone
reflexes ² - ².

625. *t^yku¹ʔnčí³ (*t^yku¹ joint 623) kneels.

Ay ti səkunčí	Hu wa ³ sə ² ʃku ¹ nčʔí ³
Cq ti ʃkunčíčá	Ix sekú tikú
Ja ti ³ si ³ ku ¹ nčʔí ²	Lo sahnqskiʔnčí
Do ti wasikunčí	Te siskunčí-

PPn 112. Expected reflex: Lo -ʔnčé, Cq expected /rk/ rather
than /ʃk/ unless this is the development of *t^yk in word
non-initial position, cf. 623; Lo, Te expected /ʃk/.
Development of *ʔ unexplained. Do, Hu wa- < *wa³- verb
auxiliary 630; Ay, Hu -sə-, Ja -si-, Do, Te -si-, Ix se-
verbal element; Ay, Cq, Ja, Do ti- < *ti¹- continuative
aspect 589.

626. *t^yk^{wá} short.

Cq skuá	Do k ^{wá}
Ja k ^{wá} ²	Ix tikvá

Expected reflex: Cq rkuá. The tone reconstruction is
rather indeterminate. Ja tone ² reflex may < *², *³, *³¹,
*³², *⁴², or *⁴³.

627. *t^yk^wá¹ snail.

Mz	hkwá	Ji	škuá
Ay	k ^w á	So	tykwá ²¹
Cq	rkuá	Ix	tikuá
Ja	k ^w á ¹	Lo	ntoškó
Do	k ^w á	Te	škuá
Hu	škuá ¹		

PPn 82; PMS 8. Gudschinsky notes that the Ji form is probably borrowed since this is the only occurrence of /kw/ in her Ji data.

628. *t^yu¹ʔá¹ pieces (n.).

Hu	ʔʔuá ¹	Mg	tʔiá
Ji	ʔʔá		

PMS 12. Expected reflex: Ji ʔʔá.

629. *waʔá weave.

Ay	tiwaʔá	Ix	cʔawaʔá
Ja	ti ¹ wha ¹ ʔá ³	Lo	woʔó
Do	tihwaʔá	Te	tiwaʔá
Hu	wa ²¹ ʔá ³		

PPn 324. Expected reflex: Te tiwá. Ja -wha- obscure, seems related to Ixcatec form ba³ha³ (PPn 324) and perhaps PMaz form should be reconstructed *wahaʔá; Do -hwa- < *hwa³ʔá³ passes by 163; Ix cʔa- probably continuative aspect; Ay, Ja, Do, Te ti- < *ti¹- continuative aspect 589. Tone development in these reflexes is obscure.

630. *wa^s- verb auxiliary.

Cf. 631, 633-642, etc.

631. *wa^scé^s (*wa^s- verb auxiliary 630) buys.

Mz	tiwací	Hu	wa ^s cé ^s
Ay	tiwacé	So	ʔwa ^s cé ^s
Cq	kawacé	Ix	cuwacé
Ja	ti ¹ wa ^s cé ^s	Mg	wacé
Do	tiwacé	Te	tiwucé

PPn 91. So /ʔ/ unexplained; Mz, Ay, Ja, Do, Te ti- < *ti¹- continuative aspect 589.

632. *wa^shá¹ 3p., *nk^wa^shá¹ lp. hits.

Ay	tiwaháre <u>3p.</u> ,	Do	tiwahára
	nk ^w aháre <u>lp.</u>	Hu	wá ^{s1} <u>3p.</u> , wá ^{4s} <u>lp.</u>
Cq	tiwahá <u>3p.</u> , nkuahári	Lo	tiwahá <u>3p.</u> , nk ^w ahá <u>lp.</u>
	<u>lp.</u>	Te	tiwahára
Ja	ti ¹ whá ^s <u>3p.</u> , ng ^w há ^s <u>lp.</u>		

PPn 309. Lo expected reflex -ohó; Ja expected tone ¹.
Ay, Cq, Ja, Do, Lo, Te ti- < *ti¹- continuative aspect 589.

633. *wa^shú^s (*wa^s- verb auxiliary 630) hungry.

Mz	wahóra	Hu	wau ^s
Ay	wohó-	So	wa ^s hó ¹ re ⁴
Cq	wohó	Ix	wahú
Ja	whó ^s	Lo	wihí
Do	wohó	Te	ʔihú

Expected reflex: Mz -hú. Te /ʔ/ unexplained, perhaps part of the apparently growing pattern of initial consonant replacement by glottal. Hu expected tone reflex ⁴³.

634. *wa^ska¹ (*wa^s- verb auxiliary 630) burns.

Ay tiwaká Te tiwaká

Hu wa^ska¹

PPn 53. Ay, Te ti- < *ti¹- continuative aspect 583.

635. *wa³ki³ (*wa³- verb auxiliary 630) suckles, nurses.

Mz kwakí Hu wa^akí's

Ay tiwaki So khiwaki

Cq tiwaki Ix c'uwaki

Ja ti¹wa²ki² . Lo woki¹

Do tiwaki Te tiwaki

Lo expected -ké unless *wa- was compounded after *i >
Lo /e/ when preceded by back vowel. Ay, Cq, Ja, Do, Te ti-
< *ti¹- continuative aspect 589; So khi- < *khi³- completive aspect 196; Ix c'u- probably continuative aspect. The tone reconstruction on the last syllable is partially indeterminate; it is either *³, *³¹, or *⁴².

636. *wa^sku¹ (*wa^s- verb auxiliary 630) shows, teaches.

Mz	tiwakuyá	he is teaching	So	wa ^s ku ²¹
Ay	tiwakuyá-		Ix	c ² uwukuyá
Cq	tiwikuyá		Mg	wakú
Ja	ti ¹ wa ^s ku ¹		Lo	wokiyo
Do	tiwakú		Te	tiwakú
Hu	wa ^s ku ¹			

PPn 62. Mz, Ay, Cq, Ix -yá, Lo -yó < *yá inside 660;
Mz, Ay, Cq, Ja, Do, Te ti- < *ti¹- continuative aspect 589;
Ix c²u continuative aspect.

637. *wa^sna⁴čá⁴ (*wa^s- verb auxiliary 630) falsehood.

Ay	tiwanačá	So	wa ^s na ⁴ čá ⁴ (< Pre-So
Ja	ti ¹ wa ^s na ² čá ²		* ^s - ⁴ - ⁴)
Do	tiwanačá	Te	tikunačá
Hu	w ² a ^s na ⁴ čá ⁴		

Hu, So /²/ unexplained. Te tikun- perhaps < *ky^s alive
214; Ay, Ja, Do, Te ti- < *ti¹- continuative aspect 589.

638. *wa^sne¹ (*wa^s- verb auxiliary 630) washes (clothes).

Mz	twan ¹	Hu	wa ^s ne ¹
Ay	tiwané	Ji	wané
Cq	khuekuane ¹	Ix	cumañé
Ja	ti ¹ wa ^s ne ¹	Mg	wané
Do	tiwané		

PPn 243. Cq khwekua- unexplained. Ix cu- probably continuative aspect; Ix ma- < *má^s able 227; Ay, Ja, Do ti- < *ti¹- continuative aspect 589.

639. *wa^snká^{4s} (*wa^s- verb auxiliary 630) flees.

Ay	ca ^s nká ^s	Hu	ma ^s nká ^s <u>chase</u> , <u>flee</u> ; tu ^s ká ^s ,
Cq	tiwanká		thu ^s ká ^{4s} <u>run</u>
Ja	ti ¹ wa ² nká ²	So	tho ^s khá ^{s1}
Do	tiwanká	Ix	camanká
		Lo	conkó
		Te	tiwanká

PPn 284. Expected reflex: So thu^snká^{s1}. Loss of /n/ in Hu probably a development in Hu. Ay, Ix ca- and Lo co- probably continuative aspect; Cq, Ja, Do, Te ti- < *ti¹- continuative aspect 589; Hu, Ix ma- < *má^s able 227.

640. *wa^snku²yá^s (*wa^s- verb auxiliary 630, *yá^s inside 660) bathes.

Mz	ticikankuyá <u>he is</u> <u>bathing someone</u>	Hu	wa ^s nku ² yá ^s <u>bathe</u>
Ay	tihwikintú	So	mí ^s nkú ¹ <u>bathe</u>
Cq	khuintuyá	Ix	cuhwinkuyá
Ja	k ^w hi ² ngu ² yá ²	Mg	wankuyá
Do	k ^w inguyá	Lo	kohwikintíyó
		Te	khuinkuyá

PPn 73. So mí^s- unexplained; Ay, Cq, Lo ntu-, ntí- unexplained. Ix cu- probably continuative aspect; Ix, Lo

-hwi- < *hwí² goes 169; Mz, Ay ti- < *ti¹- continuative aspect 589; Mz ci- < *-ci¹ʔi¹- do 26. Tone on the last syllable is partially indeterminate; it is either *³ or *³¹.

641. *wa³ští⁴³ (*wa³- verb auxiliary 630) defecates.

Ay	tihwatí	Hu	wa ³ htí ⁴³
Cq	kiwaští	Ix	cʔuhwatí
Ja	ti ¹ wa ² tí ²	Lo	wotí
Do	tiwatí	Te	tiwatí

PPn 4. Expected reflexes: Ay, Ja, Do -stí; Ix -ští; Lo -té; Te -htí. Ix cʔu- probably continuative aspect; Ay, Ix -hwa- < *hwa³ʔá³ passes by 163; Cq ki- < *ki³- completive aspect 206; Ay, Ja, Do, Te ti- < *ti¹- continuative aspect 589.

642. *wa³té¹ (*³ - ³) (*wa³- verb auxiliary 630) thatches.

Ay	tiwaté	Hu	ti ¹ wa ³ té ¹
Cq	tiwaté	Ix	cʔawaté
Ja	ti ¹ wa ² té ²	Lo	wotá
Do	tiwaté	Te	tiwaté

Ix cʔa- probably continuative aspect; Ay, Cq, Ja, Do, Te ti- < *ti¹- continuative aspect 589.

643. *wa³te¹čá³ (*wa³te¹ thatch 642, *-čá³ broom
529) sweeps.

Ay	tiwečá	Hu	wa ³ te ¹ čá ³
Cq	kuiteičá	Ix	c ² uwatičá
Ja	ti ¹ wa ² te ¹ čá ²	Lo	wotačó
Do	tiwatečá	Te	tiwitičá

Expected reflexes: Ay -watečá; Te -tečá. Te wi- < *wi³-
verb auxiliary 655; Ix c²u- probably continuative aspect; Cq
kui- unexplained; Ay, Ja, Do, Te ti- < *ti¹- continuative
aspect 589.

644. *wa³te¹ná³, *wa³te¹ñá³ (*wa³- verb auxiliary 630)
sells.

Mz	tiwateñá	So	wa ³ te ³ ñá ² (< Pre-So
Ay	tiwateñá		* ³ - ² 1 - ³)
Cq	tiwiteiñá	Ix	cuwateñá
Ja	ti ¹ wa ² te ¹ ñá ²	Mg	watená
Do	tiwateñá	Lo	watanó
Hu	wa ³ te ¹ ná ³	Te	tiwatihná

PPn 247, 304. Expected reflex: Ix cuwateñá; Te /h/
in /hn/ cluster unexplained, expected -tená. Cq wi- < *wi³-
verb auxiliary 655; Ix cu- probably continuative aspect; Mz,
Ay, Cq, Ja, Do, Te ti- < *ti¹- continuative aspect 589.

645. *wa^ste¹ntá¹ (*wa^s- verb auxiliary 630, *ntá¹ water 270) baptize.

Mz	tiwatentá	Hu	wa ^s te ¹ ntá ¹
Ay	tiwatentá	So	wa ^s te ^{s1} ntá ^{s1}
Cq	šteintá	Ix	tisutintá
Ja	ti ¹ wa ^s te ¹ ntá ¹	Lo	sotantó
Do	tiwatentá	Te	tiwatentá

646. *wa^sté^s (*wa^s- verb auxiliary 630) cuts.

Mz	tiweteyá	Ji	waté
Ay	tiwaté	So	wa ^s té ^s
Cq	tiwaté	Ix	c ^ʔ awaté
Ja	ti ¹ wa ^s te ^s ya ^s	Mg	waté
Do	tiwateyá	Lo	tiwotá
Hu	wa ^s té ^s , si ¹ ka ^s té ^s	Te	waté

Mz /e/ in -we- unexplained; the expected reflex /a/.
 Mz, Ja, Do -yá < *yá inside 660; Hu si- < *-ci¹ʔi¹- do 26;
 -ka- < *ka^s- completive aspect 172; Ix c^ʔa- probably
continuative aspect; Mz, Ay, Cq, Ja, Do, Lo ti- < *ti¹-
continuative aspect 589.

647. *wa^ste^skhá¹ (*wa^sté^s cuts 646, *khá¹ across 180)
cuts.

Ay	kičakhašniǵ	Hu	wa ^s khá ¹ <u>cut down</u>
Cq	tiwatekhá	Ix	cawatikhá
Ja	ti ¹ wa ^s te ^s khá ¹	Lo	tiwotakhó
Do	tiwatakhá	Te	tiwatekhá <u>solit</u>

Expected reflexes: Cq tiwateikhá; Do -te-; Hu wa^ste^skhá¹; Ay -šniá unexplained; Hu, Te nasalized /a/ unexplained. Ix ca- probably continuative aspect; Ay ki- < *ki^s- completive aspect 206; Cq, Ja, Do, Lo, Te ti- < *ti¹- continuative aspect 589.

648. *wá^{4s} lonesome.

Ay tiwawá	Hu wá ^{4s} le ⁴
Cq wá	Ix khimawá
Ja wá ^{2s}	Te timawá-
Do wá	

Ix khi- < *khi^s- completive aspect 196; Ay, Ix, Te mā-, Lo mǝ- < *mǝ^s able 227; Hu -le⁴ pronominal. Ja tone ^s of ^{2s} glide probably developed analogically to indicate phrase final.

649. *we¹ški⁴ (*wé¹ probably derived from knows 653, *ški⁴ numeral 537) counts.

Mz tiweški	So ʔwe ^s ški ²⁴ (< Pre-So * ²¹ - ⁴)
Ay tiweški	Ix cawiški
Cq tiweiški	Lo waškiyo
Ja ti ¹ we ¹ ški ^s	Te tiweške
Do tiweški	
Hu ti ¹ wʔe ¹ ški ⁴	

Expected reflexes: Do -kí; Lo šké (cf. 537); Te -weški. Ix, Te -wi- < *wi^s- verb auxiliary 655; Hu wʔe-, So ʔwe- <

*we³ʷé¹ hits 652; Ix ca- probably continuative aspect; Mz, Ay, Cq, Ja, Do, Hu, Te ti- < *ti¹- continuative aspect 589; Lo -yo < *yá inside 660.

650. *we¹ʷe¹nthé⁴ (*we¹ʷé¹ hits 652, *nthé⁴ seed 385) plants.

Ay nthé	So ʷwe ³ thé ²⁴ (< Pre-So
Cq thé	* ²¹ - 4)
Ja ti ¹ wʷe ¹ nthé ³	Ix tisenthé
Do tiwʷenthé	Mg wʷentháí
Hu nthé ⁴ wʷé ¹ , wʷe ¹ nthé ⁴	Lo waʷathá
Ji wʷethé	Te tisithé

Expected reflexes: So weʷe-; Mg -thé; So /ʷ/ unexplained, cf. 652. Ja, Do, Ix, Te ti- < *ti¹- continuative aspect 589.

651. *we³nt^ykhú¹ (*wé⁴² knows 653) worships.

Ay wekú	Ix wetikú
Ja we ² nkhú ¹ <u>respect</u>	Lo waškú
Do wenkhú	Te weškú
Hu we ³ škú ¹ <u>he worships</u>	

PPn 80. Expected reflex: Ix wi-.

652. *we^sʔé¹ hits, gives birth to.

Mz wʔyé	So we ^s ʔé ^s re ²⁴ (< Pre-So
Ay tiweʔé	* ^s - ^{s1} - ⁴)
Cq tiwečú	Ix caweʔé <u>lp.</u> , cawe' <u>3p.</u>
Ja ti ¹ wʔé ¹	Mg kawʔéle <u>he hit him</u>
Do tiwʔé	Lo waʔá
Hu wʔé ¹	Te tiwé
Ji kaʔwé	<u>she gave birth to</u>

PPn 306; PMS 92. Expected reflexes: Cq -weiʔé; Ji -wʔé.

Mz /y/ before /e/ unexplained; its phonemic status is doubtful. Cq -čú perhaps < *čú^s arrives at 105; Ix ca- probably continuative aspect; Ay, Cq, Ja, Te ti- < *ti¹- continuative aspect 589; Ji ka- < *ka^s- completive aspect 172; So -re, Mg -le 3p. pronoun.

653. *wé⁴² knows.

Ay wé-	Ji ʔwé
Cq ʔué	So wé ^{s1}
Ja wé ²	Ix wé
Do wé	Lo wá
Hu wé ⁴²	Te wé

Cq, Ji /ʔ/ unexplained.

654. *wi¹ come here.

Mz hawí	So ha ⁴ wí ¹
Ay hawí, ntiwí	Ix hawí
Cq ntuwá	Mg hewí
Ja ha ³ wí ¹	Lo hawí
Do hawí	Te nčuwí
Hu ha ⁴ wí ¹³	

PPn 186. Lo expected -wé unless ha- is a recent compound. Te nču- unexplained; Cq ntu- unexplained; Cq /a/ unexplained, but may reflect different aspect. Mz, Ay, Ja, Do, Hu, So, Ix, Lo ha- probably imperative. So expected tone ⁴ - ²¹; Hu tone ³ of ¹³ glide unexplained, perhaps indicates phrase final.

655. *wi³- verb auxiliary.

Cf. 656-658 etc.

656. *wi³śá³ (*wi³- verb auxiliary 655) mates.

Mz kwiśású <u>marry</u>	Hu khua ⁴ wi ³ śá ³ <u>marriage</u>
Ay tiwiśá	Ix c ² awiśá
Cq tiwiśá	Lo tiwiśó
Ja ti ¹ wi ² śá ²	Te tiwiśá <u>marry</u>
Do tiwiśá	

Mz kwi-, Mz -su unexplained. Hu khua- < *k^wha⁴ abstract thing 216; Ay, Cq, Ja, Do, Lo, Te ti- < *ti¹- continuative aspect 589; Ix c²a- probably continuative aspect. The tone

reconstruction on the last syllable is partially indeterminate; it is either *^s, *^{s1}, or *⁴².

657. *wi^sthá^s (*wi^s- verb auxiliary 655) passable.

Ay	withá	Lo	mɔwithá
Ja	mə ² wi ² thá ²¹	Te	məwithá
Do	məwithá		

Expected reflex: Lo mɔwithó. Ja, Do, Te mə-, Lo mɔ- < *mə^s able 227. Ja tone ¹ may be emphasis glide. The tone reconstruction on the last syllable is rather indeterminate; it is either *², *^s, *^{s1}, *⁴², or *^{4s}.

658. *wi^st^yhá¹ (*wi^s- verb auxiliary 655) harvests.

Mz	tiwithyá	Hu	wi ^s ɕhá ¹
Ay	tiwithiá	Ix	tʔawithiá
Cq	tiwithiá	Lo	woɕhá
Ja	ti ¹ wi ² thiá ¹	Te	tiwiɕhá
Do	tiwithiá		

PPn 5. Expected reflex: Lo wiɕhó. Mz, Ay, Cq, Ja, Do, Te ti- < *ti¹- continuative aspect 589; Ix tʔa- perhaps continuative aspect.

659. *yá wears.

Hu	yá ^{4s}	Mg	yále <u>possesses</u>
So	ya ^s há ¹		

PPn 343. Mg -le third person. The tone development is obscure.

660. *yá inside.

Ay tinčhayá <u>talks</u>	Do tinčhayá <u>talks</u>
Ja ʔi ^s yá ² <u>inside</u> ,	Ix cančhayá
ti ¹ nčha ^s yá ² <u>talks</u>	

The tone reconstruction is rather indeterminate; Ja tone ² may < *², *³, *^{s1}, *^{s2}, *⁴², or *⁴³.

661. *yá¹ wood, tree, stick.

Mz yá	Ji yá
Ay yá	So yá ²¹
Cq yá	Ix yá
Ja yá ¹	Lo yó
Do yá	Te yá
Hu yá ¹	

PPn 248; PMS 67.

662. *ya¹ka⁴kú³ (*yá¹ wood 661) cedar.

Mz yakakó	So yakakú
Ja ya ¹³ kú ²	Ix yakú
Do yakú	Lo yokokí
Hu ya ¹⁴ kú ³	Te yakú

Expected reflex: Mz yakakú. Te ya- ~ ʔi-; see §3.4.
Tone on the last syllable is partially indeterminate; it is either *³ or *^{s1}.

663. *ya¹ki³hú⁴ (*¹ - ³ - ³) (*yá¹ wood 661) ladder.

Mz	yakihú	So	ya ³ ki ² hú ⁴ (< Pre-So
Ay	yakihú		* ²¹ - ³ - ⁴)
Cq	yankihñú	Ix	yaikihú
Ja	ya ¹ ki ³ hú ³	Mg	yakihú
Do	yakihí	Lo	kiké
Hu	ya ¹ ki ³ hú ³	Te	ʔikihú (< Pre-Te *yakhú)
Ji	yakhú		

Expected reflex: Lo kihí; Cq -ñ- unexplained.

664. *ya¹na⁴śú⁴ (*¹ - ³ - ¹) (*yá¹ wood 661, *na⁴śú⁴ throat 278) bamboo-like reed.

Mz	naśú	So	ya ³ na ² śú ⁴ (< Pre-So
Ay	yanaśú		* ²¹ - ⁴ - ⁴)
Cq	yanáśu	Ix	yanaśú
Ja	ya ¹ na ² śú ¹	Lo	yonóśi
Do	yanaśú	Te	yanaśú
Hu	na ⁴ śú ⁴		

PPn 176. Te ya- ~ ʔi-; see §3.4.

665. *ya¹na⁴ʔní⁴ (*yá¹ wood 661, *na⁴- nominal 241) tree (chaca).

Ay	yanaʔní	Do	yaʔní
Cq	yanaʔní	Ix	yaʔní
Ja	ya ¹ ʔní ³		

Tone ⁴ on -na- is internally reconstructed from the nominal 241; it could also be reconstructed *³.

666. *ya¹ni³čá³ (*yá¹ wood 661, *ni³- nominal 312)

pine tree.

Mz	ničá	So	ni ³ čá ³
Ay	yaničá	Ix	yaničá
Cq	yaničá	Mg	ničá
Ja	ya ¹ ni ³ čá ²	Lo	yoničó
Do	yaničá	Te	ʔiničá (< Pre-Te *yaničá)
Hu	ya ¹ ni ³ čá ³		

PPn 120.

667. *ya¹ni³sé³ (yá¹ wood 661, *ni³- nominal 312) staff.

Ay	yani ³ sé	Hu	ya ¹ ni ³ sé ³
Ja	ya ¹ ni ³ sé ²	Ix	yani ³ sé
Do	yani ³ sé	Lo	yoni ³ sathá <u>planting stick</u>

PPn 146. The tone reconstruction on the last syllable is partially indeterminate; it is either *³, *³¹, or *⁴².

668. *ya¹nti³čhú³ (*yá¹ wood 661) rubber tree.

Ay	yantičhú	So	ni ³ čhú ³
Cq	yakhiʔntičhú	Ix	yantičhú
Ja	ya ¹ čhú ²	Lo	yontičhí
Do	yačhú	Te	yantičhú
Hu	nti ³ čhú ³		

Expected reflexes: Ay -čh-, Cq -čh-. Cq /ʔ/ in /ʔnt/ cluster unexplained. So ni³- < *ni³- nominal 312. Te ya- ~ ʔ1-; see §3.4.

669. *ya¹nti⁴hí⁴ (*yá¹ wood 661) tree (guayacán).

Ay yantihí

Do yandihí

Ja ya¹ndhí³

670. *ya¹ntu³hú² (*yá¹ wood 661, *ntu³hú² long 397)
stringer, beam.

Mz yantuhú

So ya²¹ntu³hú¹

Ay yantuhú

Ix yantuhú

Cq yantuhú

Lo yontihí

Ja ya¹ndhú²

Te yantahú

Do yanduhú

Te ya- ~ ?i-; see §3.4.

671. *ya¹shai³ (*yá¹ wood 661) post (house).

Mz yashai

Hu ya¹shai³

Ay yashai

So yachai

Cq yasei

Ix yisé, yase

Ja ya¹shai²

Lo yoché

Do yashai

Te ?ichí (< Pre-Te *yachí)

Expected reflex: Mz yaché; Ix -saí.

672. *ya¹skú² (*yá¹ wood 661) bench.

Mz yaskó

Ix yancukú

Ay yaskú

Mg ya¹skó

Cq yaskú

Lo yoskí

Hu ya¹skú²

Te ?iskú (< Pre-Te *yaskú)

So ya¹skú¹ (< Pre-So *²¹ - 1)

Mz, Mg expected reflex -skú; Lo oral /ɬ/ unexplained;
 Ix /s/ lost in /sk/ cluster may be due to /c/ in preceding
 syllable; Ix -ncu- unexplained.

673. *ya¹šá¹ (*yá¹ wood 661) bamboo.

Ay	yašá	Ix	yašá, yišá
Cq	yašá	Lo	yašó
Ja	ya ¹ šá ¹	Te	yašá
Do	yašá		

Te ya-~ʔi-; see §3.4.

674. *ya¹té⁴³ (*yá¹ wood 661, *té⁴³ wide 572) board.

Mz	yatí	So	ya ²¹ té ³²
Ay	yaté	Ix	yaté, yité
Cq	yaté	Mg	yaté
Ja	ya ¹ té ²	Lo	yotá
Do	yaté	Te	ʔité (< Pre-Te *yaté)
Hu	ya ¹ té ⁴³		

675. *ya¹t^yhaí¹ (*yá¹ wood 661) corn stalk.

Ay	yatháí	So	ya ²¹ thí ²¹
Cq	yatháí	Ix	yathí
Ja	ya ¹ thí ¹	Mg	yathé
Do	yathí	Lo	yočhé
Hu	ya ¹ čhaí ¹	Te	ʔačhaí (< Pre-Te *yačhaí)
Ji	yačhaí		

Expected reflex: Ji -čhaí. Te ya- ~ ʔi-; see §3.4.

676. *ya¹ntí³ (*yá¹ wood 661) tree (manchillo).

Ay ya ² ntí	Do yantí
Ja ya ¹ ntí ³	Ix yantí

677. *ya³hú² sharp.

Mz yihú, yuhú	So ya ³ hó ¹
Ay yohó	Ix yihú
Cq yuhú	Mg yó
Ja yhó ²	Lo yihí
Do yohó	Te yihú
Hu yaú ³	

PPn 344. Expected reflexes: Mz ya-; Cq yohó; Ix yuhó;
Hu ⁴³.

678. *ya³hú³ meat.

Mz yahó	Ji yohó, yihó
Ay yohó	So ya ³ hó ³ <u>meat</u> , <u>body</u>
Cq yohó	Ix yuhú
Ja yhó ²	Mg yó
Do yohó	Lo yihí
Hu yaú ³	Te yihú

PPn 345. Expected reflexes: Mz yahú; Ji yó.

679. *ya^shu^ski^sčhá^s, *ya^shu^shá¹ (*ya^shú^s meat 678, *čhá^s cooks 74) meat (roasted).

Ay yohohá	Ix yuhukičhá
Ja yho ² ki ² čhá ²	Lo yihihó
Do yohokičhá	Te yihukičhá
Hu yau ^s há ¹	

PPn 188.

680. *ya^shu^snt^ykú², *ya^shu^sthú² (*ya^shú^s sharp 677, *thú² first 587) pointed.

Ay yohothú	Hu yau ^s thú ² <u>pointed</u> , thú ²
Cq yuhurkú	<u>finger tip</u>
Ja yho ² nkú ¹	Ix yuhunčikú
Do yohonkú	Lo kichothí
	Te yihuskú

PPn 33. Expected reflexes: Cq yoho-, Te -škú. Lo kicho- unexplained; Ix nči- unexplained.

681. *ya^sʔá^s carries.

Ay yaʔá	Hu yʔá ^s
Cq hiyá <u>pregnant</u>	So yaʔá, yʔá
Ja yʔá ² <u>carries</u> , ti ¹ yʔá ²	Ix yaʔá
<u>pregnant</u>	Lo yoʔó
Do yʔá <u>carries</u> , tiyʔá	Te yá
<u>pregnant</u>	

Expected reflexes: Cq, Hu yaʔá.

682. *ya³ɔyí³¹ heavy.

Mz	ɔéí	Ji	yɔí, ɔáí
Ay	ɔeyé	So	yí ³ ɔí ³² <u>heavy</u> , <u>fat</u>
Cq	ɔáí	Ix	ɔáí
Ja	ɔáí ²	Mg	ɔé
Do	ɔáí	Lo	yɔ'ɔí
Hu	yɔáí ³ , ɔáí ²¹	Te	ɔí

PPn 331. Ay, Mg development of /e/ obscure unless this reflex is characteristic of this unique total environment. See discussion in §4.12.3.1 of the problems of reconstruction for this form. Development of *y is unexplained.

683. *ya⁴nčú³ɔá¹ fence.

Mz	yančúɔá, yančwá	Ji	nčɔá
Ay	yančɔá	So	č'ɔuá ²¹
Cq	nčúá	Ix	nč'ɔuá
Ja	ɔi ³ ya ² nčɔá ¹	Mg	yančɔá, nčɔá
Do	čɔá	Lo	nči'wó
Hu	nč'ɔuá ¹	Te	nčá-, ɔinčiwá

PPn 327. Expected reflexes: Cq nčúɔá; Ja -čɔá¹; So nč'ɔuá²¹. Ja ɔi³ya² - < *yá inside 661. Gudschinsky phonemicized the So form as č'wá²¹; I have re-phonemicized it so as to parallel her analysis of c'ɔuá³ mouth PPn 126, my set 294.

684. *ychñǎ́ rainbow.

Ay	yehñǎ́	Do	yehñǎ́
Cq	yeihñǎ́	Lo	yahñǎ́
Ja	ye³hñǎ́³		

The tone reconstruction is indeterminate.

685. *ye³hé³ everything.

Ay	nkayehé	Hu	nka³yi³hé³
Cq	yehé	So	nkye³hé³
Ja	nga²yhé²	Ix	nkayihé
Do	ngayehé	Mg	nkayé

Expected reflexes: Cq yei-; Hu yé. Ay, Hu, So, Ix, Mg nka-, Ja, Do nga- < *nka³- subordinating conjunction 340.

686. *yé⁴ snake.

Mz	yé	Ji	yé
Ay	yé	So	yé⁴
Cq	yé	Ix	yé
Ja	yé³	Mg	yé
Do	yé	Lo	yá
Hu	yé⁴	Te	yé

PPn 293.

687. *ye⁴hé⁴ turtle.

Ay	thiuyehé	So	ye⁴hé⁴
Ja	čusyhé³	Ix	yehé
Do	čuyehé		

Expected reflex: Ix yi-. Ay thiu- < *t^yhu^s- nominal
616-620; Ja, Do ču- < *čú⁴ animal 107.

688. *ye⁴ʔé⁴ manure.

Mz	nųé <u>intestines</u>	Hu	yʔé ⁴
Ay	yeʔé	So	yeʔé
Cq	yeʔé	Ix	yeʔé
Ja	yʔé ³	Lo	yaʔá
Do	yʔé, yeʔé	Te	yí

PPn 333. Expected reflexes: Mz -ʔV; Cq yeiʔé. Te ye;
Mz nų- unexplained.

689. *yu^shwí^s cloud.

Mz	yuhwí	So	yu ^s hwí ^s
Ay	yuhwí	Mg	yuhwí
Cq	yuhwí	Lo	yifé
Hu	yu ^s hwí ^s	Te	yuhwí, ʔihwí
Ji	yuhwí		

PPn 220; PMS 68. Expected reflexes: Ji yi-; Lo -fí.

690. *ʔá^s unoccupied.

Ay	ʔá	So	ʔá ^s
Cq	ʔaí	Ix	ʔá
Ja	ʔá ²	Lo	ʔó
Do	ʔá	Te	ʔá
Hu	ʔá ^s		

Cq /i/ unexplained.

691. *ʔa³- interrogative.

Ay ʔa-	Hu ʔa ³ -
Cq ʔa-	Ix ʔa-
Ja ʔa ² -	Lo ʔa-
Do ʔa-	Te ʔa-

The tone reconstruction is partially indeterminate; it is either *³ or *³¹.

692. *ʔá³ opening.

Mz chaʔá	Hu ncha ⁴ ʔá ³
Ay nchaʔá	So cha ⁴ ʔá ³
Ja ncha ³ ʔá ² , cha ³ ʔá ²	Ix ncaʔá
(< Pre-Ja *ncha ³ ʔá ²)	Lo choʔó
Do nchaʔá, chaʔá (< Pre-Do	Te chaʔá
*nchaʔá)	

Mz, So, Te cha-, Te cho-, Ay, Ja, Do, Hu ncha-, Ix nca- < *nchá⁴ hair 288, a recent compound.

693. *ʔá³ I.

Ay ʔá	Hu ʔá ³
Cq nkaʔá	Ix ʔá
Ja ʔá ²	Lo ʔó
Do ʔá	Te ʔá

Cq nka- < *nka³- subordinating conjunction 340. The tone reconstruction is partially indeterminate; it is either *³ or *³¹.

694. *ʔi³hná³ fern.

Ay ʔehná	Mg ʔihná
Cq nihñá	Lo ʔihnó
Hu ʔi ³ hná ³	Te ʔihná
Ix ʔihná	

Expected reflexes: Cq nihná, Ay ʔihná. Cq ni- < *ni³-
nominal 312. The tone reconstruction on the last syllable
 is partially indeterminate; it is either *³, *³¹, or *⁴³.

695. *ʔi³ntá⁴³ soft.

Mz ʔintá	Ji ʔintá
Ay ʔintá	So ʔi ³ ntá ³²
Cq ʔintá	Ix ʔintá <u>soft, weak</u>
Ja ntá ²	Mg ʔintá
Do ʔintá	Lo ʔintó
Hu ʔi ³ ntá ⁴³ <u>soft, weak</u>	Te ʔintia

PPn 260. Te /i/ of /ia/ cluster unexplained.

696. *ʔi³ntú⁴³ embroidery.

Mz ʂaʔintú <u>jaguar</u>	Ji ʔintú
Ay thiuʂaʔintú <u>jaguar</u>	So ʂaʔintú <u>jaguar</u>
Ca ʂaʔintú <u>jaguar</u>	Ix ʂaʔintú <u>spotted</u>
Ja ʂa ² ntu ² si ² né ² <u>jaguar</u>	Mg ʔintú
Do ʂantusiné <u>jaguar</u>	Lo ʂoyintí
Hu ʔi ³ ntú ⁴³	Te ʂantú

PPn 162; PMS 84. Do expected reflex šaʔintú, the Do form probably borrowed from Ja; Te expected reflex šaʔintiú; Lo /y/ unexplained, expected /ʔ/. Mz, Ay, Cq, Ja, Do, So, Ix, Te ša-, Lo šo- < *šáʰ jaguar 493. The cluster /nt/ in a weak syllable in Ja and Do indicate that *siʰnéʰ yellow (469) is a recent compound.

697. *ʔiwá four-hundred.

Ja	ʔiwá	<u>four-hundred</u>	(ears	Te	ʔiwá	<u>four hundred</u>	(ears of
		<u>of corn</u>)				<u>corn</u>)	

698. *ʔmáʰ hidden.

Ay	tihñáʔmá	So	ʔmáʰ
Cq	teihñáʔmá	Ix	camankaʔmá
Ja	ʔmáʰ	Lo	tihnqʔmó
Hu	ti¹hnáʔmáʰ	Te	tiwimá

PPn 234. Ay, Cq, Lo tVhñV < *-hñáʰ is 156; Te tiwi-unexplained; Ix ca- probably continuative aspect; Ix -nka- < *nkaʰ- subordinating conjunction 340.

699. *ʔméʰ sick.

Ay	tiʔmé	Hu	mʔéʰ	<u>he is sick, dying</u>	
Cq	kaʔmé	<u>is dead</u>	So	khiʰʔméʰ	<u>he is sick,</u>
Ja	ti¹ʔméʰ, ʔméʰ			<u>dying</u>	
Do	tiʔmé	Ix	khiʔmé		

PPn 230; PMS 89. Expected reflexes: Cq kaʔméʰ; Hu ʔméʰ. So, Ix khi- < *khiʰ- completive aspect 196; Cq ka- <

*ka²- completive aspect 172; Ay, Ja, Do ti- < *ti¹- continuative aspect 589.

700. *ʔmé⁴ chest.

Ja ʔmé³

Hu ʔmé⁴

Do ʔmé

Mg mʔé

PMS 90.

701. *ʔmí² named.

Mz kwiʔmí thus it is named

So ʔmí¹ it is named

Ay ʔmí

Ix ʔmí

Cq ʔmí-

Mg mʔí

Ja ʔmí²

Lo ʔmí

Do ʔmí

Te mí he is named

Hu ʔmí²

PPn 225. Mz kwi- < *k^wi³ this 225.

702. *ʔmú sore, hurt.

Ay ʔú

Hu ʔáú³

Cq ʔmú

Ix ʔú

Ja ʔú²

Te ʔú

Do ʔú

Expected reflex: Ay ʔó. The tone reconstruction is partially indeterminate; it is either *³ or *³¹.

703. *^ʔnǎ́⁴ brilliant, shiny.

Ay	^ʔ nǎ́	Hu	čhy ⁴² ^ʔ nǎ́ ⁴ <u>shiny supernatural</u>
Ja	^ʔ nǎ́ ³		<u>woman seen at night</u>
Do	^ʔ nǎ́	So	^ʔ nǎ́ ⁴
		Ix	^ʔ nǎ́

Hu čhy- < *čhy⁴¹ woman 86.

704. *^ʔnčǎ́¹ cold (weather).

Mz	nč ^ʔ ǎ́	Hu	nč ^ʔ ǎ́ ¹
Ay	nč ^ʔ ǎ́	Ji	nč ^ʔ ǎ́
Cq	^ʔ nčǎ́	So	č ^ʔ ǎ́ ²¹
Ja	nč ^ʔ ǎ́ ¹ , č ^ʔ ǎ́ ¹ (< Pre-Ja *nč ^ʔ ǎ́ ¹)	Ix	nč ^ʔ ǎ́
Do	nč ^ʔ ǎ́, č ^ʔ ǎ́ (< Pre-Do *nč ^ʔ ǎ́)	Mg	nč ^ʔ ǎ́
		Lo	nč ^ʔ ǎ́ ^ó
		Te	nčǎ́

PPn 126; PMS 88. Development of *^ʔ unexplained.

705. *^ʔnčí⁴ wet.

Mz	kama ^ʔ nčí <u>it got wet</u>	Ji	nčí
Ay	^ʔ nčí	So	nčí ⁴
Cq	^ʔ nčí	Ix	nčí
Ja	nčí ³ , čí ³ (< Pre-Ja *nčí ³)	Mg	nč ^ʔ í
Do	nčí, čí (< Pre-Do *nčí)	Lo	^ʔ nčí
Hu	^ʔ nčí ⁴	Te	nčí

PMS 87. Mz ka- < *ka²- completive aspect 172; Mz -ma- < *mǎ́³ able 227.

706. *ʔnčú³, *ʔnkiú, *shá blackberry.

Ay	čhishá	Hu	čhi ³ ʔnčú ³
Cq	tuš ¹ iʔnkiú	Ji	š ¹ iʔnčú
Ja	čhi ² shá ²	Lo	š ¹ iʔnč ¹
Do	čhinkʔiú	Te	šančó

Ay, Ja, Do, Hu čhi- < *čhi³ chirimoya 79; Ji, Lo š¹-,
Te ša- unexplained; Cq tu- < *tú³¹ fruit 605; Cq -š¹- <
*š¹- connective 518. The tone reconstruction is
indeterminate.

707. *ʔné¹ bunch (of bananas).

Ay	ʔé	Hu	ʔé ¹
Cq	ʔné ¹	Ix	ʔé
Ja	ʔé ¹	Lo	ʔá
Do	ʔé	Te	ʔé

The tone reconstruction is partially indeterminate; it
is either *¹ or *²¹.

708. *ʔné¹ language, word.

Mz	ʔí	Ji	ʔé
Au	ʔéna	So	ʔé ²¹
Cq	ʔné ¹ -	Ix	ʔé
Ja	ʔé ¹	Lo	ʔá
Do	ʔé	Te	ʔé
Hu	ʔé ¹		

709. *²nká³ high, tall.

Mz -nk ² á	Ji - ² nká
Ay nk ² á	So nka ³ k ² á ³
Cq heirku ² nká	Ix nk ² á
Ja nk ² á ² , k ² á ² (< Pre-Ja *nk ² á ²)	Mg nk ² á
Do nk ² á, k ² á (< Pre-Do *nk ² á)	Lo nko ² ó
	Te ² inká <u>high, sky</u> ; nká <u>roof</u>
Hu nk ² á ³	

PPn 60; PMS 85. Cq heirku- unexplained; Te ²i-
unexplained.

710. *²nka³kú³ (*²nká³ high 709) conceited.

Ay kamank ² ankakú	Hu nk ² a ³ kú ³
Ja nk ² a ² kú ² , k ² a ² kú ² (< Pre- Ja *nk ² a ² kú ²)	Ix kamank ² akú
	Mg nk ² akú
Do nk ² akú, k ² akú (< Pre-Do *nk ² akú)	Lo nko ² otikí
	Te kamankakó

Expected reflex: Te -kú. Ay nka- < *nka³- subordinat-
ing conjunction 340; Ay, Ix, Te ma- < *ma³ able 227; Ay, Ix,
Te ka- < *ka²- completive aspect 172. The tone reconstruc-
tion on the last syllable is partially indeterminate; it is
either *³, *³¹, or *⁴².

711. *^ɔnkí⁴³, *^ɔnčí⁴³ hoes.

Ay	tihwu ^ɔ nkí	So	mí ³ nčí ³² , mí ³ nkí ³²
Cq	tihwančá	Lo	wančí
Do	tihwančí	Te	tiwinčí
Hu	^ɔ nkí ⁴³ , ^ɔ nčí ⁴³		

PPn 278. Expected reflexes: Ay -nk^ɔí; Cq -nčí; Hu nk^ɔí; Hu /^ɔ/ in /^ɔnč/ cluster unexplained; So mí- unexplained; Lo wa- a recent compound after *i > /e/. Ay, Cq, Do, Te ti- < *ti¹- continuative aspect 589; Cq, Do -hwa-, perhaps Ay -hwu- perhaps < *hwa³ʔá³ passes by 163; Lo -wa- < *wa³- verb auxiliary 630; Te wi- < *wi³- verb auxiliary 655.

712. *^ɔnkíú¹ cocoa bean.

Mz	nk ^ɔ yú	Hu	nk ^ɔ iú ¹
Ay	nk ^ɔ iú	So	k ^ɔ yú ²¹
Cq	^ɔ nkíú	Ix	nk ^ɔ iú
Ja	nk ^ɔ iú ¹ , k ^ɔ iú ¹ (< Pre-Ja	Mg	nk ^ɔ ió
	*nk ^ɔ iú ¹)	Lo	nkí ^ɔ í (< Pre-Lo *nkí ^ɔ í)
Do	nk ^ɔ iú, k ^ɔ iú (< Pre-Do	Te	nkíú
	*nk ^ɔ iú)		

PPn 69. Gudschinsky reconstructed this etymon as *nkí^ɔú¹ but the reflexes are parallel to *^ɔnká³ high 709 which she reconstructed as *^ɔnká³. I reconstruct both as *^ɔnk clusters.

713. *ʔntá³ hello.

Ay ntanaʔaí	Hu ʔntá ³ li ²
Cq kuʔntári	Ix tintá
Ja ʔ ¹ teí ² (< Pre-Ja	Lo ntanaʔaí, ntalí
*ha ¹ nteí ²)	Te ntalé
Do hantári	

Ja /ei/ is unexplained, expected /a/. Lo /ʔ/ is lost when /ʔnt/ occurs word initial. The tone reconstruction is partially indeterminate; it is either *³ or *³¹.

714. *ʔntí¹ young, little.

Ay kiʔntí <u>young, little,</u>	Hu ʔntí ¹ <u>baby, small, child</u>
<u>child, boy</u>	Ix khintí <u>young, ntí child,</u>
Cq kiʔntí <u>young, child,</u>	<u>boy</u>
<u>baby</u>	Mg ntʔí <u>child,</u>
Ja khi ² ntí ¹ <u>young; ntí¹, tí¹</u>	<u>little</u>
(< Pre-Ja *ntí ¹) <u>child</u>	Lo kiʔnté <u>little; ntí child</u>
Do khintí <u>young; ntí, tí</u>	Te khintí <u>young, child</u>
(< Pre-Do *ntí) <u>child</u>	

PPn 267. Lo /e/ is unexplained, expected /i/. Lo /ʔ/ is lost when word initial. Ja, Do, Ix, Te khi- < *khi³- completive aspect 196; Ay, Cq, Lo ki- < *ki³- completive aspect 206. The tone reconstruction is partially indeterminate; it is either *¹ or *²¹.

715. *ʔnti¹ʔñý⁴ (*ʔntí¹ child, little 714) twins.

Ay	kintiʔñý	Ji	ntiʃtiʔñý
Ja	ti ¹ ʔñý ³ (< Pre-Ja *nti ¹ ʔñý ³)	Ix	ntiʔñý
Do	tiʔñý (< Pre-Do *ntiʔñý)	Mg	ntʔiñʔý
Hu	ʔñý ⁴ <u>double yolk egg</u> , ntʔiý ⁴	Lo	ñiʔí
		Te	kintiñý
		So	ʔñý ⁴

PPn 299. Expected reflexes: Ja ʔiý; Lo ʔñí. Ji ntiʃti- < *ʃtí³ children 546; Te ki- < *ki³- completive aspect 206.

716. *ʔntí⁴ sterile.

Ay	ʔntí	Hu	ʔntí ⁴
Ja	hmi ¹ ntí ³ <u>sterile woman</u>	Ix	ntí
Do	ʃutačhý ntí <u>sterile woman</u>	Te	ntí

Ja hmi- < *hmi⁴- person prefix 138; Do ʃuta- < *ʃu⁴tá⁴ person 561; Do -čhý, Lo čhí < *čhý⁴¹ woman 86.

717. *ʔntú³ rots.

Mz	tehwentú	So	fi ³ ntú ³
Ay	tihweʔntú	Ix	khihwantú
Cq	heiʔntú	Mg	hwentʔú
Ja	ti ¹ hwe ² ntú ²	Lo	hiʔntí
Do	tihwentú	Te	tihwintú
Hu	whi ³ ʔntú ³ <u>rots</u> ; ʔntú ³ <u>rotten</u>		

Expected reflex: Te -ntiú. Cq hei-, Lo hi- unexplained;
 So fi-, Hu whi-, Te hwi- perhaps < *hwi² goes 169; Mz, Ay, Ja,
 Do, Mg hwe- < *whé³ use up 167.

718. *ʔñǎ⁴ dusk.

Ay	thimaʔñǎ	Ji	kaʔñǎ
Cq	kamaʔñǎ	Ix	kamaʔñǎ
Ja	ka ² ma ² ʔñǎ ³	Lo	komqʔñǎ
Do	kamaʔñǎ	Te	khimañǎ-
Hu	kyǎ ³ ʔñǎ ⁴		

PPn 296. Ay thi- unexplained; Cq, Ja, Do, Ji, Ix ka-,
 Lo ko- < *ka²- completive aspect 180; Ay, Cq, Ja, Do, Ix, Te
 -ma-, Lo -mq- < *mǎ³ able 227; Hu kyǎ- probably contraction
 of *ka²- completive aspect 172 + *mǎ³ able 227; Te khi- <
 *khi³- completive aspect 196.

719. *ʔñǎú² five.

Mz	ʔó	Ji	ʔǎ
Ay	ʔǎ	So	ʔǎ ¹
Cq	ʔñú	Ix	ʔú
Ja	ʔú ²	Mg	ʔú
Do	ʔú	Lo	ʔǎ
Hu	ʔǎú ²	Te	ʔǎ

PPn 297. Mz expected nasalized vowel; Te expected ʔú.

720. *²ñay³čá³ (*¹ - ³) hundred.

Ja ʔy ² čá ²	So ʔy ² čá ³ (< Pre-So * ¹ - ³)
Do ʔyčá	Ix ʔyčá

Expected reflex: So ʔq-. The first syllable of this etymon is internally reconstructed by comparison with five 719.

721. *²ñú¹ strong.

Mz ʔñú	Ji nkaʔñú
Ay ʔñú	So ʔñú ²¹
Cq ʔíú	Ix ʔñú
Ja ʔíú ¹	Mg nkañʔú
Do ʔíú	Lo ʔñí
Hu nʔíú ¹	Te ñú

PMS 91. Expected reflexes: Cq, Do, Hu ʔñú, Ji, Mg nka-
< *nka³- subordinating conjunction 340.

722. *²ñy¹stí¹ (*²ñy¹ vine 252) mecapal.

Ay na ² ʔíutí	Hu nʔy ¹ htí ¹
Cq na ² ʔñutí	Ix níʔíutí
Ja nʔy ¹ tí ¹	Lo níté
Do nʔustí	Te ntatí

Expected reflexes: Ay, Do, Hu ʔñy-; Ja ʔy-; Ix ʔñ-.
Te nta- unexplained, expected -htí. Development in Do of /st/
for expected /t/ unexplained; perhaps contamination from
baby clothes since children are carried by a cloth, often in

a way similar to a mecapal. Ay, Cq na- < *na³- nominal 241; Ix, Lo ni- < *ni³- nominal 312. The development of *u in this etymon is unexplained unless the environment *ʔñ unstressed is posited to be significantly different from *ñ unstressed.

723. *ʔwau³ grinds.

Mz	ti ² ó	Hu	w ² au ³
Ay	thi ² wó	So	ʔó ³
Cq	ko ² ó	Ix	c ² a ² wú
Ja	ti ¹ ʔó ²	Lo	wí
Do	ti ² ó	Te	ti ² ú

PPn 356. Cq ko- unexplained. Ix c²a- probably continuative aspect; Mz, Ja, Do, Te ti- < *ti¹- continuative aspect 589.

724. *ʔwí^{4s} drinks (v.).

Mz	tiw ² í	Ji	tiw ² í
Ay	ʔwí	So	ʔwí ^{3s}
Cq	ti ² uí	Ix	ca ² wí
Ja	ʔwí ²	Mg	w ² í
Do	ʔwí	Lo	king ² ʔwí
Hu	ʔwí ^{4s} <u>he drinks</u> , ʔyú	Te	tiwí

we drink

PPn 302. Expected reflexes: Mz, Ji -ʔwí; Lo -nq- unexplained, but it is a recent compound after *i > /e/ when

preceded by back vowel. Ix ca- probably continuative aspect; Mz, Cq, Ji, Te ti- < *ti¹- continuative aspect 589; Lo ki- < *ki³- completive aspect 206.

725. *ʔya³- nominal.

Cf. 726-729.

726. *ʔya³ni² (*ʔya³- nominal 725) red.

Mz ʔani ¹	Ji ʔini ¹
Ay ʔini ¹	So ʔani ¹
Cq ʔani ¹	Ix ʔini ¹
Ja ni ²	Mg ʔani ¹
Do ni ¹ ni ¹ , ni ¹	Lo yoni ¹
Hu ni ²	Te ʔini ¹

Expected reflex: Ji ni¹. The reconstruction of tone on the first syllable is reconstructed by analogy with puckery 727, sweet 728, warm 729.

727. *ʔya³si³ (*ʔya³- nominal 725) puckery.

Ay ʔisi ¹	Hu ʔi ³ si ³
Cq ʔasi ¹	Ix ʔasi ¹
Ja si ²	Lo yosi ¹
Do si ¹	Te ʔisi ¹

Expected reflexes: Hu si¹; Ix ʔisi¹. The tone reconstruction on the last syllable is partially indeterminate; it is either *³, *³¹, or *⁴².

728. *ʔya³ʃí⁴³ (*ʔya³- nominal 725) sweet.

Mz ʔaʃí	Ji ʃí
Ay ʔiʃí	So ʔa ³ ʃí ³²
Cq ʔaʃí	Ix ʔiʃí
Ja ʃí ²	Mg ʔiʃí
Do ʔiʃí	Lo yosí
Hu ʃí ⁴³	Te ʔiʃí

PPn 163. Do ʔiʃí probably borrowed from Ay, expected reflex is ʃí.

729. *ʔya³sú⁴³ (*ʔya³- nominal 725) warm.

Ay ʔisú	So ʔa ³ sú ³²
Cq ʔusú	Ix ʔasú
Ja sú ²	Lo yosí
Do sú	Te ʔisú, ʔasú
Hu sú ⁴³	

PPn 316. Expected reflexes: Cq ʔasú; Ix ʔisú.

730. *ʔyá⁴ ant (leaf cutter).

Ay nantaʔiá	Hu ni ⁴ ʔyu ³ ʔyá ⁴ <u>hook ant</u>
Cq ntaʔiá	Ix ʔiá
Ja ʔiá ³	Lo ʃiʔyó
Do ʔiá	Te ʃiyá

Ay nanta-, Cq nta- < *nə⁴ntá⁴ water 270; Hu ni⁴- < *ni⁴- nominal 312.

731. *ʔyú^s drinkable.

Ay	ntaʔiú	So	ntaʔyó
Cq	hamyntaʔiú	Ix	ntaʔiú
Ja	nda ² ʔiú ²	Lo	ntoʔí
Do	ndaʔiú	Te	ntayú-
Hu	nta ^s ʔyú ^s		

Expected reflexes: So -ʔyú; Lo ntoʔyí; Cq hamy-
unexplained; nta-, nda-, nto- < *nta^shá^s good 358 has
recently been compounded with *ʔyú^s drinkable. The tone
reconstruction on the last syllable is partially indetermin-
ate; it is either *^s, *^{s1}, or *^{s2}.

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INDICES

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Index to Proto-Mazatec Structure

Sets (Gudschinsky 1956)

Almost one hundred cognate sets in this study contain data also cited by Gudschinsky (1956). For the convenience of the reader who is working with her materials, the overlapping data are indexed here. Numerals preceding the decimal point refer to Gudschinsky's (1956) sets; those following refer to the cognate sets in the appendix of this paper.

1. 594	26. 344	51. 531	76. 454,455
2. 168	27. 20	52. 522	77. 154
3. 597	28. 45	53. 239	78. 142
4. 621	29. 62	54. 337	79. 157
5. 608	30. 56	55. 322,323	80. 155
6. 415	31. 69	56. 332	81. 158
7. 623	32. 70	57. 338	82. 166
8. 627	33. 229	58. 327	83. 161
9. 616	34. 74	59. 432	84. 696
10. 619	35. 86	60. 242	85. 709
11. 614	36. 59	61. 282,251	86. 137
12. 628	37. 284	62. 361	87. 705
13. 199	38. 297	63. 421	88. 704
14. 200	39. 303	64. 423	89. 699
15. 178	40. 438	65. 434	90. 700
16. 225	41. 480	66. 646	91. 721
17. 216	42. 466	67. 661	92. 652
18. 376	43. 463	68. 689	93. 77
19. 371	44. 542	69. 512	
20. 373	45. 179	70. 120	
21. 369	46. 519	71. 128	
22. 352	47. 513	72. 482	
23. 417	48. 560	73. 149	
24. 418	49. 563	74. 146	
25. 350	50. 534	75. 452	

Index to Proto-Povotecan Sets

(Gudschinsky 1959)

Almost half of the sets in this study have at least one language form that is also cited by Gudschinsky (1959). Of ninety-three PMaz sets that occur in Gudschinsky's (1956) work, fifty-six of these sets also are included in her later reconstructions (1959). For the convenience of the reader who is working with her materials, the overlapping data are indexed here. Numerals preceding the decimal point refer to Gudschinsky's (1959) sets; if the numerals are underlined then this set also occurs in Gudschinsky (1956), but under a different cognate set number. The latter cognate set number can easily be located by consulting the beginning of the explanatory section following each cognate set in the appendix of this paper. Numerals following the decimal point refer to the cognate sets in the appendix of this paper.

1. 566	...	...
2. 562	14. 483	27. 578
3. 547	15. 126	28. 543
4. 641	16. 574	29. 545
5. 658	<u>17.</u> 542	30. 336
6. 308	18. 222	...
<u>7.</u> 338	...	32. 318
...	21. 606	33. 680
9. 570	22. 422	34. 353
<u>10.</u> 646	23. 550	<u>35.</u> 482
11. 554	24. 43	36. 605
12. 569	25. 210	37. 583

<u>38.</u>	337	75.	212	109.	457
<u>39.</u>	594	76.	202	...	
40.	610	77.	63	<u>111.</u>	86,305
<u>41.</u>	614	<u>78.</u>	179	112.	619
42.	379	79.	394	113.	591
...		80.	4,651	114.	485
<u>44.</u>	415	81.	649	115.	249
45.	27	<u>82.</u>	629	116.	408
...		<u>83.</u>	480	...	
47.	28	84.	307	118.	208
48.	386	85.	540	119.	526
...		<u>86.</u>	216	120.	300,666
52.	528	<u>87.</u>	452	...	
53.	634	88.	256	122.	260
54.	499	...		123.	298
...		91.	631	124.	60
56.	124	<u>92.</u>	616	...	
57.	175	...		<u>126.</u>	704
58.	177	94.	11,12	127.	263
59.	181	<u>95.</u>	323	128.	458
<u>60.</u>	709	96.	451	...	
61.	456,174,506	97.	13	130.	381
62.	636	98.	254	131.	78
...		99.	285	...	
66.	107	100.	448	<u>133.</u>	303
...		101.	6	<u>134.</u>	74
<u>68.</u>	284	102.	47	...	
<u>69.</u>	539,597,712	...		136.	261
70.	347	104.	257	137.	585
71.	62	...		...	
...		106.	289	139.	171,345
73.	640	107.	465	140.	334
...		...		141.	459

142.	79	...	208.	147	
...		176.	664	209.	148
144.	460	<u>177.</u>	560	<u>210.</u>	149
145.	333	...		211.	144
146.	667	179.	363	<u>212.</u>	146
147.	461	180.	169,224,346,586	<u>213.</u>	142
...		181.	162,313,582	214.	264
149.	90	182.	130	215.	314
<u>150.</u>	463	183.	511	<u>216.</u>	242
151.	437	184.	131,167	<u>217.</u>	155
152.	436	185.	510	<u>218.</u>	157
153.	439	186.	654	219.	268
154.	324	187.	507	<u>220.</u>	689
...		188.	678	<u>221.</u>	166
156.	446	189.	75	...	
...		190.	122	223.	164
158.	555	191.	342	224.	163
159.	552	192.	509	225.	701
160.	518	193.	159	226.	104
161.	277	194.	299	<u>227.</u>	251,282,522
<u>162.</u>	493,696	195.	382	...	
163.	290,728	<u>196.</u>	137	229.	624
164.	516	197.	136	<u>230.</u>	93,94,178, 699
...		<u>198.</u>	561	231.	182
166.	274	<u>199.</u>	432	232.	433
...		200.	135	233.	428
168.	247	201.	618	234.	698
...		202.	431	...	
170.	157	203.	266	238.	508
171.	491	204.	514	239.	329
172.	288	205.	530	240.	309
173.	500	<u>206.</u>	56	241.	30
174.	248	...			

242.	469	275.	244	310.	549
243.	638	...		311.	609
244.	215	278.	711	<u>312.</u>	608
<u>245.</u>	519	...		313.	114
...		280.	340	...	
247.	644	...		315.	488
<u>248.</u>	661	<u>282.</u>	454,455	316.	467,729
249.	315	283.	269	317.	607
250.	152	284.	3,639	318.	561
<u>251.</u>	154	285.	430	319.	355
252.	267	<u>286.</u>	434	<u>320.</u>	417
253.	252	287.	435	...	
...		288.	617	322.	613
255.	385	...		323.	441
256.	82	291.	287	324.	629
...		...		325.	343
258.	271	293.	686	326.	294
259.	270	<u>294.</u>	621	327.	683
260.	695	<u>295.</u>	421	328.	503
261.	358	296.	718	...	
262.	213	297.	719	331.	682
263.	186,533	298.	426	332.	399,407
...		299.	715	333.	688
265.	352	300.	339	334.	593
266.	112,397	...		335.	572
267.	714	302.	101,724	336.	29
<u>268.</u>	327,490	303.	52,411	337.	246
269.	317,405	304.	644	338.	392,393
270.	330	305.	84	339.	401
271.	404	<u>306.</u>	652	340.	402
<u>272.</u>	418	<u>307.</u>	533	341.	380
<u>273.</u>	369	...		...	
...		309.	632	343.	659

344. 677
345. 678
346. 366
347. 361
348. 521
349. 389
350. 541
351. 332
352. 128
353. 367
354. 413
...
356. 723

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