

APPENDIX: COMPARATIVE MORPHOLOGICAL TABLES

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The following tables present a comparison of some of the affixes glossed in this volume, divided into various semantic and functional categories. Affixes that are glossed with the same meaning or function by the compilers of the texts are given in the same row of a table even if they are not necessarily cognate; those affixes that are cognate but are glossed differently (for any of the reasons mentioned in the introduction to this volume) are grouped together in adjacent rows. Brackets indicate data included in the tables which are drawn from the principal grammatical descriptions of Totonac-Tepehua languages (see the list of references on page 39) to complement the data taken from the texts; we hope that with this convention the reader will see immediately which data can be found in the texts and which can not. Additional functions of some morphemes, distinct from those indicated by the glosses used in the texts, are presented in parentheses. The zero morphemes in the person and tense paradigm in several of the languages are not included in these tables. Despite the fact that some reconstructions of proto-forms are suggested, these are only intended to facilitate the comparative exposition: these reconstructions should be considered tentative and await more systematic investigation.

The first table presents markers of tense, aspect, and mood. In the tense paradigm, all the languages share a zero tense marker for the present tense and a past tense prefix that appears to be based on **ǰš-*, although M breaks the family pattern and makes use of a suffix *-štǝn* which could be cognate but which include additional phonological material. The future tense illustrates the division of the family between the Totonac branch which has the prefix *na-* in the Central Totonac languages and a particle or auxiliary *na(ʔ)* in M—and the Tepehua branch, where the marker of the future tense could be historically related to the marker of the imperfective aspect, which is some variation on the suffix **-ya:* across the family. Both the perfect aspect and the perfective aspect are similar in all the lan-

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TABLE 1
Tense, aspect, and mood markers

	Variant									
	Tl	H	Pf	M	CX	U	FM	OI	On	P
<i>tense marker</i>										
FUT	-ya,-nta	-ya?	-ya?	na(ʔ)	na-	na-	na-	na-	na-	na-
PAST	ʔiš-	(ʔi)š(a)-	iš-	-štan	iš-	iš-	š-	š-	š-, k-	iš-
<i>aspect marker</i>										
IPFV	-ya	-y	-ya	-ya	-ya:	-ya:	-a:	-ya:	-ya	-ya:
PF	-ta	-nita, -ta	-ta(-ʔi)	—	-niṭ	-niṭan	-nita	-netan	[-niṭan]	-nitan
PFV	[-li], -ʔ	-li	-ʔi	-la(ʔ)	-li	-li	-ʔi	-ʔi	-ʔi	-li
PRG	[-t'ahun]	—	[-t'ahun]	[ʔan]	-maṭ	-maṭ	-ma:	-ma:	-ma:	-ma:
<i>mood marker</i>										
IRR	ka-	ka-	ka-	ka-, ni-	—	—	ka-	—	—	—
OPT	—	—	—	—	ka-	ka-	—	ka-	ka-	ka-
POT	—	—	—	—	—	tṭ-	la-	—	—	—
CEACT	—	—	[ti-]	—	—	—	—	—	ti-	ti-
FUT.NEG	—	—	[ti-]	—	—	—	—	—	—	—
CNTR	—	—	—	—	—	—	ti-	—	—	—
INM	[ti-]	ti-	—	—	—	—	—	—	—	—

guages (although M lacks a perfect aspect altogether), but the progressive varies from language to language. In the languages of the Central Totonac group, the exponent of the progressive aspect is derived diachronically from the stative verb **ma*: ‘be lying’. In Tl and Pf, the progressive is marked with *-t'ahun*, an affix cognate with the marker of the ambulative in H; in all three Tepehua languages, the form *t'ahun* also acts as an auxiliary that introduces a verb in the infinitive rather than functioning as a suffix. (Note that in the Pf text in this volume *t'ahun* is glossed ‘to be’ rather than ‘progressive’). In the category of mood, the prefix *ka-* is found in all the languages, although its analysis varies between that of being an irrealis or an optative; in M, the irrealis has the form *ni-* in some contexts with the first person of the subject or object, while in Pf and H the irrealis is expressed cumulatively with the first person (subject or object) in the past and future tenses. Several languages also have an additional mood marked with a

TABLE 2
Phase markers

	Variant									
	TI	H	Pf	M	CX	U	FM	Ol	On	P
DST	—	lak-	lak-	laq-, la:	lak-	—	lak-	laq-, [lak-]	lak-	laq-, lak-
ITS	—	—	—	—	—	lak-, laʔ-	—	lu:	lu:	laq-, lak-
INC	ta-	ta-	ta-	ta-	ta-	ta-	(ta-)	ta-	ta-	—
MDV	—	—	—	—	—	—	ta-	—	—	—
INGR	—	—	—	—	—	—	—	—	—	ta-
TERM	[-ʔoho]	[-ʔohu]	[-ʔo:]	-kuhu	—	—	—	-qu:	-qu:	-qu:
TOT	—	—	—	—	-qu:	-ʔɔ	-qu:	—	—	—

prefix *ti-* or *tí-* (possibly related to the prefix *ni-* in M) that is analyzed variously as a potential, contrafactual, contraexpectative, future negative, or as a marker of an imminent event.

Table 2 presents those affixes associated with a semantic category that can be loosely labelled “phase”—that is, affixes related to the beginning, end, or iteration of events. Included in this category are **lak-/*laq-*, whose allomorphs and alternative reflexes have their origins in processes of consonantal harmony and/or sound symbolism, either synchronic or diachronic; this affix seems quite diverse in its meanings and uses, but seems to have its origins in a distributive or locative-distributive morpheme. In U, for example, it rarely has a genuine distributive meaning and has come to be associated more with an intensive meaning; both senses are found in P, where Levy distinguishes them with different glosses. The form *lu* glossed as ‘intensive’ in Ol and On probably has other origins, possibly from a reduction of the form *luwq* ‘mucho’ found in some of the other languages. Another pan-Totonacan morpheme is *ta-*, glossed as ‘inchoative’ in most languages but as ‘ingressive’ in P and as ‘middle voice’ in FM (as well as being glossed as ‘decausative’ in some work on U because of its effect on the valency of certain transitive verbs). The most important morpheme from the comparative point of view is the terminative or totalitative suffix, which signals the termination of an event and/or that all of the participants in an event have been affected. In the Tepehua branch of the family, J. Watters (p.c.) reconstructs the proto-form **-q’oho*, which strongly resembles the form in M, *-kuhu*. For

TABLE 3
Person and possessive markers

	<i>Variant</i>									
	Tl	H	Pf	M	CX	U	FM	Ol	On	P
<i>person markers</i>										
1S	k-	k-	ik-	ik-	—	—	—	—	—	k-
1SG.S	—	—	—	—	yik-	ik-	k-	k-	k-	—
1PL _{EXCL.} S	k-w	[k-w]	[ik-wi]	ik-wa	yik-w	ik-w	[k-wa]	k-w	k-w	k-w
1PL _{INCL.} S	-w	-w	-wi	-wa	-w	-w	-wa	[-w]	-w	-w
2PL.S	-t'ik	-(a)'iti	-t'iti	-tat	-tit	[-tit]	[-titi]	-tit	-tit	[-tit]
3PL.S	ta-	ta-	ta-	ta-	ta-	ta-	ta-	-qu	-qu:	ta-
1O	kin-	kin-	kin-	kin-	[kin-]	kin-	[kin-]	kin-	[kin-]	kin-
1PL.O	kin-ta- -n	[kin-ta- -n]	[kin-ta- -ni]	[kin- -na]	[kin-ka- -n]	kin- ka- -n	[kin-ka- -ni]	[kin-ka- -n]	[kin-ka- -n]	kin-ka- -n
2O	-n	-(a)n	[-ni]	[-na]	[-n]	-n	[-ni]	-n	[-n]	-n
2PL.O	[ta- -n]	[ta- -n]	[ta- -ni]	[ta- -na]	[ka- -n]	[ka- -n]	[ka- -ni]	—	[ka- -n]	[ka- -ni]
3PL.O	lak-	lak-	lak-, ha-	la-	—	—	—	[-qu:]	-qu:	—
PL.O	—	—	—	—	ka-	ka-	ka-	—	—	ka-
<i>possessive markers</i>										
1POS	kin-	kin-	[kin-]	kin-	[kin-]	kin-	[kin-]	[kin-]	[kin-]	kin-
2POS	[min-]	[min-]	[min-]	min-	[min-]	min-	[min-]	min-	min-	min-
3POS	?iš-	š-	[iš-]	iš-	iš-	iš-	š-	š-	š-, k-	iš-
PL.POS	-k'an	-ʔan	[-k'an]	-kaŋ	-kaŋ	-kaŋ	-kan	-kan	[-kaŋ]	-kaŋ
POS.IMP	ša-	ša-	—	—	—	(ša-)	[ša-]	—	—	(ša-)
DET	—	—	—	ša-	ša-	ša-	—	ša-	ša-	ša-

Central Totonac, the form varies between *-qu:* and *-qu*: (the reader should note the lowering effects of the uvular stop on the adjacent vowels and, in the case of U, the historical change from **q* to *ʔ*). More important than the phonological change is the fact that the terminative morpheme in Ol and On (as well as in other variants in the Sierra like Zapotitlán de Méndez and Coatepec) has become grammaticalized as the marker of subject and object plurality for third persons.

As seen in table 3, markers of person and possessor are more or less consistent across the family, with the exception of the above-noted use of the suffix *-qu:* in the Sierra languages to mark the plurality of the third person. Although

the first-person subject morphemes are almost the same in all the languages, in some languages the prefix (*i*)*k*- cumulatively marks first person and singular number and in others marks only the person of the subject without specifying the number. The singular of the third person is consistently marked with a zero for subjects as well as objects; also note that the marking of the second person singular is not included in the tables due to the fact that it is realized by a variety of non-concatenative morphological processes that involve the laryngealization of final segments which, in some cases, spreads regressively to adjacent syllables. In some languages, this also involves a leftward movement of stress.

The greatest diversity in the area of person-marking is found in the area of the marking of the plurality of objects. In all the languages in the table, the plurality of the first-person object is expressed by a combination of the first-person and second-person object marker; in the three Tepehua languages, the prefix *ta*-, an affix resembling the third-person plural subject prefix, is added to this combination, while Central Totonac adds the prefix *ka*- that signifies the plurality of the object. At the same time, outside the Central group, the marker of the second person plural object is formed by the combination of the second-person object suffix *-n* with *ta*- (M *ta*-). On the other hand, within the Central group the combination is *-n* with *ka*- ‘plural object’. The plural of the third person object in these same languages is marked simply by *ka*-, except in On and Ol which use *-qu*-. With respect to the other languages, Tepehua uses what could be a reflex of the distributive *lak*-, and in M a morpheme which could be cognate with the reciprocal **la*- is used.

There is little variation in the possessive markers across the family. In all the languages, possession is marked on the head of the NP; number and person of the possessor are marked with separate affixes which appear on opposite sides of the noun. Similarly, the person and number of the object are also marked by separate affixes. The first-person possessive prefix is homophonous with the first-person object prefix. The plural possessive suffix—Totonac **-kan*, Tepehua **-kan*—is a clear example of the correspondence between Totonac laryngealized vowels and Tepehua ejective stops. Also in the category of possessives, we have the prefix *ša*-/*ša*-, glossed as ‘impersonal possessor’ in Tepehua; this affix is notable for its resemblance to *ša*- which is generally described in Totonac as a determinative, although it is also used in expressions of impersonal possession in U

TABLE 4
Valency affixes

	<i>Variant</i>									
	TI	H	Pf	M	CX	U	FM	Ol	On	P
CAUS	ma-	ma-	ma-	ma- (n)i	ma- ni	ma- (n)i	ma-	ma-	[ma-]	ma- (n)i
CAUS.SF	-V:	—	—	—	—	—	—	—	—	—
TRR	—	—	-i:	-i:	—	[-V:]	[-i, -V:]	-i:	-i	[-i:]
<i>applicatives</i>										
BEN	—	—	—	—	-ni	-ni	—	-ni	-ni	-ni
DAT	-ni	-ni	-ni	-ni	—	—	-ni:	—	—	—
COM	[t'a-]	t'a-	t'a-	la-	[tə-]	tə-	ta-	ta-	ta-	tə-
INST	pa-, pu-	pu-	fi-	li-	li-	li-	li-	li-	li-, lu-	li-
DIR	fi-	fi-	—	—	—	—	—	—	—	—
GOAL	—	—	—	—	—	—	—	laq-	[laq-]	—
GOAL.H	—	—	—	—	—	—	—	—	—	laq-
ALAT	—	—	—	—	—	laʔ-	—	—	—	—
<i>valency-reducers</i>										
S.I	—	-kan	-kan	-kan	-kan	—	(-kan)	-kan	-kan	-kan
IDF	—	—	—	—	—	-kan	—	—	—	—
PAS	-kan	—	—	—	—	—	—	—	—	—
RFL	-kan	-kan	(-kan)	(-kan)	—	(-kan)	-kan	(-kan)	(-kan)	(-kan)
O.I	—	-nVn	[-nan]	-nan	—	—	-nVn	-nan	-nan	-nan
DTRN	-nVn	—	—	—	-nan	-nan, -nVn	—	—	—	—
REC	[la-]	la-	la-	[ta-la- -kan]	[la-]	la-	[la-]	[la-]	la-	la-

and P. These two prefixes are given together in table 3 in spite of the fact that it is uncertain as to whether or not they represent historically distinct affixes.

A notable characteristic of the Totonac-Tepohua languages is the rich morphology for regulating verbal valency, seen in table 4. In the first row, we see the causative *ma-*, which is found in all the members of the family. In M, CX, U, and P, for some kinds of bases, the causative prefix has become a circumfix in combination with the suffix *-(n)i:*. This last morpheme is possibly related to the morpheme glossed as ‘causative suffix’ or ‘transitivizer’, which actively

participates in the formation of verbs of a variety of classes and is also analyzable in some fossilized form in U and P. On the other hand, Paulette Levy (p.c.) suggests that, at least when the suffix has the form *-ni*, it is cognate with the benefactive/dative suffix.

The next group of affixes in this table are the applicatives, morphemes that add a new argument to the valency of the verb. The benefactive/dative applicative *-ni* is found in almost all the languages, as is the comitative (Totonac *tq:-*, Tepehua *t'a:-*), with the notable exception of M where the comitative has the form *la:-*, the reciprocal in the other languages. The instrumental applicative is *li:-* in all the Totonac languages and *ti:-* in Pf. In Tl and H, the cognate *ti:-* has developed other less-specific uses. The prefix *pu:-* (cf. the locative markers in table 5), on the other hand, plays the role of the instrumental in H, and it is significant that the cognate *pu:-* in some Totonac languages like U, FM, On, and P is used both with verbs that express actions involving containers as well as with deverbal nouns that denote artefacts employed as containers. In addition, in Tl there are two morphemes that could be glossed as 'instrumental', the cognate of the H form, *pu:-*, and another that has the form *pa:-*. It is the second of these that Watters treats as 'instrumental' in his contribution to this volume, while *pu:-* is glossed as 'path' because as well as adding an instrument to the valency of the verb, it also can introduce an argument with the semantic role of trajectory or delimited space—that is to say, a locative (Jim Watters, p.c.). The fourth applicative in table 4, *laq-/lq?-* 'goal' or 'allative', has only been described in four languages—U, Ol, On, and P—all of which belong to the Central Totonac group.

The third group of valency markers consists of the valency-reducers, the most significant of these being the suffix **-kan*, marker of an unspecified subject or actor. The syntactic effects of this affix vary greatly in their details across the languages of the family (hence, the widely varied glosses), but in all the languages it seems to suppress the expression of the event-participant corresponding to the subject of the verb without *-kan*. In many cases, *-kan* also appears in reflexives (Pf, M, U, Ol, On, P) and it is glossed 'reflexive' in these uses in Tl, H, and FM in the texts in this volume. Another valency-reducer is the unspecified object suffix, *-nan* or *-nVn*. With the exception of Pf and M (and with some verbs in H), this morpheme suppresses the expression of the object of transitive verbs, but it also expresses habitual action or atelic movement with intransitive

TABLE 5
Directional and locative markers

	<i>Variant</i>									
	Tl	H	Pf	M	CX	U	FM	Ol	On	P
<i>directional markers</i>										
RT	ki-	ki-	—	—	ki-	ki-	ki-	ki-	ki-	ki-
INTN	—	—	ki-	ki-	—	—	—	—	—	—
AMB	[-ti:la]	-t'ahun	—	—	[-ti:la]	-te:la	-ti:la	-ti:la	[-ti:la]	-pu:la, -ti:la
TRNT	—	—	—	—	[ti:-]	te:-	ti:-	—	[ti:-]	[ti:-]
PROX	-či	[-či:]	—	—	[-či]	-či	-či	-či	[-či]	[-či]
DSTL	—	-ča:	—	—	-ča	-ča	-ča:	-ča?	[-ča]	[-ča?]
<i>locative markers</i>										
LOC	laqa:, laka:-	[laqa:-, laka:-]	pu:-	pu:-	nak=	nak=	k-	k-	[k-]	nak, k=
LOC.INT	—	—	—	—	—	—	pu:-	—	—	—
CONT	—	—	—	—	—	[pu:-]	—	pu:-	—	[pu:-]
PLC	—	—	—	—	[ka:-]	ka:	ka:-	ka:-	ka:-	ka:-

verbal bases. In the last row of the table we see the prefix *lar-*, which universally expresses the reciprocal except in M, where the reciprocal is expressed by a combination of the affixes *ta-lar-* and *-kan*.

Another group of affixes that Totonac-Tepihua languages are well-known for is the set of directional and locative markers, shown here in table 5. The most widely distributed is the prefix *ki-* ‘roundtrip’ which expresses the idea that the protagonist of the event has gone to carry it out and then came back, although in Pf and M the morpheme has become grammaticized as an expression of intent. The ambulative, ‘go around doing’, is *-ti:la* in the Central Totonac group (and also *-pu:la* in P) and *-t'ahun* in H. Both this morpheme and its cognate *-t'ahun* in Tl and Pf are described as a progressive auxiliary. Another morpheme confined to the Central group is *ti:-* ‘in passing’, which expresses an action carried out while the protagonist passes through a place without staying. The last two rows in the table present a pair of suffixes with opposing meanings, *-či* ‘proximal’ and *-ča* ‘distal’ (the length and modality of the second vowels vary from language to language), that are added to a verb to indicate if the action

TABLE 6
Miscellaneous morphemes

	<i>Variant</i>									
	Tl	H	Pf	M	CX	U	FM	OI	On	P
AGT	—	[-nVʔ]	[-naʔ]	-nVʔ	[-nV̆]	-nV̆	-na,-nu:	-naʔ	[-nV̆]	[-nVʔ]
DES	-putun	-putun	[-putun]	pan-	-putun	-kʉtun	-kutun	-putun	-pʉtun	-putún
REP	-čoqo, [-pala]	-čoqo, [-čoʔo]	-čoʔo, [-pala]	—	[-pala]	-pala	-para	-para, [-pala]	-pala	-para
NEG	hantu	hantu	hantu	la:	yim̆tú:	xa:	ʎa:=	ni:	ni:	ni:

takes place directed towards or away from the speaker, or if it took place close by or far away.

The situation with the locative markers is a bit more complex. In the Central group, the general locative marker is *nak=* or *k-* (the latter probably a phonological reduction of the former), which functions to introduce locative phrases to the sentence. The same role is played by the morpheme *laqa:-/laka:-* in Tl, and by its cognate in H, Pf and M, although in these languages it is glossed as a generalized preposition. In Pf and M, MacKay and Trechsel gloss the prefix *pu:-* as a locative, an analysis that could also apply to H (Susan Smythe Kung, p.c.). This morpheme is cognate with a body part prefix *pu:-* which is used for containers in the Central group and as an applicative in Tl and H (see table 4). The Central languages also share an adnominal prefix *kq:-/ka:-* ‘place of many Xs’.

Table 6 presents the last group of morphemes that will be compared here. The first of this miscellaneous group is the agentive suffix, which seems restricted to the Totonac branch of the family; this suffix could have its origins in a combination of the unspecified object suffix with some type of nominalizer (Paulette Levy, p.c.). The affix in the next row is the desiderative, **-putun*, which is consistent across the family except in M, which has the prefix *pan-*, whose etymological relationship with the morpheme found in the other languages is yet to be determined. Note also that U and FM, which are geographically adjacent to one another, share an innovation, changing the initial /p/ of the suffix for /k/. The repetitive is *-pala/-para* in Totonac, while in Tepehua *-pala* co-exists with another suffix, **-čoqo*. In Tepehua, *-pala* is generally glossed as ‘again’.

The last morpheme presented here, the negative, is not an affix in most of the languages but rather an adverb or a particle, but it is included in the tables because specialists recognize it as an important isogloss for the family. In Tepehua the negative morpheme is *ha:ntu*, which is probably cognate with the form *xa:* in U, one of the lexical features that distinguishes this variant from other members of both the Central group and the Northern sub-group.² The Lowland and Sierra languages seem to coincide in the uses of *ni:* for negation, but FM has the clitic *ʔa:=* (which is also found as an archaism in U). CX and M have their own forms, and M is notable for having, in addition to a particle or an adverb, a negative prefix, *q-*.

ABBREVIATIONS

1	first person	GOAL:H	goal (human)
2	second person	H	Huehuetla Tepehua
3	third person	IDF	indefinite voice
AGT	agentive	IMP	imperative
ALAT	alative	INC	inchoative
AMB	ambulative	INGR	ingressive
BEN	benefactive	INST	instrumental
CAUS	causative	INTN	intentional
CAUS.SF	causative, suffix	IPFV	imperfective aspect
CFACT	contrafactual	IRR	irrealis
CNTR	contraexpectative	ITS	intensifier
COM	comitative	LOCAL	local
CONT	container	LOC	locative
CX	Cerro Xinolatépetl Totonac	LOC.INT	internal locative
DAT	dative	M	Misantla Totonac
DES	desiderative	MDV	middle voice
DET	determinative	NEG	negative
DIR	direction	O	object
DST	distributive	O.I	indefinite object/habitual action
DSTL	distal	OI	Olintla Totonac
DTRN	detransitivizer	Oz	Ozelonacaxtla Totonac
EXCL	exclusive	OPT	optative
FM	Filomeno Mata Totonac	P	Papantla Totonac
FUT	future	PAS	passive
GOAL	goal	PAST	past

² Among the Northern languages we have *yí:ntú:* in CX and *tú:* in Apapantilla (Reid 1991).

PF	perfect	RT	roundtrip
Pf	Pisaflores Tepehua	S	subject
PFV	perfective	S.I	indefinite subject
PL	plural	SG	singular
PLC	place, location	TERM	terminative
POS	possessive	TI	Tlachichilco Tepehua
POS.IMP	impersonal possessor	TOT	totalitative
POT	potential	TRNT	in passing (<i>transeuntive</i>)
PRG	progressive	TRR	transitivizer
PROX	proximal	U	Upper Necaxa Totonac
REC	reciprocal	V	harmonic vowel
REP	repetitive	VIA	vía, passing through
RFL	reflexive		

PROPOSED GROUPING OF LANGUAGES IN THE TABLES¹

TOTONAC-TEPEHUA	
TEPEHUA	
	Pisaflores
	Tlachichilco
	Huehuetla
TOTONAC	
	Misantla
CENTRAL TOTONAC	
	NORTHERN
	Upper Necaxa
	Cerro Xinolatépetl
	LOWLAND-SIERRA
	Filomeno Mata
	SIERRA
	Ozelonacaxtla
	Olintla
	LOWLAND
	Papantla: El Carbón

¹ Reproduced from Levy, Paulette and David Beck. (2012). Introducción. In Paulette Levy and David Beck (eds.), *Las lenguas totonacas y tepehuas: Materias para su estudio*, 75–41. Mexico City: UNAM Press, page 22.