

## Argument Quantification and Qualification in Upper Necaxa Totonac<sup>1</sup>

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### 0. Introduction.

Upper Necaxa Totonac (UNT) has, on the surface, a fairly ordinary parts-of-speech system with four major word classes — noun, verb, adjective, and adverb. The class of adverbs, however, includes a large number of words denoting property concepts (Beck to appear):

- (1) a. **ʔapóʔ** ta:pa:ya:wá: tʃiʃkú  
**ʔapóʔ** ta:pa:-ya:wá: tʃiʃkú  
fatly side-stand man  
‘that man is pot-bellied’ (LC)
- b. **kanʔit** kiʔwanʔó:ʔ tʃitʃi  
**kanʔit** kiʔ-wan-ʔo:-ʔ tʃitʃi  
**showing.teeth** mouth-say-TOT-PFV dog  
‘the dog bared all of its teeth’ (LC)

These *descriptive adverbs* are syntactically distinct from adjectives in that they are exclusively predicate modifiers and they are not potentially adnominal modifiers. Nevertheless, descriptive adverbs are functionally similar to some uses of

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\* Upper Necaxa Totonac, a member of the isolate Totonac-Tepihua language family, is spoken in the Sierra Norte of the state of Puebla, Mexico. Uncited data are from my field notes. I would like to thank my friends in Patla and Chicontla, who have had the good grace and patience to work with me. Thanks are also due to Alexandra Aikhenvald, Judith Aissen, Pamela Munro, Enrique Palancar, and Roberto Zavala for helpful discussion of this paper. The remaining errors are my own. This research was funded by a SSHRC grant to the Upper Necaxa Field Project. The abbreviations used are: 1,2,3 = first-, second-, third-person; ALTV = allative; CLS = classifier; CMT = comitative; CS = causative; CTD = containing instrument; DSD = desiderative; DTV = determinative; FUT = future; IMPF = imperfective; INCH = inchoative; INST = instrumental; LOC = locative; OBJ = object; PL = plural; PFV = perfective; PO = possessive; PROG = progressive; QTV = quotative; SEM = semblative; SG = singular; ST.PL = stative plural; SUB = subject; TOT = totalitative.

adjectives in that they attribute a property to one of the arguments of the verb (usually the subject).

It seems likely that the existence of a robust class of descriptive adverbs is related to the inflectional characteristics of the language. These include: the lack of number inflection in the NP; the preferential marking of number of subject and object on the verb; the quantification of subject and object through verbal morphology; and the marking of semantic roles of objects by verbal morphology. Taken together, these facts paint a picture of a language that preferentially quantifies and qualifies NPs through inflectional and syntactic operations on sentential predicates, an extreme variation on the strategy of head-marking in the sense of Nichols (1986).

### 1. Descriptive Adverbs

Adverbs in UNT, in addition to encompassing the usual expressions of time, manner, and place, include expressions of other types of meaning as well. The most relevant of these are the *descriptive adverbs*, which express property concepts (Thompson 1988):

- (2) *tʃaláx* ‘brittle, fragile’  
*tʃi:pʃ* ‘dense’  
*tʃi:f* ‘blurry’  
*ʔomʔó:ʔ* ‘curly, twisted, tangled’  
*lampú:ʔ* ‘wet’  
*ʔamáŋ* ‘rounded, full’  
*ʔanáŋ* ‘red or yellow of ripe fruit’  
*ʔoxóʔ* ‘baggy, sack-like’  
*mox* ‘round and bulky, spherical’  
*pilóʔ* ‘turned up at brim’  
*poŋʔó:ʔ* ‘bubbly, foamy’  
*stiléʔ* ‘star-shaped’  
*s’ó:ʔo* ‘salty’  
*tax* ‘lit up, illuminated’  
*tsutsóʔ* ‘red’  
*ʃkúta* ‘sour’

The words in (2) are clearly adverbs, as shown in (3):

- (3) a. **lantáʔ** tato:káŋá:ʔ naktʃiwíʃ lakstín  
**lantáʔ** ta-ta-waká-na:n-ʔ nak=tʃiwíʃ  
**flat.on.belly** 3PL.SUB-INCH-be.high-ST.PL-PFV LOC=rock

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lakstín  
 children  
 ‘the children are lying on their bellies on the rock’ (CF)

b. **pilóʔtsá** la:ʔ kintáʔnu  
**pilóʔ**=tsá      la:-ʔ      kin-táʔnu  
**turned.up**=now    do-PFV    1PO-hat  
 ‘my hat has got its brim turned up’ (RM)

c. **mox** wakáʔ iʃma:séʔ ʔo:ʃúm  
**mox**    wakáʔ    iʃ-ma:séʔ    ʔo:ʃúm  
**round**    be.high    3PO-nest    wasp  
 ‘the wasp nest is up there all big and round’ (SC)

d. **ʃkúʔa** kinkaán tʃauM  
**ʃkúʔa**    kinka-án-Ø    tʃauM  
**sour**    nose-go-IMPF    tortilla  
 ‘the tortilla smells sour’ (LB)

As seen in these examples, the descriptive adverbs appear in the pre-verbal slot generally reserved for verbal modifiers such as adverbs, ideophones, and adverbial particles. Not coincidentally, adjectives also can appear in this position in some constructions:

(4) a. **tsewaní** nataʃtú ʃatsilím wa:ʔ ʃaʔaʔán taʃtú  
**tsewaní**    na-ta-ʃtú      ʃa-tsilím      wa:ʔ  
**beautiful**    FUT-INCH-out    DTV-crackling    completely

          ʃa-ʔaʔá-n      ta-ʃtú  
           DTV-big-PL    INCH-out

‘the pork cracklings will be beautiful, just big ones will come out’ (RM)

Syntactically, however, adjectives are distinguishable from adverbs in that they are unmarked modifiers of nouns (Beck 2000, 2002), whereas adverbs are not:

(5) a. mat tama:ʃtumá:ná:ʔ naiʃtuxán aʔtín **ʔáʔa** tʃiwíʃ  
 mat    ta-ma:-ʃtu-má:-ná:-ʔ      nak=iʃ-tuxán    aʔ-tin  
 QTV    3PL.SUB-CS-out-PRG-ST.PL-PFV    LOC=3PO-foot    CLS-one

**ʔáʔa**      tʃiwíʃ  
           **big**        rock

‘they are getting it out from under the base of a big rock’ (JR)

- b. \*ka:ná: **wiléʔʔ** kǐwǐ  
 \*‘a very twisted tree’ (LB)
- c. ka:ná: **wiléʔʔwa** kǐwǐ  
 ka:ná: **wiléʔʔ-wa** kǐwǐ  
 truly **twisted**-SEM tree  
 ‘a very twisted tree’ (LB)

The adjective in (5a) functions as an adnominal modifier, while the adverb in (5b) is ungrammatical in this position. As shown in (5c), adverbs require the semblative suffix *-wa* to appear in this position.

Even though adverbs and adjectives are separate parts of speech, they show considerable functional overlap:

- (6) a. ka:ná: **wiléʔʔ** stáklǐ kǐwǐ  
 ka:ná: **wiléʔʔ** sták-lǐ kǐwǐ  
 truly twisted grow-PFV tree  
 ‘the tree grew very twisted’ (LB)
- b. ka:ná: **wiléʔʔwa** stáklǐ kǐwǐ  
 ka:ná: **wiléʔʔ-wa** sták-lǐ kǐwǐ  
 truly twisted-SEM grow-PFV tree  
 ‘the tree grew very twisted’ (LB)

These two sentences are synonymous: (6a) does not seem to be amenable to a gloss such as ‘the tree grew twistedly’, nor is (6b) amenable to a gloss such as ‘the twisted tree grew’. Instead, both qualifiers attribute a property to the subject of the sentence and both function as “small clause” predicate complements. Thus, descriptive qualities can be attributed to arguments by the adjunction of modifying elements to a verbal predicate in much the same way that grammatical categories such as nominal number are indicated morphologically on the verb.

## 2. Inflection, Agreement and Quantification in UNT

### 2.1. Nominal Number

NPs in UNT are only optionally marked for number using a variety of pluralizing affixes, most commonly */-n(V)/* where V is a harmonic copy of the last vowel in the stem (Beck 2004):

- |                                  |   |                                     |
|----------------------------------|---|-------------------------------------|
| (7) <i>tʃik</i> ‘house’          | > | <i>tʃikni</i> ‘houses’              |
| <i>maʃát</i> ‘mushroom’          | > | <i>maʃátɲa</i> ‘mushrooms’          |
| <i>pi:ʃká:ʃ</i> ‘civic official’ | > | <i>pi:ʃká:ʃɲa</i> ‘civic officials’ |
| <i>akakulúʃ</i> ‘scorpion’       | > | <i>akakulúʃɲu</i> ‘scorpions’       |
| <i>stáyq</i> ‘squirrel’          | > | <i>stayán</i> ‘squirrels’           |

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|                               |   |                                 |
|-------------------------------|---|---------------------------------|
| <i>slulúku</i> ‘lizard’       | > | <i>slulukún</i> ‘lizards’       |
| <i>púksni</i> ‘Spanish cedar’ | > | <i>puksnín</i> ‘Spanish cedars’ |

As shown by these examples, C-final stems take the [-nV] form of the suffix while V-final stems simply take [-n]. Most nouns referring to humans, animal names, and bodyparts use the suffix *-nin*:

|                                   |   |                                       |
|-----------------------------------|---|---------------------------------------|
| (8) <i>kimakán</i> ‘my hand’      | > | <i>kimakanín</i> ‘my hands’           |
| <i>kiláknj</i> ‘my lower leg’     | > | <i>kilaknín</i> ‘my lower legs’       |
| <i>kutʃu.nún</i> ‘doctor’         | > | <i>kutʃu.nunín</i> ‘doctors’          |
| <i>puʃnún</i> ‘picker’            | > | <i>puʃnunín</i> ‘pickers’             |
| <i>ma:ʔeʔtawq ʔe.nj</i> ‘teacher’ | > | <i>ma:ʔeʔtawq ʔe.ninín</i> ‘teachers’ |
| <i>lu.nún</i> ‘lame person’       | > | <i>lu.nunín</i> ‘lame people’         |

However, despite the fact that it is possible to pluralize nouns, speakers rarely choose that option: plurals of non-humans are textually infrequent, and some younger speakers are unable to reliably produce these forms. What this means is that number-marking of nouns is not inflectional (i.e., an obligatory grammatical category), but is rather *quasi-inflectional* (Mel’čuk 1993-2000, 2006).

## 2.2. Verbal Number

Transitive verbs in UNT agree in person and number with their subject and objects:

- (9) a. iklaʔtsiná:n  
ik-laʔtsín-ya:-n  
 1SG.SUB-see-IMPF-2OBJ  
 ‘I see you’
- b. kintalaʔtsín  
kin-ta-laʔtsín-Ø  
 1OBJ-3PL.SUB-see-IMPF  
 ‘they see me’

Number and person of subject are marked cumulatively by a single affix.

|                      |                        |                      |
|----------------------|------------------------|----------------------|
| <i>ik-</i> ‘1SG.SUB’ | <i>-t/-V</i> ‘2SG.SUB’ | <i>Ø</i> ‘3SG.SUB’   |
| <i>-w</i> ‘1PL.SUB’  | <i>-tit</i> ‘2PL.SUB’  | <i>ta-</i> ‘3PL.SUB’ |

Number and person of objects are marked by separate affixes:

|                                   |                                  |
|-----------------------------------|----------------------------------|
| <u>Person:</u> <i>kin-</i> ‘1OBJ’ | <u>Number:</u> <i>Ø</i> ‘SG.OBJ’ |
| <i>-n</i> ‘2OBJ’                  | <i>ka:-</i> ‘PL.OBJ’             |

Thus, plurality of first- and second-person objects is marked by a combination of two affixes, as in (10):

- (10) a. ka:talaʔtsiná:n  
ka:-ta-ləʔtsín-ya:-n  
 PL.OBJ-3PL.SUB-see-IMPF-2OBJ  
 ‘they see you guys’
- b. kinka:talaʔtsiná:n  
kin-ka:-ta-ləʔtsín-ya:-n  
 1OBJ-PL.OBJ-3PL.SUB-see-IMPF-2OBJ  
 ‘they see us’

Agreement is obligatory in person for all arguments and in number for all animate arguments; however, number-marking on NPs is optional (in fact, dispreferred):

- (11) a. ika:putsayá:uʌ tʃitʃí  
 ik-ka:-putsá-ya:-w tʃitʃí  
 1SG.SUB-PL-search-IMPF-1PL.SUB dog  
 ‘we<sub>EXC</sub> look for the dogs’
- b. ika:putsayá:uʌ tʃitʃí n  
 ik-ka:-putsá-ya:-w tʃitʃí -n  
 1SG.SUB-PL-search-IMPF-1PL.SUB dog-PL  
 ‘we<sub>EXC</sub> look for the dogs’

When both subject and object are third-person, the number of only one can be marked on the verb; the number of the other is optionally marked on the NP:

- (12) a. taputsá tʃitʃí  
 ta-putsá-Ø tʃitʃí  
 3PL.SUB-search-IMPF dog  
 ‘they look for the dog/dogs’
- b. taputsá tʃitʃí n  
 ta-putsá-Ø tʃitʃí -n  
 3PL.SUB-search-IMPF dog-PL  
 ‘they look for the dogs’
- c. \*ʃlakán putsá tʃitʃí (n)  
 ‘they (*ʃlakán*) look for the dog(s)’

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- d. ka:putsá tʃitʃí  
 ka:-putsá-Ø                      tʃitʃí  
 PL.OBJ-search-IMPF          dog  
 ‘s/he/they look for the dogs’
- e. ka:putsá tʃitʃí n  
 ka:-putsá-Ø                      tʃitʃí-n  
 PL.OBJ-search-IMPF          dog-PL  
 ‘s/he/they look for the dogs’
- f. \*taka:putsá tʃitʃí (n)  
 ‘they look for the dog(s)’

The sentences in (12a) and (12d) are preferred, the choice between the forms depending on the relative discourse salience of the subject and object. (12b) and (12e) are possible, though uncommon, while the form *\*taka.putsá* is ungrammatical (12f). The form *putsá* in this context would also be ungrammatical (12c), showing that number-marking of NP arguments is an inflectional (i.e., obligatory) category of verbs, although there are some restrictions on it (see Beck 2001 for further discussion).

### 2.3. Other Types of Quantification in Verbs

In addition to requiring the number of NP arguments to be marked on the verb, UNT can also quantify the verb’s arguments with the quasi-inflectional suffix *-ʔo:* ‘totalitative’:

- (13) namakʃtimi:ʔo:tsá kinkapéx  
 na-makʃtimí:-ʔo:-Ø=tsá                      kin-kapéx  
 FUT-be.piled.evenly-**TOT**-IMPF=now    1PO-coffee  
 ‘now my coffee is going to be all piled up evenly’ (LB)

The totalitative suffix is especially interesting in that its position relative to other morphemes in the verb varies, depending on what particular element in the clause it quantifies — the event (14a), the subject (14b), or the object (14c) (Beck, Holden, & Varela n.d.):

- (14) a. natawaʔo:kutumá:ná:ʃ  
 na-ta-wa-ʔo:-kutun-má:-na:n-lí  
 FUT-3PL.SUB-eat-**TOT**-DSD-PROG-ST.PL-PFV  
 ‘they are wanting to eat everything up’

- b. natawakutumã:ʔo:ná:t  
 na-ta-wa-kutun-mã:-ʔo:-na:n-lj  
 FUT-3PL.SUB-eat-DSD-PROG-TOT-ST.PL-PFV  
 ‘everyone is wanting to eat’
- c. natawakutumã:na:nʔó:t  
 na-ta-wa-kutun-mã:-na:n-ʔo:-lj  
 FUT-3PL.SUB-eat-DSD-PROG-ST.PL-TOT-PFV  
 ‘they are wanting to try [i.e., eat] everything’

As with the attribution of properties to NPs, quantification can be carried out by ad-verbal elements whose semantic effects “filter down” to the verbal arguments.

#### 2.4. Marking of Semantic Roles of Arguments

UNT lacks prepositions and marks the semantic roles of arguments other than ACTOR and UNDERGOER using a range of applicative morphemes and bodypart prefixes (Beck 2004, 2006). For instance, the verb *ta.li.tanká:* ‘X fells Y with Z aided by W’ has a transitive base *tanká:* ‘X fells Y’ and contains two applicatives, the comitative *ta:-* and the instrumental *li:-*, subcategorizing for three objects:

- (15) wif nakta:li:tanka:yá:n kǐwǐ ʔentú: kimatʃ:tkán  
 wif na-ik-ta:-li:-tanká:-ya:-n kǐwǐ ʔen-tú:  
 you FUT-1SG.SUB-CMT-INST-fell-IMP-2OBJ tree CLS-two
- kin-matʃi:t-kan  
 1PO-machete-PL.POS  
 ‘I and you are going to fell the tree with our two machetes’

Likewise, the verb *ta.pu.lq ʔmakamín* ‘X directs Y at Z using W aided by A’ has a transitive base, *makamín* ‘X throws/sends Y’, and contains three applicatives — the comitative *ta:-*, *pu:-* ‘containing instrument’, and the allative applicative *lqʔ-*. In all, it subcategorizes for four objects:

- (16) ika:ta:pu:lqʔmakaminá:n tʃiwíʃ kistánky kintsakatán  
 ik-ka:-ta:-pu:-lqʔ-makamín-ya:-n tʃiwíʃ kin-stánky  
 1SG.SUB-PL.OBJ-CMT-CTD-ALTY-direct-IMP-2OBJ stone 1PO-brother
- kin-tsakát-kan  
 1PO-sling-PL.PO  
 ‘I and my brother throw stones at you guys with our slings’

In clauses like these, the applicatives mark the grammatical relation and semantic role of the arguments. There is no case or other marking within the NP for this purpose, nor are there prepositions. Instead, information about the semantic and

syntactic roles of the NPs in the clause is encoded on the verb rather than by separate lexical elements or morphology associated with the noun.

### **3. Head-Marking and Beyond in UNT**

Upper Necaxa Totonac shows a strong preference for the “loading” of information into the predicate phrase, including information about the arguments of that predicate. Verbs are inflected for number of their arguments; number is not inflectional for nouns and nouns can be quantified by verbal affixes. The semantic roles of NPs are indicated by derivational means, and the language has a dedicated class of adverbs for attributing properties to NPs.

The first of these three characteristics, and to a lesser extent the second two, are familiar from the typology of polysynthetic languages and fall under what Nichols (1986) terms “head-marking” of syntactic relations:

Head-marking relations: for a pair of elements X and Y where Y is a syntactic dependent of X, their syntactic relation is indicated by some morphosyntactic feature of X.

The most frequently observed types of head-marking involve encoding of either semantically “empty” structural information about the relation between head and dependent (e.g., possessive markers), or information about inherent semantic or grammatical features of the dependent (e.g., person/number agreement). UNT, however, seems to exemplify a third type of relation in which additional semantic or grammatical information not inherent to the dependent or its structural configuration is marked on the head (or in the phrase governed by the head).

This is seen most clearly in the quantificational effects of the totalitative suffix, which conforms to the strict definition of head-marking. However, the use of descriptive adverbs seems also to conform — if not to the letter — to the spirit of head-marking in that qualification of an argument is carried out by an element within the predicate phrase. It may be that future typological investigation of other strongly head-marking languages will reveal the presence of lexical and quasi-inflectional strategies for argument quantification and qualification similar to those found in Upper Necaxa Totonac.

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