

Control of person and number agreement in multi-object constructions in Upper Necaxa Totonac*

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Upper Necaxa Totonac has a system of valency-increasing morphology which can license up to five grammatical objects in a clause. The morphosyntax of these objects is highly uniform, making it difficult to determine their grammatical relation to the verb. This has implications for clause-structure and for typological models of grammatical relations.

1 Agreement in transitive clauses

Upper Necaxa Totonac (UNT), a Totonac-Tepihua language spoken in East-Central Mexico, has a rich system of valency-increasing morphology, including two causatives and four applicatives, which can be combined to license up to five grammatical objects in a single clause. The morphosyntactic behaviour of these objects is surprisingly uniform, making it difficult to determine their grammatical relation to the verb. The problem is illustrated in this paper with respect to agreement. Specifically, UNT transitive and underived ditransitive verbs agree in number and person with their direct (primary) objects, whereas in derived multi-object constructions, object-agreement can be controlled by *any* of the non-subject arguments of the verb. Competition for the control of agreement seems to be resolved based on a number of “extra-syntactic” factors — a 1,2 > 3 person hierarchy, animacy, and the relative saliency of third-person arguments in communicative structure. The uniform behaviour of all non-subject arguments seems to indicate that grammatical relations in UNT are not unique. This has implications both for clause-structure and for typological models of grammatical relations and argument structure.

* I would like to thank Paulette Levy, Igor Mel'čuk, and my consultants and friends in Patla and Chicontla, particularly Don Longino Barragán Sampayo, who had the imagination to work with me on this topic. Uncited data are from my field notes. This research was funded by a SSHRC grant to the author. The abbreviations used here are: 1,2,3 = first-, second-, third-person; ALTV = allative; BEN = benefactive; CLS = classifier; CMT = comitative; CTN = containing instrument; FUT = future; IMPF = imperfective; INST = instrumental; OBJ = object; PL = plural; PFV = perfective; PO = possessive; SG = singular; ST.PL = stative plural; SUBJ = subject. Data are given in practical orthography (x = /ʃ/; lh = /h/; j = /x/; h = /ʔ/; ch = /tʃ/; y = /j/; tz = /ts/; V: = V::; V' = V̲).

2 Agreement in transitive clauses

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

- (1) a. **ik**la'htziná:**n** b. **kil**a'htzina:**tít**
ik-la'htzín-ya:-**n** **kin**-ta- la'htzín
 ISG.SUBJ-see-IMPF-2OBJ 1OBJ-3PL.SUBJ-see
 'I see you' 'they see me'

Subject and object agreement morphemes constitute distinct sets, with the subject-markers encoding both person and number of subject, and the object-markers encoding person and number separately. The full set of object markers is given in Table 1:

PERSON			NUMBER	
<i>kin</i> - '1OBJ'	<i>-n</i> '2OBJ'	\emptyset '3OBJ'	\emptyset 'SG.OBJ'	<i>ka</i> :- 'PL.OBJ'

Table 1: UNT object-markers

Any object in multi-object constructions can thus potentially control the verb for two separate inflectional categories — number of object and person of object.

3 Agreement in underived ditransitive clauses

Like mono-transitive verbs, underived ditransitives show person and number agreement with their subject and one of their objects:

- (2) **na****kin**ta^{maxkí}: la'hatín ixkawa:yúj
 na-**kin**-ta-maxkí: la'ha-tín ix-kawa:yúj
 FUT-1OBJ-3PL.SUBJ-give CLS-one 3PO-horse
 'they are going to give me one of their horses'

Unlike mono-transitive constructions, however, ditransitives have two potential controllers of agreement. Either of these objects can control number agreement:

- (3) a. **na****ka**:maxkí: kistánku' **tantú**: **kin**kawa:yúj**nu**'
 na-ik-**ka**:-maxkí: kin-stánku' **tan-tu**:
 FUT-1SG.SUBJ-PL.OBJ-give 1PO-younger.brother CLS-two

kin-kawa:yúj-nu'
 1PO-horse-PL
 'I will give my younger brother my two horses'

- b. naika:maxkí: kinta:timín la'hatín kinkawa:yúj
 na-ik-ka:-maxkí: kin-ta:timín la'ha-tin
 FUT-1SG.SUBJ-PL.OBJ-give 1PO-brothers CLS-one
 kin-kawa:yúj
 1PO-horse
 'I will give my brothers one horse of mine'

Here, the verb shows agreement for number with the THEME in (3a) and the RECIPIENT in (3b). When it comes to person-marking, however, only the RECIPIENT can be the controller:

- (4) a. wix, tzumaját, nakmaxki:yá:n wamá: hawácha'
wix tzumaját na-ik-maxkí:-ya:-n wamá: hawácha'
 you girl FUT-1SG.SUBJ-give-IMPF-2OBJ this boy
 'you, daughter, I'm going to give you this boy'
 *'you, daughter, I'm going to give you to this boy'
- b. wix, hawácha', nakmaxki:yá:n wamá: tzumaját
wix hawácha' na-ik-maxkí:-ya:-n wamá: tzumaját
 you boy FUT-1SG.SUBJ-give-IMPF-2OBJ this girl
 'you, son, I'm going to give you this girl'
 *'you, son, I'm going to give you to this girl'

This indicates the RECIPIENT rather than the THEME is the direct object, making UNT a primary object language in the sense of Dryer (1986).

4 Agreement in derived multi-object constructions

In ditransitives formed with applicatives, there are also two potential controllers of agreement — the *basic object* which comes with the verb root, and the new *applicative object* added by the valency-increasing affix. As it turns out, either of these objects object can control agreement for number and for person, as shown by the following examples based on *halha:ní* 'steal something from someone' (= $\sqrt{\text{halhá:n}}$ 'steal something' + *-ní* 'benefactive'):

- (5) a. ika:halha:nílh a'htú:ixtapíxnu' tzamá: puská:t
 ik-ka:-halha:n-ni-lh a'h-tu: ix-tapíxnu'
 1SG.SUBJ-PL.OBJ-steal-BEN-PFV CLS-two 3PO-necklace
 tzamá: puská:t
 that woman
 'I stole two necklaces from the woman'

- b. **ika:**halha:níl̄h a'htín tapíxnu' **puská:n**
 ik-**ka:**-halha:n-ni-lh a'h-tín tapíxnu' **puská:-n**
 1SG.SUBJ-PL.OBJ-steal-BEN-PFV CLS-one necklace woman-PL
 'I stole a necklace from the women'

In (5a), the basic object controls the number agreement on the verb, while in (5b), the applicative object is the controller. Unlike underived ditransitive verbs, derived ditransitive verbs can also agree for person with either object:

- (6) a. ikhalha:niyá:**n** mintapíxnu'
 ik-halha:n-ni-yá:-**n** min-tapíxnu'
 1SG.SUBJ-steal-BEN-IMP-2OBJ 2PO-necklace
 'I steal your necklace from you'
- b. **wix**, tapíxnu', ikhalha:nín̄wamá: puská:t
wix tapíxnu' ik-halha:n-ni-**n** wamá: puská:t
 you necklace 1SG.SUBJ-steal-BEN-2OBJ this woman
 'you, necklace, I stole you from this woman'

In (6a) the verbs agrees with the applicative object and in (6b) it agrees with the basic object. (5) and (6) both have one third person object. When there are two singular non-third person objects, *both* control agreement simultaneously:

- (7) a. **wix**, kuchílu, **kili:**lhtukú:**n** kit wamá: hóni'
wix kuchílu **kin-**li:-lhtukú:-**n** **kit** wamá: hóni'
 you knife 1OBJ-INST-stab-2OBJ I this drunk
 'you, knife, this drunk stabbed me with you'
- b. wan kuchílu, **kili:**lhtukú:**n** wix wamá: hóni'
 wan kuchílu **kin-**li:-lhtukú:-**n** **wix** wamá: hóni'
 say knife 1OBJ-INST-stab-2OBJ you this drunk
 'said the knife, this drunk stabbed you with me'

Thus, in derived ditransitives either the basic and/or the applicative object can control both number and person agreement, whereas in the underived ditransitives only the primary object is a legitimate controller of agreement.

The same pattern holds for more complex multi-object constructions: the basic or *any* applicative object is a legitimate controller of agreement. The verb *ta:li:tanká:* 'X fells Y with Z aided by W', for instance, has two applicatives and three objects. As shown in (8), any of these three objects can control number agreement:

- (8) a. **pu:lakáuj kila:xáx**, **naika:ta:li:tanká:** kinta:sá:kwa wamá: hentín
kimachí:ta'
pu:lak-kauj kin-la:xáx na-ik-**ka:**-ta:-li:-tanká:
CLS-ten IPO-orange FUT-1SG.SUBJ-PL.OBJ-CMT-INST-fell
kin-ta:sá:kwa wamá: hen-tin kin-machí:ta'
IPO-peon this CLS-one IPO-machete
'my peon and I will cut down ten orange trees with this machete'
- b. **hentu:tún machí:ta'** **naika:ta:li:tanká:** pu:laktín kí'wi' wamá:
chixkú
hen-tu:tún machí:ta' na-ik-**ka:**-ta:-li:-tanká:
CLS-three machete FUT-1SG.SUBJ-PL.OBJ-CMT-INST-fell
pu:lak-tín kí'wi' wamá: chixkú
CLS-one tree this man
'with three machetes I and this man will cut down a tree'
- c. **naika:ta:li:tanká:** pu:laktín kí'wi' **chixkuwín** kimachi:tkán
na-ik-**ka:**-ta:-li:-tanká: pu:lak-tín kí'wi'
FUT-1SG.SUBJ-PL.OBJ-CMT-INST-fell CLS-one tree
chixkú-win kin-machi:t-kan
man-PL IPO-machete-PL.POS
'I and the men will cut down a tree with our machete'

The example in (8a) shows the basic object (Y) controlling agreement, while in (8b) the INSTRUMENT (Z) is the controller and in (8c) the COMITATIVE (W) controls number agreement. Similarly, any object can control person agreement:

- (9) a. **wix**, kí'wi', **nakta:li:tanka:yá:n** tzamá: chixkú hentín kimachí:t
wix kí'wi' na-ik-ta:-li:-tanká:-ya:-**n** tzamá:
you tree FUT-1SG.SUBJ-CMT-INST-fell-IMPF-2OBJ this
chixkú hen-tin kin-machí:t
man CLS-one IPO-machete
'you, tree, I and this man are going to fell you with my machete'
- b. **wix**, machí:ta, **naikta:li:tankayá:n** tzamá: chixkú kí'wi'
wix machí:ta na-ik-ta:-li:-tanká:-ya:-**n** tzamá:
you machete FUT-1SG.SUBJ-CMT-INST-fell-IMPF-2OBJ this
chixkú kí'wi'
man tree
'you, machete, I and this man are going to fell the tree with you'

- c. **wix** nakta:li:tanka:yá:**n** kí'wi' hentín kimachi:tkán
wix na-ik-ta:-li:-tanka:-ya:-**n** kí'wi' hen-tin
 you FUT-1SG.SUBJ-CMT-INST-fell-IMPF-2OBJ tree CLS-one
 kin-machit-kan
 1PO-machete-PL.POS
 'I and you are going to fell the tree with our machete'

In (9a), the basic object controls person agreement, in (9b) the INSTRUMENT controls person agreement, and in (9c) the verb agrees with the COMITATIVE. In other words, all of the objects of the verb are legitimate potential controllers. The same holds for the verb *ta:pu:la'hmakamín* 'X directs Y at Z using W aided by A', which contains three applicatives and has four objects:

- (10) a. **a'htú: chiwix ika:**ta:pu:la'hmakamílh tzakát kistánku' tzamá:
 chixkú
a'h-tu: chiwix ik-ka:-ta:-pu:-la'h-makamín-lh
 CLS-two stone 1SG.SUBJ-PL.OBJ-CMT-CTN-ALTV-direct-PFV
 tzakát kin-stánku' tzamá: chixkú
 sling 1PO-brother that man
 'I and my brother threw two stones at that man with a sling'
- b. **chixkuwín ika:**ta:pu:la'hmakamílh chiwix kistánku' tzamá: tzakát)
chixku-wín ik-ka:-ta:-pu:-la'h-makamín-lh chiwix
 man-PL 1SG.SUBJ-PL.OBJ-CMT-CTN-ALTV-direct-PFV stone
 kin-stánku' tzamá: tzakát
 1PO-brother that sling
 'I and my brother threw a stone at those men with a sling'
- c. **a'htú: tzakát ika:**ta:pu:la'hmakamílh chiwix kistánku' tzamá:
 chixkú
a'h-tu: tzakát ik-ka:-ta:-pu:-la'h-makamín-lh
 CLS-two sling 1SG.SUBJ-PL.OBJ-CMT-CTN-ALTV-direct-PFV
 chiwix kin-stánku' tzamá: chixkú
 stone 1PO-brother that man
 'I and my brother threw stones at that man with two slings'
- d. **kinta:timin ika:**ta:pu:la'hmakamílh chiwix kintzakatkán tzamá:
 chixkú
kin-ta:timín ik-ka:-ta:-pu:-la'h-makamín-lh
 1PO-brothers 1SG.SUBJ-PL.OBJ-CMT-CTN-ALTV-direct-PFV
 chiwix kin-tzakát-kan tzamá: chixkú
 stone 1PO-sling-PL.PO that man
 'I and my brothers threw a stone at that man with our sling'

In (10a), the basic object (Y) controls agreement and in (10b) the verb agrees with the GOAL (Z); (10c) shows INSTRUMENT (W) agreement, and in (10d) the COMITATIVE (A) is the controller. Similarly, any of the four objects can control person agreement:

- (11) a. wix, chiwíxni', ika:ta:pu:la'hmakaminá:n̩ kintzakatkán kistánku tzamá: chixkú
wix chiwíx-ni' ik-ka:ta:-pu:-la'h-makamin-ya:-n̩
 you stone-PL 1SG.SUBJ-PL.OBJ-CMT-CTN-ALTV-direct-IMPF-2OBJ
 kin-tzakat-kán kin-stánku' tzamá: chixkú
 1PO-sling-PL.PO 1PO-brother that man
 'you, stones, I and my brother throw you at the man with our slings'
- b. ika:ta:pu:la'hmakaminá:n̩ chiwíx kistánku' kintzakatkán
 ik-ka:ta:-pu:-la'h-maka-min-ya:-n̩ chiwíx
 1SG.SUBJ-PL.OBJ-CMT-CTN-ALTV-direct-IMPF-2OBJ stone
 kin-stánku' kin-tzakat-kan
 1PO-brother 1PO-sling-PL.PO
 'I and my brother throw stones at you guys with our slings'
- c. wix, tzakát, ika:ta:pu:la'hmakaminá:n̩ chiwíx kistánku' tzamá: chixkú
wix tzakát ik-ta:-pu:-la'h-maka-min-ya:-n̩ chiwíx
 you sling 1SG.SUBJ-CMT-CTN-ALTV-direct-IMPF-2OBJ stone
 kin-stánku' tzamá: chixkú
 1PO-brother that man
 'you, sling, I and my brother throw stones at that man with you'
- d. tzakát ika:ta:pu:la'hmakaminá:n̩ chiwíx tzamá: chixkú
 tzakát ik-ta:-pu:-la'h-maka-min-ya:-n̩ chiwíx
 sling 1SG.SUBJ-CMT-CTN-ALTV-direct-IMPF-2OBJ stone
 tzamá: chixkú
 that man
 'I and you throw stones at that man with a sling'

In (11a), the basic object controls person agreement and in (11b) the verb agrees with the GOAL; (11c) shows INSTRUMENT agreement, and in (11d) the COMITATIVE is the controller. Once again, any of the objects of a derived multi-object verb is a legitimate controller of agreement. But, with so many potential controllers, how is competition for control of agreement resolved?

4.1 1,2 > 3 person hierarchy

1 and 2 control agreement exclusively of and in preference to 3:

- (12) a. wix nakta:li:tanka:yá:n kí'wi' hentú: kimachi:tkán
 wix na-ik-ta:-li:-tanka:-ya:-n kí'wi' hen-tu:
 you FUT-1SG.SUBJ-CMT-INST-fell-IMP-2OBJ tree CLS-two
 kin-machi:t-kan
 IPO-machete-PL.POS
 'I and you are going to fell the tree with our two machetes'
- b. *wix naika:ta:li:tanká: kí'wi' hentú: kimachi:tkán
 c. *wix naika:ta:li:tanka:yá:n kí'wi' hentú: kimachi:tkán

In (12a), the 2SG COMITATIVE object controls agreement in preference to the 3PL basic object (12b). As shown in (12c), simultaneous control is ruled out.

- (13) a. wix kí'wi' nakta:li:tanka:yá:n tzamá: chixkú hentú: kimachi:tkán
 wix kí'wi' na-ik-ta:-li:-tanka:-ya:-n tzamá:
 you tree FUT-1SG.SUBJ-CMT-INST-fell-IMP-2OBJ that
 chixkú hen-tu: kin-machi:t-kan
 man CLS-two IPO-machete-PL.POS
 'you, tree, I and that man are going to fell you with our two machetes'
- b. *wix kí'wi' naika:ta:li:tanká: tzamá: chixkú hentú: kimachi:tkán
 c. *wix kí'wi' naika:ta:li:tanka:yá:n tzamá: chixkú hentú:
kimachi:tkán

In (13a), the 2SG basic object controls agreement in preference to the 3PL INSTRUMENTAL object (13b). Once again, simultaneous control is ungrammatical (13c). This points to a 1,2 > 3 person hierarchy.

4.2 Animacy

When both objects are third-person, there is a preference for an animate object to control agreement as opposed to an inanimate object, as in (14):

- (14) a. tachílh kinta:timín naika:ta:putzá kimachí:ta'
 ta-chín-lh kin-ta:timín
 3PL.SUBJ-arrive-PFV IPO-siblings
 na-ik-ka:ta:-putzá kin-machí:ta'
 FUT-1SG.SUBJ-PL.OBJ-CMT-look.for IPO-machete
 'my brothers are here, I'm going to look for my machete with them'

- b. *chilh kimpuská:t naika:ta:putzá **hentú: kimachí:ta'**
 chin-lh kin-puská:t na-ik-ka:-ta:-putzá
 arrive-PFV 1PO-wife FUT-1SG.SUBJ-PL.OBJ-CMT-look.for
 hen-tu: kin-machí:ta'
 CLS-two 1PO-machete
 *‘my wife is here, we’re going to look for my two machetes’
- c. **chilh kimpuská:t** nakta:putzá hentú: kimachí:ta'
chin-lh kin-puská:t na-ik-ta:-putzá
 arrive-PFV 1PO-wife FUT-1SG.SUBJ-CMT-look.for
 hen-tu: kin-machí:ta'
 CLS-two 1PO-machete
 ‘my wife is here, we’re going to look for my two machetes’

In (14a), the animate 3PL COMITATIVE object obligatorily controls agreement. The sentence in (14b) was initially rejected by the consultant, who offered (14c). Thus, it seems sentences with inanimate controllers are dispreferred in neutral contexts, although this is only a preference (see, for example, the data in (8)).

4.3 Discourse saliency

Control of agreement also seems to depend on relative discourse saliency: the clause rejected in (14b) is accepted in a different context in (15):

- (15) taa'htzanhá:lh **hentú: kimachí:ta'** akxní chilh kimpuská:t
 naika:ta:putzá
 ta-a'htzanhá:-lh hen-tú: **kin-machí:ta'** akxní chin-lh
 3PL.SUBJ-get.lost-PFV CLS-two 1PO-machete when arrive-PFV
 kin-puská:t na-ik-ka:-ta:-putzá
 1PO-wife FUT-1SG.SUBJ-PL.OBJ-CMT-look.for
 ‘My machetes got lost. When my wife comes she and I’ll look for them.’

As it turns out, when the inanimate object is discourse topic, it becomes a legitimate controller, even when it occurs in a clause with an animate (non-topical) object. Similar contrasts are found in other situations:

- (16) a. **cha:tín chixkú** ásta hentú: kuchílu li:htukúlh hó'ni'
cha:-tín chixkú ásta hen-tu: kuchílu li:-lhtukú-lh
 CLS-tin man even CLS-two knife INST-stab-PFV
 ho't-ni'
 drink-NML
 ‘the drunk stabbed a man with two knives’

- b. **ásta hentú: kuchílu** cha:tín chixkú **ka:li:htukúlh** hó'ni'
ásta hen-tú: kuchílu cha:-tín chixkú
 even CLS-two knife CLS-one man
ka:-li:-lhtukú-lh ho't-ni'
 PL.OBJ-INST-stab-PFV drink-NML
 'with *two* knives the drunk stabbed a man'

As (16) shows, focusing of the inanimate object makes it a legitimate controller, over-riding the animacy hierarchy. Discourse considerations, however, do not to over-ride the person hierarchy. This points to a ranked set of constraints for selecting the controller of agreement in multi-object constructions:

1,2 > discourse-salient 3 > animate 3 > inanimate 3

The contrast in acceptability of the same clause (14b) vs. (15) in different environments suggests that control of object-agreement can not be automatically ascribed to a particular grammatical relation, but must be ascribed to one of a set of potential controllers, one of which is chosen according to “extra-syntactic” criteria — person, animacy, and communicative structure.

5 Conclusion

UNT builds complex predications from transitive and ditransitive roots, allowing up to five objects in a sentence. According to most theories of grammar, each of these objects should be assigned a grammatical relation or position in the argument structure of that predication. Most theories require that the grammatical relation assigned to an argument be unique — as per, for example, the Stratal Uniqueness Law (Perlmutter & Postal 1983). The grammatical relations assigned to different types of objects should also be identifiable in terms of their morphosyntactic properties (Keenan 1976; Comrie 1982; Dryer 1983; 1986), and from a methodological point of view, in order to be considered distinct argument-types, each object should show some sort of differentiated morphosyntactic behaviour.

A “classic” property for the differentiation of object types (particularly, direct vs. indirect object) is the potential to control agreement: in many languages, direct objects control agreement, indirect (and other) objects don't. However, in UNT multi-object constructions, *any* object can control agreement and, furthermore, UNT object-agreement seems to be somewhat independent of argument-structure. The same effects of person, animacy, and communicative structure that control agreement also affect a number of other syntactic processes in the language such as control of object agreement in the indefinite voice, scope of floating quantifiers, EQUI NP-deletion, co-ordination, and gapping-collapsibility. This uniformity of behaviour casts doubt on the uniqueness of the grammatical relation assigned to basic and applicative objects.

Non-unique grammatical relations are recognized in some theories and have been argued for in some particular cases (e.g., Gary & Keenan 1977), but

non-unique relations for most theorists are restricted to oblique objects and adjuncts. Adjuncts, however, are generally treated as being “outside” argument structure (i.e., they are not subcategorized for by the verb), while obliques are part of argument structure, but are considered “peripheral” and optional. Both obliques and adjuncts are syntactically “inert” and are generally excluded from control of agreement, voice operations, quantification, and other syntactic processes. The fact the UNT applicative objects are not syntactically peripheral, optional, or inert, and that they are clearly arguments subcategorized for by the derived verb stem, marks them as non-oblique objects. Their apparent non-uniqueness may force us to reconsider the universality of the requirement that (non-oblique) grammatical relations be unique.

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