

OPERATORS, ASSOCIATED MOTION AND SUBJECT IN MAZAHUA (OTOMANGUEAN)

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Here it is proposed that associated motion morphemes are nuclear operators. Nuclear operators have scope over the nucleus; they modify the action, the event or the state itself, without reference to the participants. The morphemes that encode associated motion in Mazahua are located next to the verbal root; after these, only Q morpheme and the TAMP morpheme are attached. Clitics that encode associated motion refers to grammatical morphemes used primarily with non-moving verbs to express that the action of the verb is associated with a displacement (Koch 1984, Guillaume 2017). The expression of the associated motion is encoded through grammatical morphemes and not lexical units.

Also, the objective of this work is to show that the morphemes that encode aspect, status, modality, quantification, polarity, associated motion are correlated with the morphological realization of the grammatical subject.

OUTLINE OF THIS PRESENTATION

- a. Grammatical features of Mazahua
- b. Operator system
- c. Associated motion
- d. Operator and grammatical subject
- e. Preliminary conclusions

GRAMMATICAL FEATURES OF MAZAHUA

Mazahua is a head-marking language; it presents a nominative-accusative alignment. The grammatical relation subject (A/S), in transitive, intransitive and ditransitive constructions, appears encoded in a proclitic, while the direct object and the indirect object are encoded in a suffix (1b, 2b). This language presents a split intransitivity system. The O-verbs class is integrated by stative and patient verbs. There is a small group of verbs, referred here as O-verbs, that is integrated by stative and patient verbs. The participant (S/O) in these predicates is expressed as a suffix. The participant (S/O) is expressed as a suffix. Mazahua also uses non-canonical marking of subject (A/S). Non-canonical subject marking is understood as the strategy that consists in replacing the proclitic that encodes A/S with a zero morpheme (\emptyset) (1a, 2a). As for word order, it is a verb-initial language. The order in transitive sentences is VOS and VS in intransitive sentences.

- 1 a. $n\grave{u}tsk' \acute{e} \text{ } ^?j\acute{a}=\emptyset=k^h\check{a}-ki$ $nd\acute{u}\acute{b}i$
2PRON NEG=2PRS=make-1.DAT attention
'You are not listening to me.' (txt.an.13)
- b. $n\grave{u}tsk' \acute{e} \text{ } ^?j\acute{a}=i=k^h\check{a}-ki$ $nd\acute{u}\acute{b}i$
2PRON NEG=2PRS=make-1.DAT attention
'You are not listening to me.'

- 2 a. k^há=ndà=Ø=sâhə=hi Ø=t'èŋe
 ING=TOT=3PST=come=PL 3PST=play
 'They just came from playing.' (txt.n.15)
- b. k^há=ndà=ó=sâhə=hi Ø=t'èŋe
 ING=TOT=3PST=come=PL 3PST=play
 'They just came from playing.'

The verbal word in Mazahua is illustrated in (3). Knapp (2013) has proposed that this language is quasi-polysynthetic. The ordering of operator-expressing affixes and clitics is very small. A proclitic TAMP and operators like tense, aspect, modality, location, quantification and associated motion appear on the verb. These grammatical categories are treated as operators modifying different layers of the clause. Each of the clause levels may be modified by one or more operators (Van Valin & LaPolla 1997; Van Valin 2004). The information expressed by these pre-nuclear clitics has discursive implications since they are updated in the communicative interaction; consequently, its informative value may be optional. The verb structure is summarized in (3)

3_{POL}NEG/AFF=_{STA}MOD(ASS/PRB/PSB/RP)_{QNT}PAR=_{AM}(AND/VEN/LOM/AMB/CIS)/GEN/EMP=_{ASP}(ITER/ING/PRG/PTL/CON)=REC=(TAMP)=_{QNT}TOT=VERB-OBJ/OI=_{ASP}TEL=E=PL/DL=_{ASP}PTL=LOC=DEM

It is only possible to find four clitics anchored to the verb on preverbal position. The proclitic TAMP always appears in an adjacent position to or close to the verb; This proclitic is exhibited, in some contexts, as a zero morpheme (Ø) and it is preceded by at least one or two clitics. This is illustrated in (4).

- 4 a. já=k^hó=ſi=rò=ndĩnrĩ=ni; já=tá=ne=Ø=ndĩnrĩ
 PTL=who=CON=3PST=answer=RPT PTL=VEN=REC=3PST=answer
 'Who was going to answer him, they say; they have already answered.' (Txt.af.13)
- b. hò=ſo=né=Ø=só'je=k'i; nù=ſũða ndà=méhe
 ASS=PROG=REC=3COP=sick=DEM.PROX2 ART.NANF=Juan AU=pozo
 'Also, that one was sick. Juan de Pozo Grande.' (Txt.r.12)

OPERATORS

Grammatical categories like aspect, tense and modality are treated as operators. Each of the clause levels may be modified by one or more operators. The nuclear operators have scope over the nucleus; they modify the action, event or state itself without reference to the participants. Core operators modify the relation between a core argument, normally the actor, and the action; this is especially true of core directional and modality. Clausal operators modify the clause as a whole (Van Valin 2005).

One of the major claims regarding operators made in RRG is that the ordering of the morphemes expressing operators with respect to the verb indicates their relative scopes. That is, taking the nucleus as the reference point, the morphemes realizing nuclear operators should be closer to the nucleus than those expressing core operators, and those manifesting clausal operators should be outside of those signaling nuclear and core operators (Van Valin, 2005).

OPERATOR FEATURES (Van Valin & LaPolla 1997; Van Valin 2005)

5. a. Since operators are technically not part of the nucleus, core or periphery, but rather are modifiers of these units and combinations thereof, it is reasonable that they should be represented separately from the predicates and arguments that they modify.
- b. Different operators modify different layers of the clause: some only modify the nucleus, some only modify the core, and some modify the whole clause.
- c. The classification of a particular operator as nuclear, core or clausal is a direct function of its meaning.
- d. Operators are grammatical (functional) rather than lexical categories.
- e. Operators are arranged in terms of ever wider scope with respect to the verb.
- f. The verb is the anchoring point of these operators, and it is no accident that these are recognized as verbal categories
- g. Operators are ordered with respect to each other in terms of the scope principle, with the verb or other predicating element in the nucleus as the anchor point, and thus the ordering restrictions on the morphemes expressing the operators are universal.
- h. Operators are closed-class items, not open-class.
- i. Operator have fixed positions

Table 1. *Operators in the layered structure of the clause*

NUCLEAR OPERATORS:

Aspect

Negation

Directionals (only those modifying orientation of action or event without reference to participants)

CORE OPERATORS:

Directionals (only those expressing the orientation or motion of one participant with reference to another participant or to the speaker)

Event quantification

Modality

Internal (narrow scope) negation

CLAUSAL OPERATORS:

Status (epistemic modals, external negation)

Tense

Evidentials

Illocutionary force

The basic principle of scope assignment governing operators is clausal \supset core \supset nuclear, where ' \supset ' means 'has scope over'. Among clausal operators, the scope relations are illocutionary force \supset evidentials \supset tense/status. There is no universal unique scope order between tense and status, as they are roughly equivalent in scope terms; some languages treat tense as the more outer operator, while others treat status as having scope over tense. Among core operators, the scope relations are modality/directionals \supset negation, while among nuclear operators, they are directionals/negation \supset aspect Van Valin & LaPolla (1997).

6. Aspect

a. ni iterative

b. k^ha ingressive

- c. *ʃo* additive/progressive
- d. *ja* punctual
- e. *tʰo* telic
- f. *ʃi* continuative
- g. *ʔja* punctual

- 7 a. *ʔkʰo=kʰa=ni=Ø=ma=ʔja=jo?*
 RP=ING=ITER=3PST=go=PTL=DEM.PROX1
 ‘¿Perhaps these go away again?’
- b. *kʰa=ne=Ø=ẽẽ mi=ndʒəə nu=seferino, ri=h̄nũntʰi=h̄me na-kʰwhari ʃɛʔji*
 ING=REC=3PST=come TADV=ayer ART=Seferino 1PST=take=1PL.EXCL PRED-many tortilla
 ‘Just yesterday Seferino came, we took many tortillas.’
- c. *ri= s’o=go=k’o. ʃo=nde=mi=k’is’i=h̄me pʰiɲo a=ndiði mando*
 1PRS=get.sick=1E=DEM.PROX2 PROG=QNT=1COP=rip=1.PL.EXCL grass LOC-down Manto
 ‘That makes me sick. We continually ripped grass down from Manto.’
- d. *nuts’k’e ja=i=h̄iʔtʃi tʃiʔi*
 2PRON PTL=2PST=baptize child
 ‘you already baptized the children.’ (Txt.a.16)
- e. *e-ʃúβa ø-ʔún=tʰo tʰɛze jò=ndifʊ*
 NP-Juan 3.PRS-give=TEL tamal ART.NANF.PL=woman
 ‘Juan gives tamales to women.’ (Elc)
- f. *ta=he=mi=kʰaa baka=nu, ʃi=mi=ta=Ø=ɲgəri baka=Ø mi=tsʰãn=hi*
 VEN=LOM=3COP=be cow=there.PROX3 CON=EMP=VEN=3COP=appear cow=REL 3COP=have=PL
 ‘Until there, there were cows, they were enough cows that they had.’
- g. *ja=ts’i=Ø=ʃomi=ʔja*
 PTL=DIM=TADV=nighth=PTL
 ‘It was already night’

8. Associated motion (directionals)

- a. *ma* andative
- b. *ta* venitive
- c. *he/hi* location motion
- d. *βi* ambulate
- e. *βa* cislocative

- 9 a. *ma=Ø=tũns’i=hi ta=βari, nde=ta=βari; Ø=ndũns’i jo=t’apʰi*
 AND=3COP=carry=PL AU=jar=middle=AU=jar 3COP=carry ART.PL.NANF=pulque
 ‘They carried a big jar, middle jar; they carried the pulque.’
- b. *ta=Ø=zoo ma=mboo; hãã=ro=ʔər=go=k’i*
 VEN=3PST=fall down DIR=inside AFF=1PST=hear=1E=DEM.PROX2
 ‘He fell down inside; yes, I heard that.’
- c. *he=Ø=maa mbaro=ʔja, ja=he=Ø=ʔuni=kʰa=ʔja*
 LOM=3PST=leave Atlacomulco=PTL PTL=LOM=3PST=give=over there.PROX2=PTL
 ‘He left Atlacomulco, they already gave him there.’
- d. *kʰa=he=βi=Ø=maa a=mbaro he=Ø=ʔuni=ʔja=h̄nu*
 ING=LOM=AMB=3PST=go LOC=Atlacomulco LOM=3PST=give=PTL=DEM.PROX1
 ‘Just he went to Atlacomulco, they gave this.’

- e. ha=**β**a=Ø=?jēnhē=^hnu
 where=CIS=3PST=come=DEM.PROX1
 ‘where she came from’.

10. Modality/status

- a. ho assertive
 b. na probability
 c. po possibility
 d. k^ho remote possibility

- 11 a. ho=mi=kārā jo=Ø=ndzodi=?ja
 ASS=3COP=be REL=3COP=walk=PTL

‘In effect, there were those who walked.’

- b. pa=Ø=zĩ=?ja=k’i, ri=embe a=k^hanu; hãã, mbe=ra=ma nuu
 but=3FUT=take=PTL=DEM.PROX2 1PST=say MAN=like this AFF but=1FUT=go see

na=ra=tĩ

PRB=3FUT=get drunk

‘So take that, I say him like this; Yes, but I will go to see, probably he gets drunk.’

- c. po=ja=Ø=ndzobi,

PSB=PTL=3PST=come back

‘Possibly he came back.’

- d. ¿k^ho=ja=Ø=dabi=t^ho=jo?

RP=PTL=3PST=go down=TEL=DEM.PL.PROX1

¿Perhaps these went down?’

12. Quantification

- a. nde partial
 b. nda/nra total

- 13 a. ho=ja=fo=nde=Ø=k^haa serbesa=?ja=^hnu
 ASS=PTL=PROG=PAR=3PRS=be beer=PTL=over there.PROX3
 ‘Over there is already beer.’

- b. ja=Ø=nda=?ēē ?jebe; Ø=ma Ø=tũn=hi karo=ni
 PTL=3PRS=TOT=come rain 3PRS=go 3PRS=bring=PL car=RPV

‘They say, the rain is coming; they are going to bring the car.’ (Txt.af.13)

14. Polarity

- a. ?ja negation
 b. hãã affirmation

- 15 a. nu?ja=^hnu, ?ja=ri=^hnandi ^hjas’i=^hnu
 today=over there.PROX3 NEG=2FUT=see sun=over there.PROX3

‘Today, you will not see the sun over there.’

- b. i=pot’i hãã=ro=pot’i. mbo=ne=ro=naŋg^wadi
 2PST=kill AFF=1PST=kill them=REC=1PST=run

¿Did you kill him? Yes, I killed him. Then I ran.’

ASSOCIATED MOTION

Mazahua is a language like some languages of Australia (Koch 1984; Wilkins 1991; Dixon 2002) and Panoan languages of Amazonian (Guillaume 2017) that exhibits a set of spatial affixes. These affixes are used to associated a translation motion component (spatial displacement/change of location) to the state of affairs. The sense of translation motion is added to the main verb. Those configurations are translated like ‘GO & MAKE’ (motion of the verb); COME & MAKE (motion of the verb); MAKE (motion of the verb) & GO; MAKE (motion of the verb) GOING; MAKE (motion of the verb) COMING; MAKE (motion of the verb) & GO; MAKE (motion of the verb) & COME.

The term ‘motion’ is used exclusively in the sense of translation/spatial displacement, this means that it involves a change of space; it does not express self-contained motion like positional verbs (sit down, stand up, lay down) or motion like *spin round, shake, stir*. Morphemes that express space notions that are only used with motion verbs are excluded. To sum up, associated motion is a term that refers to grammatical morphemes used with non-motion verbs; these morphemes encode the motion that is associated with the displacement (Koch 1984; Wilkins 1991; Dixon 2002, Guillaume 2009, 2013, 2017). The associated motion term is generated through grammatical morphemes and not through lexical units.

The associated motion system is organized according to the following basic and recurrent parameters (Guillaume 2017).

20. Associated motion parameters

- a. S/A/O argument oriented motion suffixes
- b. The orientation of the motion
- c. Temporal relationship between the motion and the verb stem event
- d. The verb stem event and *aktionsart* classes
- e. Stability of the targeted location

-The punctual verb stem event takes place only once in a particular location somewhere along a motion path, either at the source, or at the target, or in between

-The distributed verb stem event is distributed or realized continuously between the source and the target of the motion (Guillaume 2017).

In Mazahua, morphemes *ma, he/hi, βi y βa* encode associated motion: andative, venitive, locative-motion, ambulative, cislocative. These morphemes are encliticized on the matrix verb and express an associated motion event. The trajectory distinctions that appear expressed by the associated motion system have been related with the deictic orientation, this is andative-motion (motion away from the deictic center); goal motion (motion towards deictic center); locative-motion (motion away from the deictic center); ambulative motion (motion targets unstable (temporary) locations: here and over there) and cislocative motion (motion towards deictic center).

DO.GO (andative-motion)

- 21 a. tá=**má**=Ø=ŋgîŋ'i jò=sàn.hòse=k^wa
VEN=AND=3.PST=go.into ART.PL.NANF=saint.jose=over here.PROX2
‘Those of San Jose went into over there.’ (txt)

Distribution of associated motion morphemes with respect to the verb

- 27 a. VEN-AND-V
 b. PTL-DEA-V
 c. PTL-VEN-V
 d. ING-ASS-CIS-V

Morphemes that modify associated motion are located next to the verbal root; above these only the morpheme of quantification and the TAMP are located.

- 28 a. $\beta\acute{a}=\emptyset=k^h\acute{t}'i$ $n\grave{a}=^?j\acute{e}za$
 CIS=3PRS=pull ART.INESP=firewood
 'he comes pulling a firewood.'
 b. $j\acute{a}=\beta a=\emptyset=?\acute{e}h\tilde{e}$ $j\grave{o}=n\grave{e}'me$
 PTL=CIS=3PRS=come ART.PL.NANF=dance
 'The dancers are coming.'
 c. $\emptyset=?\acute{e}ne=\emptyset$ $\eta g\grave{e}k^w a$ $h\acute{i}=\beta a=\emptyset=w\grave{a}y\acute{i}$ $\acute{o}=\acute{s}i't'i$
 3PRS=say=SUB for this reason LOM=CIS=3PRS=break 3POS=back
 'They say that's why he broke his back'

It is recurrent, that the proclitic that encodes TAMP occurs as a zero morpheme (\emptyset) in contexts where one or more operators are expressed; so far it is not known if there is some kind of grammatical motivation between these two features.

- 25 a. $t\acute{a}=m\acute{a}=\emptyset=\eta g\acute{t}i'j\acute{i}$ $j\grave{o}=s\grave{a}n.h\grave{o}se=k^w a$
 VEN=AND=3.PST=get.in ART.PL.NANF=Saint.José=over.there.PROX2
 'They got in over there, the people from San José.' (Txt)
 b. $j\acute{a}=he=m\grave{i}=ndz\acute{o}d\acute{i}$ $s\grave{a}$ $p\grave{e}gro,$ $m\grave{i}=ndz\acute{o}d\acute{i}=^?ja=h\nu$
 PTL=LOM=3COP=walk Saint Pedro 3COP=walk=PTL=PROX3
 'I was already walking in San Pedro, they were walking there.' (Txt)
 c. $j\acute{a}=\beta i=\emptyset=\acute{s}h\acute{i}nti.$ $j\acute{a}=m\grave{i}=\beta\acute{i}\beta i$ $m\grave{i}-m\grave{a}ma=go=?ja=mi$
 PTL=AMB=3COP=marry PTL=3COP=be 1POS-mother=1E=PTL=then
 'He had already married. My mom was still alive.' (Txt)

In this work, it is proposed that associated motion morphemes are nuclear operators. Nuclear operators have scope over the nucleus; they modify the action, the event or the state itself, without reference to the participants. The morphemes that encode associated motion are located next to the verbal root; above these is only the quantification morpheme and the TAMP morpheme.

An approach to the description of operators in Mazahua has been presented; in general, the semantic set of these grammatical morphemes corresponds to the proposal of Van Valin (2004); nevertheless, the morphemes that are enclitized on the matrix verb and denote an associated motion must be implemented in the operator projection. It is important to explore, among other things, whether morphemes of associated motion have scope only over the nucleus or also over the core.

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