

20 Applicative constructions in two Otomanguean families: Otomi and Zapotec

Abstract: This chapter describes several applicative constructions (ACs) in two Otomanguean language families, Otomi (Otopamean, Western Otomanguean) and Zapotec (Zapotecan, Eastern Otomanguean). As both families are highly diverse internally, a wide range of morphological and syntactic phenomena can be observed in their ACs. With respect to morphology, Zapotec languages tend to mark ACs via concatenative morphology, whereas Otomi makes use of cumulative exponence, stem alternations and, arguably, lexical alternations. With respect to syntax, we observe a close correlation between (non-)promotional constructions and extraction (~ wh-movement). Furthermore, applicative morphology is also found in constructions that display a promotion/non-promotion continuum, both within a single language (e.g., Northern Zapotec) and among different language varieties (e.g., Otomi languages).

1 Introduction

Otomanguean (Mexico) is the most diverse language stock in the Meso-American linguistic area (Campbell, Kaufman, and Smith-Stark 1986), containing 178 languages according to Ethnologue,¹ 181 according to Glottolog,² and 220 according to Mexico's *National Institute of Indigenous Languages* (INALI 2009). These language families (listed in Figure 1) are nowadays spoken in the states of San Luis Potosí, Guanajuato, Michoacán, Querétaro, Hidalgo, Veracruz, Puebla, Tlaxcala, Oaxaca, Guerrero, and Mexico, by approximately 2,148,000 people;³ some extinct Otomanguean languages (marked with “†” in Figure 1) were once spoken in Southern Mexico and in Costa Rica (Kaufman 1994).

Otomanguean languages are tonal (2 to 11 tonemes), and tend to have CV-type syllable structures, nasal vowels, and complex phonation types. They are fusional (some more synthetic than others), their derivational morphology is not very productive, and most (if not all) of them have inflectional classes. Otomanguean languages lack non-finite verb forms, their word order is verb-initial, and they are all head-marking (Baerman, Palancar, and Feist 2019: 3–4). The head-marking feature is illustrated in (1) below. As can be seen in (1a), the possession relation in Otomi languages is indicated in

1 <https://www.ethnologue.com/subgroups/otomanguean>

2 <https://glottolog.org/resource/languoid/id/otom1299>

3 https://site.inali.gob.mx/Micrositios/estadistica_basica/estadisticas2015/estadisticas2015.html

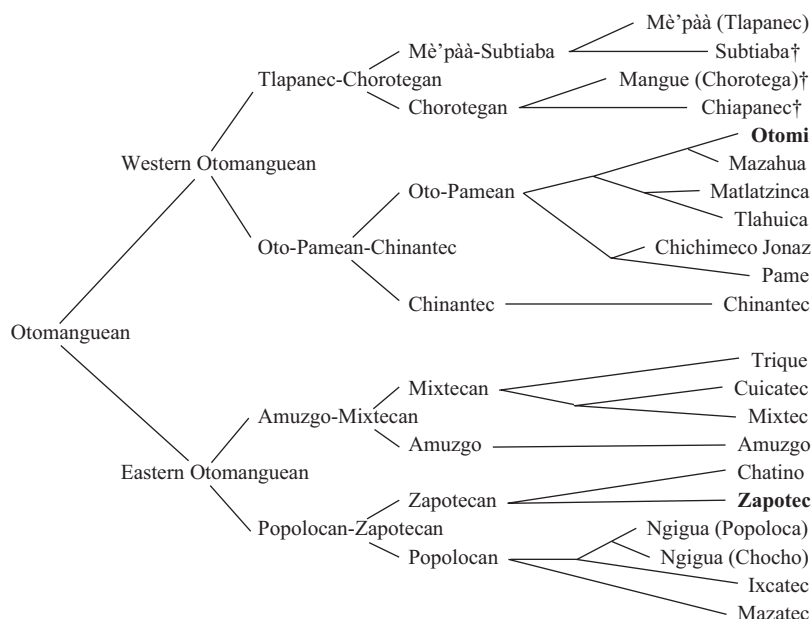


Figure 1: The Otomanguean stock (Campbell 2017).⁴

the possessum noun phrase (*kár thühü* ‘his name’) rather than in the possessor noun phrase (*kar ánima* ‘the dead person’). As for the verb, person of the subject is indicated in the preverbal inflectional formative,⁵ as in (1b), while object is encoded via an enclitic or a suffix, as in (1c) and (1d), respectively.

(1) San Felipe Otomi

- a. *da den ka=r thühü ka=r ánima*
 IRR ss\follow DET.SG.NV=**SG.3PSR** name DET.SG.NV=SG dead.person
 ‘So as the dead father’s bloodline continues.’
 (LBI 2010: Matthew 22:24)
- b. *xkí ma libre, ’bu*
2.IMM ss\go free then
 ‘You’d be free to go then.’
 (LBI 2010: John 19:10)

⁴ Please note that the branches in the diagram are Campbell’s (2017) interpretation of one of Kaufman’s non-peer reviewed manuscripts. We thank an anonymous reviewer for pointing this out to us.

⁵ Inflectional formatives are clitics, but they are written as separate words in the original source from which these examples are taken.

- c. *gege=ká i 'o'ti=bi ka i 'adi*
 3=3SG.NV IPFV make.APPL:BEN=**3IO** 3SG.NV IPFV ask.for
 'To him it will be done as he asks for.'
 (LBI 2010: James 5:16)
- d. *bi zah-pi kí ngo ku ánima*
 PFV SS|bite.APPL:BEN=**3IO** PL.NV3PSR meat DET.PL.NV dead.person
 'They (i.e. the birds) ate the corpses' flesh.'
 (LBI 2010: Revelation 19:21)

Obliques and other adjuncts are expressed either in PPs, as illustrated in (2a), in PPs headed by so-called relational nouns, as in (2b), with adverbs and bare nouns serving as locative adverbials, as shown in (2c), or via serial-verb constructions, as in (2d).⁶

- (2) a. Acazolco Otomi
ra=di=pe'=[a Márquesa]_{PP} k'a=mí mini=ga
 ICP=CL=work=**LOC** La.Marquesa DET.SG.NV=1PSR comadre=1
 'My *comadre* works in La Marquesa.'
 (Hernández-Green 2015: 48)
- b. Quiérolani Zapotec
w-nii men disa [lo noo]_{PP}
 COMPL-speak 3 language **RN:FACE** 1EXCL
 'She spoke Zapotec to me.'
 (Black 2000: 46)
- c. Chalcatongo Mixtec
ni-xá?á=Ø nundua ikú
 COMPL-go₂=3 **Oaxaca** yesterday
 'She went to Oaxaca yesterday (and has returned).'
 (Macaulay 1996: 170)
- d. Teotitlán Zapotec
ru-ta'w=an gæt ri-kā' Ánn
 HAB-sell=3SG.INFOR tortilla **HAB-get** Ana
 'S/he sells tortillas to Ana.'
 (Gutiérrez 2021: 147)

This chapter centers on applicative constructions in two language families of the Otomanguean stock (in bold in Figure 1 above): Otomi (Otopamean, Western Otomanguean) and Zapotec (Zapotecan, Eastern Otomanguean). Applicative constructions and their syntax have been described in these two families, and their morphological and semantic features are representative of the internal diversity of Otomanguean.

⁶ Glosses from some secondary sources have been modified.

As is stated in the position paper (Zúñiga and Creissels, this volume), descriptions of applicative constructions relate a base construction (BC) to an applicative construction (AC). These constructions have the following characteristics:

- (3) a. The predicates in both the BC and the AC are built upon the same root, but the one in the AC bears additional overt marking with respect to the one in the BC.
- b. The S/A participant in the BC remains S/A in the applicative construction.
- c. The AC includes an applied phrase (AppP), which refers to a participant that either requires a non-core coding different from its coding in the AC (e.g. in a PP) or cannot be expressed at all in the BC.

These relationships between the BC and the AC are illustrated in (4). The verb root is *bérék* ‘work’ in both (4a) and (4b), but in (4b) (i.e., the AC) it receives the applicative suffix *-él*, as per the characteristics in (3a) above. According to characteristic (3b), the 1st person singular remains the subject in both constructions (prefix *kí-*). Finally, as per (3c), the applicative suffix *-él* in the AC in (4b) allows the expression of the (beneficiary) AppP *kítsó* ‘Kitso’, which, crucially, cannot be expressed in the BC in (4a).

- (4) Tswana
 - a. *kí-tlàà-bérék-á* *màitsibò:á.*
 sI:1SG-FUT-work-FV evening(6)
 ‘I’ll work this evening.’
 - b. *kí-tlàà-bérék-él-à* [*kítsó*]_{AppP} *màitsibò:á.*
 sI:1SG-FUT-work-APPL-FV Kitso(1) evening(6)
 ‘I’ll work for Kitso this evening.’
 (adapted from Creissels, this volume)

In this chapter, we attempt to describe the wide range of phenomenon types that can be observed in the grammar and functions of ACs in Otomi and Zapotec languages. We think that the internal diversity of these two families is very interesting from a cross-linguistic perspective. On the one hand, with respect to morphology, Zapotec languages tend to mark ACs via concatenative morphology, whereas Otomi makes use of cumulative exponence, stems alternations, and possibly lexical alternations. On the other hand, with respect to syntax, we observe a promotion/non-promotion continuum both within a single language (Northern Zapotec) and among different language varieties (Otomi languages).

In the following sections, we describe the morphological (Section 2), syntactic (Section 3), and semantic (Section 4) features of ACs in Otomi and Zapotec languages. In Section 5 we enlist a series of constructions that are like ACs either in their form or their functions. Some final remarks are given in Section 6.

2 Morphology

ACs in Otomi and Zapotec involve a wide range of morphological phenomena. These are illustrated in the following sections separately, Otomi on one side, and Zapotec on the other.

2.1 Otomi applicative morphology

Otomi ACs are typologically unusual in their morphology, as they make extensive use of cumulative exponence and stem alternations. These two phenomena are presented in the following two sections. In addition, contrasts in verb paradigms between BCs and ACs are presented in Section 2.1.3.

2.1.1 Cumulative exponence

In Otomi-Mazahua, TAM and person morphosyntactic features are cumulatively encoded in the *inflectional formative* (cf. Palancar 2011a), a clitic that precedes the verb stem. Inflectional formatives, which are represented as prefixes by some authors (e.g. Andrews 1993; Palancar 2011b), can also fuse an applicative-like category called *registration* in Hernández-Green (2016) and *adverbial inflection* in Palancar (2017). In this chapter, we adopt the latter term to refer to this morphosyntactic category. Although adverbial inflection is not an AC in modern Otomi languages, it seems to have been one in Old Otomi (16th century).⁷ The goal applicative in Old Otomi was encoded in prefixes that also encoded grammatical person in a cumulative way: *ä-* ‘1.APPL:GOAL’ for 1st person, and *e-* ‘2/3.APPL:GOAL’ for other persons, as shown in (5).

(5) Old Otomi

- a. *ko=tä-n-ä-ë-k'ĩ*
COP=1-PRS-1.APPL:GOAL-come-2PO
‘I come to you.’
- b. *ko=kä-n-e-yë-gĩ*
COP=2-PRS-2/3.APPL:GOAL-ss\come-1PO
‘you come to me’
- c. *ko=n-e-yëhë*
COP=PRS-2/3.APPL:GOAL-ss\come
‘S/he comes to him/her.’
(Cárceres 1580/1907: 98)

⁷ In this chapter, we do not attempt to reconstruct or theorize about the historical development of ACs in the Otomi family, but we merely present data from different variants and different diachronic stages.

2.1.2 Stem/lexical alternations

Otomi languages (along with Mazahua, their sister language) have benefactive applicative verb stems that can be traced back to a valency-increasing suffix *-H in Proto-Otomi-Mazahua (cf. Bartholomew 1965: 100).⁸ Some Otomi transitive verbs alternate with applicative stems characterized by a stem medial (or final, in monosyllabic stems) glottal segment, as shown in (6) with data from Acazolco Otomi.

- (6) Acazolco Otomi
- | | | | |
|----|--|--|--------------------|
| a. | <i>óra=da</i> | <i>'yo't'i=bi=nũ=ɾ</i> | <i>cómida</i> |
| | now=IRR | SS\make.APPL:BEN=3IO=DET.SG.DIST=SG.3PSR | food |
| | 'now she'll make food for them (i.e., the farmhands)' {txt} | | |
| b. | <i>pə=xo=bi</i> | <i>t-hɛhki=bi=k'a</i> | <i>nzǎfi=a='na</i> |
| | so=so=PFV | IMPRS-release.APPL:BEN=3IO=DET.SG.NV | firearm=ENCL=QUOT |
| | 'so they say that someone discharged the firearm on him' {txt} | | |
| c. | <i>ɛtébe=di</i> | <i>ja'-k'i=a=nũ?</i> | |
| | what=IRR | do.APPL:BEN-2PO=ENCL=3SG.DIST | |
| | 'What is she going to do for you?' {txt} | | |

Other transitive verbs in Acazolco Otomi alternate with applicative stems that, although traceable back to *-H, cannot be described simply as a glottal segment. To illustrate this, consider the verb pairs in (7).

- (7) Acazolco Otomi
- | | | | |
|----|-------------|---------------|------------------|
| | base | applicative | |
| a. | <i>hǒi</i> | <i>hǒ'mbi</i> | 'take out' |
| b. | <i>hòni</i> | <i>hòndi</i> | 'look for' |
| | <i>pèni</i> | <i>pèndi</i> | 'wash (clothes)' |
| c. | <i>kúhu</i> | <i>kúnti</i> | 'bring' |

Stem alternations in Otomi also involve tone alternations. The verb stem *pǎ* 'sell' bears rising tone in the BC in (8a), but low tone *pàh* 'sell.APPL:BEN' in the AC in (8b).⁹

⁸ This suffix's reflexes also yield causative verbs in the modern Otomi and Mazahua languages, but these are dealt with in Section 5.1.

⁹ Another case of non-productive, applicative morphology involving stem alternation is found in Sochiápam Chinantec. The monotransitive stem *cué*³² 'give' alternates with the ditransitive stem *cuéh*³² 'give', as can be seen by comparing (ia) to (ib). The recipient is expressed as a PP in the former, but as a NP in the latter.

(8) Acazulco Otomi

a. *ra=pǎ*IPFV=**sell**

'S/he sells it.'

b. *ra=pǎh-pi*IPFV=**sell**.APPL:**BEN-3IO**

'S/he sells it to him/her.'

Unlike the Zapotec applicatives presented in Section 2.2.1, below, the Otomi benefactive applicative is no longer productive nowadays. The form contrasts between BCs and ACs illustrated in this section are considered as stem alternations in this chapter, as they all can be traced back to the suffix *-H, and all base/applicative pairs share the same root (i.e., the first syllable of the stem). However, such alternations have features that resemble lexical alternations comparable to intransitive/causative pairs like *die/kill* (provided that the fact is ignored that this pair does not share root): a) not all *-H reflexes result in applicative stems, as in the data in (9a); b) verbs with *-H reflex may not have a counterpart without *-H, as in (9b); and c) not all applicative alternations involve *-H reflexes, as shown in (9c).

- (9) a. *'uayi* 'break (INTR)' *'uahki* 'break (TR)' (causative)
juts'i 'pull up' *ju'ts'i* 'pull up (forcibly) (intensive)
 b. — *pě'ts'i* 'put away'
 — *ndo'ts'e* 'look at (uphill)'
 c. *pa't'i(=bi)* 'heat up (for sb.)'
xálte(=bi) 'fry (for sb.)'

Given the facts shown in (9) above, the question remains whether the alternations observed are to be described at the inflectional level (i.e., stem alternations) or at the lexical level (i.e., lexeme pairs).

- (i) a. *cué³²* *tsú² quie³ [ñi'con² jon²]_{R,PP} tsa³háu²*
 give.TR.INAN.FUT.3 3 money to child.3 tomorrow
 'S/he will give money to her/his child tomorrow.'
 b. *cuéh³²* *tsú² [jon²]_{R,NP} quie³ tsa³háu²*
 give.APPL.INAN.FUT.3 3 child.3 money tomorrow
 'S/he will give her/his child money tomorrow.'
 (Foris 1993: 370)

2.1.3 Paradigm structure of applicative verbs

In Old Otomi, the goal applicative seems to have involved less TAM distinctions than their BC counterparts. Consider the data in Table 1. On the one hand, transitive verbs (*verbo actiuo*) in the *tănă* conjugation¹⁰ are inflected in four different tenses in the indicative mood (*indicatiuo modo*), as well as in imperative (*imperatiuo modo*), optative (*optatiuo modo*), and subjunctive moods (*subjuntiui modo*; Cárceres 1580/1907: 73–78). Constructions with the goal applicative, on the other hand, are attested in only three tenses in the indicative (Cárceres 1580/1907: 98).

Table 1: Defectiveness of the goal applicative subparadigm (compared to *tănă* transitives of Old Otomi).

		Basic	APPL:GOAL
Indicative	Present	✓	✓
	Imperfect preterite	✓	
	Perfect preterite	✓	✓
	Future	✓	✓
Imperative		✓	
Optative		✓	
Subjunctive		✓	

2.2 Zapotec applicative morphology

Applicative morphology in Zapotec languages is rather agglutinative, in contrast with the Otomi data presented in Section 2.1. These morphological characteristics are described in Section 2.2.1. Section 2.2.2 shows that Zapotec ACs have verb paradigms identical to those of BCs, unlike Old Otomi (see § 2.1.3).

2.2.1 Bound morphology

All ACs reported in Zapotec languages involve distinct bound morphology in the verb, either clitics or affixes. The exponent of the recipient/benefactive applicative in Northern Zapotec is the enclitic =*d* ‘APPL:BEN’ illustrated in (10).¹¹

¹⁰ One of the two verb conjugations Cárceres (1580/1907) describes for Old Otomi; the other conjugation is called *tati*. Both conjugations are named after their inflectional formative for 1st person present.

¹¹ It is worth to notice that the applicative =*d* in Northern Zapotec may be found lexicalized as a stem formative in some verbs. For example, the stem *àkd* ‘reckon’ is formed by the root *àk* ‘happen’ plus the applicative =*d*, as illustrated below.

(10) Northern Zapotec

sh-ghe-shàb=d=tò'=nhé' *gó'n=nhá'*
 ICP-go-offer=**APPL:BEN**=1PL:EXCL=3FORM.OBJT bull=DEF
 'We were going to offer them the bulls.' {txt}

Applicative affixes are illustrated with data from Northern Zapotec in (11) and (12). The comitative suffix *-lénh* 'APPL:COM' in (11a) is cognate with the comitative relational noun *lénh* 'PREP:with' in (11b).¹² The instrumental suffix *-é* 'APPL:INSTR' in Northern Zapotec must co-occur with the applicative =*d* in transitive stems, as is shown in (12).

(11) Northern Zapotec

- a. *sh-yêgh-lénh=á'=nhé'...*
 IRR-leave.for.origo-**APPL:COM**=1SG.NOM=3FORM.OBJT
 'I will go back with her/him...'
 b. *sh-yêgh=á' lénh bí'=nhá'*
 IRR-leave.for.origo=1SG.NOM **PREP:with** CLF.PRO:INFOR=DEF
 'I will go back with them (her/him).'

(12) Northern Zapotec

w-dxíxé-é+d=é'=nh *yính' yà'à=nhá'*
 IRR-measure-**APPL:INSTR[TR]**=3FORM.NOM=3INAN chili green=DEF
 'She would weigh the green chili peppers with that (i.e., the scale).'

Some applicative affixes are traceable back to adpositions, and ultimately to content words such as nouns or verbs. The instrumental suffix *-lénh* of Northern Zapotec is an incorporated form of the preposition *lénh* 'with', which in turn derived from the verb *lénh* 'join' (López Nicolás 2016: 162, 349).

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- (ii) *dx-àk+d=á' bèò' jùnìoh=nhá'*
 ICP-reckon=1SG.NOM month june=DEF
 'I reckon it was in the month of June.' {txt}

¹² Some authors analyze such cases as preposition incorporation. In Zenzontepec Chatino, for instance, "[t]he applicative is coded on the verb by the incorporation of the relational noun *lóʔō* 'with', which otherwise typically flags comitative and instrument NPs" (Campbell 2015: 1417).

- (iii) a. *tz-aa=na nakwɛ=ũ'*
 POT-go=1PL.INCL say=3PL
 '“Let's go”, they said.'
 b. *tz-a+lóʔō nāá? kichi*
 POT-go+RN:with 1SG quern
 'I will take (lit. go with) a quern.' (Campbell 2015: 1417)

Nevertheless, in this chapter we regard the Chatino incorporation as a case of affixation.

2.2.2 Paradigm structure of applicative verbs

The paradigm structure of verbs in Zapotec ACs is the same as that of their corresponding BCs. This is illustrated with the basic verb paradigm of Northern Zapotec in (13) and (14), which consists of a completive form in the a-examples, an incomplete form in the b-examples, and an irrealis form in the c-examples. This structure remains the same with the applicative stems, as can be seen in Examples a', b' and c'.

(13) Northern Zapotec: *shàb* 'offer'

- | | | | |
|----|-----------------------------|-----|--|
| a. | <i>b-shàb</i> 'COMPL-offer' | a'. | <i>b-shàb=d</i> 'COMPL-offer=APPL:BEN' |
| b. | <i>t-shàb</i> 'ICP-offer' | b'. | <i>t-shàb=d</i> 'ICP-offer=APPL:BEN' |
| c. | <i>w-shàb</i> 'IRR-offer' | c'. | <i>w-shàb=d</i> 'IRR-offer=APPL:BEN' |

(14) Northern Zapotec: *chòg* 'cut'

- | | | | |
|----|---------------------------|-----|--|
| a. | <i>b-chòg</i> 'COMPL-cut' | a'. | <i>b-chòg-é+d</i> 'COMPL-cut-APPL:INSTR[TR]' |
| b. | <i>sh-chòg</i> 'ICP-cut' | b'. | <i>sh-chòg-é+d</i> 'ICP-cut-APPL:INSTR[TR]' |
| c. | <i>chòg</i> 'IRR.cut' | c'. | <i>chòg-é+d</i> 'IRR.cut-APPL:INSTR[TR]' |

2.3 Summary

The data presented in this section shows how morphologically diverse ACs can be. On the one hand, Otomi applicative morphology is mostly non-concatenative (i.e., cumulative exponence, stem alternations) or lexical (i.e., lexeme alternations). Old Otomi ACs also seem to have presented a reduced inflectional paradigm compared to that of BCs. Zapotec ACs, on the other hand, are canonically agglutinative, and their inflectional paradigms are identical to those of BCs. Thus, it can be argued that Zapotec and Otomi ACs cover many morphological types among those that can be expected crosslinguistically.

3 Syntax

Some syntactic properties of AppPs and ACs in Otomi and Northern Zapotec are presented separately in Section 3.1 and Section 3.2, respectively. The syntactic status of AppPs with respect of their corresponding expression in BCs is presented first, and then the interactions of ACs with valency of the base verb and with other valency-changing constructions are presented second. Some Otomi-particular idiosyncrasies of the expression of POs in ACs are shown in Section 3.1.3. Finally, in Section 3.2.3, dedicated to Zapotec syntax, we discuss some constructions where the access of adjuncts to extraction operations is only possible if they are applied.

3.1 Otomi applicative syntax

3.1.1 Syntactic status of the AppP

The Otomi benefactive is an obligatory AC, i.e., it is the only non-periphrastic strategy the language has to express a recipient/beneficiary participant, and therefore such participant cannot be expressed in the BC. The beneficiary AppP has the status of an object, whose key morphosyntactic feature is the encoding via person suffixes in transitive verbs. Consider the monotransitive examples from Acazolco Otomi in (15a) and (15b), where the 1st and 2nd person patient is encoded in the person suffixes; 3rd person patients are seldom overtly encoded, as can be seen in (15c). The same verb root with the applicative stem alternation in (15a') and (15b') receives the same person suffixes,¹³ which this time refer to the recipient; 3rd person recipient/beneficiaries are cross-referenced by the suffix *bi* '3IO' in most cases.¹⁴

(15) Acazolco Otomi

monotransitive		applied R/BEN	
a.	<i>bi=mbǎ-gi</i>	a'.	<i>bi=mbǎh-ki</i>
	PFV=SS\sell-1PO		PFV=SS\sell.APPL:BEN-1PO
	's/he sold me'		's/he sold it to me'
b.	<i>bi=mbǎ-k'i</i>	b'.	<i>bi=mbǎ'-k'i</i>
	PFV=SS\sell-2PO		PFV=SS\sell.APPL:BEN-2PO
	's/he sold you'		's/he sold it to you'
c.	<i>bi=mbǎ</i>	c'.	<i>bi=mbǎh-pi</i>
	PFV=SS\sell		PFV=SS\sell.APPL:BEN-3IO
	's/he sold him/her/it'		's/he sold it to him/her'

Other Otomian languages have similar constructions to those in (15a'-c'), although the exact status of the recipient/beneficiary object is analyzed in different ways. For example, it has been analyzed as primary object (PO) in Acazolco Otomi (Hernández-Green 2016) and in Tlahuica (Martínez Ortega 2016), while it is analyzed as indirect object in Querétaro Otomi (Palancar 2009) and in Mazahua (Knapp 2008; Mora-Bustos 2019: 520, among others).

AppPs licensed via the goal applicative seem to have been objects in 16th century Old Otomi (OO) as well, as they could also be cross-referenced via person suffixes. An

¹³ The person suffixes *-gi* '1PO' and *-bi* '3IO' have the allomorphs *-ki* and *-pi* after voiceless segments, respectively; reflexes of *-H are /'/(= glottal stop) before glottalized stops/affricates.

¹⁴ As Hernández-Green (2022) shows for San Felipe Otomi, the object-marking pattern for 1st and 2nd person is secundative, whereas the pattern for 3rd person is indirective. The cases where a 3rd person object is overtly encoded by the suffix *-bi* '3IO' are discussed in Section 3.3.

example of this is shown in (16). However, the frequency in day-to-day language use and obligatoriness of such constructions remains unknown.

- (16) Old Otomi
ko=kä-n-e-yě-gi
 COP=2-PRS-2/3.APPL:GOAL-SS\come-1PO
 'you come to me'
 (Cárceres 1580/1907: 98)

In modern Otomi languages, adverbial inflection cognate with the goal applicative illustrated above in (16) does not promote adjunct phrases the way OO used to, as we will show in Section 5.1.

3.1.2 ACs and valency in Otomi

In this section we discuss some interactions between ACs and valency in Otomi. On the one hand, ACs may be restricted to verbs with certain valency, while others may not have such restrictions. On the other hand, some valency-changing processes (causative, reflexive, and the like) may co-occur with some ACs, but not with others. This subsection does not contain examples of the Old Otomi goal applicative, as it is only attested with the monovalent verb *ěhě* 'come' in the available data in Cárceres (1580/1907).

The Otomi benefactive applicative is restricted to bivalent and trivalent verb stems, as is shown in (17), (18), and (19) below. The bivalent verb *'ot'i* 'make' in (17a) can occur in benefactive ACs as in (17b). Similarly, the trivalent verb *xit'i* 'pour (liquid in recipient)' illustrated in (18a) receives a fourth beneficiary participant in the AC in (18b). In contrast, the monovalent verb *'uayi* 'break' shown in (19a) does not acquire a second, beneficiary-type participant with the stem-medial segment /h/, but a causer agent, as can be seen in (19b).

- (17) Acapulco Otomi
- a. *ja=da* *'yot=k'a=ch* *cómda*
 and=IRR ss\make=DET.SG.NV=DIM food
 'And she used to cook food.' {txt}
- b. *óra=da* *'yo't'i=bi=nũ=í* *cómda*
 now=IRR ss\make.APPL:BEN=3IO=DET.SG.DIST=SG.3PSR food
 'Now she's going to cook them their food.' {txt}
- (18) Acapulco Otomi
- a. *da=xit=k'a* *téhe=k'a* *gásila*
 IRR=pour=DET.SG.NV water=DET.SG.NV pan
 'She would pour the water in the pan.' {txt}

- b. *da=xi't'i=bi=ř* *gásila*
 IRR=pour.APPL:BEN=3IO=SG.3PSR pan
 'S/he would pour it in their pan for them.'

(19) Acazulco Otomi

- a. *bi='uayi*
 PFV=break
 'It broke.'
 b. *bi='uahki*
 PFV=break
 'S/he broke it.'
 (Not: 'It broke for/despite someone.')

Intransitive/causative verb pairs involving the same stem alternant process as the one found in benefactive ACs of Otomi (both reflexes of the valency-increasing suffix *-H of Proto-Otomi-Mazahua; Bartholomew 1965: 100) are discussed in Section 5.1.

Otomi ACs are observed to interact with reflexive-reciprocal constructions.¹⁵ The benefactive applicative of Otomi does not seem to have restrictions to combine with reflexive-reciprocal constructions; we do not have enough data from Old Otomi to assess interactions between the goal applicative and such constructions. The following examples show the Otomi middle marker N- (see Palancar 2006), which has middle, antipassive, reflexive, and reciprocal functions, co-occurring with the benefactive applicative. The monotransitive stem '*úni* 'give away' in Acazulco Otomi in (20a) alternates with the applicative (ditransitive) stem '*úndi* 'give' in (20b); the latter can receive the middle prefix N- (allomorph *nch-* before glottals) in the reciprocal construction in (20c).

(20) Acazulco Otomi

- a. *bi='úni*
 PFV=give.away
 'S/he gave it (away).'
 b. *bi='úndi(=bi)*
 PFV=give.APPL:BEN=3IO
 'S/he gave it to him/her.'
 c. *bi=nch-'úndi*
 PFV=MID-give.APPL:BEN
 'They gave it to each other.'

Lastly, Otomi languages have an impersonal voice contrast that suppresses the agent in the verb that is used for topical patients without promoting them to subject (see

¹⁵ No such interactions are possible in Northern Zapotec.

Hernández-Green 2018).¹⁶ This agent-suppressing construction can co-occur with the benefactive applicative construction, as is illustrated in (21). In this example, the applicative exponent is the alternate ditransitive stem *tam* of the monotransitive stem *tai* ‘buy’; the impersonal passive is marked by the aspiration of the initial consonant /t/.

(21) Eastern Highlands Otomi

- a. *xón=dón-xǎ't'ǎ=’a=rá* *pahni=’a=zí*
 STA=flower-cactus=DET.SG.NV=SG.3PSR shirt=DET.SG.NV=DIM
hmute=bi tam-bi
 girl=PFV IMPRS\buy.APPL:BEN-3IO
 ‘The blouse that was bought for the girl is cactus-flower pink.’
 (Voigtlander, Echegoyen, and Bartholomew, ms.)

3.1.3 The morphological expression of beneficiary AppPs in Otomi

The overt encoding of 3rd person objects in Otomi—which we mentioned in passing in § 3.1.1—is at least partially determined by the basic-applied distinction. This distinction is not entirely straightforward, and it is described in the following paragraphs.

In general, basic 3rd person objects tend to be unmarked, while applied 3rd person objects tend to be encoded in the verb via the suffix *-bi* ‘3IO’ (or its clitic alternate form *=bi*). These tendencies are based on the number of lexemes that follow one pattern or the other, from which very few verbs deviate. For example, only one monotransitive verb has been identified in Acazulco Otomi that admits, and even requires, the 3rd person marker, as illustrated in (22). In this example, the object NP in brackets is cross-referenced in the verb by the enclitic *=bi* ‘3IO’.

(22) Acazulco Otomi

- dí=’mbá’t’i=bi* *[gá’tho=na hnĩhni]_o*
 1.PFV=go.around=3IO all=DET.SG.PROX village
 ‘We went around this village’ {txt}

Labile verbs that are either monotransitive or ditransitive, such as *’énā* ‘say’ and *’adi* ‘ask (for)’ are rare in Acazulco Otomi, and they take the 3rd person marker only in dit-

¹⁶ Northern Zapotec lacks such morphological strategy. Agent suppressing in this language is achieved by using the 3rd person formal pronoun in the subject position, plus a suffix that indicates 3rd person plural subject, as illustrated in the example below. The out-of-context interpretation of this example is ambiguous between an impersonal and a definite 3rd person plural agent.

- (v) *b-s+²-òt=łhát=é’* *béné=dáo’=nhà’*
 COMPL-PL.3S-beat=ADV=3FORM.NOM person=AFF=DEF
 ‘They/someone beat that person.’ {txt}

ransitive uses. The monotransitive construction with the verb *'adi* 'ask (for)' in (23a) does not admit the suffix *-bi* '3IO', but the ditransitive construction in (23b) requires it.

(23) Acazolco Otomi

- a. *da=yá=k'a=í* *ólla*
 IRR=SS\ask.for=DET.SG.NV=SG.3PSR saucepan
 'They ask for their (corresponding) saucepan (full of *mole*).' {txt}
- b. *nuxu nt'a, bi=t-'ah-p=rú* *cúbeta*
 CONTR one PFV=IMPRS-ask.for-3IO=DET.SG.DIST bucket
 'As for the other one, they asked him for the bucket.' {txt}

Acazolco Otomi has only a few basic ditransitive verbs (*xifi* 'tell', *'andi* 'ask', *héhte* 'put [clothes] on [sb.]', *tühti* 'load [burden] on [sb.]', *xit'i* 'pour [liquid in recipient]', *kõts'i* 'daub [substance] on [surface]'), none of which has been attested to receive the 3rd person marker in a 12-hour corpus. Consider the ditransitive constructions in (24) without suffix *bi* '3IO'.

(24) Acazolco Otomi

- a. *da=xit=[k'a téhe]_T=[k'a gásila]_{Goal}*
 IRR=pour=DET.SG.NV water=DET.SG.NV pan
 'She would pour the water in the pan.' {txt}
- b. *ja='yand-ui=[na mbehtsi=a]_R*
 and=SS\ask-2PL=DET.SG.PROX boy=ENCL
ljáma méro mjóni ko=ra nde=na xühtsi=a]_T
 whether precisely really FOC=IPFV want=DET.SG.PROX girl=ENCL
 'Ask this young man whether he really wants this young woman.' {txt}

In contrast with basic monotransitives and ditransitives, where the overt expression of the 3rd person object in the verb is very infrequent, the vast majority of applied ditransitives require the 3rd person marker to cross-reference the recipient/beneficiary. The 3rd person marker is optional for only three derived ditransitive verbs, listed in (25) below. Examples (26a) and (26b) illustrate the applied verb *'úndi* 'give.APPL:BEN' with and without the 3rd person object marker, respectively.

(25) Acazolco Otomi

- | | |
|-------------------------|------------------------------------|
| monotransitive | applicative |
| <i>'úni</i> 'give away' | <i>'úndi(=bi)</i> 'give (to sb.)' |
| <i>'údi</i> 'show' | <i>'úhti(=bi)</i> 'show (to sb.)' |
| <i>jüt'i</i> 'pay' | <i>jüt't'i(=bi)</i> 'pay (to sb.)' |

(26) Acazolco Otomi

- a. *ʒtɛbɛ' = k'a gidi = 'úndi = bi m-t'ǎ?*
 what=3SG.NV 2.IRR=give.APPL:BEN=3IO other-one
 'What else are you going to give them?' {txt}
- b. *xo = gidi = 'únd-ga*
 so=1.IRR=give.APPL:BEN-1
 'So, I used to give that (i.e., nourishment) to them (i.e., my children).' {txt}

Table 2 below summarizes the conditions in which 3rd person objects are overtly encoded in the verb in Acazolco Otomi. In general, the 3rd person marker is ungrammatical in monotransitives and basic ditransitives, except for three lexemes (numbers “1” and “2” in parentheses). In contrast, applied ditransitives tend to encode the 3rd person recipient/beneficiary overtly, except for three verbs (number “3” in parentheses) where its expression is optional.

Table 2: Overt expression of 3rd person object per valency types in Acazolco Otomi.

	Obligatory	Optional	Ungrammatical
Monotransitive	(1)		✓
Basic ditransitive	(2)		✓
Applied ditransitive	✓	(3)	

Tendencies like those shown in Table 2 are also observed in other Otomi languages, such as Eastern Highlands Otomi. In this language, (di)transitive verbs are classified into two groups: “direct/indirect complement” (*complemento directo/indirecto*), where 3rd person objects remain unmarked, and “benefactive complement” (*complemento benefactivo*), where it is marked in most (if not all) cases (Voigtlander and Echegoyen 1985: 170–198). All verbs in the latter group present reflexes of Proto-Otomi-Mazahua *-H, which is associated to applicative morphology in Acazolco Otomi (see § 2.1.2).

3.2 Zapotec applicative syntax

3.2.1 Syntactic status of the AppP

The Zapotec comitative AC optionally alternates with a BC where the comitative participant is introduced by the preposition *lénh* ‘with’, illustrated in (27). Northern Zapotec POs have four morphosyntactic properties that comitative AppPs acquire once they are promoted via the suffixation of *-lénh* ‘APPL:COM’, as shown in (28). The AppP *dà’ Ísídòrònhà’* ‘the late Isidoro’ in (28a) is a non-oblique phrase that immediately follows the subject (in this case, the enclitic =á’ ‘1SG’); these are two of the key properties of POs.

The possibility of the AppP being pronominalized by an object pronoun is illustrated in (28b). Finally, the construction in (28c) shows the possibility of the AppP being fronted to the preverbal position without the need of an *in situ* resumptive pronoun—another property of POs. Example (29a) shows the occurrence of a resumptive pronoun when S/A is fronted; the absence of this pronoun in this syntactic context results in ungrammaticality, as in (29b).

(27) Northern Zapotec

y-íde=òʔ [*lhénh* *nhàdàʔ*]_{PP}
IRR-come=2SG PREP:with 1SG
'You're coming with me.' {txt}

(28) Northern Zapotec

- a. *b-ey+zàʔ-lhénh=áʔ* [*dàʔ* *Ísidôrò=nhàʔ*]_{AppP}
COMPL-leave.for.origo-APPL:COM=1SG.NOM dead Isidoro=DEF
'I went back with the late Isidoro.' {txt}
- b. *sh-yêgh-lhénh=áʔ=[nhéʔ]*_{AppP} *we-òtèʔ* *zhîlh=nhàʔ*
ICP-go-APPL:COM=1SG.NOM=3FORM.OBJT NMLZ-sell comal=DEF
'I was going with her to sell *comales*.' {txt}
- c. [*bíʔ=nhàʔ*]_{AppP} *go-àt-lhénh=éʔ=X*
CLF.PRO:INFOR=FOC COMPL-die-APPL:COM=3FORM.NOM=EVID
'WITH IT (i.e., the baby) did she die, indeed.' {txt}

(29) Northern Zapotec

- a. *nhètòʔ=nhàʔ* *ba=dxìʔ=tòʔ*
1PL.EXCL=FOC TERM=be.seated=1PL.EXCL
'WE were already seated' {txt}
- b. * *nhètòʔ=nhàʔ* *ba=dxìʔ*
1PL.EXCL=FOC TERM=be.seated
Intended meaning: 'WE were already seated'

Lastly, Northern Zapotec has an optional recipient/benefactive applicative marked with the clitic =*d* 'APPL:BEN'. AppPs in this AC acquire all the object morphosyntactic properties illustrated in (28) above. Only the pronominalization of the recipient AppP via an object pronoun (=ndàʔ '1SG.OBJT') is illustrated in (30a). The corresponding BC, where the source participant is introduced by a relational noun, is given in (30b).

(30) Northern Zapotec

- a. *t-shàb=d=báʔ=ndàʔ* *shkwé* *góʔn*
ICP-offer=APPL:BEN=3INFOR=1SG.OBJT pair bull
'He's offering me a couple of bulls.' {txt}

- b. *shêgh-nàb=sházé=òʔ=b lhàò bínhàʔ*
 IRR.go-ask.for=ADV=2SG=3AN **RN:to** CLF.PRO:INFOR
 ‘You’ll have to go ask him (for the bulls).’

3.2.2 ACs and valency in Zapotec

In Northern Zapotec, applicative morphology occurs more frequently with mono- and bivalent predicates. However, trivalent predicates can occasionally be seen taking applicatives, as illustrated in (31). The trivalent predicate in (31a) can take the comitative applicative *-lénh* ‘APPL:COM’, as can be seen in (31b).

(31) Northern Zapotec

- a. *sh-yèb [_]_{CS} chìxh=òʔ=nhàʔ xhògh*
 ICP-spread PF.tortilla=PSR2SG=DEF hot.sauce
 ‘You spread hot sauce on your tortilla.’ {txt}
- b. *sh-yèb-lénh=òʔ=báʔ chìxh=òʔ=nhàʔ xhògh*
 ICP-spread-**APPL:COM**=2SG=3INFOR PF.tortilla=PSR2SG=DEF hot.sauce
 ‘You and he/she spread hot sauce on your tortilla.’

The low frequency of trivalent predicates with applicatives is probably because most underived predicates in Zapotec languages are monovalent, only a few are bivalent, and far fewer are trivalent.

In addition, Northern Zapotec has a causative construction that can co-occur with both the comitative and the recipient/benefactive applicatives. Only the former is illustrated here. The Northern Zapotec prefix *g^w-* ‘CAUS’ in (32a) introduces a causer to the bivalent stem *èʔègh* ‘drink’. In (32b), a causer and a concomitant agent are introduced by the causative prefix *g^w-* and the comitative applicative *-lénh*, respectively.

(32) Northern Zapotec

- a. *bitò b-lhéʔy+d=àʔ shí z-íde-g^w-èʔègh=báʔ=b nhis=nhàʔ*
 NEG COMPL-see=1SG.NOM SUB PRF-come-**CAUS**-drink=3INFOR=3AN water=DEF
 ‘I didn’t see that he came to make them (i.e., the bulls) drink water.’ {txt}
- b. *z-íde-g^w-èʔègh-lénh=báʔ=nhéʔ=b nhis=nhàʔ*
 PRF-come-**CAUS**-drink-**APPL:COM**=3INFOR=3FORM.OBJT=3AN water=DEF
 ‘He came with him to make them drink water.’

3.2.3 Applicative-conditioned constructions

Both Northern Zapotec ACs from in Section 3.2.2 are described as optional. As it turns out, those optional ACs are only so in simple clauses, but they are obligatory in most

adjunct *extraction* constructions (i.e., interrogation, relativization, focalization, where a phrase is said to be fronted, or dislocated to the left, to a preverbal position)¹⁷ and with high-topicality adjuncts (see Peterson 2007: 83, 159). In other words, most adjuncts have access to such constructions only if they are applied. In the following paragraphs, we provide examples of ACs allowing for the extraction of adjuncts in Northern Zapotec.

One example of interrogated adjunct is shown in (33) below. The interrogated comitative in the Northern Zapotec example in (33a) requires the applicative suffix in the verb, otherwise the construction is ungrammatical, as shown in (33b), and (33c) with the comitative adjunct introduced by the comitative preposition.

(33) Northern Zapotec

- a. *nhõ=nhà' shêgh-lhénh=ò'*
 who=FOC IRR.go-**APPL:COM**=2SG
 'Who are you going with?' {txt}
- b. **nhõ=nhà' shêgh=ò'*
 who=FOC IRR.go=2SG
Intended meaning: 'Who are you going with?'
- c. **lhénh nhõ=nhà' shêgh=ò'*
PREP:with who=FOC IRR.go=2SG
Intended meaning: 'Who are you going with?'

Relativization of adjuncts is illustrated in (34). Maleficiary relativization requires the use of the applicative =*d* in Northern Zapotec in (34a); the same construction without the applicative, as in (34b), is ungrammatical.

(34) Northern Zapotec

- a. *béné=nhà' [nhó=nhà' b-k^wàshè'=d=á'*
 person=DEF PRO.REL=FOC COMPL-hide=**APPL:BEN**=1SG.NOM
mêdxoh=nhà']_{RC}
 money=DEF
 'The person from whom I hid the money.'
- b. **béné=nhà' nhó=nhà' b-k^wàshé'=á' mêdxoh=nhà'*
 person=DEF PRO.REL=FOC COMPL-hide=1SG.NOM money=DEF
Intended meaning: 'The person from whom I hid the money.'

As for focalization, consider the Northern Zapotec example in (35a), where the suffix *-lhénh* 'APPL:COM' is used to put the comitative phrase *dà' táwánhà'* 'my late grandmother' in focus. The absence of the applicative enclitic results in an ungrammatical

¹⁷ Extraction seems to involve what generative approaches describe as *wh-movement* (see Carnie 2013: 362).

construction, as in (35b), even with the preposition *lhénh* ‘with’ heading the comitative phrase, as in (35c).¹⁸

(35) Northern Zapotec

- a. *dà’ táó=á=nhá’ dx-òtè’-lhénh=á’ zhilh=nhà’*
 dead PF.grandmother=PSR.1SG=FOC ICP-sell-**APPL:COM**=1SG.NOM *comal*=DEF
 ‘WITH MY LATE GRANDMOTHER I used to sell *comales*.’ {txt}
- b. **dà’ táó=á=nhá’ dx-òtè’=á’ zhilh=nhà’*
 dead PF.grandmother=PSR.1SG=FOC ICP-sell=1SG.NOM *comal*=DEF
Intended meaning: ‘WITH MY LATE GRANDMOTHER I used to sell *comales*.’
- c. **lhénh dà’ táó=á=nhá’ dx-òtè’=á’ zhilh=nhà’*
PREP:with dead PF.grandmother=PSR.1SG=FOC ICP-sell=1SG.NOM *comal*=DEF
Intended meaning: ‘WITH MY LATE GRANDMOTHER I used to sell *comales*.’

3.3 Summary

In this section we have illustrated the (primary) object status AppPs acquire in ACs in Otomi and Northern Zapotec. In the case of Zapotec, object morphosyntactic properties include both coding and behavior-and-control properties (see Givón 2001: 175–178), while Otomi primary objects can be identified by only one coding property (i.e., person suffixes). As for obligatoriness, while the Otomi benefactive AC is obligatory, both the comitative and the benefactive ACs in Northern Zapotec are optional (in simple clauses; see below for details).

We also have discussed the interactions of ACs with the valency of the base verb, as well as with valency-changing constructions. The possible co-occurrences of the Northern Zapotec and Otomi ACs with predicates with a certain valency and valency-changing constructions are summarized in Table 3 below. The symbol “✓” indicates the possibility of the combination of the constructions and categories that intersect in each cell. The

¹⁸ Many examples of AC in works about other Otomanguean languages contain an extracted adjunct. Consider the examples from Peñoles Mixtec (Otomanguean > Mixtecan) and Temalacayuca Popoloca (Otomanguean > Popolocan) in (via) and (vib), respectively, where the applicative markers and fronted adjuncts have been put in bold.

- (vi) a. *ni-ki-xi ña¹dĩⁱ23* [*ni³-x-e²nde²-ndĩⁱ23=n* *tĩ³kwe²³*]_{RC}
 COMPL-R-come **woman** COMPL-R-pick-**APPL:COM**=2SG orange
 ‘the woman you picked the orange with came.’
 (Ramírez Pérez 2014: 67–68)
- b. *mé’è rĩ-t-jĩ-xĩ níjái*
that PROG-HAB-go.A1-**APPL:INSTR** thither
 ‘That’s why I’m going there.’
 (adapted from Nakamoto 2017: 129)

shaded cells indicate that the valency-changing construction from the first column is not found in the language.

Table 3: Co-occurring constructions in Northern Zapotec and Otomi.

	Northern Zapotec		Otomi	
	REC/BEN	COM	BEN	GOAL
monovalent		✓		✓
bivalent	✓	✓	✓	?
trivalent	✓	✓	✓	?
reflexive-reciprocal			✓	?
impersonal passive			✓	?
causative	✓	✓		

Apart from certain valency-changing constructions not being found in both languages, there are some interesting differences between the two. First, the Otomi benefactive AC co-occurs with all the valency-changing constructions that were investigated, while the Northern Zapotec ACs are more restricted. Second, some semantic motivations may lie beneath these restrictions in Northern Zapotec: while events that combine comitative and reflexive do not seem to make much sense, comitative and reciprocal semantics may be conceived so close to each other that their co-occurrence may be deemed redundant.

We also have shown the special morphological expression that 3rd person applied POs have in Otomi ACs (mostly encoded by the object marker *-bi* ‘3OBJ’) with respect to BCs (left unmarked in most cases). Finally, we have presented examples of the obligatoriness of applicative morphology in the verb in Northern Zapotec when optionally applicable adjuncts are extracted (i.e., interrogated, relativized, or focalized pre-verbally).

4 Semantics

This section deals with the semantic properties of AppPs in Northern Zapotec and in Otomi. Section 4.1 and Section 4.2.1 review the semantic types AppPs cover in Otomi and in Northern Zapotec, respectively. The interplay of ACs with propositional semantics (in Sothern Zapotec) is briefly presented in Section 4.2.2.

4.1 Semantic roles in Otomi ACs

All Otomi ACs are semantically dedicated, i.e., they apply semantically homogeneous paradigms of adjuncts. For instance, all the attested examples of Old Otomi ACs seem to

be dedicated for coding goal-like participants as primary objects. One of such examples is shown in (36).

- (36) Old Otomi
ko=kä-n-e-yě-gi
 COP=2-PRS-2/3.APPL:GOAL-SS\come-1PO
 ‘You come to me.’
 (Cárceres 1580/1907: 98)

Otomi (recipient)/benefactive ACs are dedicated to dative-like AppPs, among which several closely-related semantic subtypes can be identified. In Acazolco Otomi, the benefactive AC applies recipient/beneficiary participants, including semantically (and/or typologically) related roles such as maleficiaries, sources, and causees/manipulees. One example of each is provided in (37a–e), respectively. The applied participant is often coded as possessor of the T(heme) phrase in an external possessor construction (Payne and Barshi 1999: 3), as in (37c) with the clitic =í ‘PL.3PSR’.

- (37) Acazolco Otomi
- a. *dádi=gü't'i=bi=ga='mbe=nü*
 1.HAB=SS\pay.APPL:BEN=3IO=1=PL.EXCL=3SG.DIST
 ‘We used to pay her.’ {txt}
 - b. *tébe'=k'a=xo=ndádi* *ta't'i=bi=ga*
 what=3SG.NV=ever=1.HAB find.APPL:BEN=3IO=1
 ‘Whatever I found for him.’ {txt}
 - c. *porque=ngi* *'mbēh-p=k'u=í* *ndóni='na*
 because=PST.IRR IMPRS\steal.APPL:BEN-3IO=DET.PL.NV=PL.3PSR COW=QUOT
 ‘Because his cattle were going to be stolen (from him).’ {txt}
 - d. *hóndi=k'u* *zétu='na* *k'u=álaja*
 take.APPL:BEN=DET.PL.NV cloth=QUOT DET.PL.NV=jewel
 ‘They took the clothes and jewelry away from them.’ {txt}
 - e. *jón=gu* *hehki=bi=ga=gwa=du* *kúhu*
 nobody=1.IRR release.APPL:BEN=3IO=1=LOC.PROX=IRR.VEN enter.hither
 ‘I will not let anybody enter here.’ {txt}

4.2 Zapotec ACs

4.2.1 Semantic roles

Northern Zapotec’s comitative AC, as its name suggests, is dedicated for AppPs in the role of companion. Example (38) illustrates this dedicated comitative AC, encoded by the suffix *-lénh* ‘APPL:COM’ (cf. *lénh* ‘PREP:with; join’).

(38) Northern Zapotec

kátèʔ b-s-ey+lháʔ-lhéñh=éʔ=[nhéʔ]_{com}

ADV COMPL-PL.3S-return.to.origo-**APPL:COM**=3FORM.NOM=3FORM.OBJT

‘When they came back (to their village) with him.’ {txt}

As for the recipient/benefactive AC of Northern Zapotec, a dedicated AC involving the clitic =*d* ‘APPL:BEN’, it applies participants with roles of recipient (39a), source (39b), and maleficiary (39c); as for the maleficiary, this reading is given by pragmatic inference from the participant’s affected interests in the event.

(39) Northern Zapotec

a. *t-shàb=d=báʔ=[ndàʔ]_R shkʷé góʔn*

ICP-offer=**APPL:BEN**=3INFOR=1SG.OBJT pair bull

‘He’s offering me a couple of bulls.’ {txt}

b. *[léʔ=nhàʔ]_S sh-yêgh-nàb=d=tòʔ yà=káʔ*

3FORM=FOC ICP-go-borrow=**APPL:BEN**=1PL.EXCL firearm=PL:DIST

‘It WAS HIM we were going to borrow the guns from.’ {txt}

c. *b-kʷàshèʔ=d=òʔ=[báʔ]_M mēdxoh=nhàʔ*

COMPL-hide=**APPL:BEN**=2SG=3INFOR money=DEF

‘You hid the money from him/her.’

4.2.2 Interplay of ACs with meaning

No AC in Northern Zapotec (nor in Otomi) have been reported to modify the propositional interpretation with respect to BCs beyond the addition of one participant. However, one case of interplay between an AC and semantics is observed in Southern Zapotec. This language has a comitative applicative construction that adds a concomitant subject to monovalent predicates (Vásquez 2016: 153). The exponent of this AC is the suffix *-niě* ‘APPL:COM’. Consider the contrast between the one-argument event in (40a) with the two-argument event in (40b) with the comitative suffix (in bold). The latter construction allows both a comitative interpretation (number 1) and an affected-concomitant interpretation (number 2).¹⁹

(40) Southern Zapotec

a. *lè xèy g-uéy*

SF man COMPL-go

‘The man left.’

¹⁹ This ambiguity (or perhaps rather, vagueness) seems to be pervasive in comitative constructions, regardless of the possible involvement of applicative marking (Denis Creissels, p.c.).

- b. *lè xěy g-uèy-nié Míngw ló dzí'n*
 SF man COMPL-go-APPL:COM Domingo RN:face work
 1. 'The man went to work with Domingo.'
 2. 'The man took Domingo to work.'
 (Vásquez 2016: 154)

4.3 Summary

Table 4 below summarizes the semantic roles associated (indicated with ✓) with each AC in Northern Zapotec and in Acazulco Otomi. The first column contains general role-types, and more specific role-types are listed in the second column.

Table 4: Semantic roles applied by each AC in Acazulco Otomi and Northern Zapotec.

		Otomi		Northern Zapotec	
		BEN	GOAL	REC/BEN	COM
a. Dative-like	Recipient	✓		✓	
	Maleficiary	✓		✓	
	Source	✓		✓	
	Beneficiary	✓			
	Causee/manipulee	✓			
b. Comitative					✓
c. Goal			✓		

Table 4 shows that applicatives in both languages follow the typological trend of having at least a benefactive and/or a comitative AC (along with instrumental ACs as well; Zúñiga and Creissels, this volume). Applicativization of locative relations (row "Goal") is only found in Old Otomi.

In this section we saw that ACs in Otomi (beneficiary and goal) and Northern Zapotec (beneficiary and comitative) are all semantically dedicated, that is, they are specialized to apply semantically homogeneous paradigms of adjuncts. Additionally, we saw that AC can sometimes switch the (expected) propositional semantics of a sentence with respect to the BC, as is the case of the comitative AC of Southern Zapotec. This has not been reported in either Otomi languages or in Northern Zapotec.

5 Lookalikes

In the following sections, we present constructions in Otomi and Zapotec that are morphologically similar to ACs, but that do not have their syntactic properties (Zúñiga and Creissels, this volume). No syntactic AC lookalikes (i.e., syntactically, but not morphologically, similar to ACs) were identified in the languages described.

Phrases that are either promoted or registered (i.e., highlighted but not promoted; cf. Norman 1978; Aissen 1990; Zavala 2000: 859–860; López Nicolás 2009: 104–105; Hernández-Green 2016) via morphological devices similar to those of ACs have different syntactic statuses according to the construction involved and the grammar of the individual languages. These syntactic statuses range from core grammatical roles such as subject (promotion) to mere non-core grammatical roles (registration), with at least one intermediate category in between. This continuum can be represented as is shown in Figure 2.

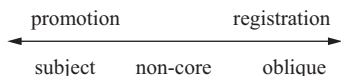


Figure 2: Promotion-registration continuum.

5.1 Otomi morphological lookalikes

The following paragraphs describe constructions where the relevant participant is coded as subject. The valency-increasing suffix *-H of Proto-Otomi-Mazahua (Bartholomew 1965: 100) yielded applicative stems on the one hand (§§ 2.1.2, 3.1.1, 3.1.3), and causative stems on the other hand. Similar to the applicative stems with *-H reflexes, the causative pairs with this morphology seem to be lexicalized, but they present more idiosyncrasies. First, while practically any bivalent verb can accept an extra beneficiary-like participant (with or without overt applicative exponence), not every monovalent verb has a causative counterpart with *-H reflexes. For example, Acazulco Otomi has intransitive/causative pairs involving *-H, illustrated in (41a), but also analogous pairs without *-H, as in (41b). The roman numerals in parentheses indicate the conjugation each verb belongs to.

(41) Acazulco Otomi

	intransitive		causative		
a.	'uayi (I)	'break'	'uahki (I)	'break'	
	zá't'i (IV)	'stick'	zá't'i (III)	'stick'	
	pó'ts'e (I)	'go up'	pó'ts'e (III)	'carry up'	
b.	táy'i (I)	'fall'	táy'i (III)	'drop'	(cf. *táhki)
	'ot'i (I)	'dry'	'ot'i (III)	'dry'	(cf. *'o't'i)
	kút'i (I)	'enter'	kút'i (III)	'enter'	(cf. *kút't'i)

Second, intransitive/causative pairs—with or without *-H reflexes—often involve a change of conjugation, which is a lexical property of verbs. This is shown in 5 out of the 6 pairs in (41) above. In contrast, the benefactive applicative construction never involves conjugation alternations. Third, many bivalent verbs that seem to have reflexes of *-H do not have intransitive counterparts (42a) or may even be intransitives themselves (42b).

(42) Acazolco Otomi

- a. *ju'ts'i* 'pull up (forcibly)' (cf. *juts'i* 'pull up; carry hanging from hand')
ndɔ'ts'e 'look at (uphill)'
pě'ts'i 'keep; put away'
hě't'i 'look at (downhill)'
hěhki 'cut off'
- b. *gáhki* 'lose weight'
něhki 'be visible'
záhki 'get stronger'

The registration of instrument phrases via adverbial inflection (called *circumstantial mood* in Voigtlander and Echegoyen 1985: 222) in Eastern Highlands Otomi [otm] is characterized by unrestricted non-oblique expression, but no other observable object properties. This is an optional construction where the oblique expression of the instrument in the BC alternates with its non-oblique expression in the construction with registration, as illustrated between (43a) (basic inflection *bi* 'PFV') and (43b) (adverbial inflection *í* 'PFV.ADV'), respectively. An instrument registered phrase (henceforth RegP) can also be expressed by non-oblique pronouns, as is the case with '*u* '3PL' in (44). Note that this pronoun is not a morpheme on the verb, but a clitic hosted by the subject NP *gogu* 'deafness'.

(43) Eastern Highlands Otomi

- a. *bi=gahk=ra* *dähpö* [*nange ra juai*]_{InstrPP}
 PFV=clear=SG forest with SG machete
 'He cleared the forest with a machete.'
- b. *í=gahk=ra* *dähpö* [*ra juai*]_{Instr-NP}
 PFV.ADV=clear=SG forest SG machete
 'He cleared the forest with a machete.'
 (Palancar 2012)

(44) Eastern Highlands Otomi

- ní=yän=ra* *gogu=[u]*_{Instr-PRO}
 IPFV.ADV=be.cured=SG deafness=3PL
 'Those (leaves) cure deafness.' (Lit. 'Deafness is cured with those.')
 (Voigtlander, Echegoyen, and Bartholomew, ms.)

No morphosyntactic properties like those of patients (or other core grammatical roles) can be observed in the construction illustrated in (43b) and (44) above, other than the expression of the instrument as a non-oblique phrase (see Palancar 2012). As was mentioned in Section 3.1.1, one key morphosyntactic property of core grammatical roles in Otomi is the cross-referencing in the verb morphology via person markers. This is a somewhat elusive feature of Otomi grammar, as instruments (and other adverb-like semantic roles) tend to be 3rd person, and 3rd person participants are overtly encoded in the verb only rarely, outside of recipient/beneficiary participants. In the available corpus of Eastern Highlands Otomi, no examples of instruments (or other peripheral participants) have been identified that bear person markers (1st, 2nd, or 3rd) in co-reference to the RegP. This fact is in line with Palancar's (2012) assessment of the syntactic status of such phrases.

In the last construction, Acazolco Otomi adverbial inflection, the RegP neither acquires object (or subject) properties nor can it drop the preposition if the adjunct noun is present, either *in situ* or in a fronted position. Consider the data in (45). The instrument PP in the BC (basic inflection *dí* '1.PFV') in (45a) must keep the preposition *ko* 'with' (< Spanish *con* 'with') in the corresponding construction with registration (adverbial inflection *dá* '1.PFV.GEN'), shown in (45b). The latter is used to put the instrument in focus, while the former is unspecified in this respect.

(45) Acazolco Otomi

- a. *dí=k'úhki=ga* [*ko=ya=mí* *ts'í*]_{INSTR-PP}
 1.PFV=snap=1 with=DET.PL.PROX=1PSR tooth
 'I snapped it with my teeth'
- b. *dá=k'úhki=ga* [*ko=ya=mí* *ts'í*]_{INSTR-PP}
 1.PFV.GEN=snap=1 with=DET.PL.PROX=1PSR tooth
 'I snapped it WITH MY TEETH.' {txt}

The only contexts where the preposition is dropped are relativization and interrogation (i.e., extraction constructions), which involve the pronominal forms in boldface in (46) below. The preposition is not allowed in relative constructions as the one in (46a), and it is optional (and only attested in elicitation of grammaticality judgements) in the interrogative construction in (46b). Adverbial inflection is obligatory in these examples, which is reminiscent of the obligatoriness of the Northern Zapotec ACs in similar contexts (see § 3.2.3).

(46) Acazolco Otomi

- a. *gen=k'a=dá* *k'úhki*
 COP=3SG.NV=1.PFV.GEN snap
 'That's what I snapped it with.'

- b. $\zeta(ko=)$ **tébe**=dá k'úhki?
 with=**what**=1.PFV.GEN snap
 'What did I snap it with?'

The situation illustrated in (46) above is different to what is observed with instrument RegPs in constructions with the adverbial inflection in Eastern Highlands Otomi, where the preposition is dropped (see examples [43b] and [44] above). However, both languages coincide in the lack of cross-reference to the instrument RegP in the verb. For example, a 2nd person reason participant in Acazolco Otomi can only be expressed via a PP as in (47a), and never cross-referenced by the person marker -k'i '2PO' in the verb, even if it is inflected with the general (i.e., instrumental) feature of adverbial inflection (in bold), as shown in the ungrammatical construction in (47b).

(47) Acazolco Otomi

- a. [*por=gen=k'e*]_{Reason}, *jan=ní=zongi=a*
 for=COP=2 because.of.that=**IPFV.GEN**=weep=ENCL
 'S/he's crying for you.' (Hernández-Green 2016: 369)
 (Lit. 'For (the one that is) you, because of that s/he's crying for.')
- b. **[por=gen=k'e]*_{Reason}, *jan=ní=zon-k'i=a*
 for=COP=2 because.of.that=**IPFV.GEN**=weep-**2PO**=ENCL
Intended meaning: 'S/he's crying for you.'

5.2 Zapotec morphological lookalikes

The Northern Zapotec APPLIED EXPERIENCER CONSTRUCTION (AEC) is an obligatory, non-alternating construction where an experiencer is encoded as subject. This construction involves the clitic =d 'APPL.EXP', and it is thus more comparable to constructions with subject undergoer nucleatives in Mapudungun and Yupik (Zúñiga and Kittilä 2019: 80) than to applicative constructions as defined in Zúñiga and Creissels (this volume). Therefore, the phrase "applied experiencer construction" is clearly a misnomer, as it would be more appropriately named "A-nucleativized experiencer construction". The AEC involves intransitive stems as *yàxhgh* 'be necessary', illustrated in (48a). An experiencer participant to whom something is necessary cannot be expressed in a PP, as is shown in the ungrammatical examples in (48b) and (48c).

(48) Northern Zapotec

- a. *dx-yàxhgh* *bárrét=nhà'*
 ICP-be.necessary wrench=DEF
 'A wrench is necessary.' {txt}

- b. *káteʔ dx-yàxhgh lhéʔè [nìchè=áʔ]_{PP}
 ADV ICP-be.necessary 2PL **PREP:REA=1SG.NOM**
 Intended: 'When you are necessary because of me.'
- c. *káteʔ dx-yàxhgh lhéʔè [pàr nhàdàʔ]_{PP}
 ADV ICP-be.necessary 2PL **for 1SG**
 Intended: 'When you are necessary to me.'

Like any other subject in Northern Zapotec, experiencers in the AEC can be crossreferenced by nominative clitics, as in (49a) below. Such nominative clitics are required as resumptive pronouns in the focus construction for subjects, as shown in (49b).

(49) Northern Zapotec

- a. kátèʔ dx-yàxhgh=d=áʔ lhéʔè
 ADV ICP-be.necessary=APPL:EXP=1SG.NOM 2PL
 'When I need you.' {txt}
- b. nhètòʔ=nhàʔ dx-yàxhgh=d=tòʔ mèdxoh=nhàʔ
1PL.EXCL=FOC ICP-be.necessary=APPL:EXP=1PL.EXCL money=DEF
 'We need the money.'

The last subject property observed in these experiencer participants is the covert subject (CS) construction, where the possessor of the (object) genitive NP is co-referent with the logic subject, and the latter is not overtly expressed in the canonical position for the subject. This is illustrated in the examples in (50). The experiencer is expressed in the subject position in (50a). In (50b) there is no NP in that position, as the logic subject is expressed within the object NP as possessor.

(50) Northern Zapotec


- a. dx-sʔ-yàxhgh=d [bénéʔ=káʔ]_S [mèdxoh=nhàʔ]_O
 ICP-PL.3s-be.necessary=APPL:EXP **person=PL:DIST** money=DEF
 'People need the money.'
- b. dx-sʔ-yàxhgh=d [_i]_{CS} [x-mèdxoh **bénéʔ_i=káʔ**]_O
 ICP-PL.3s-be.necessary=APPL:EXP PSR-money **person=PL:DIST**
 'People_i need their_i money.' (Lit. 'They_i need the people_i's money.)

Besides the promotion of an experiencer to subject, the AEC often implies a rearrangement in the mapping between semantic and grammatical roles (i.e., diathesis), represented in Figure 3. This rearrangement cannot happen, of course, with zero-valency predicates, such as meteorological verbs, illustrated in (51).

base S

AEC S_{EXP}

O

 **Figure 3:** Diathesis alternation in Northern Zapotec's AEC.

(51) Northern Zapotec

wxê sh-yè'+nhì'=d=ò' nhà'

tomorrow ICP-dawn=APPL:EXP=2SG LOC

'You wake up there tomorrow.' (Lit. 'Tomorrow it dawns on you there.')

Southern Zapotec presents a case of applicative-reciprocal polysemy, that is cross-linguistically a rare type of co-expression pattern in the valency domain. The verb stem *kà'y* 'stain' is bivalent, as shown in (52a) with both the agent and the patient expressed with pronouns. The verb accepts the applicative suffix *-nié* 'APPL:COM', but with syntactic effects different than those expected, as can be seen in (52b). The first interpretation is a comitative event with an intransitive—not transitive—predicate, while the second interpretation is also intransitive but with a reciprocal interpretation.

(52) Southern Zapotec

a. *p-kà'y ná lù'*
COMPL-stain 1SG 2SG
'I stained you.'

b. *p-kà'y-nié ná lù'*
COMPL-stain-APPL:COM 1SG 2SG
'You and I got stained together.' /
'You and I stained each other.'
(Vásquez 2016: 166)

In the following paragraphs we present two alternating constructions of Northern Zapotec where a RegP is expressed as a direct NP without gaining the full range of object properties. These constructions are in the mid-section of the continuum proposed in Figure 2.

Instrument RegPs in Northern Zapotec (marked by *-é* 'APPL:INSTR' plus *=d*) with transitive stems do not have all the object properties canonical patients display. On the one hand, unlike canonical objects, they are optionally direct in the preverbal position (when focused), as shown in (53a), but obligatorily oblique when they occur *in situ*, as in (53b).

(53) Northern Zapotec

a. [(#l'hénh) *lhákó=nhà'*] *dx-o+yè'-é+d=é'=nh*
PREP:with bark=FOC ICP-cook-APPL:INSTR[TR]=3FORM.NOM=3INAN
'It's THE BARK they cook it with.'
(adapted from López Nicolás 2017: 217)

- b. *dx-o+yè'-é+d=é'=**nh*** [**(lénh)* ***lhákó=nhà'***]
 ICP-cook-APPL:INSTR[TR]=3FORM.NOM=3INAN PREP:with bark=DEF
 'They cook it with the bark.'
 (adapted from López Nicolás 2017: 216)

On the other hand, the instrument RegP can be cross-referenced by clitic pronouns in the verb, as canonical objects are, provided that the patient NP is also expressed in the sentence, as can be seen in (54).

- (54) Northern Zapotec
*w-dxíxé-é+d=é'=**[nh]***_{Instr} [*yính' yà'à=nhà'*]_{Pat}
 IRR-measure-APPL:INSTR[TR]=3FORM.NOM=3INAN chili green=DEF
 'She would weigh the green chili peppers with that (i.e., the scale).' {txt}

The morphosyntactic properties of instrument RegPs with transitive stems combine object encoding (i.e., object clitics in certain conditions) with oblique encoding (i.e., obligatory *in situ*). Instrument RegPs with intransitive predicates in Northern Zapotec have even less object properties. The instrumental BC with the preposition *lénh* 'with' is illustrated in (55a). In the alternate construction, the RegP can drop the preposition only when fronted, as is shown in (55b). The ungrammatical example in (55c) shows that the RegP cannot appear as a NP in the object position, even if the applicative morpheme =*d* is used.

- (55) Northern Zapotec
 a. *sh-dâ=chè'=á'* *lénh* *lénh*
 ICP-walk=ADV=1SG.NOM PREP:with 3INAN
 'I walk (with more confidence) with it (i.e., the walking cane).' {txt}
 b. (***lénh***) *mêdxoh=nhà'* *zhình=d=tò'* *nhà'=tè*
PREP:with dinero=FOC IRR.arrive.thither=APPL:INSTR=1PL.EXCL LOC=INTS
 'With the money (i.e., by using it) we would get there.' {txt}
 c. **zhình=d=tò'* ***mêdxoh=nhà'*** *nhà'=tè*
 IRR.arrive.thither=APPL:INSTR=1PL.EXCL **money**=DEF LOC=INTS
Intended meaning: 'We would get there with (i.e., by using) the money.'

Unlike instrument RegPs with transitives, RegPs with intransitives cannot be cross-referenced via clitic pronouns, as is shown in the ungrammatical example in (56) below.

- (56) Northern Zapotec
zhình=d=tò'=nh*** *nhà'=tè*
 IRR.arrive.thither=APPL:INSTR=1PL.EXCL=3INAN LOC=INTS
Intended meaning: 'We would get there with (i.e., by using) that.'

To end this section, we present some cases where a morpheme cognate with an applicative seems to be lexicalized in certain predicates in Northern Zapotec. Consider the construction with a trivalent verb in (57a), root in boldface, where all three participants are overtly expressed. The applicative =*d* with this same verb root does not add an AppP, but it is a lexicalized stem formative to yield an idiomatic expression (together with the noun *dizhè* ‘word’) that describes the transference of information (rather than physical objects), illustrated in (57b).

(57) Northern Zapotec

- a. *g-òèʔ=báʔ=nhéʔ* *mêdxoh*
 IRR-give.to.3=3INFOR=3FORM.OBJT money
 ‘S/he’ll give him money.’
- b. *b-sʔ-òèʔ=d* *béné* *gólhé=nhàʔ* *nhàdàʔ* *dizhèʔ*
 COMPL-PL.3S-tell=APPL CLF.PRO:FORM old=DEF 1SG word
 ‘The elders told me that. {txt}’

Similarly, the enclitic =*d* ‘APPL:EXP’ is lexicalized in the causative verb shown in (58a). This verb form is the causative counterpart of the monovalent verb in (58b) via fortition of the initial consonant (*xh* [z] → *x* [ʃ]), so the enclitic here is redundant as a valency-changing strategy. For reference, the corresponding periphrastic causative construction is shown in (58c).

(58) Northern Zapotec

- a. *nhá* *b-xízh=d=òʔ* *Júan=nhàʔ*
 and COMPL-CAUS.laugh=APPL:EXP=2SG Juan=DEF
 ‘And you made Juan laugh.’
- b. *w-xhízh=báʔ* *chè* *Júanh*
 IRR-laugh=3INFOR GEN Juan
 ‘S/he’ll laugh at Juan.’
- c. *be-ônh=òʔ* [*gâ* *b-xhízh=báʔ*]_{cc}
 COMPL-make=2SG COMP COMPL-laugh=3INFOR
 ‘You made him/her laugh.’

The presence of the enclitic =*d* in the constructions in (57b) and (58a) above is not clearly related to valency alternations (applicative or otherwise). However, it could have semantic (rather than syntactic) motivations: the association of the enclitic with recipients (see Table 4 in § 4.3) and experiencers may have licensed the lexicalization observed in those examples.

5.3 Summary

Table 5 below summarizes the syntactic status of the added phrase in the constructions presented in the previous two sections. Otomi constructions are shaded; Zapotec constructions are unshaded. The ticks ✓ indicate where the relevant phrase is with respect to the continuum proposed in Figure 2.

Table 5: Syntactic status of the added phrase in Otomi and Zapotec applicative lookalikes.

	Syntactic status		
	S	Non-core	Oblique
Otomi causative	✓		
Northern Zapotec applied experiencer	✓		
Southern Zapotec reciprocal	✓		
Eastern Highlands Otomi adverbial inflection		✓	
Northern Zapotec instrumental (<i>tr.</i>)		✓	
Acazulco Otomi adverbial inflection			✓

By looking at the data in Table 5, it becomes evident that the continuum from Figure 2 is observable on different dimensions in the languages analyzed. On the one hand, the continuum can be found within a single language (i.e., Northern Zapotec), where different constructions give a different status to the added phrase. On the other hand, we can observe the continuum among languages in a family (i.e., Otomi languages), as different languages can give a different status to the phrase introduced by a cognate construction (i.e., adverbial inflection). Additionally, according to the object status the goal AppP seems to have had in Old Otomi, variation on the continuum may even be observable diachronically. By looking at two language families from the Otomanguean stock, we have presented a wide range of syntactic (and morphological) phenomena that will certainly contribute to our knowledge about ACs and related constructions in a cross-linguistic perspective.

6 General summary and final remarks

The present chapter has described ACs in Zapotec and Otomi, two language families from the Otomanguean stock (Central, Southern Mexico), which is one of the more diverse and widespread groups of languages indigenous to Mexico. The description has included morphological, syntactic, and semantic aspects in the Otomi and Zapotec families, as well as morphological lookalikes.

Morphology

- Applicative morphology in Northern Zapotec and Otomi displays a great variety of formal strategies, ranging from cliticization to affixation and stem alternations. Affixation is found in other Otomanguean families; stem alternations are rarer, as they have been attested in Otomi (and Mazahua, its sister language) and Chinantec. All these applicative exponents are found to be lexicalized in some verbs in both Northern Zapotec and Otomi, especially in the latter. Adverbial inflection, apparently an AC in Old Otomi, displays cumulative exponence of applicative marking together with grammatical person.
- Northern Zapotec applicative morphemes do not present any allomorphy, phonological or otherwise. The Otomi benefactive applicative, in contrast, is often marked by stem alternations that may or may not involve stem-medial or stem-final glottal segments /h/ or /ʔ/; in some cases, verb stems in ACs are not formally distinguished from those in BCs (i.e., they are labile).
- Old Otomi goal applicative seems to have had a reduced inflectional paradigm in comparison with non-applicative verb forms: only three tense distinctions (out of four in the indicative for verbs without the applicative), and no mood distinctions. Northern Zapotec applicatives, in contrast, present no differences in inflectional paradigm structure with respect to verb forms in BCs.
- The morphological variation of ACs within the Otomanguean stock is remarkable from a cross-linguistic perspective, as it covers a wide range of phenomena related to the concatenative/non-concatenative spectrum, allomorphy, and paradigm structure.

Syntax

- The AppPs in all the applicative constructions described in this chapter have a grammatical status of object, both in Zapotec and in Otomi. Otomi languages have person suffixes as the only reliable morphosyntactic (primary) object test, while Northern Zapotec has both coding (i.e., non-oblique phrase, object marker on the verb, position with respect to subject) and behavior (i.e., fronting without *in situ* resumptive pronoun) tests of objecthood.
- Both the Otomi and Northern Zapotec (recipient/)benefactive ACs can be observed in both bivalent and trivalent verbs but they are incompatible with monovalent verbs; Northern Zapotec comitative AC, in contrast, has no such restriction. As for diathesis alternation operations, the Otomi benefactive AC shows no restrictions of combination, while Northern Zapotec ACs combine with the causative but not with the reciprocal-reflexive construction.
- Beneficiary AppPs in Otomi are indexed differently from recipient NPs in basic ditransitives: these recipient NPs are obligatorily zero-indexed (with two exceptions where the zero is ungrammatical), but beneficiary AppPs are obligatorily indexed with *-bi* '3iO' (with three exceptions where the suffix is optional).

- Although Northern Zapotec ACs are optional, they are so only in some unmarked clause types: applicativization of the peripheral participant is obligatory in constructions that involve extraction (focalization, interrogation, relativization).

Semantics

- The Northern Zapotec comitative marker is a dedicated morpheme for comitative AppPs; Old Otomi goal applicative seems to be a dedicated morphological device as well. Otomi and Zapotec (recipient/benefactive) ACs are also dedicated to “dative-like” participants, a label that encompasses a number of semantically and/or typologically related semantic roles such as recipient, maleficiary, source, beneficiary, and causee/manipulee.
- Zapotec ACs are optional. In these constructions, the AppP in the AC is an oblique phrase in the corresponding BC. In contrast, the Otomi benefactive applicative is obligatory, so there is no BC to compare the status of the phrase in it to the corresponding AppP in the AC.
- In Otomi, the benefactive AC is the only strategy for expressing dative-like peripheral participants. Corresponding BCs do not exist in the language, either by means of an oblique phrase (there is no preposition for dative-like PPs) or by means of the codification of the dative-like participant as a possessor (these constructions are rejected by speakers, and an AC is always preferred).
- ACs occasionally have idiosyncratic semantic effects with respect to the BC. For instance, the comitative may have “affected concomitant” interpretations in Southern Zapotec.

Lookalikes

- Non-applicative constructions marked with applicative morphology (i.e., morphological lookalikes in Section 5) in both Zapotec and Otomi are arranged along a promotion-registration continuum, based on how many core morphosyntactic properties (if any) non-core arguments acquire in such constructions. On the promotion end of the continuum are, on the one hand, Zapotec Applied Experiencer Construction, which is a subject undergoer nucleative construction (Zúñiga and Kittilä 2019: 80) where an experiencer is coded as subject, and, on the other hand, Otomi causatives that have a (however lexicalized) reflex of Proto-Otomi-Mazahua *-H. On the registration end we have constructions where the adjunct phrase is registered in the verb without acquiring an object status. Constructions in the middle of the continuum display only some object properties acquired by the registered phrase. The promotion-registration continuum can be observed not only within a single language (i.e., Northern Zapotec) but also among languages in the same family (i.e., Otomi languages), which is worth highlighting from a cross-linguistic perspective.
- All non-promotional morphological lookalike constructions referred to in the previous bullet point have syntactic properties similar to those of ACs that have

nothing to do with object codification. The obligatoriness of Zapotec ACs in extraction constructions (i.e., interrogation, relativization, focalization) is also observed among the non-promotional constructions from Section 5. Consider the following examples from both Otomi and Zapotec interrogation and focalization in (59a) and (59b), respectively.

- (59) a. *ʔtébe=dí* 'uingi=a?
 what=2.IRR.GEN feed=ENCL
 'What are you going to feed them with?' {txt}
- b. [*lhénh lhákó=nhà*]_{Instr} *dx-o+yè'-é+d=é'=nh*
 PREP:with bark=FOC ICP-cook-APPL:INSTR[TR]=3FORM.NOM=OBJ3INAN
 'It's THE BARK they cook it with.'
 (adapted from López Nicolás 2017: 217)

The obligatory registration of instrument phrases in extraction constructions like those in (59) has led some authors to group registration and applicative constructions together, often giving registration the label "registration applicative" (Norman 1978; Zavala 2000: 859–860, among others).

Abbreviations

ADV	adverbial (registration)/adverb
AFF	affective
AN	animal (pronoun)
APPL	applicative
BEN	benefactive
CAUS	causative
CL	inflectional clitic
CLF.PRO	pronominal classifier
COM	comitative
COMP	complementizer
COMPL	completive
CONTR	contrastive
COP	copula
DEF	definite
DET	determiner
DIM	diminutive
DIST	distal
DU	dual
ENCL	enclitic
EVID	evidential
EXCL	exclusive
EXP	experiencer

FOC	focus
FORM	formal
FUT	future
FV	final vowel
GEN	general
HAB	habitual
ICP	incompletive
IMM	immediative
IMPRS	impersonal
INAN	inanimate
INCL	inclusive
INFOR	informal
INSTR	instrumental
INTS	intensifier
IO	indirect object
IPFV	imperfective
IRR	irrealis
LOC	locative
MID	middle
NEG	negative
NMLZ	nominalizer
NOM	nominative
NV	non-visible
OBJT	object(ive)
PF	possessed form
PFV	perfective
PL	plural
PSR	possessor
PO	primary object
POT	potential
PP	prepositional phrase
PREP	preposition
PRF	perfect
PRS	present
PROG	progressive
PRO.REL	relative pronoun
PROX	proximal
PST	past
QUOT	quotative
R	realis
RC	relative clause
REA	reason
RN	relational noun
S	subject
SF	sentence focus
SG	singular
SS	secondary stem
STA	stative
TR	transitive

txt example from text
VEN venitive

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