# Two kinds of external possession in Mississippi Choctaw

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*Abstract.* External possession refers to the phenomenon whereby a DP is marked as an independent argument in its clause but is interpreted as the possessor of another argument. Choctaw makes extensive use of external possession, but, puzzlingly, it comes in two distinct morphological profiles. In previous work these have been assumed to be surface morphological variants, but I show instead that external possession in Choctaw is derived by two distinct mechanisms. One mechanism involves building a DP with an internal possessor and raising the possessor out to a higher left-peripheral position. The alternative mechanism involves building two unconnected DPs, one in an internal argument position and one in a high applicative phrase, and identifying the higher DP with the possessor $\theta$-role of the lower DP in the process of semantic composition, by a mechanism known as *delayed saturation*. It is shown that this latter mechanism can generate external possession of objects and unaccusative subjects, depending on whether there is an external argument, and is subject to a host of interpretative restrictions that the movement-based mechanism is not. Thus I show not only that external possession can be derived by two different mechanisms, but also that those mechanisms may co-exist in the same language.

## 1 Introduction

External possession refers to the phenomenon where a nominal is simultaneously interpreted as the possessor of one argument in a clause and morphosyntactically marked like an independent argument of the same clause (see the articles in Payne and Barshi 1999 for a typological survey, see Deal 2017 for a theoretical overview). Mississippi Choctaw makes extensive use of external possession, allowing both objects and subjects to associate with external possessors.

The two ways in which an object can be related to a possessor are shown in (1). In (1a) we see that the object of the verb *okpani* 'break' has an 'internal' possessor, indexed by a 'class III' clitic attached to the possessee. The bracketing conveys the claim that they form a syntactic constituent (to be supported in section 2). The example in (1b) shows how the same interpretation can be conveyed through external possession: the clitic on the possessee is gone, and instead the possessor is indexed by a clitic attached to the verb. This clitic marks the possessor as an argument of the verb, and the lack of bracketing conveys the non-constituency of the possessor and possessee (again to be supported in section 2).[1]

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[1]I use a modified version of Broadwell's (2006) practical orthography. Doubled vowels are long, doubled consonants are geminate, underlined vowels are nasal, the digraph <lh> represents [ɬ] and <'> represents a glottal stop. Word-level pitch accent is marked with an acute accent. I diverge from Broadwell's notation in not marking

(1)  a.  [Jimmy **im**-ishitwashóoha] okpanii-li-tok.
         [Jimmy **III**-toy]        break.TR-1SG.I-PST
         'I broke Jimmy's toy.'

     b.  Jimmy ishitwashóoha **im**-okpanii-li-tok.
         Jimmy toy            **III**-break.TR-1SG.I-PST
         'I broke Jimmy's toy.'

Turning now to external possession of subjects, (2a) shows an intransitive subject with an internal possessor, bracketed accordingly, and (2b) and (2c) show two different ways of supplying the subject with an external possessor. We know that in both examples the possessor is in some sense treated like an independent argument, since it is marked with nominative case, but the placement of the class III clitic, which indexes the possessor, differentiates the examples. The example in (2b) has the clitic attached to the possessee, in common with the internal possession examples in (1a) and (2a). By contrast the example in (2c) has the clitic attached to the verb, in common with the object external possession construction (1b).[2]

(2)  a.  [John im-ófi-**yat**]  abiika-h.
         [John III-dog-**NOM**] be.sick-TNS
         'John's dog is sick.'

     b.  John-**at**   im-ófi abiika-h.
         John-**NOM** III-dog be.sick-TNS
         'John's dog is sick.'

     c.  John-**at**   ofi im-abiika-h.
         John-**NOM** dog III-be.sick-TNS
         'John's dog is sick.'

In this paper, I propose that Choctaw makes available two different strategies for building clauses with external possessors. In one strategy, the possessor starts out life as an internal possessor, and moves out to a left-peripheral position. This strategy, which I term *EP-via-movement*, derives examples like (2b), where the external possessor is still indexed on the possessee as though it was an internal possessor. In the other strategy, which I term *EP-via-Appl*, the possessor is base-generated as the specifier of a high applicative, and is interpreted as the possessor of the internal argument in the semantic composition. This derives examples like (1b) and (2c), where the possessor is indexed with a clitic on the verb, and behaves, as I will show, like an independent applied argument of the verb. This 'bifurcated' analysis of external possession in Choctaw ex-

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glottal stops in noun-final position, as they are primarily realized on nouns uttered in isolation, and their appearance could be an artefact of Choctaw's phrase-level phonology (see Heath 2007 for a brief overview of the Choctaw glottal stop controversy). Note also that the length of some vowels as written may vary depending on their morphophonological context. This is due to a process of *iambic lengthening* in which odd-numbered short vowels in sequences of short vowels become long, thus neutralizing the vowel length contrast in these positions (Nicklas 1974, Ulrich 1986). I use the following non-transparent glosses: C=complementizer; DS=different-subject switch-reference marker; GG=g-grade form; I=class I clitic; II=class II clitic; III=class III clitic; INTR=intransitive; NG=n-grade form; PC=paucal number; SS=same-subject switch-reference marker; TNS=default tense; TR=transitive.

[2] *Ofi* 'dog' is a one of a small class of nouns that acquire a pitch accent when prefixed with a class III clitic (Nicklas 1974:50).

plains a number of morphological, syntactic and semantic differences between the two strategies. It also makes the broader point that even within one language, external possession (or 'possessor raising') need not be a unitary phenomenon.

The paper is organized as follows. Section 2 introduces the basic properties of internal and external possession in Choctaw, and section 3 outlines the proposed syntactic structures for internal possession and the two varieties of external possession—EP-via-movement and EP-via-Appl. Sections 4 and 5 then provide two pieces of syntactic evidence for the bifurcated analysis, concerning which DP occupies the subject position, and the compatibility of each type of external possession structure with external arguments. Section 6 then discusses a further difference between the two structures, which receives a natural account under the bifurcated analysis—it concerns 'special' inalienable and obligatory possession. Section 7 looks in detail at how the possessee and the possessor are related in the semantic composition in EP-via-Appl structures, and in the process we derive some interpretative differences between the two routes to external possession. Finally, section 8 defends the analysis of EP-via-Appl against some alternatives.

## 2   Possession in Choctaw

In this section I first give a basic overview of case and agreement morphology in Choctaw, then discuss the kinds of internal and external possession in the language.

Choctaw is a Western Muskogean language spoken in Mississippi and Oklahoma, with all the data presented here coming from the Mississippi variety. It has fairly rigid SOV order and free argument drop. Overt subjects are marked with nominative case, as illustrated in (3a), and objects are, for the most part, optionally marked with accusative, as shown in (3b)-(3c).

(3)   a.   Imáabachi-**yat** alla-m-**a̱**   im-anopoli-tok.
          teacher-**NOM**   kid-DEM-**ACC** III-talk-PST
          'The teacher talked to that kid.'

      b.        Kátos-(**a̱**) pí̱sa-li-tok.
          *pro*₁SG cat-(**ACC**) see.NG-1SG.I-PST
          'I saw the cat.'

      c.        Luke-(**a̱**)   okkisa-(**ya̱**) tiwwi-chii-li-tok.³
          *pro*₁SG Luke-**ACC** door-**ACC**   open.TR-CAUS-1SG.I-PST
          'I made Luke open the door.'

Arguments are also indexed on the verb by a series of clitics, traditionally classified as belonging to one of three classes: I, II or III.⁴ The clitics exhibit an *active* alignment, in that the class of clitic used to index a particular argument is determined (mostly) by the thematic role of that argument. Broadly speaking, class I clitics index external arguments (prototypically agents), as in (4a), class II clitics index themes and experiencers, as in (4b)-(4c), and class III clitics index oblique arguments, as in (4d). Note that there are no 3rd-person clitics in the class I or II paradigms.

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³Choctaw shows a *case OCP* effect barring adjacent clausemate DPs from having the same case-marker (Broadwell 2006:73, 304). Therefore in (3c), *both* objects cannot be marked with *-(y)a̱*.

⁴See Broadwell and Martin (1993) and Tyler (in press-a, in press-b) on the clitic/agreement distinction in Choctaw.

(4)   a.   **Ish**-taloowa-ha̱?
           **2SG.I**-sing-PST.Q
           'Did you sing?'

      b.   **Chi**-ll-aachi̱-kiyo-h.
           **2SG.II**-die-FUT-NEG-TNS
           'You won't die.'

      c.   Hattak tasíbo-yat **chi**-lhiyohli-tok.
           man     crazy-NOM **2SG.II**-chase-PST
           'The crazy man chased you.'

      d.   **Chi̱**-hopooni-tok.
           **2SG.III**-cook-PST
           'They cooked for you.'

The class II and III clitics are of particular interest since they may also attach to nouns, where they index the noun's possessor. I now discuss internal and external possession of noun phrases in turn.

## 2.1   Internal possession

The class II and III clitics appear on nouns marking inalienable and alienable possession respectively, as shown in (5).[5] Note that there are no 3rd-person class II clitics, so 3rd-person inalienable possessors are not indexed by any clitic.

(5)   a.   ofi  iyyi / alíkchi hohchífo / anaako̱ sa-shki
           dog foot / doctor  name    / me.FOC 1SG.II-mother
           'the dog's feet / the doctor's name / MY mother'

      b.   alíkchi im-ófi  / Mary i̱-shapo / anaako̱ am-ishtishko
           doctor  III-dog / Mary III-hat  / me.FOC 1SG.III-cup
           'the doctor's dog / Mary's hat / MY cup'

As is common in languages that make a morphosyntactic distinction between alienable and inalienable possession, not all 'semantically' inalienable possession relations are marked as morphologically inalienable (see Nichols 1992 for typological discussion). For instance, (6) shows that some kin relations are marked with inalienable morphology (6a), while others are marked with alienable morphology (6b).

(6)   a.   sa-ppókni           / sa-shki       / si-ossi      / sa-ttikchi
           1SG.II-grandmother / 1SG.II-mother / 1SG.II-child / 1SG.II-wife

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[5]It is common for languages that distinguish alienable and inalienable possession for inalienable possessors to be marked like pronominal objects (Seiler 1983, Nichols 1992, König and Haspelmath 1998). To the extent that Choctaw class II clitics can be said to mark objects (they also mark unaccusative subjects—see (4b) and section 5.2), Choctaw fits with this pattern.

b.  am-afo              / a̱-ki              / am-alla        / a̱-tiik
    1SG.III-grandfather / 1SG.III-father / 1SG.III-child / 1SG.III-sister (of a man)

The full class II paradigm is shown in (7), exemplifying both its possessive and verb-agreement functions.[6] (8) does the same for the class III paradigm.[7]

(7)   Class II paradigm

| 1SG | **sa**-shki | 'my mother' | **si**-abiika | 'I am sick' |
|---|---|---|---|---|
| 1PC | **pi**-shki | 'our mother' | **pi**-abiika | 'we are sick' |
| 1PL | **hapi**-shki | 'all of us's mother' | **hapi**-abiika | 'we all are sick' |
| 2SG | **chi**-shki | 'your mother' | **chi**-abiika | 'you are sick' |
| 2PL | **hachi**-shki | 'y'all's mother' | **hachi**-abiika | 'y'all are sick' |
| 3 | ishki | 'her mother' | abiika | 'she is sick' |

(8)   Class III paradigm

| 1SG | **am**-ófi | 'my dog' | **am**-ano̱poli | 'she talks to me' |
|---|---|---|---|---|
| 1PC | **pim**-ófi | 'our dog' | **pim**-ano̱poli | 'she talks to us' |
| 1PL | **hapim**-ófi | 'all of us's dog' | **hapim**-ano̱poli | 'she talks to us all' |
| 2SG | **chim**-ófi | 'your dog' | **chim**-ano̱poli | 'she talks to you' |
| 2PL | **hachim**-ófi | 'y'all's dog' | **hachim**-ano̱poli | 'she talks to y'all' |
| 3 | **im**-ófi | 'her dog' | **im**-ano̱poli | 'she talks to her' |

Finally, (9) shows that overt DP-internal possessors themselves may optionally bear accusative case (just like objects, as in (3)),

(9)   [Alíkchi-ak-(o̱/*oosh)    im-ófi]  yokaachi-li-tok.
      [doctor-FOC-(**ACC**/*NOM) III-dog] catch-1SG.I-PST
      'I caught the DOCTOR's dog.'

In the next part of this section, I introduce the alternative strategies available to Choctaw speakers for expressing possession relations.

## 2.2   External possession

Choctaw has been described as exhibiting 'possessor raising' (Nicklas 1974, Davies 1981a,b, 1984, 1986, Munro and Gordon 1982, Munro 1984, Broadwell 1990, 2006). Since the term 'raising' implies syntactic movement, which I argue is *not* present in one of the two relevant constructions, I instead use the term *external possession* (EP) to refer to all cases in which a possessor appears to pattern in some respects like an independent argument of the verb or clause. Both subjects and objects may be externally possessed.

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[6]Choctaw class II and III clitics distinguish singular, plural and paucal number in the 1st person, distinguish only singular and plural in the 2nd-person, and do not distinguish number at all in the 3rd-person. Note also that the 1SG class II clitic *sa-* is realized as *si-* in prevocalic position.

[7]It is notable that the class III clitics can mostly be decomposed into class II clitics + *m*. See Tyler (in press-a) for detailed discussion of Choctaw's argument-indexing clitics.

### 2.2.1 External possession of subjects

EP of subjects ('subject EP') comes in two variants, shown in (10a)-(10b) (repeated from (2b)-(2c)). In both variants the possessor is nominative, contrasting with accusative-marked internal possessors like (9), and marking it as an independent argument of the clause. What distinguishes the two variants at first sight is whether the class III clitic appears on the possessee, or on the verb. I label the variants with names that correspond to the analyses that I propose in section 3.[8]

(10)　a.　John-at　**im**-ófi abiika-h.
　　　　　John-NOM **III**-dog be.sick-TNS
　　　　　'John's dog is sick.'　　　　　　　　　　　　　　　　(EP-via-movement)

　　　b.　John-at　　ofi **im**-abiika-h.
　　　　　John-NOM dog **III**-be.sick-TNS
　　　　　'John's dog is sick.'　　　　　　　　　　　　　　　　(EP-via-Appl)

A property shared by both of the EP variants is that the possessor and possessee do not form a constituent. To illustrate this, we can separate them with a sentence-modifying adverb, as in (11b)-(11c). For comparison, (11a) shows that it is not possible to place an adverb between an *internal* possessor and its possessee (see also Broadwell 2006:304).

(11)　a.　*John piláashaash im-ofi-yat　illi-h.
　　　　　John yesterday　　III-dog-NOM die-TNS
　　　　　('John's dog died yesterday.')　　　　　　　　　　　(Broadwell 2006:304)

　　　b.　John-at　　piláashaash im-ófi　illi-h.
　　　　　John-NOM yesterday　　III-dog die-TNS
　　　　　'John's dog died yesterday.'　　　　　　　　　　　　(EP-via-movement)

　　　c.　John-at　　piláashaash ofi　im-illi-h.
　　　　　John-NOM yesterday　　dog III-die-TNS
　　　　　'John's dog died yesterday.'　　　　　　　　　　　　(EP-via-Appl)

The variants of subject EP also share a common case array: the possessor, if overt, is obligatorily marked with nominative case, as in (11b)-(11c), and the possessee is optionally marked with nominative case, as in (12).[9]

(12)　a.　John-at　　piláashaash im-ófi-**(yat)**　illi-h.
　　　　　John-NOM yesterday　　III-dog-**(NOM)** die-TNS
　　　　　'John's dog died yesterday.'　　　　　　　　　　　　(EP-via-movement)

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[8]Broadwell (1990, 2006) reports that some speakers allow a clitic to appear on both the possessee and the verb. The speakers I consulted found this unnatural or unacceptable. See section 8.2 for my interpretation of some such sentences.

[9]The examples in (12) are constructed specifically to avoid the possibility of two adjacent nominative-marked DPs, since nominative-marking on the object would always been banned in such configurations thanks to Choctaw's *case OCP* restriction—see footnote 3.

b. Ofi-**(t)**      am-illi-tok.
dog-**(NOM)** 1SG.III-die-PST
'My dog died.'                                                      (EP-via-Appl)

Note that the distribution of nominal case-marking in Choctaw is complex and defies a simple account. As such, overt case-marking provides a primarily diagnostic role in this article, since it allows us to identify external possessors of subjects—differentiated from internal possessors by their nominative suffix—but I do not provide an analysis of this pattern.[10]

It is also worth pointing out that 'subject EP' may be something of misnomer—I will go on to argue that for the EP-via-Appl variant, the possessee DP that *would* become the subject outside of EP constructions is in fact an object, and the external possessor occupies the subject position. Nonetheless, I use the term 'subject EP' as a cover term for both of the variants in (10a)-(10b).

### 2.2.2   External possession of objects

Objects in Choctaw may have external possessors too. In (14) and (15), objects with internal possessors are juxtaposed with the equivalent sentences with external possessors. Note that case-marking possibilities for the possessor and possessee in object EP are the same as with the objects of other double-object constructions, such as (3c): they are both optionally accusative.

(14)   a.   [Jimmy **im**-ishitwashóoha] okpanii-li-tok.
[Jimmy **III**-toy]          break.TR-1SG.I-PST
'I broke Jimmy's toy.                                 (internal possession)

       b.   Jimmy ishitwashóoha **im**-okpanii-li-tok.
Jimmy toy          **III**-break.TR-1SG.I-PST
'I broke Jimmy's toy.                                 (external possession)

(15)   a.   John-at   [    **a̱**-holisso    chito] hó̱kli-h.
John-NOM [*pro*₁SG **1SG.III**-paper big]   hold.NG-TNS
'John is holding my book.'                            (internal possession)

       b.   John-at         holisso chito **a̱**-hó̱kli-h.
John-NOM *pro*₁SG paper   big   **1SG.III**-hold.NG-TNS
'John is holding my book.'                            (external possession)

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[10]The 'NOM-(NOM)' case array of subject EP-via-Appl constructions in fact provides some support for the syntactic structure I propose in section 3.3, since the exact same case array is shared with other transitive verbs with class-III-indexed subjects, as in (13).

(13)   An-ak-oosh ofi-(yat)   a̱-lawa-h.
I-FOC-NOM   dog-(NOM) 1SG.III-be.many-TNS
'I'm the one who has a lot of dogs.'

However, it remains unclear why the same array should appear with EP-via-movement constructions. A reviewer suggests a possible connection to 'case-matching' or 'case-doubling' phenomena cross-linguistically, where modifiers extracted from DPs match the case of their home DP (cf. Austin 1981 on Diyari (Pama-Nyungan), Clem and Dawson 2018 on Tiwa (Sino-Tibetan) and Amahuaca (Panoan)). However, these cases require discontinuity between the possessor and its extraction site, which is not necessary in Choctaw (e.g. (10a)), and do not allow the possessee to *lose* its case-marking, as we find in Choctaw EP-via-movement. I leave the issue for future research.

Morphologically, object EP resembles the EP-via-Appl variant of subject EP: a class III clitic shows up on the verb, indexing the possessor, while the possessee goes unmarked.

Just as with subject EP, we can show that the possessor and possessee do not form a syntactic constituent. While we cannot separate them with an intervening adverb, since adverbs must precede all internal arguments (Broadwell 2006:39), there is fortunately at least one other way of showing that they do not form a constituent. (16) shows that internal arguments in a double-object construction may appear in either order.[11] By contrast, (17) shows that a noun and its internal possessor have a fixed order.

(16)  a.  Mi̲koh-at alla-ya̲  holisso im-aa-tok.
          chief-NOM child-ACC paper  III-give-PST
          'The chief gave the kid a letter.'

      b.  Mi̲koh-at holisso-ya̲ alla  im-aa-tok.
          chief-NOM paper-ACC child III-give-PST

(17)  a.  [a̲-hattak    i̲-car] ka̲chi-li-tok.
          [1SG.III-man III-car] sell-1SG.I-PST
          'I sold my husband's car.'

      b.  *[i̲-car  a̲-hattak]  ka̲chi-li-tok.
          [III-car 1SG.III-man] sell-1SG.I-PST

In (18) we see that objects and their external possessors are freely re-orderable, just like the objects of a double-object construction. This implies that they do not form a syntactic constituent.

(18)  a.  Hattak-m-at   Suzie lokashto i̲-lhilaffi-tok.
          man-DEM-NOM Suzie coat      III-tear.TR-PST
          'That man tore Suzie's coat.'

      b.  Hattak-m-at   lokashto Suzie i̲-lhilaffi-tok.
          man-DEM-NOM coat      Suzie III-tear.TR-PST

Note that while subject EP comes in two variants, there is no obvious equivalent to the EP-via-movement construction for object EP. It is worth pointing out, however, that internal possessors *can* be left-branch extracted and fronted, as in (19).

(19)  kátah-o̲ᵢ John-at    [tᵢ ittiyaapishi-yo̲] haksichi-tok?
      who-ACC John-NOM    sibling             trick-PST
      'Whose sibling did John trick?'

Yet because the accusative case-marking on the extracted possessor *kátoho̲* 'who' is the same as it would be on an un-extracted possessor (cf. (9)), this is indistinguishable from regular constituent-fronting movement, which is generally available in Choctaw (Broadwell 2006:39). Ultimately, nominal case-marking in Choctaw requires further investigation.

Having established the basic facts of external possession in Choctaw, in the next section I

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[11]The sentences in (16) reflect Choctaw speakers' preference for marking the first of two overt internal arguments with accusative case. See Broadwell (2006:73) for discussion.

propose that external possession can be formed in two ways: the EP-via-movement strategy, which accounts for one variant of EP of subjects, and the EP-via-Appl strategy, which accounts for the other variant of EP of subjects, as well as EP of objects.

# 3   Proposal: two routes to external possession

In this section, I propose that external possession in Choctaw is not uniform, and that there are two distinct strategies with distinct identifying properties. In the *EP-via-movement* strategy, the possessor is an *internal* possessor which has exited its containing DP. In the *EP-via-Appl* strategy the possessor is base-generated as the specifier of a high applicative phrase.

In section 3.1, I first provide a brief analysis of internal possession. Then, in sections 3.2-3.3, I outline the basic syntax of each external possession strategy in turn, explaining how each one accounts for the observed morphology.
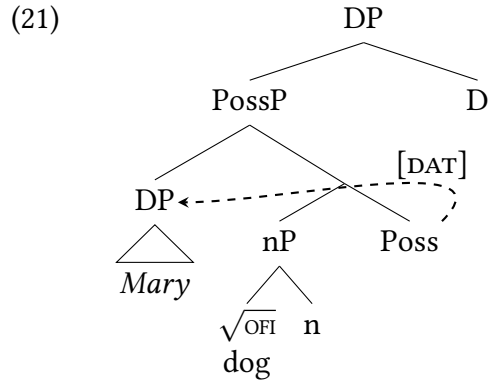
## 3.1   Internal possession

Recall that Choctaw makes a morphological distinction between alienable and inalienable internal possession, where inalienable possession morphology is employed with some of the relational nouns in the language. Turning first to inalienable possession, I follow a line of work assuming that these possessors are introduced by a functional head close to the nominal root (Authier 1988, Tellier 1990, Vergnaud and Zubizarreta 1992, Barker 1995, Español Echevarría 1997, Alexiadou 2003, Myler 2014, 2016). My chosen implementation of this is shown in (20), where the alienable possessor of *shakba* 'arm' is introduced directly in the specifier of the nominalizing head *n*.[12]

(20)
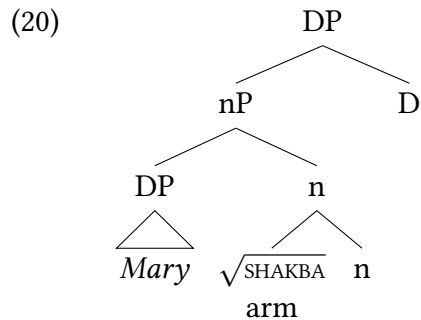


In contrast, I assume that this option is not available for most nouns—nouns that are not inherently relational require some extra functional structure to 'relationalize' the noun and thematically license a possessor argument (Barker 1995). I adopt the 'PossP' analysis of alienable possession, as developed by Szabolcsi (1994), Alexiadou (2003) and Myler (2014, 2016) among others, shown in (21). In addition, I propose that Poss assigns its specifier a dative case feature. Following Tyler (in press-a), this case feature causes it to be indexed by a class III clitic.[13]

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[12]As remarked in footnote 5, in a number of languages inalienable possessors and pronominal objects are marked in the same way. Alexiadou (2003) takes this as evidence that inalienable possessors are merged in a position within the noun phrase that is parallel to the position for direct objects within the verb phrase—a position I essentially adopt with the structure in (20).
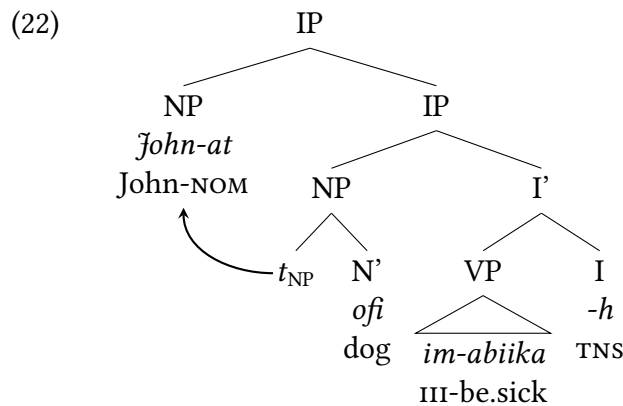
[13]Note that DPs must be able to bear multiple case features in Choctaw. For instance, alienable possessors with

(21)

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                    DP
                 /      \
             PossP       D
            /    \      [DAT]
          DP      nP    Poss
         /  \    /   \
       Mary √OFI  n
             dog
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Having established the beginnings of an analysis for internal possession—see section 6 for a more detailed analysis encompassing more data—we can now turn to each of Choctaw's external possession strategies in turn.

## 3.2 External possession via movement

I take as my point of departure the analysis of external possession of subjects presented in Broadwell (2006:304), which is itself very like the analyses of Japanese inalienable 'possessor raising' proposed by Fukui (1986), Heycock (1993), Ura (1996) and Vermeulen (2005), among others. Broadwell provides the structure in (22), designed to account for both variants of subject EP (he does not distinguish them). The analysis is simply that the possessor of the subject moves out and adjoins to "to the clause", represented as adjunction to IP.

(22)

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                    IP
                 /      \
             NP          IP
          John-at      /    \
          John-NOM   NP      I'
                    /  \    /   \
                 t_NP   N'  VP    I
                        ofi /  \   -h
                        dog im-abiika  TNS
                            III-be.sick
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Broadwell's analysis is, I argue, a good fit for EP-via-movement constructions like (23a). (23b) translates his structure into a more contemporary minimalist one, replacing 'NPs' with 'DPs' and 'IP' with 'TP', and showing movement to subject position from inside the VP (now a VoiceP). I also have the landing site of the possessor be a projection distinct from T, on the basis of the likely topical interpretation of the possessor (see below). Nonetheless, the crucial elements of the analysis remain the same: the possessor starts out life as an internal possessor within the possessee, the possessee is in the canonical subject position (Spec-TP), and its possessor subsequently moves

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dative features like that in (21) may be marked as accusative, as in (9), or nominative, as in (23a). See section 8.2, (and Tyler in press-a) for further discussion of why this kind of assumption is motivated for Choctaw.

out to a higher position. While in this example, the possessor is alienable (as indicated by the class III clitic on the possessee), inalienable possessors behave in just the same way.

(23)  a.   John-at      im-ófi  abiika-h.
           John-NOM III-dog be.sick-TNS
           'John's dog is sick.'

b.
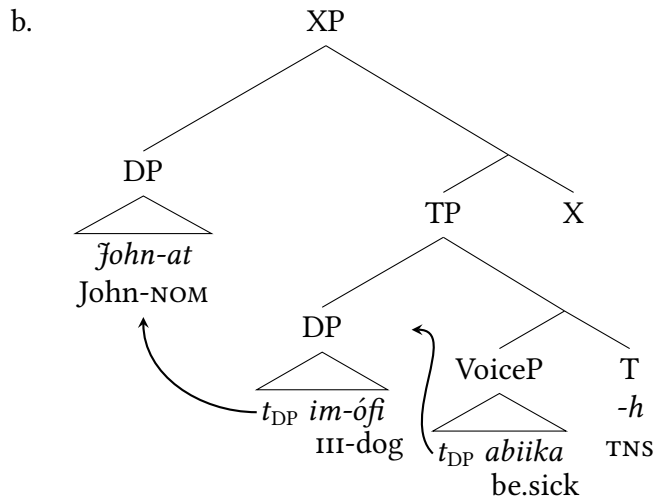


This analysis accounts for why the possessor is indexed by a clitic on the possessee: the possessor is base-generated as an internal possessor (as in (20) or (21)), and only moves out later in the derivation. As we will see, this contrasts with the EP-via-Appl strategy, in which the possessor is at no point an internal possessor and so no possessor-indexing clitic ever appears on the possessee (section 3.3).

Note that two aspects of the structure in (23b) are underdetermined by the available evidence. Firstly, I have proposed here that the possessor is related to a DP-internal variable by movement, but there is a plausible compatible alternative in which the possessor is base-generated externally to the subject and binds a null *pro* within it. I adopt the movement analysis for concreteness, but nothing to my knowledge rules out the binding analysis.[14] Secondly, the nature of the landing

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[14]What arguments could adjudicate between a movement or binding analysis? One common test for whether a dependency the result of movement is whether or not it observes islands. But given that the possessor is necessarily in the same clause as the possessee, and left-branches are not islands in Choctaw (cf. (19)), this test is not applicable here. Another diagnostic of movement is whether or not it can cross over an intervening DP—movement is (often) unable to do this, while binding across interveners is unproblematic. However, given that EP-via-movement is compatible only with intransitive verbs (see footnote 15), we are unable to observe the effect of an intervening DP.

  A final test is whether the variable can be replaced with a pronoun. Vermeulen (2005) shows that in Japanese possessor raising constructions, the variable inside the the possessee *can* be replaced with a pronoun, as in (24). This he uses as evidence that the external possessor is base-generated outside the possessee NP, and binds a pronoun inside it.

(24)   ?John$_i$-ga kyonen-no   natu-ni    [(**kare$_i$-no**) titioya-ga]  nyuuin-sita
        John-NOM last.year-GEN summer-in [(**he-GEN**)   father-NOM] hospitalized
        'It is John whose (his) father was hospitalized in summer last year.'          (Vermeulen 2005:1339)

The sentence in (25) shows that the Choctaw reflexive pronoun *ilaap* is ungrammatical in the equivalent position. One interpretation of this fact is that the possessor-possessee relation in these EP constructions really is established

site of possessor movement remains mysterious—the identity of 'XP' and its A vs. A-status are unknown. It is plausibly a topic position, given Munro and Gordon's (1982:95) observation that subject EP makes the possessor "far more salient, both semantically and syntactically". But since the fronting of 'salient' DPs in Choctaw does not typically result in them receiving exceptional nominative case, something more must be said about this position.[15] In the absence of any further information, I stick with the label 'XP'.

Let's now turn to Choctaw's second available route to external possession—EP-via-Appl.

### 3.3 External possession via a base-generated applicative

I propose that in subject EP constructions like (27a) and object EP constructions like (27b), the external possessor is introduced as the specifier of a high applicative head (Pylkkänen 2008). I term this strategy for generating external possessors 'EP-via-Appl'.

(27)    a.    John-at    ofi im-abiika-h.
                John-NOM dog III-be.sick-TNS
                'John's dog is sick.'                      (subject EP-via-Appl)

        b.    Tasíbo-m-at    hina chanálli am-okpani-tok.
                crazy-DEM-NOM car      1SG.III-break.TR-PST
                'The crazy fool crashed my car.'                (object EP-via-Appl)

Turning first to EP-via-Appl clauses where the possessor is a subject, I propose that they have the structure in (28). The high applicative head takes as its complement VP—the phrase in which internal arguments are introduced—and serves as the complement of VoiceP—the phrase where external arguments may be introduced. In the absence of an external argument, the external possessor, as the highest argument, is attracted to the subject position Spec-TP. Appl assigns a dative feature to its specifier, causing it to be doubled by a class III clitic on the verb (in whose extended projection it was assigned dative). Note that I leave the internal structure of the possessee obscured for now—I return to it momentarily.
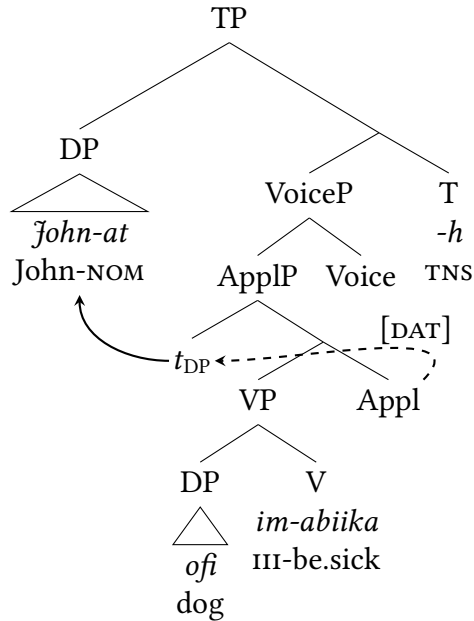
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via movement rather than binding. However, it is worth noting that the licensing conditions on *ilaap* are poorly understood, and there could be other reasons why a base-generated external possessor would not license *ilaap* (see Broadwell 1990:258–269 for discussion of *ilaap*). Ultimately, however, none of these tests are conclusive.

(25)    *John$_i$-at    piláashaash [**ilaap$_i$(-ạ)**    im-ófi] illi-tok.
        John-NOM yesterday    [**SELF(-ACC)** III-dog] die-PST
        ('John's (his own) dog died yesterday.')

[15]The analysis leaves an unsolved mystery for EP-via-movement: only intransitive subjects (unaccusative or unergative) may have external possessors. As (26) shows, EP-via-movement with transitive subjects is entirely ruled out. I have no account of this.
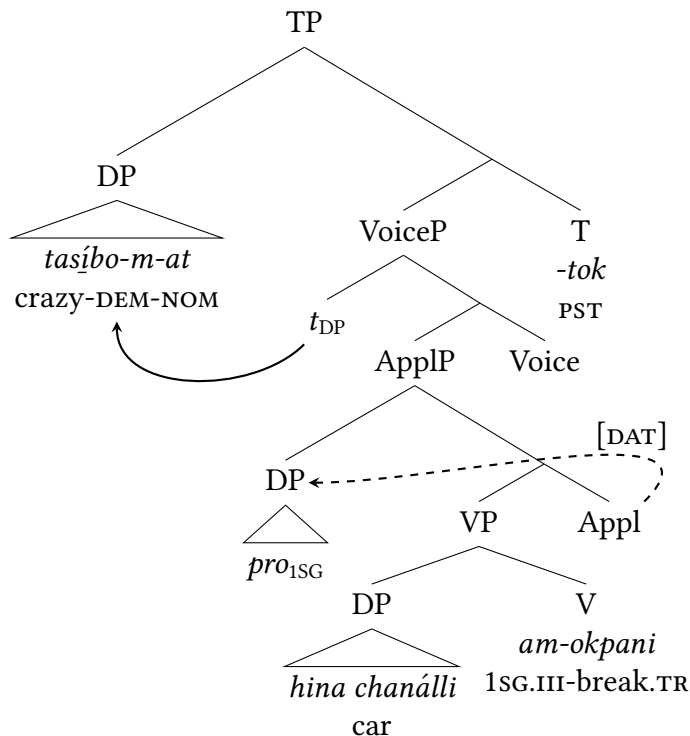
(26)    ?*Mary-at    im-ófi sa-kopooli-tok.
        Mary-NOM III-dog 1SG.II-bite-PST
        ('Mary's dog bit me.')

(28)

```
                    TP
          ┌──────────┴──────────┐
        DP                    ┌──┴──┐
      ──┴──                VoiceP    T
     John-at            ┌────┴───┐   -h
     John-NOM         ApplP   Voice  TNS
                    ┌───┴─────────┐
                    │           [DAT]
                   tDP ◀─────────┐
                 ┌──┴──┐        Appl
                VP    
             ┌───┴───┐
            DP        V
           ─┴─    im-abiika
           ofi    III-be.sick
           dog
```

The structure for object EP clauses, as in (27b), is almost the same, except that here there *is* an external argument in Spec-VoiceP. As a result the possessor in Spec-ApplP remains an object, and the external argument is attracted to the subject position instead. This is schematized in (29).

(29)

```
                         TP
            ┌─────────────┴──────────────┐
          DP                          ┌──┴──┐
      ─────┴─────                  VoiceP    T
     tasíbo-m-at                ┌────┴───┐  -tok
     crazy-DEM-NOM            tDP       │   PST
                                  ┌─────┴────┐
                                ApplP      Voice
                           ┌──────┴──────────┐
                          DP              [DAT]
                        ──┴──     ┌────────┐
                       pro_1SG  ┌─┴──┐   Appl
                               VP
                         ┌──────┴──────┐
                        DP              V
                      ───┴───      am-okpani
                  hina chanálli  1SG.III-break.TR
                       car
```

The idea that in some languages external possessors are base-generated externally to the possessee has a long pedigree—see Deal (2017) for an overview. Typically in such analyses, the external possessor comes to be interpreted as a possessor because it binds some kind of variable,

perhaps a null *pro* or PRO, inside the possessed DP (Guéron 1985, Borer and Grodzinsky 1986). In this paper, I argue instead that the argument in Spec-ApplP comes to be interpreted as the possessor of the theme by *delayed saturation*, also known as *delayed gratification* (Wood 2014, 2015, Myler 2014, 2016, Kastner 2016, 2017, Wood and Marantz 2017). This process essentially involves the higher argument (in Spec-ApplP) saturating a possessor $\theta$-role that is introduced but left unsaturated lower in the structure (within the DP). Following Myler (2016, 2014), I assume that DPs that are externally possessed via delayed saturation have an internal structure like (30). These DPs contain a Poss head, which introduces the possessor $\theta$-role, but by failing to merge an argument in Spec-PossP this $\theta$-role remains unsaturated within the DP and must instead be saturated further up the syntactic tree. The mechanical details of how the possessor $\theta$-role is 'passed up' the tree are laid out in full in section 7, and section 8 argues against a binding analysis explicitly.

(30)

```
              DP
            /    \
        PossP      D
        /   \
      nP    Poss
      /\
     /  \
    ofi
    dog
```
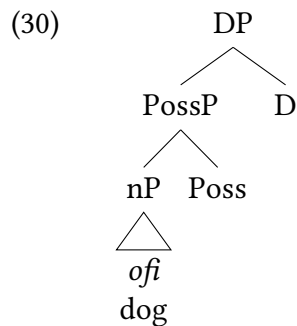
One crucial property of delayed saturation, which distinguishes it from binding analyses, is that the possessee contains no syntactic representation of the possessor, neither in the form of a null *pro*/PRO nor a movement trace: the higher DP comes to be interpreted as a possessor in the process of semantic composition. This explains why there is no class III clitic on the possessor in EP-via-Appl constructions: there is no DP-internal possessor to be assigned a dative feature.

In summary, I have proposed that Choctaw has two strategies for creating external possession structures. In one strategy—EP-via-movement—the possessor moves out of the DP occupying the canonical subject position into a higher position. In the other strategy—EP-via-Appl—-the possessor is base-generated as the specifier of an ApplP, directly above the VP. When there is an external argument merged above Spec-ApplP, the external possessor remains an object, deriving an object EP clause. When there is no external argument, the possessor will raise to occupy the subject position, deriving a subject EP clause.

In the following two sections, I show how two properties that distinguish EP-via-movement from EP-via-Appl straightforwardly follow from the structures proposed here. Those properties are firstly that a subjecthood diagnostic picks out different DPs as the subject across the two kinds of subject EP (section 4), and secondly that subject EP-via-Appl is restricted to unaccusatives, while EP-via-movement is not (section 5).

# 4   Subjecthood in the external possession constructions

I have proposed that in EP-via-movement, the possessee sits in the canonical subject position, with the possessor raising to some higher position. In EP-via-Appl, by contrast, the possessee

remains an object, and the possessor may (in subject EP configurations) go on to become the subject. In this section I provide support for these predictions by means of a subjecthood diagnostic.

The diagnostic works as follows: only subjects may associate with the extrinsic plural marker *okl(ah)*. Object DPs cannot.[16] (31) exemplifies typical use of *okl(ah)*: it shows up in preverbal position, optionally undergoing phonological cliticization onto the verb, and may associate with plural subjects. Sometimes *okl(ah)* provides the only indication that an argument is plural, as in (31a). Other times, *okl(ah)* associates with an argument whose plurality is already indicated by other means, as in (31b).

(31)  a.  Alla-at     aka̱ka    **okl**= ík-po-tok.
          child-NOM chicken **PL**=  NEG-eat.NEG-PST
          'The kids didn't eat the chicken.'

      b.  **Oklah** hapi-nokshoopa-t    taha-h.
          **PL**      1PL.II-be.scared-PRT finish-TNS
          'We're done being scared.'

Example (32) shows that *okl(ah)* cannot associate with 3rd-person objects.

(32)  Ohooyo-m-a̱      (***oklah**) pí̱sa-li-tok.
      woman-DEM-ACC (***PL**)    see.NG-1SG.I-PST
      'I watched the woman/women.'

With the distribution of *okl(ah)* established, we can use it as a diagnostic for the syntactic status of both the possessor and the possessee in the two subject EP constructions.

Considering first subject EP formed with EP-via-Appl, the examples in (33) show that *okl(ah)* can associate only with the possessor, and not with the possessee.

(33)  a.  Alíkchi-yat ofi   okl= im-abiika-h.
          doctor-NOM dog PL=  III-be.sick-TNS
          'The doctors' dog is sick'
          (*'The doctor's dogs are sick')

      b.  *John-at    ofi  **okl**= im-abiika-h.
          John-NOM dog **PL**=  III-be.sick-TNS
          ('John's dogs are sick')

This follows as a consequence from the syntactic structure proposed for these clauses in (28): the possessor is a subject, the possessee is an object.[17]

Turning now to subject EP formed with EP-via-movement, speakers' judgments are somewhat

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[16]Tyler (in press-b) provides evidence that *okl(ah)* can associate with objects that are clitic-doubled—i.e. 1st/2nd-person objects. However, since possessees are necessarily 3rd-person (1st/2nd-person entitites being *a priori* non-possessable), this property of *okl(ah)* does not confound its usefulness as a subjecthood test. Broadwell (2006) also notes that *okl(ah)* may be placed in pre-verb or pre-object position, but all the examples I provide here have *okl(ah)* in pre-verb position, as my consultants found it significantly more natural.

[17]Munro (1999) shows that in subject EP in Chickasaw, the possessor can associate with the preverbal plural-subject marker *hoo-* and the possessee cannot, thus making the same point about Chickasaw that I make for Choctaw: the possessor is treated as the subject, the possessee as the object.

more variable, but for those who allow *okl(ah)* to appear at all in this construction, it necessarily associates with the *possessee*—the reverse situation from EP-via-Appl. This is shown in (34).

(34)   a.   %John-at     im-ófi  okl= abiika-h.
            John-NOM III-dog PL     be.sick-TNS
            'John's dogs are sick.'

       b.   %Alíkchi-at    im-ófi  okl= abiika-h.
            doctor-NOM III-dog PL     be.sick-TNS
            'The doctor's dogs are sick.'
            (*'The doctor's dog is sick.')

For speakers who find these sentences acceptable, the ability of the possessee to associate with *okl(ah)* falls straightforwardly out of the syntactic structure for EP-via-movement proposed in (23b): the possessee occupies the subject position.[18] However, it is less clear why the raised possessor should be unable to associate with *okl(ah)*. One possibility is that *okl(ah)* is strictly subject-oriented, and the landing site of the raised possessor, not being the canonical subject position, is not a licit home for *okl(ah)*'s associate. However, this account runs into difficulty if we consider the data reported in Tyler (in press-b) that *okl(ah)* can be licensed by 1st and 2nd-person clitic-doubled objects (see footnote 16). An alternative possibility is to assume that the external possessor position functions in some sense as an A'-position, since we do have independent evidence that movement to an A'-position is insufficient to allow a DP to associate with *okl(ah)*: in (35), for instance, the object is fronted, yet still may not associate with *okl(ah)*.

(35)   Hattak alhiiha-m-a̱, Mary-at     (*okl=) ik-achokmáhno-h.
       man     PL-DEM-ACC Mary-NOM (*PL)   NEG-like.NEG-TNS
       'Those men, Mary doesn't like.'

Therefore if the position for external possessors counts as an A'-position, it makes sense that external possessors in EP-via-movement constructions should be unable to associate with *okl(ah)*.

In summary, the subject diagnostic of *okl(ah)*-licensing provides support for the bifurcated analysis presented in section 3. It shows that in subject EP formed with EP-via-Appl, the possessor is treated as a subject and the possessee as an object. And in subject EP formed with EP-via-movement, the possessee instead is what counts as the subject. In the next section, I examine another difference between the two kinds of EP. Like the one examined in this section, it also follows straightforwardly from the bifurcated analysis proposed in section 3.

# 5   EP-via-Appl is only compatible with internal arguments

We have seen that Choctaw allows external possession of subjects (section 2.2.1). Under the bifurcated analysis of subject EP presented in section 3, we predict that the two ways of forming subject EP should differ in whether they allow an external argument to function as the possessee of an external possessor. In the EP-via-Appl strategy, the possessor is necessarily merged in Spec-ApplP, and the mechanism by which this argument comes to be interpreted as a possessor—

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[18]I provide no explanation here for why some speakers entirely reject *okl(ah)* in EP-via-movement structures.

delayed saturation (section 7)—requires that the possessor c-command its possessee. Given that Voice will always be merged higher than Appl, the DP in Spec-ApplP should be precluded from being interpreted as the possessor of an external argument. Subject EP constructed with the EP-via-movement strategy, on the other hand, should not be subject to this constraint: it should in theory be possible for the external possessor in this construction to associate with any subject, regardless of whether it originated as an internal or external argument.

In section 5.1 I provide preliminary empirical support for these predictions, before turning in section 5.2 to a brief discussion of how intransitive verbs can be diagnosed as unaccusative or unergative in Choctaw.

## 5.1 No EP-via-Appl of external arguments

The analysis in section 3.2 predicts that external possessors in EP-via-movement clauses should be able to serve as the possessor of any subject—external or internal—while external possessors in EP-via-Appl clauses should only be able to associate with internal arguments.[19]

These predictions are largely confirmed. Below we see that possessors in EP-via-movement constructions can be associated with unaccusative subjects (36) and unergative subjects (37) (the unaccusative/unergative split in Choctaw is given a more formal treatment in section 5.2).

(36)   a.   Mary-at     im-alla  abiika-h.
            Mary-NOM III-child be.sick-TNS
            'Mary's kid got sick.'

       b.   Alíkchi-yat im-ófi  illi-tok.
            doctor-NOM III-dog die-PST
            'The doctor's dog died.'

(37)   a.   Mary-at     im-alla  taloowa-tok.
            Mary-NOM III-child sing-PST
            'Mary's kid sang.'

       b.   Alíkchi-yat im-ófi  wohwa-tok.
            doctor-NOM III-dog bark-PST
            'The doctor's dog barked.'

By contrast, external possessors in EP-via-Appl constructions may only associate with unaccusative subjects, as in (38) (see also (2c), (11c) and (12b)), and not with unergative subjects, as in (39).

(38)   a.   Alla tiik-m-at       lokka lo̱bo i̱-lhilaafa-h.
            child girl-DEM-NOM shirt     III-tear.INTR-TNS

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[19]It is worth noting that Baker's (1988) analysis, which was intended to cover all Choctaw "possessor raising" and did not distinguish between the two strategies differentiated here, similarly predicts that subject possessor raising should only be possible with unaccusatives. Broadwell (1990, 2006) argues against this analysis, showing that certain motion verbs, which show unergative-like agreement, are compatible with external possession. I do not believe that this argument goes through, for two reasons. Firstly, there is evidence that motion verbs in Choctaw are not straightforwardly unergative (see section 5.2). Secondly, Broadwell does not clarify which of the two kind of EP he is referring to, and, as outlined in this section, I found that this makes a crucial difference.

'The girl's shirt tore.'

    b.      Báalokka-t a̱-litíiha      yaa-tok.
                *pro*$_{1SG}$ pants-NOM 1SG.III-be.dirty be-PST
                'My pants had become dirty.'

(39)   a.   *alíkchi-yat  ofi  i̱-wohwa-tok.
           doctor-NOM dog III-bark-PST
           ('The doctor's dog barked.')

      b.   *       hoshi a̱-taloowa-tok
           *pro*$_{1SG}$ bird   1SG.III-sing-PST
           ('My bird sang.')

And as shown in (40), external possessors in transitives can only associate with the internal argument (the object), not the external argument (the subject).

(40)    Ofi-yat   báalokka a̱-lhilaffi-h.
        dog-NOM pants    1SG.III-tear.TR-TNS
        'The dog tore my pants.'
        (*'My dog tore the pants.')

In summary, we have seen that the predictions of the bifurcated analysis are largely borne out: those intransitives that are likely unaccusative allow their subject to be externally possessed with EP-via-movement *and* EP-via-Appl constructions. Those intransitives that are likely unergative only allow their subject to be externally possessed through the EP-via-movement construction. For transitive verbs, only the internal argument (the object) can be related to a possessor through EP-via-Appl.[20]

In the second part of this section, I discuss in more detail the unergative/unaccusative split in Choctaw, and how this lines up with the availability of EP-via-Appl.

## 5.2   On unaccusativity in Choctaw

In section 5.1 I argued that, for intransitive verbs, compatibility with EP-via-Appl requires unaccusativity. In order to assess the validity of this claim, we would ideally have access to a 'silver bullet' diagnostic that would categorize intransitive verbs as unaccusative or unergative. There is no such diagnostic, but what we do have is a pair of properties that *largely* pattern together with the availability of EP-via-Appl, though not perfectly. I argue that these properties can be used as imperfect tests for unaccusativity, and taken together they support the analysis.

The first property is the choice of clitic used to index the subject. Recall from section 2 that Choctaw clitics exhibit an *active* alignment, where the clitic used to index an argument reflects the argument's thematic role. Davies (1981a, 1986), Rosen (1984) and Baker (1988) have proposed that subjects indexed by class I clitics are unergative, and subjects indexed by class II clitics are unaccusative. This would mean that verbs like (41a) are unergative, and those like (41b) are unaccusative.

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[20]A mystery still remains about why EP-via-movement is incompatible with transitive subjects (see footnote 15). I have no account of this restriction.

(41) a. **Ish**-taloowa-tok-ǫ?
2sg.i-sing-pst-q
'Did you sing?'

b. **Chi**-abiika-tok-ǫ?
2sg.ii-be.sick-pst-q
'Were you sick?'

To my knowledge, *almost* all of the intransitive verbs that permit EP-via-Appl index their subject with class II clitics, supporting the claim that EP-via-Appl is compatible only with unaccusative verbs.[21] However, there is at least one class of exceptions: Broadwell (2006:308) finds that for some speakers, EP-via-Appl constructions are possible with some motion verbs, as in (42a), despite the fact that they index their subject with class I clitics, shown in (42b).[22]

(42) a. Pam-at   katos-at i̠-baliili-h.
Pam-nom cat-nom iii-run-tns
'Pam's cat is running.'                                          (Broadwell 2006:307)

b. **Ish**-baliili-h-ǫ?
2sg.i-run-tns-q
'Are you running?'

I return to the 'mixed' properties of motion verbs momentarily.

The second property of verbs that closely matches compatibility with EP-via-Appl constructions is auxiliary selection. As Broadwell (1988, 2006) observes, verbs with agent subjects generally co-occur with one class of auxiliaries—exemplified by *tahli* in (43a)—while verbs with theme-like subjects generally co-occur with a different class—exemplified by *taha* in (43b).[23]

(43) a. Suzie-at   taloowa-t **tahli**-h.
Suzie-nom sing-ptcp finish-tns
'Suzie's finished singing.'

b. Suzie-at   abiika-t   **taha**-h.
Suzie-nom be.sick-ptcp finish-tns
'Suzie got really sick.'

---

[21]The diagnostic is not bidirectional: there are plenty of intransitive verbs that index their subject with a class II clitic that nonetheless reject EP-via-Appl. The incompatibility can stem from other factors—for instance, see section 7.4 for discussion of a *mental affectedness* condition on external possessors.

[22]The Mississippi Choctaw speakers I consulted did *not* find EP-via-Appl to be compatible with motion verbs. For them, (42a) only has the non-EP interpretations 'Pam is running from/for the cat'. This is likely a point of dialectal or generational variation, which requires detailed microcomparative study. Underscoring the variation in this domain, Broadwell (2006:308) states that subject EP is compatible with *baliili* 'run', but is *in*compatible with *yopi* 'swim'. Yet Carden et al. (1982) provide an example of EP-via-Appl with *yopi* in closely-related Chickasaw. Martin (1999) also shows that subject EP is compatible with motion verbs is the more distantly related Eastern Muskogean language Creek.

[23]*Tahli* and *taha* are not straightforward semantic equivalents—*taha* seems to have an intensifying function that *tahli* lacks, as illustrated in the translation of (43b). Nonetheless, the distribution of the pair is syntactically determined.

To my knowledge, all intransitive verbs compatible with EP-via-Appl are selected by *taha*-class auxiliaries. If auxiliary selection can be used to diagnose unaccusativity (as in Romance and Germanic languages), then this supports the claim that EP-via-Appl is only compatible with un-accusative subjects.

In fact, the auxiliary selection diagnostic allows us to re-evaluate motion verbs: Broadwell (1988) and Broadwell and Martin (1993) show that motion verbs pattern like unaccusatives with respect to auxiliary selection, shown in (44).

(44)  Iya-t     ii-taha-h.
      go-PTCP 1PL.I-finish-TNS
      'We all went.'                                    (Broadwell and Martin 1993:6)

This, I believe, can explain why some speakers permit EP-via-Appl with motion verbs: the subject is *not* an external argument. As for why motion verbs pattern like unergatives with respect to clitic choice (cf. (42b)), I lack the space to provide a full analysis, but internal arguments ending up indexed by class I clitics is not unprecedented in Choctaw: for instance, Tyler (in press-b) shows that typically-class-II psych subjects may exceptionally become class I so as to avoid banned clitic clusters.

Before moving on, it is worth noting that Choctaw EP-via-Appl conforms to a cross-linguistic generalization that where languages do permit external possession of subjects, generally only *unaccusative* subjects may be externally possessed, with unergatives being ineligible (Massam 1985, Baker 1988, König and Haspelmath 1998, Haspelmath 1999). This pattern is found in Hebrew (Borer and Grodzinsky 1986), Acehnese (Durie 1987), Chamorro (Gibson 1990), Southern Tiwa (Allen et al. 1990), Korean (Kim 1995) and Chimwiini (Henderson 2014), as well as the related Eastern Muskogean language Creek (Martin 1999), among others. The EP-via-movement strategy, by contrast, seems to belong to a different cross-linguistic class of external possession constructions, which Deal (2017) terms 'Type B' external possession constructions. This class includes multiple subject constructions in Japanese (Ura 1996, Vermeulen 2005), Flemish (Haegeman and Danckaert 2013), and perhaps Kala Lagaw Ya (Roberts 1978). These EP constructions are not restricted to particular kinds of verbs, and the external possessor is located in a topical or otherwise discourse-related position, just as in the analysis of EP-via-movement in (23b).

In this section I have provided further support for the bifurcated analysis of Choctaw external possession: the EP-via-Appl strategy may only allow *internal* arguments to have external possessors, but excludes external arguments. The EP-via-movement strategy, on the other hand, allows both internal and external arguments have external possessors. This difference, and the one discussed in the previous section, both fall straightforwardly out of the bifurcated analysis proposed in section 3.

In the next section, I argue that the bifurcated analysis makes available a natural account of an additional difference between the two kinds of external possession: the fact that EP-via-Appl is more restricted than internal possession in terms of the possible possession relations that it may encode, while EP-via-movement is not.

# 6 Restrictions on the type of possession relation

In this section, I show that two morphologically-distinct kinds of noun cannot be related to their possessors with EP-via-Appl structures—instead they are only compatible with internal possession, and with EP-via-movement (which, I have proposed, is derived from internal possession, cf. section 3.2). The disallowed possessors are *inalienable* possessors and *obligatory* possessors. I propose that both of these kinds of possessors are introduced in Spec-nP, rather than Spec-PossP, and that the *n* that associates with these roots, unlike Poss, *must* have a specifier. This makes them incompatible with EP-via-Appl, in which the possessor $\theta$-role is saturated DP-externally, but does not affect their compatibility with EP-via-movement, which is built off an internal possession structure.

Let's first consider inalienable possessors. Recall from section 3.1 the proposal that inalienable possessors, like those in (45a), have the structure in (45b), in which the possessor is merged as the specifier of nP, and does not receive the dative feature that leads to indexing by a class III clitic.

(45)   a.   sa-shakba / sa-shki    / sa-hohchífo
            1SG.II-arm / 1SG.II-mother / 1SG.II-name

       b.
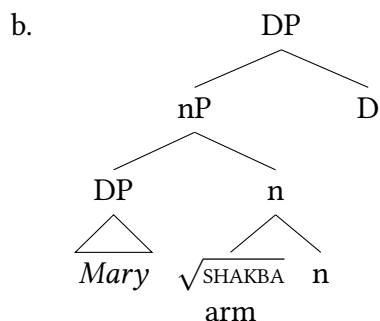


Inalienable possessors are incompatible with EP-via-Appl, as shown in (48) for subject EP-via-Appl and (49) for object EP-via-Appl (see also Nicklas 1974).[24]

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[24]This restriction must be subject to dialectal variation, as Davies (1986) provides the example in (46a), in which the inalienably-possessed DP *iyyi* 'leg' shows up in a standard EP-via-Appl configuration. Nonetheless, even in the dialect documented by Davies, not all inalienably-possessed DPs are compatible with EP-via-Appl. His example in (46b) shows that EP-via-Appl is still incompatible with *ishki* 'mother'—an inalienable noun with a class II possessor.

(46)   a.   Iyyi-t    a̲-hottopa-h.
            leg-NOM 1SG.III-hurt-TNS
            'My leg hurts.'                                        (Davies 1986:46)

       b.   *ishki-t    a̲-himmita-h
            mother-NOM 1SG.III-young-TNS
            'My mother is young.'                                 (Davies 1986:58)

Furthermore, some varieties of Choctaw exhibit a construction by which body-part possessors may be simultaneously indexed on the verb and the possessee with a class II clitic. Examples like (47) are documented in detail by Davies (1984).

(48)  a.  Sa-shakba-yat    kobaafa-tok.
          1SG.II-arm-NOM break.INTR-PST
          'My arm broke.'

      b.  *shakba-yat a̱-kobaafa-tok
          arm-NOM    1SG.III-break.INTR-PST

(49)  a.  Sa-shakba kobaffi-tok.
          1SG.II-arm break.TR-PST
          'She broke my arm.'

      b.  *shakba    a̱-kobaffi-tok
          arm-NOM 1SG.III-break.TR-PST

This restriction follows if we assume that the *n* that associates with inalienably-possessed nouns has a syntactic requirement for a specifier (on specifier requirements of functional heads, see Wood 2015, Kastner 2016). The possessor $\theta$-role is therefore always saturated DP-internally, and a structure cannot be built in which the possessor $\theta$-role is saturated by an external DP.

The second kind of possessor that cannot be related to its possessee with EP-via-Appl is the *obligatory* possessor. Obligatory possessors are indexed with class III clitics, like alienable possessors, yet unlike alienable possessors they cannot appear without a possessor clitic. The class of obligatorily-possessed nouns is composed entirely of relational nouns, and includes some kinship terms. (50) provides two examples.

(50)  a.  a̱-ká̱na        / i̱-ká̱na     / *ká̱na
          1SG.III-friend / III-friend / *friend

      b.  a̱-ki          / i̱-ki       / *ki
          1SG.III-father / III-father / *father

The examples in (51) and (52) show that these nouns cannot be related to their possessor with EP-via-Appl structures, neither for subjects nor objects.

(51)  a.  A̱-ki-yat          illi-h.
          1SG.III-father-NOM die-TNS
          'My father died.'

---

(47)  a.  Sa-yyi-t       sa-basha-h.
          1SG.II-leg-NOM 1SG.II-cut-TNS
          'My leg is cut.'

      b.  Chi-nishkin-at chi-hottopa-h-o̱?
          2SG.II-eye-NOM 2SG.II-hurt-TNS-Q
          'Do your eyes hurt?'                                    (Davies 1984:387)

The relationship between this construction and the EP constructions discussed in this paper is not clear, and further investigation is hampered by the fact that examples such as these are not readily accepted by the speakers of Mississippi Choctaw I consulted. Note also that Martin (1999:240) describes a similar construction in Creek (Eastern Muskogean).

    b.   \*ki     am-illi-h
           father 1SG.III-die-TNS

(52)   a.   John-at   a̱-ki       aapisá̱chi-tok.
             John-NOM 1SG.III-father look.after.NG-PST
             'John looked after my father.'

      b.   \*John-at   \*ki     am-aapisá̱chi-tok
             John-NOM father 1SG.III-look.after.NG-PST

I propose that obligatory possessors have a syntax very similar to that of inalienable possessors: the possessor is introduced in Spec-nP, rather than Spec-PossP, and just as with inalienable possessors, *n* has a syntactic requirement for a specifier. The only difference is that with these nouns, *n* exceptionally assigns a dative feature to the DP in Spec-nP, as schematized in (53). This dative feature causes the possessor be indexed by class III clitics, rather than class II.[25]

(53)
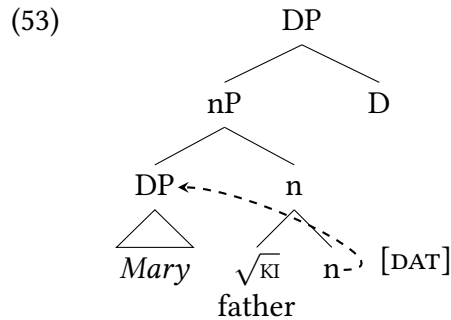


As with inalienably-possessed nouns, *n*'s specifier requirement in obligatorily-possessed nouns means that the possessor $\theta$-role it introduces will always be saturated DP-internally, and so cannot be saturated by an external DP in an EP-via-Appl structure.

    In this section so far, I have shown that inalienably-possessed and obligatorily-possessed nouns in Choctaw are incompatible with EP-via Appl. I have proposed that this is because both kinds of noun have a syntactic requirement for a DP-internal possessor. In contrast, both kinds of noun are fully compatible with EP-via-movement structures: (54) shows inalienable possessors participating in EP-via-movement, and (55) shows the same for an obligatory possessor.

(54)   a.   Chókfi-at   haksobis falaaya-h.
             rabbit-NOM ear      be.long-TNS
             'The rabbit's ears are long.'

      b.   Chishn-ak-oosh chi-noshkobo chito-h.
             you-FOC-NOM    2SG.II-head   be.big-TNS
             'You're the one with a big head.'

---

[25]There is an interesting parallel between dative assignment within the nominal domain and dative assignment within the verbal domain. In both domains, there is an optional argument-introducing functional head which always assigns dative to its specifier (Poss and Appl), as well as a flavor of the categorizing head (*n* and *v*) which assigns dative only to certain, selected internal arguments. See Tyler (in press-a) for discussion of dative-assignment within the verbal domain.

(55)     Bill-at     i̱-kano̱mi    abiika-tok.
         Bill-NOM III-relative  be.sick-PST
         'Bill's cousin was sick.'

This is what we would expect: the possessors in each case are introduced inside the possessed DPs, prior to moving out, and thus the DP's syntactic requirement for an internal possessor is fulfilled.

In the next section, I make explicit the syntax and semantics of EP-via-Appl, and show that it can account for some of the interpretative differences between EP-via-Appl and the other ways of conveying possession relations.
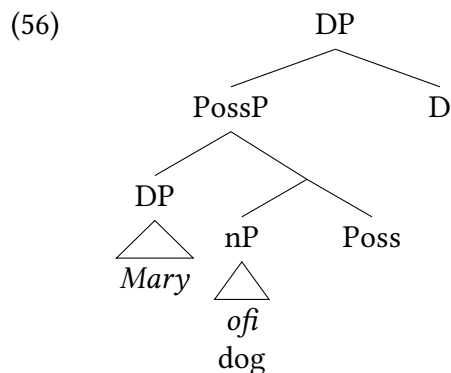
# 7 $\theta$-role assignment in possessives and applicatives

In this section, I provide an account of the mechanics of semantic composition in internal possession (section 7.1), applicatives (section 7.2) and, bringing them together, EP-via-Appl (section 7.3). The account crucially makes use of the technology of *delayed saturation*, by which an unsaturated thematic role can be introduced by a functional head low in the structure but ultimately saturated by a DP argument merged as the specifier of a higher functional head (Wood 2014, 2015, Myler 2014, 2016, Kastner 2016, 2017, Wood and Marantz 2017). Because the recipient of the 'delayed' $\theta$-role may also receive a thematic role from the local functional head it merges with (e.g. Appl), a DP may simultaneously receive two $\theta$-roles. In this way, we can account for several semantic properties of possessors in EP-via-Appl that do not hold for internal possession or EP-via-movement (section 7.4).

## 7.1   Composing internal possession structures

In this section, I outline how alienable internal possession structures are semantically composed. This is a necessary precursor for understanding how EP-via-Appl structures are semantically composed (see section 7.3). Note that I only discuss alienable possession—inalienable possession is less relevant here, since it is incompatible with EP-via-Appl (section 6).

Recall from section 3.1 the proposal that DPs containing alienable possessors, such as *Mary im-ófi* 'Mary's dog', have the structure in (56) (I do not show dative assignment to the possessor, since it does not affect interpretation).

(56)

```
                      DP
                   /      \
              PossP         D
             /     \
          DP         \
         /\         nP    Poss
       Mary        /\
                  ofi
                  dog
```

I assume the syntactic pieces in (56) have the denotations in (57). Note that while I have D as a definite determiner, this is not crucial to the analysis.

(57)     $[\![ \, [_{\text{nP}} \text{ ofi}] \, ]\!] = \lambda x_e. \text{ dog}(x)$
       $[\![ \text{ Poss } ]\!] = \lambda P_{\langle e,t \rangle}.\lambda z_e.\lambda y_e. \text{ P}(y) \wedge \text{Poss}(z,y)$
       $[\![ \, [_{\text{DP}} \text{ Mary}] \, ]\!] = \text{mary}$
       $[\![ \text{ D } ]\!] = \lambda P_{\langle e,t \rangle}.\iota x. \text{ P}(x)$

The semantic composition of (56), employing only Functional Application, is shown in (58).[26]

(58)

$$
\begin{array}{c}
\text{DP} \\
\iota y.\text{dog}(y) \wedge \text{Poss}(\text{mary},y)
\end{array}
$$

PossP
$\lambda y.\text{dog}(y) \wedge \text{Poss}(\text{mary},y)$     D
                      $\lambda P.\iota x.\text{P}(x)$

DP        Poss'
mary     $\lambda z.\lambda y.\text{dog}(y) \wedge \text{Poss}(z,y)$

*Mary*    nP          Poss
       $\lambda x.\text{dog}(x)$    $\lambda P.\lambda z.\lambda y.\text{P}(y) \wedge \text{Poss}(z,y)$

*ofi*
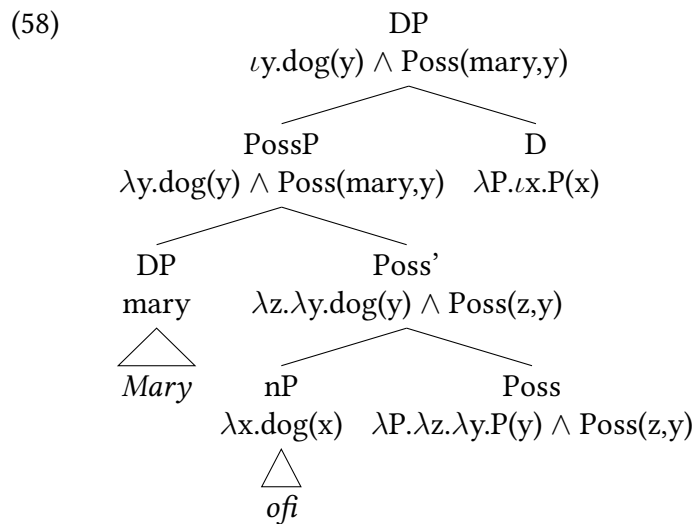
Next, we turn to how applicative structures are composed in Choctaw, before combining applicatives with possession and deriving the semantic composition of EP-via-Appl structures.

## 7.2   Composing applicatives

It was proposed in section 3.3 that Choctaw has high applicatives, in the sense of Pylkkänen (2008), which may sometimes be interpreted as external possessors of a lower argument. In support of the claim that Choctaw has high applicatives, (59) shows that applied arguments are compatible with unergatives, and may be related to events—in this case as a beneficiary—rather than to individuals.

(59)     Jenny-at     a̱-taloowa-tok.
       Jenny-NOM 1SG.III-sing-PST
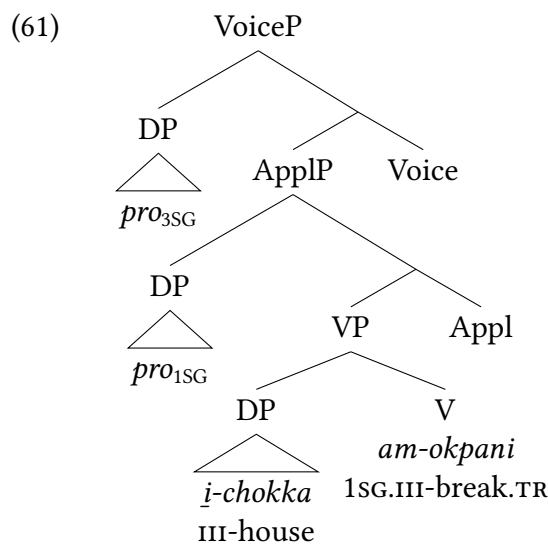       'Jenny sung for me.'

Here, I focus on applicative structures where there is a lower verb-selected theme argument too, since this is invariably the case in EP-via-Appl structures.

---

[26]I do not show the semantic composition of the root and the categorizing head *n*, since I have nothing to add to this theoretically contentious issue.

To illustrate the semantic composition of a VoiceP featuring a non-EP applicative argument, consider the second clause in (60) (in brackets).

(60)     Wiha-t        chokkowaa-li-fokkaali-hm-a̱ [i̱-chokka am-okpani-t              tahli-tok].
         move-PTCP enter-1SG.I-almost-when-DS III-house 1SG.III-break.TR-PTCP AUX-PST
         'When I was just about to move into it, he tore down his house on me.'

The applied argument (indexed by the class III clitic *am-* on *okpani* 'break') is interpreted here as a maleficiary or affectee of the event—the theme argument *i̱-chokka* 'their house' already has a possessor, as evidence by its 3rd-person class III clitic, so the applied argument here cannot be interpreted as its external possessor.[27] I assume this clause has the structure in (61), following Pylkkänen (2008) and others (again, not showing dative assignment).
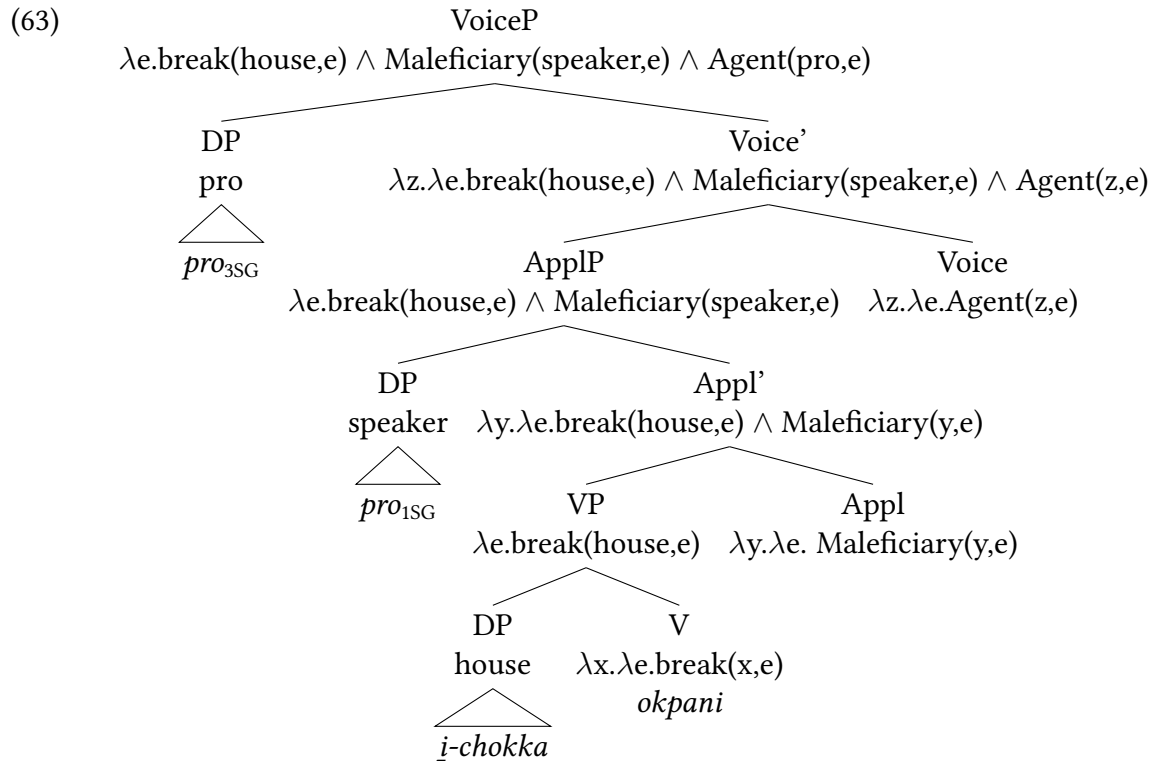
(61)

```
                VoiceP
               /      \
             DP        \
            / \      ApplP    Voice
        pro_3SG     /    \
                  DP      \
                 / \      VP      Appl
            pro_1SG    /    \
                      DP      V
                     / \    am-okpani
               i-chokka   1SG.III-break.TR
               III-house
```

Turning to the semantic composition of the structure, I assume that the syntactic pieces in (61) have the denotations in (62).[28]

(62)     ⟦ okpani ⟧ = $\lambda x_e.\lambda e_s.$break(x,e)
         ⟦ [DP i̱-chokka] ⟧ = house
         ⟦ Appl ⟧ = $\lambda y_e.\lambda e_s.$ Maleficiary(y,e)
         ⟦ [DP *pro*_1SG] ⟧ = speaker
         ⟦ Voice ⟧ = $\lambda z_e.\lambda e_s.$ Agent(z,e)
         ⟦ [DP *pro*_3SG] ⟧ = pro

---

[27]I do not take a position on how the $\theta$-role introduced by Appl is determined or constrained. One could imagine that each kind of thematic role is assigned by a different 'flavor' of Appl head (Bosse et al. 2012). Alternatively, there could be a single Appl head capable of assigning a range of thematic roles depending on syntactic/semantic context (Marantz 2013, Wood 2015).

[28]The denotation of *okpani* 'break' may be a simplification, and it is possible that internal or theme arguments must be introduced by a functional head separate from the root or verbal categorizing head, just like agents (Voice) or beneficiaries (Appl). Nonetheless, to keep the derivations shorter, I do not adopt this extra complication.
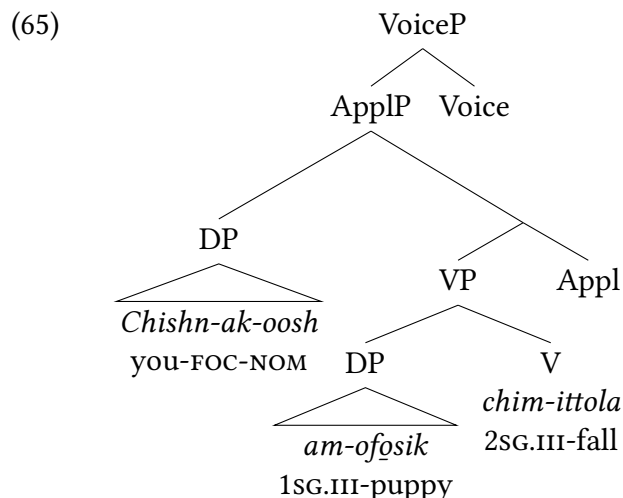
And I assume that they compose as in (63). Note that the verb introduces an event variable, which is subsequently identified with the thematic roles introduced by Appl (maleficiary) and Voice (agent) via *Event Identification* (Kratzer 1996).

(63)

VoiceP
$\lambda$e.break(house,e) $\wedge$ Maleficiary(speaker,e) $\wedge$ Agent(pro,e)

DP
pro
*pro*$_{3SG}$

Voice'
$\lambda$z.$\lambda$e.break(house,e) $\wedge$ Maleficiary(speaker,e) $\wedge$ Agent(z,e)

ApplP
$\lambda$e.break(house,e) $\wedge$ Maleficiary(speaker,e)

Voice
$\lambda$z.$\lambda$e.Agent(z,e)

DP
speaker
*pro*$_{1SG}$

Appl'
$\lambda$y.$\lambda$e.break(house,e) $\wedge$ Maleficiary(y,e)

VP
$\lambda$e.break(house,e)

Appl
$\lambda$y.$\lambda$e. Maleficiary(y,e)

DP
house
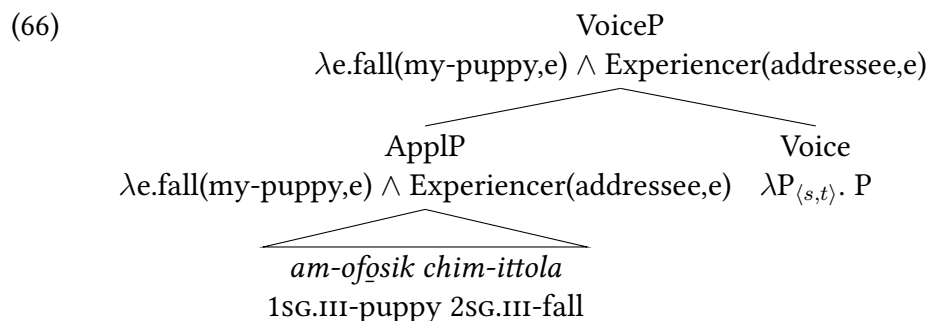*i-chokka*

V
$\lambda$x.$\lambda$e.break(x,e)
*okpani*

It was also proposed in section 3.3 applied arguments may be introduced in the absence of an external argument, in which case the applied argument may go on to become the subject of the clause. An example of such a sentence, which does not involve external possession, is given in (64b) (example (64a) shows the same sentence without an applied subject). Here, the applied argument is interpreted as a kind of experiencer.

(64)  a.  Am-ofo̱sik-at       ittola-tok.
          1SG.III-puppy-NOM fall-PST
          'My puppy fell down.'

      b.  **Chishn-ak-oosh** am-ofo̱sik       **chim**-ittola-tok.
          **you-FOC-NOM**       1SG.III-puppy **2SG.III**-fall-PST
          'YOU dropped my puppy.'

The syntactic structure for (64b), up to the VoiceP layer, is shown in (65) (again omitting dative assignment to the applied argument).

(65)

```
                        VoiceP
                       /      \
                   ApplP      Voice
                  /      \
                DP         \
               /  \         VP        Appl
        Chishn-ak-oosh     /  \
        you-FOC-NOM     DP      V
                       /  \   chim-ittola
                   am-oḷosik  2SG.III-fall
                   1SG.III-puppy
```

The structure composes just like that in (63) until Voice is merged. Here, rather than introducing an agent $\theta$-role, Voice is *expletive* (on which see Wood 2015), and is simply interpreted as an identity function. Semantic composition with expletive Voice is illustrated in (66).

(66)

```
                              VoiceP
              λe.fall(my-puppy,e) ∧ Experiencer(addressee,e)
                         /                        \
                     ApplP                       Voice
        λe.fall(my-puppy,e) ∧ Experiencer(addressee,e)   λP⟨s,t⟩. P
                      /        \
              am-oḷosik chim-ittola
            1SG.III-puppy 2SG.III-fall
```
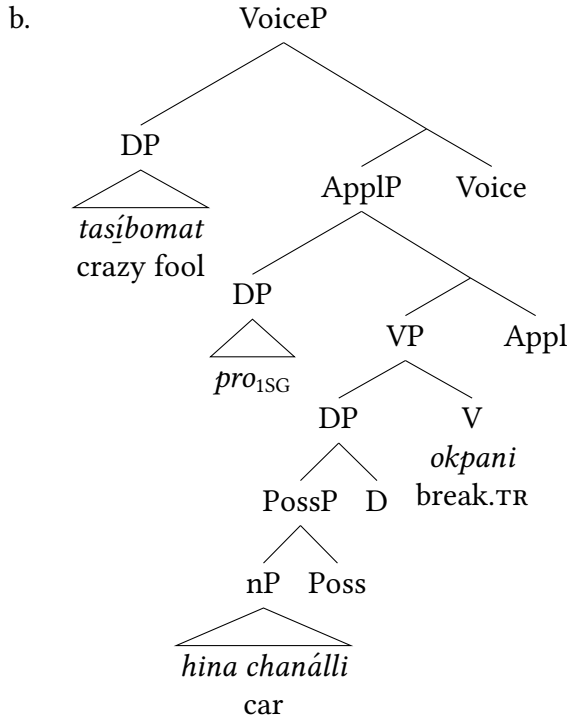
Having established how semantic composition proceeds in internal possession structures (section 7.1) and non-EP applicative structures (this section), we can now turn to semantic composition in EP-via-Appl structures, where elements of both are combined.

## 7.3   Composing EP-via-Appl structures

The syntax of the EP-via-Appl sentence in (67a), which features EP-via-Appl of an object, is given in (67b) (we will turn to EP-via-Appl of subjects next). As discussed in section 3.3, the possessed DP contains a specifierless Poss head—this head introduces the possessor $\theta$-role, just as in the internal possession structure in (58). But unlike there, Poss here introduces no specifier, so the $\theta$-role is not immediately saturated. The intuition behind the analysis here is that the saturation of this $\theta$-role is 'delayed' until the next viable contender for the $\theta$-role is merged in a higher position—in this case, the applied argument in Spec-ApplP.

(67)   a.   Tasíbo-m-at      hina chanálli am-okpani-tok.
            crazy-DEM-NOM car          1SG.III-break.TR-PST
            'The crazy fool crashed my car.'

b.

VoiceP
- DP — *tasíbomat* crazy fool
- ApplP
  - DP — *pro*$_{1SG}$
  - VP
    - DP
      - PossP
        - nP — *hina chanálli* car
        - Poss
      - D
    - V — *okpani* break.TR
  - Appl
- Voice

Turning to the denotations of the syntactic pieces in (67b), they are essentially the same as in (57) and (62) (*mutatis mutandis* some different names and nouns). Regarding the $\theta$-role introduced by Appl, I propose that in EP-via-Appl structures it introduces an *affectee* $\theta$-role, for which I provide empirical support in section 7.4.

In order to compose EP-via-Appl structures correctly, we need to appeal to a special composition rule of *Function Composition*. Function Composition has been employed for a number of purposes in semantics (e.g. Ades and Steedman 1982, Kratzer 2000, Kobele 2010), most relevantly in recent work arguing that delayed saturation of $\theta$-roles is a core part of the syntax-semantics interface (Wood 2014, 2015, Myler 2016, Wood and Marantz 2017). Intuitively, Function Composition applies "when the results of one function provide the argument for another" (Wood 2015:25). A formal definition is provided in (68).

(68)   **Function Composition** (definition from Wood 2015:25)
If $\alpha$ is a branching node, $\{\beta, \gamma\}$ is the set of $\alpha$'s daughters, where $\beta$ is in $D_{\langle b,c \rangle}$ and $\gamma$ is in $D_{\langle a,b \rangle}$, then $[\![\alpha]\!] = \lambda x_a.[\![\beta]\!]([\![\gamma]\!](x))$.
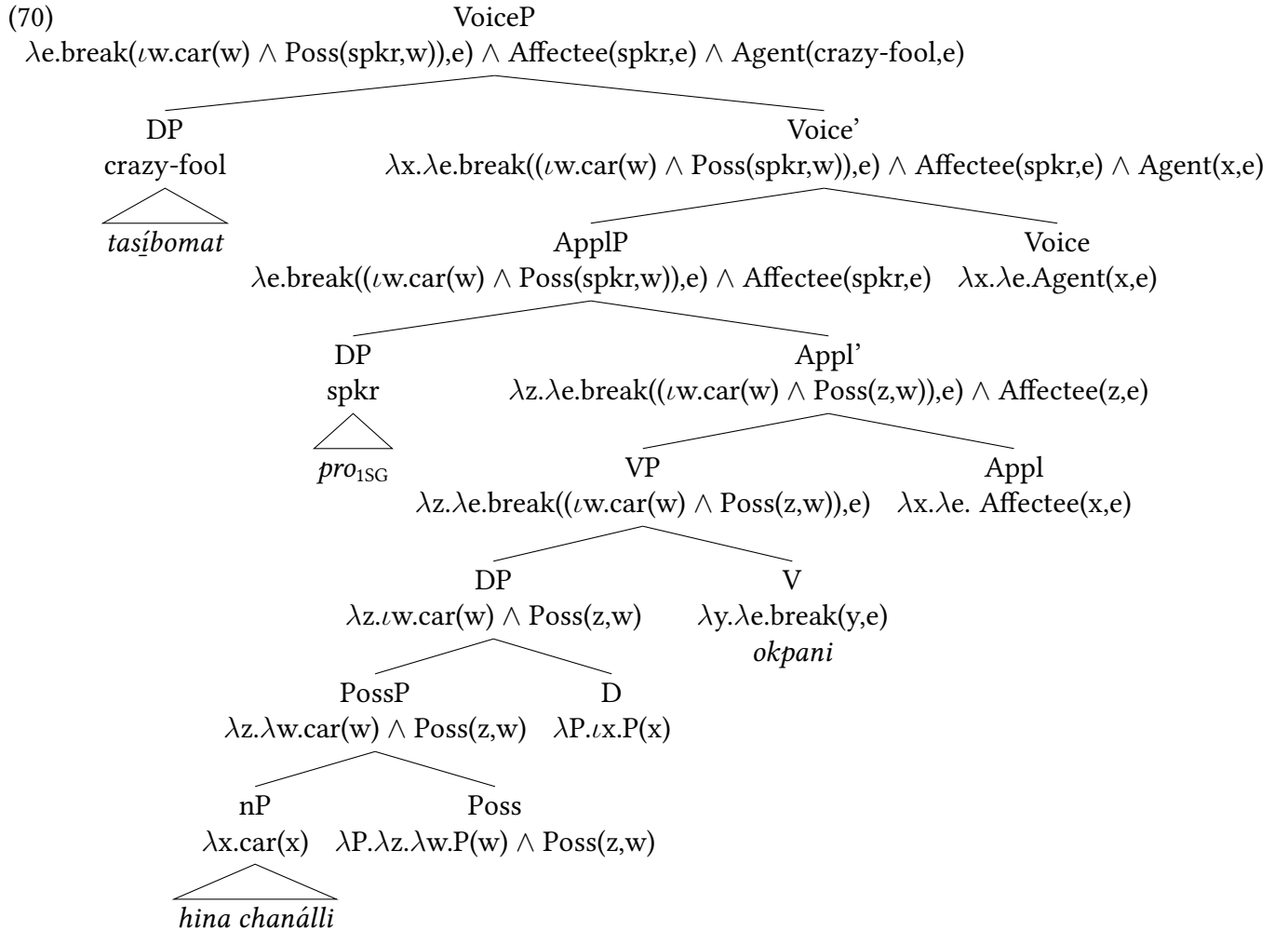
The syntactic structure in (67b) is therefore composed as in (70). Going from the bottom up, the nP *hina chanálli* 'car', upon composing with Poss, is given an unsaturated possessor $\theta$-role. PossP and D are then unable to combine through Functional Application, since neither is of the right type to take the other as an argument (D is type $\langle \langle e,t \rangle, e \rangle$ and PossP is type $\langle e, \langle e,t \rangle \rangle$). Instead, Function Composition is employed—this is possible because the result of combining PossP with an argument of its desired type (*e*) would be a function of type $\langle e,t \rangle$, and thus able to combine with D by Functional Application.[29] Function composition proceeds as in (69), deriving the denotation

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[29]Under the simple types used in this example, Function Composition would *also* be able to compose in the opposite direction, resulting in a denotation for DP of type $\langle \langle e,t \rangle, \langle e,t \rangle \rangle$. However, a DP of this type would be unable to successfully compose with V, so I assume it is ruled out for that reason. Furthermore, this problem only arises

of the DP *hina chanálli* 'car'.

(69)　　$[\![\text{ DP }]\!] = \lambda x_e.\ [\![D]\!]([\![\text{PossP}]\!](x))$

　　　　$= \lambda x_e.\ (\lambda P_{\langle e,t\rangle}.\iota w.P(w))((\lambda z_e.\lambda y_e.\ \text{car}(y) \wedge \text{Poss}(z,y))(x))$

　　　　$= \lambda x_e.\ (\lambda P_{\langle e,t\rangle}.\iota w.\ P(w))(\lambda y_e.\ \text{car}(y) \wedge \text{Poss}(x,y))$

　　　　$= \lambda x_e.\ \iota w.\ \text{car}(w) \wedge \text{Poss}(x,w)$

The DP *hina chanálli* 'car', still waiting to saturate its possessor $\theta$-role, then combines with *okpani* 'break', again via Function Composition, deriving the denotation of the VP node, which retains the DP's open possessor $\theta$-role. VP and Appl, both being predicates of type $\langle e, t\rangle$ combine, via *Predicate Modification* (Heim and Kratzer 1998), and so the DP *pro*$_{\text{1SG}}$ in Spec-ApplP is identified with both the 'delayed' possessor $\theta$-role *and* the affectee $\theta$-role introduced by Appl.

(70)

VoiceP
$\lambda e.\text{break}(\iota w.\text{car}(w) \wedge \text{Poss}(\text{spkr},w)),e) \wedge \text{Affectee}(\text{spkr},e) \wedge \text{Agent}(\text{crazy-fool},e)$

DP
crazy-fool

*tasíbomat*

Voice'
$\lambda x.\lambda e.\text{break}((\iota w.\text{car}(w) \wedge \text{Poss}(\text{spkr},w)),e) \wedge \text{Affectee}(\text{spkr},e) \wedge \text{Agent}(x,e)$

ApplP
$\lambda e.\text{break}((\iota w.\text{car}(w) \wedge \text{Poss}(\text{spkr},w)),e) \wedge \text{Affectee}(\text{spkr},e)$

Voice
$\lambda x.\lambda e.\text{Agent}(x,e)$

DP
spkr

*pro*$_{\text{1SG}}$

Appl'
$\lambda z.\lambda e.\text{break}(((\iota w.\text{car}(w) \wedge \text{Poss}(z,w)),e) \wedge \text{Affectee}(z,e)$

VP
$\lambda z.\lambda e.\text{break}((\iota w.\text{car}(w) \wedge \text{Poss}(z,w)),e)$

Appl
$\lambda x.\lambda e.\ \text{Affectee}(x,e)$

DP
$\lambda z.\iota w.\text{car}(w) \wedge \text{Poss}(z,w)$

V
$\lambda y.\lambda e.\text{break}(y,e)$
*okpani*

PossP
$\lambda z.\lambda w.\text{car}(w) \wedge \text{Poss}(z,w)$

D
$\lambda P.\iota x.P(x)$

nP
$\lambda x.\text{car}(x)$

Poss
$\lambda P.\lambda z.\lambda w.P(w) \wedge \text{Poss}(z,w)$
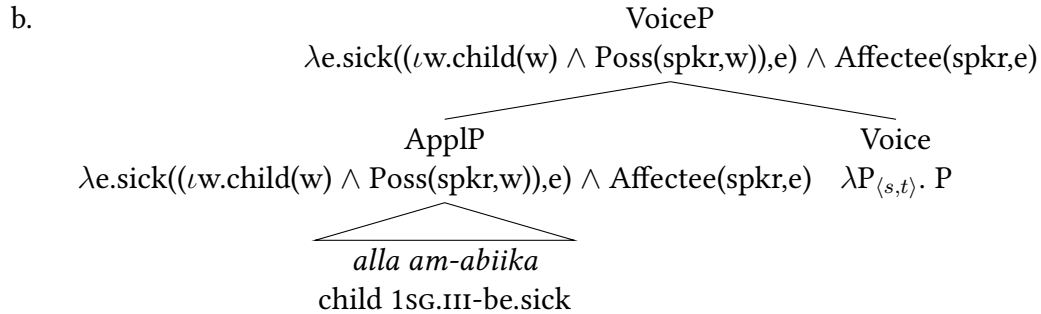
*hina chanálli*

　　Turning finally to EP-via-Appl of subjects as in (71a). The composition proceeds in essentially the same way, up until the Voice layer is merged. Then, just as in (66), specifierless Voice is

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with the highly simplified types employed here: if the type of PossP is made more complex (for instance, with an unsaturated event variable, cf. Myler 2014, 2016), this 'backwards' Function Composition would be unable to take place.

interpreted as expletive, as shown in (71b).

(71)  a.  Alla  am-abiika-h.
          child 1SG.III-be.sick-TNS
          'My kid is sick.'

  b.
$$\text{VoiceP}$$
$$\lambda e.\text{sick}((\iota w.\text{child}(w) \wedge \text{Poss(spkr,w)}),e) \wedge \text{Affectee(spkr,e)}$$

$$\text{ApplP} \qquad\qquad \text{Voice}$$
$$\lambda e.\text{sick}((\iota w.\text{child}(w) \wedge \text{Poss(spkr,w)}),e) \wedge \text{Affectee(spkr,e)} \quad \lambda P_{\langle s,t\rangle}.\ P$$

*alla am-abiika*
child 1SG.III-be.sick

To summarize sections 7.1-7.3, I have proposed that a possessor $\theta$-role introduced by the DP-internal functional head Poss can be saturated either inside the DP, by merging a DP in Spec-PossP, or outside the DP, by delaying saturation of the $\theta$-role until Spec-ApplP is merged. In the next part of this section, I provide support for the claim that the possessor in EP-via-Appl constructions receives its own *affectee $\theta$-role*.

## 7.4   Evidence for an affectee $\theta$-role in EP-via-Appl

In this section, I provide three pieces of evidence that the possessor in EP-via-Appl receives a special *affectee $\theta$-role*. Firstly, EP-via-Appl requires that the verb denote an event or temporary state. Secondly, EP-via-Appl imposes an animacy requirement on the possessor. Thirdly, EP-via-Appl is impossible with perception verbs. All of these properties, I propose, can be explained by the imposition of an *affectee $\theta$-role* on the possessor. The analysis presented here is consistent with a cross-linguistically robust generalization that external possessors need to be mentally affected by the event (Guéron 1985, Kempchinsky 1992, Haspelmath 1999, Landau 1999, Hole 2004, Lee-Schoenfeld 2006, Deal 2017).

The sentences in (72) illustrate the generalization that EP-via-Appl is incompatible with permanent (individual-level) states (similar restrictions against statives are found in external possession constructions cross-linguistically, cf. Barnes 1985, König and Haspelmath 1998, Haspelmath 1999, Deal 2017).[30]

(72)  a.  *hattak-m-at    lokka lo̱bo i̱-chito-h[31]
          man-DEM-NOM shirt    III-be.big-TNS
          ('That man's shirt is big.')

---

[30]Interestingly, the closely-related language Chickasaw exhibits a weaker version of this condition. Most verbs denoting permanent states like 'tall', 'big' and 'pretty' are compatible with the external possession construction resembling EP-via-Appl, but verbs denoting colors are compatible only with the construction resembling EP-via-movement (Carden et al. 1982, Munro and Gordon 1982, Munro and Willmond 1994).

b. *ohooyo-yat ofi i-homma-h
woman-NOM dog III-be.red-TNS
('The woman's dog is red.')

In contrast, EP-via-movement is not subject to this restriction:

(73) a. Hattak-m-at i-lokka lobo chito-h.
man-DEM-NOM III-shirt be.big-TNS
'That man's shirt is big.'

b. Ohooyo-yat im-ófi homma-h.
woman-NOM III-dog be.red-TNS
'The woman's dog is red.'

Following Kayne (1975), I propose that the incompatibility between external possession and verbs denoting permanent states is a result of the affectee $\theta$-role, it being hard to construe an individual as being sufficiently 'affected' by a permanent state.

The second restriction on EP-via-Appl constructions is the animacy condition. Inanimate entities make fine internal possessors, as in (75a), but cannot serve as external possessors in EP-via-Appl constructions, as shown in (75b) and (75c).[32]

(75) a. [Chokka im-aapisa-yat] koowa-h.
[house III-window-NOM] smash.INTR-TNS
'The house's windows smashed.'

b. *chokka-m-at aapisa i-koowa-h.
house-DEM-NOM window III-smash.INTR-TNS
('The house's windows smashed.')

c. #chokka aapisa i-kooli-li-tok.
house window III-smash.TR-1SG.I-PST
('I smashed the house's windows.')
irrelevant reading: 'I smashed the house windows for her.'

In contrast, possessors in EP-via-movement are not subject to an animacy condition:

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[31]Nicklas (1974168) presents an EP-via-Appl sentence where *chito* 'be big' is the main verb. It is likely that his consultants have a version of EP-via-Appl closer to that found in Chickasaw—see footnote 30.

[32]A reviewer suggests that the contrast between (75a) and (75b) is confounded by the 'part-whole' possession relation between the house and the door, this relation often being classified as inalienable. This is unlikely to be the problem, since only those possession relations that are *morphologically* inalienable resist EP-via-Appl, on which see section 6. Relational or 'inalienable' possession relations that are encoded in the morphology as non-obligatory alienable possession relations are fully capable of participating in EP-via-Appl, as in (74).

(74) Alla am-abiika-h.
child 1SG.III-sick-TNS
'My kid is sick.'

(76) Chokka-m-at     im-okkisa okpolo-h.
house-DEM-NOM III-door     break.INTR-TNS
'The house's door is broken.'

The animacy condition also follows from the affectee $\theta$-role imposed on the external possessor: inanimate possessors are impossible because inanimate entities cannot be mentally affected.

The third piece of evidence for an affectedness condition comes from the incompatibility of EP-via-Appl with perception verbs, as illustrated in (77).

(77) *Bill ofi  i-háklo-li-tok      / i-písa-li-tok
Bill dog III-hear.NG-1SG.I-PST / III-see.NG-1SG.I-PST
('I heard/saw Bill's dog.')

This restriction can similarly be understood as a consequence of the affectee $\theta$-role—it is hard to construe the object of the perception verb as being affected by being perceived (see discussion in Landau 1999).[33]

In this subsection, I have shown that EP-via-Appl is restricted in three ways, each of which follows as a consequence from the affectee $\theta$-role imposed on the external possessor. The equivalent EP-via-movement constructions, by contrast, are not restricted in the same ways. In this way, EP-via-movement is like those EP constructions in other languages which have also been argued to involve movement into non-thematic positions, including those in Tzotzil (Aissen 1979) and Nez Perce (Deal 2013).

To summarize the whole section, I have provided an account of how EP-via-Appl structures semantically compose, via *delayed saturation*. The account also explains certain interpretative restrictions that differentiate EP-via-Appl from internal possession and EP-via-movement. In the final section before the conclusion, I argue against two plausible alternative analyses of EP-via-Appl involving binding and movement.

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[33]The affectedness condition in Choctaw may be weaker than in other languages, since speakers will generally accept EP-via-Appl sentences even when the possessor is dead, and thus incapable of experiencing mental states. This property, exemplified in (78), contrasts with EP constructions in languages such as German, where external possessors cannot be dead (Lee-Schoenfeld 2006). However, note the speaker's comment in (78b): it may be that the speaker's affection towards the deceased possessor renders it sufficiently 'affectable' to meet the mental affectedness condition on EP-via-Appl. More research on this effect is required.

(78) a.  Bill-at    illi-tok achiiba-h     hi-tok-o̱ ano̱ti chokka-yaash i-lowa-t     taha-h.
Bill-NOM die-PST long.time-TNS and-PST-DS now  house-FOC.NOM III-burn-PTCP finish-TNS
'Bill died a while ago, and now his house has burned down.'

b.  A̱-kátos-at     illi-tok achiiba-t      taha-h,    ano̱ti himmak-a̱ ishitwashóoha-t
1SG.III-cat-NOM die-PST long.time-PTCP finish-TNS now   now-ACC   toy-NOM
im-okpolo-h.
III-break.INTR-TNS
'My cat died a while ago but just now its toy broke.'
Speaker comment: "You're keeping the cat with you … you're talking like he's still there."

# 8  Against binding or movement in EP-via-Appl

In this section, I consider two alternative analyses of EP-via-Appl structures that the standard machinery of minimalist syntax makes available, and I argue that neither is a good fit for the data. The first is a binding analysis, schematized in (79a), in which the possessee is base-generated in Spec-ApplP and binds a null pronoun inside the possessee (Guéron 1985, Borer and Grodzinsky 1986, Authier 1988, Kempchinsky 1992). The second is a movement analysis, schematized in (79b), in which the possessor is base-generated inside the possessee and moves to Spec-ApplP (Landau 1999, Lee-Schoenfeld 2006, Rodrigues 2010, Deal 2013). I first present an empirical argument against the binding analysis, from the interaction between EP-via-Appl and ditransitives. I then argue that a movement analysis faces some steep challenges.

(79)   a.      b.   
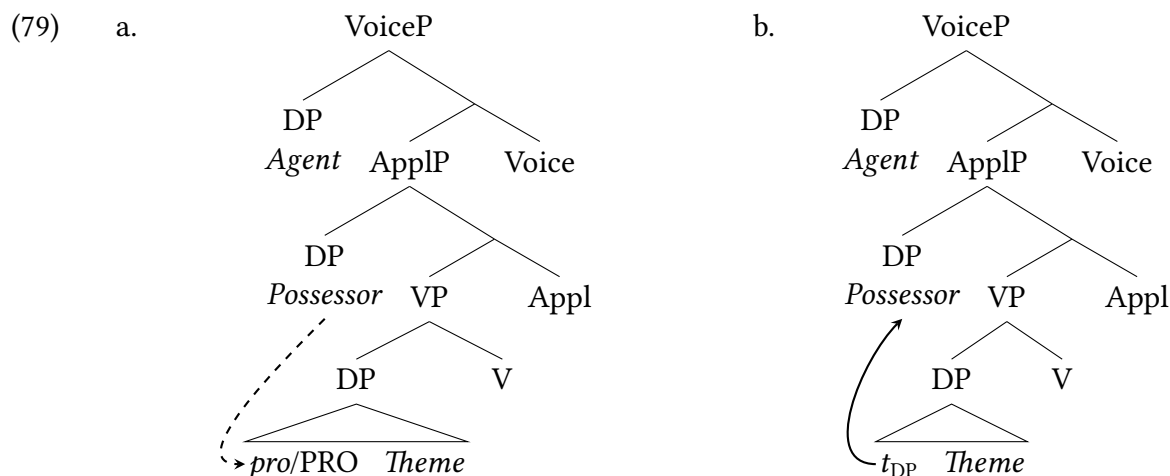
## 8.1  Against a binding analysis

The first argument against a binding analysis is that there is no evidence for a null pronoun occupying the internal possessor position—if there was, we would expect to see a class III clitic on the possessee (the reflex of DP-internal dative assignment).

A more involved argument comes from ditransitives. The relevant empirical domain here is transitives that have been causativized with the morpheme *-chi*, as well as certain other ditransitives like *ipiita* 'feed'. Some examples are given in (80) (nothing should be read into the surface order of objects in these sentences, as objects of ditransitives can be freely reordered, cf. (16)).[34]

(80)   a.   Nípi chim-ófi   ipiita-l-aachį-h.
             meat 2SG.III-dog feed-1SG.I-FUT-TNS
             'I'll feed your dog the meat.'

        b.   Kátos iti   aboyya-chi-l-aachį-h.
             cat    tree climb-CAUS-1SG.I-FUT-TNS
             'I'll make your cat climb the tree.'

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[34]The majority of ditransitive constructions in Choctaw have one of their internal arguments indexed by a class III clitic. It is not possible to determine their compatibility with EP-via-Appl, since combinations of multiple class III clitics are uniformly banned (Tyler in press-a) (though this restriction does not appear to hold for the Choctaw variety described in Davies 1986, nor for Chickasaw as described in Munro 2016).

I propose that these verbs have a structure like that in (81). Note that I remain agnostic on the identity of the projection that introduces the causee ('CauseeP')—the relevant part of the proposal is that the causee c-commands the theme.[35]

(81)

```
              VoiceP
             /      \
          DP          \
        Agent   CauseeP   Voice
               /      \
            DP          \
         Causee   VP      Causee
                 /  \
              DP     V
             Theme
```
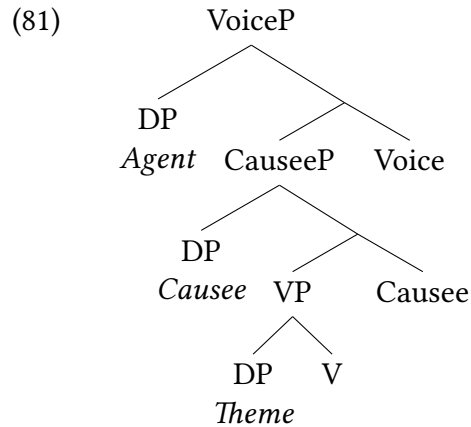
These verbs are compatible with EP-via-Appl, but crucially, the external possessor can only be construed as the possessor of the *higher* of the two internal arguments (the causee), never as the the possessor of the lower (the theme). This is shown in (82).

(82)   a.   Nípi ofi  chim-ipiita-l-aach<u>i</u>.
            meat dog 2SG.III-feed-1SG.I-FUT
            'I'll feed your dog the meat.'
            (*'I'll feed your meat to the dog.')


       b.   Kátos iti   am-aboyya-chi-tok.
            cat    tree 1SG.III-climb-CAUS-PST
            'He made my cat climb the tree.'
            (*'He made the cat climb my tree.')

We can account for this restriction under movement or delayed saturation analyses (Deal 2013 uses exactly this pattern to argue for a movement analysis of external possession in Nez Perce). A movement analysis would capture it through simple locality: assuming that the only available landing site for possessor arguments is a Spec-ApplP position above the causee, as schematized in (83), any possessor merged inside the theme argument would be unable to move past the causee argument—to do so would violate standard assumptions about locality (Rizzi 1990). A possessor merged in the causee argument, however, would have no such problem moving to Spec-ApplP.

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[35]See Folli and Harley (2007), Torrego (2010), Pitteroff and Campanini (2013) and Nie (2018) for discussion of the causee-introducing functional layer.

(83)
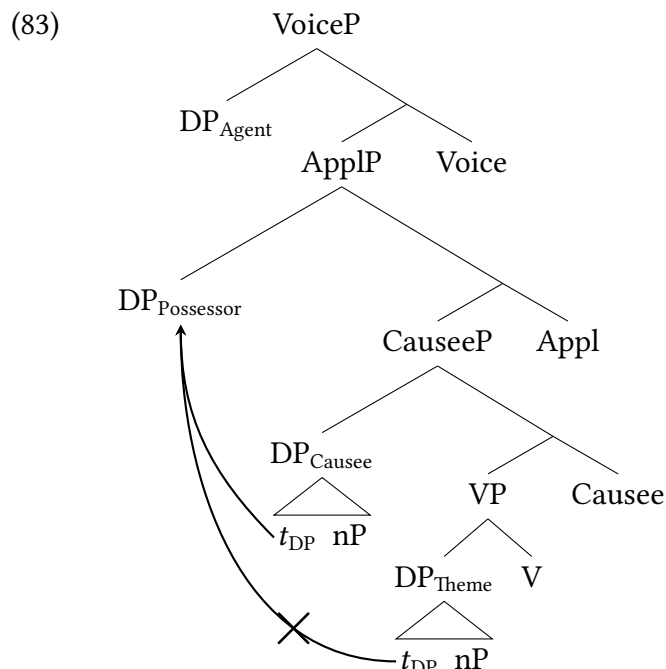


This pattern also follows from a delayed saturation analysis: an unsaturated possessor $\theta$-role introduced within the causee DP will be 'passed up' to the specifier of ApplP, just as in (70). An unsaturated possessor $\theta$-role introduced within the theme DP, however, will not make it up Spec-ApplP: it would be saturated by the causee DP instead. Ultimately, there is no way to 'hold' the possessor $\theta$-role and pass it up past an intervening DP.[36] Finally, the pattern *cannot* be accounted for in a binding analysis: intervening DPs generally present no problem for variable binding.[37]

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[36]It is notable that the possessor-introducing expletive ApplP can only be selected by the *highest* VoiceP—if ApplP could be selected by the lower VoiceP, we would expect an external possessor to be freely construable as possessing the theme argument, under a movement or delayed saturation analysis. I have no account of this, although note that this odd fact does not diminish the strength of the argument against the binding analysis—there is no way of deriving the pattern that we see with a (straightforward) binding analysis, regardless of where the possessor may be merged.

[37]Tyler (in press-a) argues that Choctaw has a number of transitive unaccusative verbs—transitive verbs with two internal arguments and no external argument. If any of these verbs were compatible with EP-via-Appl, we would expect that the possessor could only be associated with the syntactically higher of the two arguments. However, for the speakers I consulted, no transitive unaccusatives are compatible with EP-via-Appl. Any verb that indexes one of its arguments with a class III clitic is ruled out on morphological grounds (see Tyler in press-a for discussion of the ban on most sequences of clitics), and the one verb that indexes both arguments with class II clitics—*banna* 'want'— is simply incompatible with EP. However, Davies (1986) presents the example in (84), showing that the speakers he consulted *do* allow EP-via-Appl with *banna*, and that the possessor can associate with either argument. I do not have an account of the grammar of these speakers.

(84)    Issoba-yat tachi a-banna-h.
           horse-NOM corn 1SG.III-want-TNS
           'The horse wants my corn.'
           'My horse wants the corn.'          (Davies 1986:82)

## 8.2 Against a movement analysis

One potential problem with a movement analysis of EP-via-Appl is that the external possessor receives an affectee $\theta$-role that an internal possessor does not receive (section 7.4). A movement analysis would therefore involve movement into a thematic position, an operation with a somewhat controversial status in syntactic theory.

A second potential problem regards the motivation for movement. In movement analyses of external possession, the movement of the possessor is generally motivated by a need for Case (cf. Landau 1999, Lee-Schoenfeld 2006, Deal 2013). An anonymous reviewer proposes that a DP may fail to assign dative Case to its internal possessor (accounting for the lack of a class III clitic on the possessee), and that when this happens, the possessor must then raise to the most local Case-assigner, which is Appl (accounting for the presence of a class III clitic on the verb). While the case/Case facts in this movement analysis are the same as the ones assumed in the delayed saturation analysis presented here—dative is not assigned DP-internally; dative is assigned DP-externally by Appl—I contend that there is little evidence that lacking dative should force movement in this instance, nor that *having* dative should prevent it.

Taking the first point first, why should a possessor DP that is not assigned dative within its containing possessee DP be forced to move? Even if Choctaw DPs do require Case-licensing (which is not clear at all), all non-nominative DPs have the option of bearing accusative morphology, which may freely appear on DPs in any syntactic domain in the language—clauses (3), nominals (9), and even some more unusual domains shown in (85). It seems implausible that 'licensing by accusative' would be unavailable *just* for these internal possessors.[38]

(85)   a.   Hattak-(**a̲**) hicha oshi-yat    itt-itooma  á̲tta-h.
            man-(**ACC**) and    child-NOM RECIP-close be.NG-TNS
            'The man and his son live close to each other.' (left conjunct of coordinated subject)

       b.   Walmart-(**a̲**)   ká̲na-p-ato        a̲-tahpala-tok.
            Walmart-(**ACC**) someone-DEM-NOM 1SG.III-shout-PST
            'Some guy shouted at me at Walmart.'                        (non-argumental topic)

Turning to the second point, we know that DPs with dative case can undergo subsequent A-movement in Choctaw, and may be assigned further case features. For instance, the subject in (64b) must be dative (since it is indexed by a class III clitic), but it must at some point also be assigned nominative case and raise to the subject position. This makes it hard to explain why movement to Spec-ApplP is unavailable even for possessor DPs that *are* assigned dative within their containing DP—if this were possible, we would expect the 'double-marking' in (86) pattern to be generally available. However, the speakers I consulted found this pattern to be marginal at best, only allowing it if the class III clitic on the verb is interpreted not as indexing the theme's possessor but as marking a beneficiary argument instead (which in this case happens to be coreferential with the possessor).[39]

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[38]One determined to save a Case-licensing account might respond that accusative morphology is unrelated to (abstract) Case-licensing, but this would entail claiming that some Choctaw DPs with overt morphological case *lack* abstract Case. This does not seem plausible.

[39]Broadwell (1990, 2006) states that some speakers do consistently employ the 'double-marking' pattern. I do not have an account of the grammar of these speakers.

(86) John-at  a̱-ki      **am**-aapisáchi-tok.
     John-NOM 1SG.III-father **1SG.III**-look.after.NG-PST
     'John looked after my father **for me**.'

In all, I believe that a movement analysis for EP-via-Appl faces steep theoretical hurdles—it would involve movement into a thematic position, and its motivation would be obscure.[40]

# 9  Conclusion

We have seen that contemporary Mississippi Choctaw allows possessors to surface externally to their possessees using two distinct structures, which have been conflated in previous work on the language. This supports the claim that external possession is not a uniform phenomenon cross-linguistically, and need not be uniform even within one language.

I have also developed and supported a detailed account of how an argument merged outside a DP—in the EP-via-Appl structure—may nonetheless come to be interpreted as the possessor of that DP. This contributes to a growing body of work arguing that possessors may be introduced in a variety of syntactic positions across languages, and has potentially broad implications for the nature of thematic roles.

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[40]Munro (1984) provides some evidence for Choctaw object EP constructions being derived from their internal-possession counterparts. In particular, she shows that possessed noun phrases that receive idiomatic interpretations, as in (87a), can maintain this interpretation even when the possession relation is encoded by an object PR construction, as in (87b).

(87)  a.  [Naahollo i̱-tobi-ya̱]   apa-li-tok.
          Anglo    III-bean-ACC eat-1SG.I-PST
          'I ate the green peas.' (lit. 'I ate the white man's beans.')

      b.  Naahollo-ya̱ tobi  im-apa-li-tok.
          Anglo-ACC   bean III-eat-1SG.I-PST
          'I ate the green peas.' (lit. 'I ate the white man's beans.')          (Munro 1984:643)

The speakers I consulted did not make use of the idioms that she reports, or used them differently, so I was unable to re-test her claims for a new generation of speakers. I assume that for the speakers she reports, some kind of athematic possessor raising is available for objects, such as that proposed by Deal (2013) for Nez Perce.

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