

RESEARCH

Constructional analogy and reanalysis in possessive applicatives

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Although possessors internal to an argument DP do not qualify as canonical controllers of verbal agreement, in some languages an internal possessor may be cross-referenced on an applicative verb. The aim of the paper is to propose a historical scenario for the emergence of this pattern, following the basic insights of the constructional approach to language change. The paper argues that this pattern is a historical innovation. It emerged when the external benefactive argument was reanalysed as internal possessor, a process that has parallels in some languages with dative possessors. The change was motivated by cross-constructional analogy, namely, formal and semantic assimilation to the class of internal possessive constructions. When constituency was reanalysed, the location of agreement remained intact creating a non-local configuration.

Keywords: possessive applicative; possessive construction; Diachronic Construction Grammar

1 Introduction

Morphological applicatives create an applied object argument with the regular properties of primary objects. This can include the ability to be indexed on the verb, subject to various language-internal conditions. Several types of applicatives are relevant for the present paper. Some are multifunctional and I will call them ‘general applicatives’, following Kiyosawa & Gerdts (2010). General applicatives take an applied object which either corresponds to the possessor of the theme or has another semantic role such as goal, benefactive, malefactive or recipient (sometimes also addressee or source). I will refer to these non-possessor roles as “benefactive” throughout the rest of paper, ignoring further differences between them. Some languages distinguish between specialized benefactive applicatives, which only target benefactives, and specialized possessive applicatives, which only target possessors. Possessive applicatives exhibit further differences in terms of constituency: the possessor can be external, i.e. a clause-level verbal dependent, or, crucially for the present paper, it can be syntactically internal to the DP phrase to which the possessed theme object belongs.¹

Evidence for the internal status of such possessors comes from three domains: (i) case or other grammatical marking of regular possessive constructions in the language, and/or (ii) word order facts, i.e. linear adjacency, and/or (iii) behavioural properties, e.g. the impossibility of the possessor to undergo movement-like processes separately from the possessed noun. To cite one example, in Mi’gmaq (Eastern Algonquian) the derived applicatives in *-u/-w-* index the animate possessor of the theme argument by means of object

¹ All phrases with the nominal lexical content are referred to as DP for the sake of consistency and following some of the literature. I preserve the transcription of the sources, but glosses have been regularized and modified in places.

markers, e.g. 1OBJ in (1a) or 3OBJ in (1b) and (1c). The semantics and internal structure of the theme phrase does not differ from other possessive phrases: the pronominal possessor is marked on the possessed noun (1a), while the lexical possessor must directly precede the head and trigger 3rd person possessive agreement on it (1b). Example (1c) demonstrates that the (alienable) possessor can optionally bear a genitive-like suffix *-ewei/-uei* (McClay 2012: 26ff.). Although it has other functions too, in such examples it unambiguously indicates an internal possessor.

- (1) *Mi'gmaq* (Hamilton 2017: 87, 91; McClay 2012: 40)
- a. Ges-atm-u-i-t-l 'nt-gij-l.
love-DFLT-APPL-1OBJ-3-OBV 1POSS-mother-OBV
'S/he loves my mother.'
 - b. Gnasg-m-u-a-t-l [Piel-oq ugt-atlai'-m-l].
wear-DFLT- APPL-3OBJ-3-OBV Peter-ABSEN 3POSS-shirt-POSS-OBV
'S/he is wearing (deceased) Peter's shirt.'
 - c. Mali nem-it-u-a-pn [ji'nm-uei atlai].
Mali see-DFLT-APPL-3 > 3OBJ.DIR-PST man-GEN shirt
'Mary saw the man's shirt.'

The possessor cannot assume the subject status in passive applicatives. The passive counterpart of (1a) is illustrated in (2), suggesting that the possessor cannot be passivized separately from the possessed noun.

- (2) *Mi'gmaq* (Hamilton 2017: 92)
- *Ges-atm-u-ugsi-eg-p 'nt-gij-inen.
love-DFLT-APPL-3 > 1/2PL.PASS-1PL-PST 1POSS-mother-1PL
'Our mother was loved.'

Hamilton (2017) provides further arguments that the possessor is generated internally to the possessive DP and the surface possessor raising does not actually occur. This contrasts with the widely known phenomenon of external possession, which for some languages has been analysed as raising out of the possessive DP.

The pattern illustrated in (1) appears infrequent and is in fact predicted to be unusual or even impossible in theoretical terms because the internal possessor does not qualify as an obvious controller of verbal agreement. Many grammatical frameworks, e.g. Minimalism, HPSG and LFG, take agreement to be a local relation that obtains in specific syntactic domains, in particular, between the verb and the head of an argument phrase, so the pattern in question is non-canonical (in the sense of Corbett 2006) and requires additional analytical machinery (for an overview see Nikolaeva et al. 2019). The goal of the present paper is to propose a historical scenario for the emergence of this unusual pattern.

I will argue that the possessor in such possessive applicatives is diachronically related to the benefactive argument. The connection between internal possessors and benefactives is well-known cross-linguistically (Zúñiga & Kittilä 2010; Malchukov et al. 2010, among many others). It implies a historical link between them, but the direction of change appears to vary: from internal possessor to external benefactive as e.g. in Oceanic (Lichtenberk 2002; Margens 2004) and Greek (Gianollo 2010), or from benefactive to possessor, as has been argued for Germanic and Slavic. I will propose that languages with possessive applicatives follow the latter path. The clause-level benefactive applied object gradually loses its argument status, and the whole pattern adapts to the meaning and form of internal possessive constructions.

My analysis follows the basic insights of the constructional approach to language change without adopting a particular implementational version of Construction Grammar. This approach, referred to by a cover term ‘Diachronic Construction Grammar’, has gained some popularity in recent historical research (Traugott & Trousdale 2010; 2013; Fried 2013; Barðdal et al. 2015, among others). In Section 2 I provide an overview of the languages that have the relevant construction and suggest that it may be a historical innovation. Section 3 addresses the first step in the proposed diachronic scenario, the emergence of possessive applicatives, while Section 4 deals with the second step, the reanalysis of the external possessor as internal. Section 5 summarizes the proposal and situates it in the context of diachronic constructional research.

2 Basic data

To the best of my knowledge, applicative verbs indexing internal possessors have only been attested in some languages of the Americas (cf. Nikolaeva et al. 2019: 19–20). The available data are surveyed below.

2.1 Nez Perce

The discussion of Nez Perce (a member of the Sahaptian family, spoken in the American Northwest) is mainly based on Deal (2013). The Nez Perce applicative in *-e’ni-* (with phonological variants) can have the possessive meaning illustrated in (3):

- (3) *Nez Perce* (Deal 2013: 392)
 Haama-pim hi-nees-wewkuny-e’ny-Ø-e ha-haacwal-na lawtiwaa.
 man-ERG 3SBJ-OBJ.PL-meet-APPL-PFV-REM.PST PL-boy-OBJ friend.NOM
 ‘The man met the boys’ friend.’

In (3) the plural on the verb indexes the semantic possessor of the theme, while the possessee does not agree. The possessor has two other properties of primary objects. First, it is marked by the objective case, while the possessee stands in an unmarked case termed “nominative” in Deal (2013). Second, the possessor and possessee are freely separable from one another and the order between them, as well as the order with respect to the verb and other verbal dependents, is fully flexible. For example, in interrogatives the possessor may undergo *wh*-fronting without pied-piping the possessee.

- (4) *Nez Perce* (Deal 2013: 399)
 ’Isii-ne ’e-sewleke’yk-ey’-se-Ø ’aatoc?
 who-OBJ 3OBJ-drive-APPL-IPFV-PRS car.NOM
 ‘Whose car are you driving?’

This contrasts with the behaviour of regular genitive possessors, for which linear contiguity is required, suggesting that the possessor and the possessee in (3) are independent constituents.

According to Deal (2013), the possessor originates internally to the object DP and subsequently moves to the specifier of the functional head realized as *-e’ni-*. In its derived position, the possessor is the second highest argument, and is correctly predicted to receive objective case and control agreement on the verb. There is no evidence that the external possessor is assigned a semantic role by the verb, must be affected or topical. Possessor raising is essentially driven by case-related reasons and does not alternate with non-applicative transitives if the possessor originates in the theme object.

Alternatively, the possessor can be located within the possessive phrase and be marked by the genitive, with no obvious semantic difference.

- (5) *Nez Perce* (Deal 2013: 401)
 'A-ax-nay'-sa-qa ['ip-nim huukux].
 3OBJ-see-APPL-IPFV-REC.PST 3SG-GEN hair.NOM
 'I saw her hair.'

The genitive version of the applicative construction “presents a mix of properties we expect from an external possession structure and those we expect from its internal possession counterpart” (Deal 2013: 414). While the genitive possessor retains control of verbal agreement and has other clause-level syntactic effects, it stays within the possessee DP, as corroborated by word order facts. For instance, (6a) shows that both genitive and objective possessors are grammatical when the possessor immediately precedes the possessee, but when the two are separated by another constituent, as in (6b), only the objective version is allowed.

- (6) *Nez Perce* (Deal 2013: 415)
- a. Angel-nim paa-'yaĥ-na'ny-Ø-a Tatlo-na/Tatlo-nm taaqmaat.
 Angel-ERG 3/3-find-APPL-PFV-REM.PST Tatlo-OBJ/Tatlo-GEN hat.NOM
- b. Angel-nim Tatlo-na/*Tatlo-nm paa-'yaĥ-na'ny-Ø-a taaqmaat.
 Angel-ERG Tatlo-OBJ/Tatlo-GEN 3/3-find-APPL-PFV-REM.PST hat.NOM
 'Angel found Tatlo's hat.'

Crucially for the purpose of this paper, the genitive construction appears to be recent (Deal 2013: 414). The raising option was available to earlier generations of speakers and has been noted as far back as there are accounts of Nez Perce (e.g. Morvillo 1891). In contrast, the early descriptive and documentary materials contain no traces of the applicative pattern with the genitive possessor. The fact that the genitive version is only available for speakers of contemporary Nez Perce presents a primary piece of evidence for the innovative nature of the construction in which the verb agrees with the internal possessor. Deal (2013) does not speculate on how the genitive version emerged, but I will propose in Section 4 that it has developed from the possessor raising construction.

2.2 Mayan

The Mayan family consists of about 30 languages, with some controversy regarding further subgroupings (Bennett et al. 2016). According to Mora-Marín (2003), Proto-Mayan, the common ancestor of all Mayan languages, had an applicative construction, however, no Proto-Mayan applicative morphology can be reconstructed. The applicative suffix is reconstructed as *-*b'e* for a daughter sub-group, Proto-Central-Mayan dating ca. 1800 B.C, at the earliest. The relevant part of the commonly assumed family tree of the Central Mayan languages is shown in Figure 1.

Mora-Marín (2003) reconstructs the main function of the Eastern Central Mayan *-*b'e* as promoting the instrument, although it could also promote other oblique arguments. There is not enough evidence for *-*b'e* in the Q'anjob'alan sub-branch of Western Central Mayan (Mora-Marín 2003: 221), but it is present in the Ch'olan-Tzeltalan sub-branch. Ch'olti applicatives are more like Eastern Central Mayan in that they only target obliques and are therefore likely to be a conservative feature, whereas in Ch'orti *-*b'e* is not attested in the applicative function. In contrast, in Greater Tzeltalan and Western Ch'olan the reflexes of *-*b'e* are productive and the applied object is benefactive, malefactive or recipient. In addition, *-*b'e* introduces constructions in which the applied object corresponds to the possessor of the theme object, usually referred to as “possessor raising” in the literature

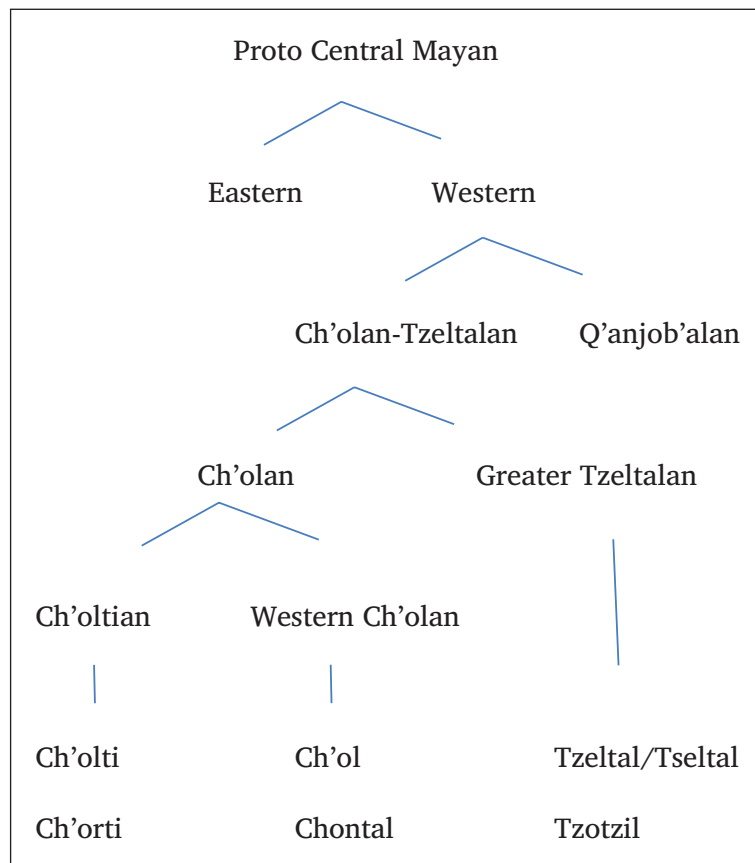


Figure 1: Central Mayan languages.

on Mayan. Mora-Marín (2003) proposed that this feature represents a shared innovation through language contact. There was apparently

a time during which Greater Tzeltalan (Tzotzil-Tzeltal) and Western Ch'olan (Ch'ol-Chontal) were in very close interaction and innovated the obligatory use of *-b'e* [...] advancement on indirective predicates, while at the same time they de-emphasized the use of the rule on instruments, with remnants of it present today only in Tzotzil. (Mora-Marín 2003: 222)

None of the available sources explicitly discusses surface constituency in Western Ch'olan, but there are indications that in Greater Tzeltalan the agreeing possessor is internal to the theme object.

Like in other Mayan languages, core arguments in both Tzotzil and Tzeltal are indexed on the verb by two sets of person markers, usually glossed as Set A (ergative) and Set B (absolutive). Internal possessors are expressed by possessive clitics on the possessed noun. Possessive applicatives have no obvious semantic effects and differ from canonical external possession in that the possessor does not need to be animate or affected. It bears no thematic relation in the clause and is not sensitive to the semantic class of the verb. The theme object must be syntactically possessed; the applicative construction is impossible if it is not. As Aissen (1987: 146) says explicitly in relation to Tzotzil, “[i]t is not enough for the 2 [theme object] to be *understood* [italics in the original] as possessed, the 2 must actually have a genitive”, cf. Polian (2013: 276) and Shklovsky (2012: 49) on Tzeltal. Example (7) is therefore ungrammatical if ‘tortilla’ does not host the possessive clitic.

- (7) *Tzeltal* (Shklovsky 2012: 47, 49)
 Lah a-we'-bon *(k)-waj.
 PFV A2-eat-APPL.B1 1POSS-tortilla
 'You ate my tortilla.'

A lexical possessor co-occurs with the 3POSS clitic on the possessed theme. No known facts contradict its surface constituency as internal to the theme phrase, and all standard constituency tests confirm it (Aissen 1987: 165). It is evidenced, among other things, by the fact that the whole possessive phrase must be topicalized together (8a) and that the possessor exhibits pied-piping in questions (8b).

- (8) *Tzotzil* (Aissen 1987: 155, 165)
 a. 7a [li s-tot li Xun-e], 7i-j-k'opon-be.
 TOP the 3POSS-father DET Xun-CL CP-A1-speak- APPL.B3
 'I spoke to Xun's father.'
 b. [K'usi s-tzekil-al] ch-a-jal-be?
 what 3POSS-skirt-POSS ICP-A2-weave-APPL.B3
 'What are you making the skirt for?'

Shklovsky (2012) cites several similar arguments for the in situ status of the possessor in *Tzeltal*: obligatory possessive marking on the possessee, pied-piping, focalization and other movement-like processes. I will not discuss all his arguments here; pied-piping is illustrated in (9a), while (9b) demonstrates that the possessor cannot be placed in the preverbal focus position independently of the theme.

- (9) *Tzeltal* (Shklovsky 2012: 64, 67)
 a. [Mach'a s-mut] lah aw-il-be?
 who 3POSS-chicken PFV A2-see-APPL.B3
 'Whose chicken did you see?'
 b. *Te Pedro-he' x-Marta lah s-kuch'-be y-ala'al.
 DET Pedro-CL F-Marta PFV A3-carry-APPL.B3 3POSS-baby
 'As for Pedro, it was Marta's that he hugged the baby.'

So at least in Greater *Tzeltalan* the possessor is internal to the theme object phrase in terms of surface constituency, although it triggers regular object agreement on the applicative verb.

2.3 Salish

The Salish family consists of 23 languages, some with several dialectal varieties. There are several applicative suffixes, but I will only address two types of applicatives in Interior Salish, relying mainly on Kiyosawa (2004) and Kiyosawa & Gerdts (2010).

Northern Interior Salish languages (Lillooet, Thompson and Shuswap) display the general applicative in *-*xi*. The applied object takes a variety of benefactive roles or corresponds to the possessor. Free-standing applied objects appear as bare DPs, i.e. as direct arguments with no adposition, and have syntactic properties of regular objects (Kiyosawa & Gerdts 2010: 39–42). 1st and 2nd person objects are expressed by verbal markers, but may be doubled by freely standing pronominals. The second theme object typically takes a prepositional oblique form and is not cross-referenced on the verb, e.g.:

- (10) *Shuswap* (Kiyosawa & Gerds 2010: 123)
 M-sté(t)ʔə-x-t-sm-s tə ʃʷəʃʔúʔs.
 PFV-drink-APPL-TR-1SG.OBJ-3SBJ OBL beer
 ‘She drank the beer on/for me.’

Four Southern Interior Salish languages (Okanagan, Coeur d’Alene, Columbian a.k.a. Nxaʔamxcin, and Spokane a.k.a. Kalispel), also have the general applicative expressed by the reflexes of *-*xi*.

- (11) a. *Okanagan* (N. Mattina 1993: 265)
 Mary ʔac-x-ít-s [iʔ t sniklc’aʔsqáʃaʔ] [iʔ ttwʔit].
 Mary tie-APPL-TR-3SBJ.3OBJ DET OBL horse DET boy
 ‘Mary tied the horse for the boy.’
- b. *Spokane* (Carlson 1980: 24)
 Kʷúlʔ-ʃ-t-ən [ʔuʔ Agnes] [ʔuʔ t yámʃʷeʔ].
 make-APPL-TR-1SG.SBJ.3OBJ DET Agnes DET OBL basket
 ‘I made a basket for Agnes.’

The distribution of grammatical functions in these constructions appears to be identical to Northern Interior Salish: the applied primary object is not marked for case (or sometimes marked by an absolutive), whereas the theme takes oblique marking. Theme objects in Okanagan undergo extraction just like regular direct objects, albeit other obliques cannot extract. This led N. Mattina (1996: 47–48) to claim that they exhibit properties of both direct and oblique objects, but under an alternative analysis the theme would be indirect (as in Willett 2003) or secondary object (see Kiyosawa & Gerds 2010: 47–50 for some discussion).

In addition to general applicatives, all Southern Interior Salish languages exhibit more specialized possessive applicatives which go back to **-ʔ* (Kiyosawa & Gerds 2010: 131). Their primary and most frequent function is to indicate that the applied object is interpreted as the possessor of the theme. Neither the theme nor the applied object is case-marked, cf. (11a) with (12a) and (11b) with (12b). The 1st or 2nd person possessor is indexed both on the theme and the verb.

- (12) a. *Okanagan* (A. Mattina 1994: 211)
 Wayʔ kaʔkíc-ʔ-t-s-ən an-qʔaʔxán.
 yes find-APPL-TR-2SG.OBJ-1SG.SBJ 2SG.POSS-shoes
 ‘Yes, I found your shoes.’
- b. *Spokane* (Carlson 1980: 25)
 Mús-ʔ-t-ən ʔuʔ Albert sənʔurʃícti-s.
 feel-APPL-TR-1SG.SBJ.3OBJ DET Albert stove-3POSS
 ‘I felt Albert’s stove.’

Possessive applicatives are usually referred to as “external possession” in the literature on Salish, and there is indeed evidence that the theme and the applied object are independent constituents in Okanagan. The applied object can be expressed by a clause-level DP coreferential with the internal possessor (13a), or it can even be referentially distinct from the possessor of the theme (13b).

- (13) *Okanagan* (A. Mattina 1994: 212; N. Mattina 1993: 276)
- a. Lut k^wu a-ks-naq'w-m-ł-t-əm in-kəwáp.
NEG 1SG.OBJ 2SG-IRR-steal-REL-APPL-TR-INTR 1SG.POSS-horse
'Don't steal my horse from me.'
- b. Nʔiy-ł-t-s-n Fred iʔ p'úyxən-s.
buy-APPL-TR-2SG.OBJ-1SG.SBJ Fred DET car-3SG.POSS
'I bought you Fred's car.'

The possessor can be pronominalized on the verb separately from the possessed, much like the applied object of the general applicative, which clearly does not form a constituent with the theme, cf. the possessive applicative in (14a) and the general applicative in (14b). In both examples the theme is a referential null and the applied object is expressed by a pronominal marker incorporated into the verb.

- (14) *Okanagan* (N. Mattina 1996: 123)
- a. K^wu-p'íc'-ł-t-x^w.
1SG.OBJ-pinch-APPL-TR-2SG.SBJ
'Lit. You pinched it of mine.'
- b. K^wu-p'íc'-x-t-x^w.
1SG.OBJ-pinch-APPL-TR-2SG.SBJ
'You pinched it for me.'

This indicates that the Okanagan possessive applicative is a true external possessor construction.² Little Coeur d'Alene data exist, but available examples suggest that it may be similar to Okanagan (Doak 1997). In both languages the internal expression of the possessor is not obligatory, in contrast to Greater Tzeltalan seen earlier.

- (15) a. *Okanagan* (N. Mattina 1993: 276)
K^wu-ŋ'áw'm-ł-t-x^w yaʔ ʔacsqáǰaʔtn.
1SG.OBJ-let.loose-APPL-TR-2SG.SBJ DET reins
'Let loose my reins.'
- b. *Coeur d'Alene* (Doak 1997: 146)
G^wnit-ł-t-sel-s k^wítn.
call-APPL-TR-1SG.OBJ-3SBJ mouse
'He asked for my mouse.'

However, the situation seems different in Spokane and Columbian. In Spokane possessive applicatives, a single determiner precedes the possessor and possessed, suggesting that they form one DP. The possessed theme must bear possessive agreement targeting the possessor. Carlson (1980: 25) explicitly refers to 'Albert's meat' in (16a) as "the possessive construction which serves as the direct goal", although he notes that *Albert* is the "(underlying) indirect goal". In other words, Carlson assumes an analysis in which the possessor is DP-internal but has a status of a verbal argument at some level of representation. This example contrasts with the general applicative (16b) where the applied and theme objects are two different DPs, each with its own determiner, and the theme lacks

² Kiyosawa (2004) cites a number of Okanagan examples where the theme is unpossessed but definite, and speculates that they result from semantic expansion.

possessive agreement. In both examples the animate participant ‘Albert’ is indexed on the verb as 3OBJ.

(16) *Spokane* (Carlson 1980: 24)

- a. ʔíli-ł-t-ən [ɦuʔ Albert sqéltč-3].
ate-APPL-TR-1SG.SBJ.3OBJ DET Albert meat-3POSS
‘I ate Albert’s meat.’
- b. ʔíli-š-t-ən [ɦuʔ Albert] [ɦuʔ t sqéltč].
ate-APPL-TR-1SG.SBJ.3OBJ DET Albert DET OBL meat
‘I ate some meat for Albert.’

In Columbian the possessor and possessed behave as one syntactic unit. In (17) the whole possessive phrase ‘John’s brother’ is promoted to subject when the applicative is passivized.

(17) *Columbian* (Willett 2003: 159)

- [John l qáck-s] xólq’-łt-m t sŋwáʔŋwaʔ.
John GEN brother-3SG kill-APPL-PASS OBL cougar
‘John’s brother was killed by a cougar.’

The internal status of the possessor is supported by the presence of the genitive, the usual (albeit optional) marker of internal possessors (Willett 2003: 92).

Thus, there is initial evidence that in Spokane and Columbian the possessor belongs to the same phrase as the theme, although it is impossible to reach a definitive conclusion based on a limited number of available examples.

2.4 Chimane

Chimane, spoken in Northern Bolivia, is closely related to Mosestén (Sakel 2004); the Chimane-Mosestén family is genetically unclassified. The discussion here is based on Ritchie (2015, 2017), who describes Chimane as a head-marking language which indexes the subject and/or primary object by means of a complex system of verbal agreement affixes. They indicate person, number, gender and clusivity. Object agreement is absent under certain conditions, but in double object constructions the non-theme object obligatorily triggers agreement. The core arguments (subject, primary and secondary object) are not case-marked, but there is an extensive case-marking system for obliques.

Chimane has several applicatives. The applicative in *-bi* introduces the applied object that does not need a semantic role assigned by the verb, but corresponds to the possessor of the theme and is topical. It has the same properties as regular primary objects, including triggering object agreement on the verb. (18a) illustrates the canonical transitive construction in which the verb agrees in gender and number with the possessed noun ‘hand’, and (18b) exemplifies the possessive applicative. Here the 3SG.M object marker targets the possessor ‘Sergio’.

(18) *Chimane* (Ritchie 2017: 663)

- a. Juan taj-je-’ [un [mu’ Sergio-s]].
Juan(M) touch-CLF-3SG.F.OBJ hand(F) DET.M Sergio(M)-F
‘Juan touched Sergio’s hand.’
- b. Juan taj-je-bi-te [un [mu’ Sergio-s/*Sergio]].
Juan(M) touch-CLF-APPL-3SG.M.OBJ hand(F) DET.M Sergio(M)-F/Sergio(M)
‘Juan touched Sergio’s hand.’

Ritchie argues that the notion of DP is primarily defined by gender agreement. Adnominal dependents (determiners and attributive modifiers) may be DP-internal on the surface; their position in the phrase is fairly free, the only real restriction being that determiners must be DP-initial. Alternatively, they may be located discontinuously to the head noun due to the non-configurational nature of Chimane syntax. In either case, however, adnominal dependents agree with the semantic head in gender. Possessors do not differ from attributive modifiers in this respect: they exhibit the same type of gender agreement and follow relevant positional restrictions. Crucially, in both examples (18) the possessor *mu' Sergio* is internal to the possessive phrase, as it must agree with the possessed noun in the feminine gender and only adnominal dependents exhibit this kind of agreement.

There are also bound possessive pronominals that cliticize to any sub-constituent of the DP apart from the determiner. Bound possessors have the same form as free pronominal possessors but do not show attributive agreement; both are glossed here using English possessive pronominals. Free-standing possessors can co-occur with bound possessors. Examples (19) show the three options available for pronominal possessors: a free agreeing possessor, a bound possessive clitic and the double-marking option.

- (19) *Chimane* (Ritchie 2017: 677, 695, 707)
- a. Çav-e-bi-te [ococo mu'si'].
see-CLF-APPL-3SG.M.OBJ frog(F) his-F
'I saw his frog.'
 - b. Yü nài-j-bi-te [ococo = mu'].
I see-CLF-APPL-3SG.M.OBJ frog(F) = his
'I saw his frog.'
 - c. Chì-ya-cse-bi [mọ' dyijyedye' = mu'in mu'in-si' = in].
know-CLF-3PL.OBJ-APPL.PL.M.SBJ DET.F thought(F) = their their-F = PL
'He knew their thoughts.'

Irrespective of how the internal possessor is expressed, the applicative verb indexes its gender and number. Ritchie concludes that possessive applicatives contrast with external possessive constructions in that the possessor forms a syntactic constituent with the possessed noun. The external possessive construction is actually available in Chimane too, but it exhibits different properties: the verb bears no applicative, and the possessed noun must be a body part and stand in an oblique form.

Mosetén, closely related to Chimane, exhibits the cognate applicative in *-bi* with the same properties as Chimane. Sakel (2004: 224) notes that it behaves differently from other applicative suffixes in that it does not function as a verbal classifier and in terms of its morphotactics: *-bi* must be positioned in the verb form after the 3rd person plural *-ksi*, while all other applicative suffixes precede it. This may suggest that the applicative *-bi* has a more recent origin.

2.5 Conclusion

Based on the evidence from Salish and Mayan, for which comparative data are available, we can conclude that, first, the distribution of possessive applicatives is more restricted than that of general applicatives. Possessive applicatives are only observed in the youngest linguistic subgroupings, Southern Interior Salish, Greater Tzeltalan and Western Ch'olan. Second, possessive applicatives which target internal possessors have even more restricted distribution. They are only available in a subset of these languages, Greater Tzeltalan and possibly Spokane and Columbian, so they are more recent. The same appears to be true

of Chimane-Mosetén. The most direct evidence for the claim that internal agreeing possessors are historically novel comes from Nez Perce, where the possessor can be either external or internal and the latter construction is a recent innovation. The next two sections will explain the diachronic path I propose for these structures.

3 Emergence of possessive applicatives

This section studies applicative constructions in more detail and proposes that possessive applicatives go back to general applicatives.

3.1 *The meaning of general applicatives*

All constructions addressed in the previous section show the typical properties of “low applicatives” in the sense of Pylkkänen (2008), a construction commonly available across languages. Simplifying considerably, low applicatives are licensed as complements to the verb root in contrast to high applicatives, which attach above the verb root. This difference is motivated semantically. While high applicatives denote a relation between the event and a participant by adding an argument that modifies the event, low applicatives express a relation between two arguments, the applied object and the theme (Pylkkänen 2008: 14). This predicts, among other things, that, unlike high applicatives, low applicatives need a direct object to operate on, and therefore are restricted to transitive verbs and cause ditransitivation. The distinction is seen, for instance, in Mayan: Eastern Central Mayan applicatives can be derived from intransitives and show other properties of a high applicative, as was explicitly argued for Kaqchikel (Henderson 2007), whereas Western Central Mayan applicatives are low and only combine with transitives (Coon 2016).

While the core meaning of canonical possessive constructions such as *Mary's head/house* is uncancellable presupposed possessive relation (Barker 2011), the relation between the theme and the applied object of a low applicative is normally directional, as known at least since Croft (1985). In other words, it leads to the change of possession between the two individuals, although the transfer of possession can be understood in a very broad metaphorical sense. Most commonly the transfer of the theme is to the possession of the applied object. The latter is conceptualized as prospective possessor; the possessive relation is meant to hold as a result of the event, e.g. *He sent flowers for/to Mary*. If the transfer is from the possession of the source applied object, it is conceptualized as former possessor and the transfer asserts at least an abstract loss, e.g. *He received flowers from Mary*. In either case the possessive relation is not presupposed to hold at the reference time and may even remain unrealized, but the applied argument is positively or negatively affected by the event of (abstract) transfer.

However, even canonical low applicatives can imply a non-directional possessive relation, and particular verbs and contexts strongly favour a non-directional interpretation. It may be less frequent or in fact impossible in other situations, while there are also situations in which the construction appear truly ambiguous: (i) the applied object is understood as the prospective or former possessor of the theme object, or (ii) the applied object is understood as the actual possessor, e.g. *He fixed the car for me* can mean ‘He fixed my car’ or ‘He fixed somebody else’s car for my benefit’. Such ambiguity has been independently evidenced by many languages where (non-derived) ditransitives take a dative case, e.g. Latin (Baldi & Nuti 2010), languages with pronominal dative-like clitics, e.g. Lebanese Arabic (Haddad 2014), as well as languages where it is signalled by the possessive form of the theme object, e.g. Oceanic (Margetts 2004).

The literature contains various accounts of this ambiguity. According to one line of thinking (e.g. Landau 1999; Lee-Schoenfeld 2006), the applied argument has a dual function because it receives a possessor role internally to the phrase to which the possessed noun

belongs, but then moves to the applicative-like projection where it receives an additional semantic role from the verb. In contrast, for Shibatani (1994), Lee-Schoenfeld & Diewald (2013: 37), Seržant (2016) and a number of other authors the fact that the non-directional possessive interpretation is in principle cancellable suggests that it is merely based on inference and is not the encoded meaning of external possessors. External possessors are invariably benefactives or affectees, whereas the possessive reading arises due to the pragmatic effect triggered by the nature of the event and its participants, frequency-based expectations, world-knowledge and discourse information. As Seržant (2016: 144) writes, “real situations in which the beneficiary/maleficiary is not at the same time the possessor of the theme [...] are not particularly frequent”.

The same kind of ambiguity is amply documented in the Northern Interior Salish general applicatives. When interpreted as possessed, the oblique theme is marked for possession in most available examples (Kiyosawa 2004: 245), but it can also appear without a possessor. (20a) can have coreferential and non-coreferential readings when the theme is marked as possessed. In (20b) ‘tea’ does not host a possessive marker, yet the English translation indicates that the possessive relation is inferred. In (20c) the situation is reverse: the theme is syntactically possessed; the benefactive interpretation is suggested by the translation.

- (20) a. *Shuswap* (Kuipers 1992: 49)
Młmałq^{w-x-t-s} tə citx^{w-s}.
paint-APPL-TR-3SG.SBJ.3OBJ OBL house-3POSS
‘He_i paints the/his_k house for him_k/He_i paints his_k house.’
- b. *Thompson* (Thompson & Thompson 1980: 28)
ʔúq^{we?}-xi-t-sem-es tə tíy.
drink-APPL-TR-1SG.BJ-3OBJ OBL tea
‘She drank my tea up on me.’
- c. *Lillooet* (Van Eijk 1997: 115)
Tx^{w-us}-miñ-xí-c-kax^w ni n-čqáǰ?-a.
look-REL-APPL-1SG.OBJ-2SG.SBJ DET 1SG.POSS-horse-PTC
‘Look out for my horse for me!’

More examples of ambiguity are cited in Kiyosawa & Gerdt (2010: 124–130). They note that ambiguity either results as a side-effect of action or is contextual, i.e. depends on the situation. Ambiguity is then not syntactically encoded but is a matter of inference.

This is also true of Western Ch’olan. Coon & Henderson (2011) analyse the Ch’ol *-be-* as the morphological realization of a typical applicative head that introduces a benefactive argument in its specifier (21a). If the theme is possessed, the applied object can be referentially disjoint from its possessor (21b), or it can be interpreted as coreferential with the possessor and is then analysed as a null pronominal (small *pro*) (21c).

- (21) *Ch’ol* (Vázquez Alvarez 2002: 24, 292; 2011: 320)
- a. Mi k-mañ-b-eñ waj aläl.
IPFV A1-buy-APPL-TR.B3 tortilla child
‘I buy the child the tortillas.’
- b. Tyi a-ts’äk-ä-be k-alo’bil.
PFV A2-cure-TR-APPL.B3 1POSS-son
‘You cured my son for him/her.’

- c. Tyi k-il-ä-be [y-alo'bil aj-Betu_i] *pro*_i.
 PFV A1-see-TR-APPL.B3 3POSS-son CL-Beto
 'I saw Beto's son.'

The external status of *pro* is confirmed by the possibility of passivization (22a), cf. the passivization of the benefactive (22b).

- (22) *Ch'ol* (Vázquez Alvarez 2011: 316, 321)
 a. Tyi il-ä-b-eñ-tyi-y-oñ k-alo'bil.
 PFV see-TR-APPL-TR-PAS-0-B1 1POSS-son
 'My son was seen.'
 b. Tyi k'ajty-i-b-eñ-tyi-y-oñ ts'ak (joñoñ).
 PFV ask-TR-APPL-TR-PAS-0-B1 medicine 1SG
 'I was asked for the medicine.'

In this analysis the same applicative structure is responsible for different readings of the applied object, while coreferentiality of the external *pro* and internal possessor is ensured by binding. In both meanings applicatives alternate with semantically near-equivalent constructions: the indirective construction (23a) or regular transitives (23b).

- (23) *Ch'ol* (Vázquez Alvarez 2002: 24; 2011: 320)
 a. Mi k-mäñ waj cha'añ aläl.
 IPFV A1-buy.B3 tortilla PP child
 'I buy tortillas for the child.'
 b. Tyi k-il-ä [y-alo'bil aj-Betu].
 PFV A1-see-TR.B3 3POSS-son CL-Beto
 'I saw Beto's son.'

Coon & Henderson (2011) interpret the applied object as affected. They provide no explicit arguments, but presumably, it is affectedness that explains this kind of alternation.

Similar facts are observed in Chontal, where the applied object takes a variety of roles including benefactives and possessors,³ and it is not always obvious which interpretation is intended. In (24) the theme is syntactically possessed, but the translation suggests the benefactive meaning.

- (24) *Chontal* (Montgomery-Anderson 2010: 82)
 7u-jäk-sä-b-0-ón 7u-cho7án.
 A3-lower-CAUS-APPL-CP-B1 1POSS-price
 'They lowered the price for me.'

Unlike non-applied objects, the applied object must be affected (Montgomery-Anderson 2010: 104), and in both meanings applicatives alternate with other constructions (except for a subset of pronominal objects). The Western Ch'olan data then indicate that the affected argument introduced by *-be-* is located high in the clausal structure and can have different readings, subject to contextual factors and the lexical semantics of the verb.

³ Applicatives derived from a small closed class of verbs have distinct properties and tend to lexicalize (Montgomery-Anderson 2010: 104).

Deal (2013) argues that the Nez Perce *-e'ni* is not responsible for assigning a theta-role; instead it is analysed as an indicator of valency augmentation which may be interpreted in several ways. The raising construction is ambiguous between possessive and benefactive readings, and ambiguity appears genuine.

- (25) *Nez Perce* (Deal 2013: 423; Rude 1986: 116)
- a. 'E-hiteeme-ney'-se Cecil-ne tiim'es.
3OBJ-read-APPL-IPFV.PRS Cecil-OBJ book.NOM
'I'm reading Cecil the book.'
 - b. Kaa pé-e'wi-èn-ye tilóqa-na wewúkiye.
and 3ERG-shoot-APPL-ASP people-OBJ elk.NOM
'And he shot the elk for the people/And he shot the people's elk.'

In (25a) the applied object is translated as a non-subcategorized benefactive, but Deal (2013: 423) reports her discussions with consultants which reveal that it can be interpreted as a possessor. According to Rude (1986: 117), “[n]ormally [...] the logic of the situation prohibits ambiguity. For example, other than in Marxist societies, the benefactive shift is the most likely interpretation of (27)” (my example (25b)). However such a possibility does exist, and this entails that single translations usually provided in the sources are only likely to give the most pragmatically plausible interpretation.

Thus, possessive applicatives are not a distinct construction in Northern Interior Salish and Western Ch'olan. All existing work to date suggests that they are just one of several readings conveyed by general low applicatives. The possessive relation between the applied object and the theme is normally directional and involves the prospective or former possessor, but the non-directional possessive meaning is obtainable under certain conditions. The Nez Perce raising construction is also multifunctional, although the possessive reading appears more frequent.

3.2 Possessive applicatives as a distinct construction

This section deals with the languages that distinguish between benefactive and possessive applicatives as separate constructions. In benefactive applicatives the relation between the theme and the applied object is directional; the applied object is interpreted as the affected prospective or former possessor of the theme. In contrast, in possessive applicatives the relation between the theme and the applied object is non-directional possession.

The difference between the two constructions is most clearly seen when they employ distinct verbal morphology. As discussed in Section 2.3, all Interior Salish languages have the applicative in *-*xi*. In Northern Interior Salish this is the only applicative with a variety of functions. In Southern Interior Salish the applicative in *-*xi* is benefactive and co-exists with the possessive applicative in *-*ł*. Likewise, the Chimane possessive applicative in *-bi* is phonologically distinct from the benefactive applicative in *-ye*.

Unlike these languages but somewhat similarly to the languages addressed in Section 3.1, Mi'gmaq and Greater Tzeltalan employ the same applicative marker in both possessive and benefactive applicatives; still these are not constructionally equivalent. The difference goes beyond the obvious fact that in possessive applicatives the applied object must be referentially identical to the possessor of the theme.

Consider Mi'gmaq first. As seen in Section 1, *-u/-w-* derives possessive applicatives but the applied object can also be benefactive.

- (26) *Mi'gmaq* (Hamilton 2017: 89)
 Elugw-atm-u-i-t-l a'pi-l.
 fix-DFLT-APPL-1OBJ-3-OBV net-OBV
 'S/he fixes a/the net for me.'

Unlike the possessor, the benefactive applied object is an independent surface constituent and can be passivized, cf. the ungrammatical (2) above and the grammatical (27).

- (27) *Mi'gmaq* (Hamilton 2017: 86)
 Elugw-atm-u-ugsi-eg-p a'pi-l.
 fix-DFLT-APPL-3 > 1/2.PL.PASS-1PL-PST net-OBV
 'A/the net was fixed for us.'

Another difference is that applicativization is required for all ditransitive verbs. However, for monotransitives, possessive applicatives are optional in the sense that they alternate with the regular transitive construction. In (28a) the possessor must be topical, unlike in (28b).

- (28) *Mi'gmaq* (Hamilton 2017: 81, 89)
 a. Ges-atm-u-i-t-l 'nt-gij-l.
 love-DFLT-APPL-1OBJ-3-OBV 1POSS-mother-OBV
 'S/he loves my mother.'
 b. Ges-al-a-t-l 'nt-gij-l.
 love-AN-3OBJ.DIR-3-OBV 1POSS-mother-OBV
 'S/he loves my mother.'

Hamilton's (2017) concludes that possessive and benefactive applicatives are distinct phenomena, although they share the underlying syntactic structure. Under the constructional view I take here, constructions are directly associated with various types of information, including interpretive conditions. The distinctions I have described imply that the possessive applicative construction requires a different structural representation from the benefactive applicative construction, in particular, because only the former incorporates discourse-related factors (topicality).

Similar to Western Ch'olan, the Greater Tzeltalan *-be* forms both possessive and benefactive applicatives. Yet, unlike in Western Ch'olan but like in *Mi'gmaq*, ditransitives have no alternative expression: they have to be expressed by the applicative structure (Dayley 1983: 44; Aissen 1987: 114; Shklovsky 2012: 41). On the other hand, possessive applicatives derived with the same suffix alternate with non-applicative transitives. Example (29) illustrates this point.

- (29) *Tzeltal* (Shklovsky 2012: 51)
 Lah k-il(-be) s-nah Pedro.
 PFV A1-see(-APPL).B3 3POSS-house Pedro
 'I saw Pedro's house.'

Such alternation are due to the factors that Aissen (1987: 153) refers to loosely as "non-syntactic", possibly topicality like in *Mi'gmaq*.

The Nez Perce genitive possessor is located in a non-thematic position, and existing literature does not cite any examples where it may be interpretable as benefactive. So unlike

the ambiguous possessor raising construction, the genitive construction is a specialized possessive applicative. It encodes a non-cancellable non-directional possessive relation between two non-subject arguments as part of its core meaning, or at least there is no evidence to the contrary.

3.3 From general applicatives to possessive applicatives

This section argues that possessive applicatives developed out of general low applicatives due to the conventionalization of the implied meaning.

This can be best illustrated for Salish. The general low applicative **-xi* is reconstructed for Proto Interior Salish based on the pan-Salish data (Kiyosawa 2004). It has cognates in virtually all other Salish languages and therefore is assumed to go back to Proto-Salish. In contrast, the possessive applicative in **-ł* is a Southern Interior Salish innovation. As Gerds & Kiyosawa (2010: 174) state, either the general applicative in **-xi* already had the possessive use in Proto-Salish and in this usage it was replaced by **-ł* in Southern Interior Salish, or the extension of **-xi* to possessive applicatives was contemporaneous with the development of **-ł*. On either scenario, Southern Interior Salish developed distinct verbal morphology to signal possessive applicatives. Ambiguity demonstrated in Section 3.1 is known to be a prerequisite for this kind of change (Campbell & Harris 1995: 70). If the applied object was allowed to be coreferential with the implied possessor in at least some of its tokens, this forms the “potential for multiple structural reanalysis” and hence such constructions may in time undergo actual reanalysis.

This process arguably followed a frequent diachronic path that constructions go through over time proposed in Diachronic Construction Grammar. In a nutshell, the notion of construction refers to a symbolically linked pair of form (SYN) and meaning (SEM), which creates an integrated whole. Diachronic development consists of a succession of (possibly abrupt) micro-changes that can involve any aspect of the internal organization of the construction, i.e. SYN, SEM or the linking between the two (Barðdal & Gildea 2015: 14), independently of other aspects.

This paper does not aim to examine all details of the constructions in question, so I will abstract away from many aspects of their form and meaning and only represent those that appear relevant for the diachronic story. I take general applicatives to be the pairing of SYN₁ with SEM₁. SEM₁ indicates the (abstract) transfer of possession between two non-subject arguments. SYN₁ refers to the syntactic structure in which two syntactically independent objects stand in a directional possessive relation, i.e. [OBJ1_{BENEFACTIVE}] [OBJ2_{THEME}]. Possessive applicatives are the pairing of SYN₂ with SEM₂. SEM₂ represents the presupposed non-directional possessive relation. As mentioned above, this is also the meaning of canonical possessive constructions. SYN₂ represents the syntactic structure in which this non-directional possessive relation holds between two objects. The applied object OBJ1 corresponds to the semantic possessor and OBJ2 corresponds to the possessed, i.e. [OBJ1_{POSSESSOR}] [OBJ2_{POSSESSED}]. Unlike SYN₁, this structure is athematic in the sense that OBJ1 takes no obvious role from the verb but may be topical, as mentioned above for several languages.

We have seen in Section 3.1 that in Proto Interior and Northern Interior Salish SEM₂ is cancellable, so it is not the encoded meaning of the general applicative SYN₁/SEM₁. In contrast, I propose that in Southern Interior Salish SEM₂ generalized and was eventually paired with the new formal structure SYN₂, giving rise to possessive applicatives. This process followed three steps claimed to be common in the creation of a new construction (Barðdal & Gildea 2015: 17–18): (i) conventionalization of a new meaning, (ii) reanalysis, and (iii) emergence of a new construction.

In the first step, the construction undergoes semantic expansion. Frequent implicatures often get conventionalized with time, since frequency gives constructions a stronger mental representation (Bybee 2007: 15). In this instance, the high token frequency of the non-directional possessive implicature leads to its conventionalization. The relation between the applied object and the theme is no longer required to be directional, but can now be semantically equivalent to the relation expressed by regular possessive constructions.⁴ This causes the change in the semantic component: the single applicative form SYN_1 gets associated with two semantic analyses, SEM_1 and SEM_2 .

The rise of the innovative SEM_2 motivates the second diachronic step, the reanalysis of form $SYN_1 \rightarrow SYN_2$. That is, once the non-directional possessive meaning generalizes and a possessive relation is no longer cancellable, the applied object gets reanalysed as the semantic possessor of the theme. No visible structural changes occur at this intermediate stage; “the change in SYN is posited on the basis of the prior change in SEM plus the knowledge that observable changes in SYN are forthcoming” (Barðdal & Gildea 2015: 18).

At the third step SEM_1/SYN_1 continue to combine to constitute the original construction, while SEM_2/SYN_2 combine to make a new construction. As a result, the general low applicative splits into two novel constructions in Southern Interior Salish. The benefactive applicative SEM_1/SYN_1 expresses directional possession, while the new possessive applicative SEM_2/SYN_2 expresses non-directional possession. The two constructions are now representationally distinct and can be simultaneously present within one language.

This processes removed the inherent ambiguity of general applicatives, but the possessive applicative can still carry the benefactive implicature reflecting its historical origin. In Okanagan, for instance, speakers often translate the possessive applicatives in $-t$ with the English dative (N. Mattina 1996: 73). As Kiyosawa & Gerdt (2010: 159) note, “[i]t is often the case that the possessive applied objects have additional semantic “kick” indicating that the possessor is affected by the action”.⁵ Conversely, in a small number of examples the benefactive applicative can still be interpreted as possessive under appropriate contextual conditions (Kiyosawa & Gerdt 2010: 153).

The proposed scenario is summarized in Table 1. “Encoded meaning” refers to the aspect of meaning that reflects the relation between non-subject arguments.

Table 1: Applicative constructions in Interior Salish.

Languages	Construction	Form	Encoded meaning	Implicature
Proto Interior Salish, Northern Interior Salish	general applicative	SYN_1 V-xi [OBJ1 _{BENEFACTIVE}] [OBJ2 _{THEME}]	SEM_1 directional possession	SEM_2 non-directional possession
Southern Interior Salish	benefactive applicative	SYN_1 V-xi [OBJ1 _{BENEFACTIVE}] [OBJ2 _{THEME}]	SEM_1 directional possession	SEM_2 non-directional possession
Southern Interior Salish	possessive applicative	SYN_2 V-t [OBJ1 _{POSSESSOR}] [OBJ2 _{POSSESSED}]	SEM_2 non-directional possession	SEM_1 directional possession

⁴ Interestingly, Linzen’s (2016) corpus study reports a similar change in Modern Hebrew: unaffected external dative possessors are in the process of becoming more and more acceptable, suggesting a diachronic process “that could eventually lead to the transformation of PD [external dative possessor] into a general-purpose possessive construction” (Linzen 2016: 330).

⁵ This is also observed in Tzotzil (Aissen 1987: 154, 178), Chimane (Ritchie 2017: 704), and Mosestén (Sakel 2004: 323).

Step (iii) was accompanied by actualization, i.e. structural changes that align form with the new semantic analysis bringing “the surface into line with the innovative underlying structure” (Campbell & Harris 1995: 77). It is presumably at this stage that the suffix **-t* is introduced. The benefactive and possessive applicatives also differ in case marking. As mentioned in Section 2.3, in possessive applicatives both non-subject arguments are unmarked for case, whereas in benefactive applicatives the theme is normally oblique. Oblique marking is in the general process of disappearing in Salish (Willett 2003: 89, 139; Kroeber 1999: 47–52), but some amount of variation is possible within one and the same language. For instance, although there is a tendency for the oblique marker to be omitted by the speakers of Columbian, it still frequently occurs on the theme of antipassives and general applicatives, and on passive agents (Willett 2003: 87). In possessive applicatives, however, this is not a matter of optionality: the oblique theme is strictly ungrammatical, so the lack of oblique marking is an inherent constructional feature that distinguishes between possessive and benefactive applicatives.

Given the gradual nature of syntactic change, we can expect to find various intermediate stages. In Spokane and Columbian the possessive applicative in *-t* participates in an additional construction (absent from Okanagan and Coeur d’Alene), in which the interpretation is benefactive and the case marking pattern is the same as in benefactive applicatives, i.e. the theme is oblique:

- (30) *Spokane* (Carlson 1980: 24)
 Kʷwúlʰ-t-ən [ʰuʔ t yámχʷeʔ] [ʰuʔ Agnes].
 make-APPL-TR-1SG.SBJ DET OBL basket DET Agnes
 ‘I made a basket for Agnes.’

This suggests that actualization went through two distinct steps, the emergence of the new applicative suffix and the change in case marking. (30) reflects the stage which preserves case marking (and semantics) of general applicatives but the suffix *-t* has been already introduced.

Thus, the possessive applicative construction in Southern Interior Salish emerged from the general applicative. The main driving force behind the change is the conventionalization of a non-encoded but frequently implied non-directional possessive relation between OBJ1 and OBJ2. The Mayan languages followed a similar path, from the general low applicative reconstructed for Proto Ch’olan-Tzeltalan and inherited by Western Ch’olan to the specialized possessive applicative in Greater Tzeltalan. By hypothesis, Chimane, Mi’gmaq and the Nez Perce genitive construction may also go back to general applicatives, possibly through the unattested intermediate stage of possessive applicatives with external possessors.

4 Emergence of the internal possessor

As seen above, in some possessive applicatives the possessor is an independent syntactic argument (external possessor), whereas in other possessive applicatives it belongs to the phrase headed by the theme (internal possessor). The goal of this section is to argue that the latter construction goes back to the former. In the absence of direct historical evidence, the diachronic scenario I will propose is based, first, on apparent parallelism with the languages for which historical records are actually available, and second, on interpreting cross-linguistic synchronic variation as stages in language change. This kind of methodology, recommended e.g. in Greenberg (1995) and Croft (2003: 232ff.), is especially useful when traditional historical methods cannot be routinely applied.

4.1 Cross-linguistic parallels

Below I summarize the facts from a number of languages where the dative possessor goes back to the dative argument due to the reanalysis of constituency relations.

Old Church Slavonic, known from the manuscripts from the late 9th until the 12th c., is the first literary account of the history of Bulgarian and for practical purposes can be considered its immediate ancestor. According to Krapova & Dimitrova (2015), in Old Church Slavonic (postnominal) genitives, together with possessive adjectives, were the main means of expressing internal possession. The dative was employed in clause-level functions primarily as benefactive, goal, recipient, affectee or the like.

- (31) *Old Church Slavonic* (Krapova & Dimitrova 2015: 186)
 da pokryjotъ sę emou [děla ego]
 to cover REFL 3SG.DAT.M deeds.NOM 3SG.GEN.M
 ‘to cover for him his deeds’

There were also external dative possessors inherited from early Slavic and usually called “doubly bound datives”. Typically they are pronominal (94% of occurrences in the corpus studied by Krapova & Dimitrova 2015) and involve affecting predicates (69%). The dative is adjacent to the verb and precedes the theme, but does not have to be adjacent to it. It invariably stands in the possessive relation with the theme, even when there is no internal expression of possession as in (32a), but can co-occur with an internal possessor (32b). Krapova & Dimitrova (2015: 187) take this to indicate that the dative was not considered a grammatical marker of possession but the possessive meaning is a matter of inference.

- (32) *Old Church Slavonic* (Krapova & Dimitrova 2015: 186, 187)
 a. jegda že imū prēbivaachō golēni
 when PTC 3PL.DAT break.in.two knees
 ‘when they broke their knees in two’
 b. Ōtpuštajotū ti sę [grěsi tvoi].
 forgive 2SG.DAT REFL sins your
 ‘Your sins will be forgiven/Sins will be forgiven to you.’

The claim that Krapova & Dimitrova (2015) make is that the doubly bound dative acted as a bridging context that facilitated the spread of the morphological dative into the sphere of adnominal possession. As a result of this process the implicit possessive relation became encoded in meaning and got further conventionalised as a new grammatical pattern, the internal dative possessor.

The tendency for replacing the genitive with the dative is a statistical preference already in *Codex Suprasliensis* (end of the 10th c.). The competition between the two forms is observable in the texts dated from the 11th c. and continued throughout all of Middle Bulgarian (12th–14th c.). Although it occasionally employed the Old Bulgarian genitive pronouns, dative pronouns were gradually displacing them in the possessive function. By the end of the Middle Bulgarian period a clear distinction was observed between the 3rd person dative pronoun *emu*, which specialised on the benefactive functions, and the 3rd person dative clitic *mu*, which gradually entered the nominal domain and specialized on the expression of possession. The process of reanalysis culminated around the 16th c. (the beginning of the New Bulgarian period) with the complete elimination of the genitive. At this stage, all genitive functions, including the prototypical possessive genitive, were rendered by the dative, and the dative external possessors were also regularly found.

Krapova & Dimitrova (2015) argue that this process was accompanied by three further factors: the rise of pronominal clitics, the rise of the category of definiteness and the word order shift. There are two directions in the evolution of the clitic positions in Old Bulgarian: clitics target the second position, while also tending to stay adjacent to the verb. This correlated with a difference in interpretation in that the second position dative was primarily interpreted as affectee, while the postverbal dative was primarily interpreted as possessive, cf.:

(33) *Middle Bulgarian* (Krapova & Dimitrova 2015: 196)

- a. Ne by mi umrĭlŭ bratŭ.
not be.COND 1SG.DAT died brother.NOM
'My brother would not have died on me.'
- b. Ne by umrĭlŭ mi bratŭ.
not be.COND died 1SG.DAT brother.NOM
'My brother would not have died.'

The dative clitic typically preceded the theme when in the postverbal position. Following earlier authors, Krapova & Dimitrova (2015: 196–197) proposed that the clitic was reanalysed in terms of a possessor-possessee relation and further integrated into the nominal domain. The structure with postnominal possessors and the category of definiteness were already formed at this stage (Mladenova 2007; Dimitrova-Vulchanova & Vulchanov 2011), and this catalysed the assimilation of the dative to the class of internal possessors.

Modern Bulgarian shows essentially the same patterns as Middle Bulgarian. As described above, the external possessor construction developed a novel variant, in which the dative clitic appears inside a DP without apparent interpretational difference. So dative pronominals either function as postnominal possessive clitics (34a) or are placed next to the verb (34b).

(34) *Bulgarian* (Krapova & Dimitrova 2015: 183)

- a. Znam [adresa mu].
know.1SG address.DEF 3SG.DAT.M
- b. Znam [mu] [adresa].
know.1SG 3SG.DAT.M address.DEF
'I know his address.'

Cinque & Krapova (2009) describe an additional external dative construction exemplified in (35). Unlike (34b), it imposes a benefactive/affectee reading on the dative.

(35) *Bulgarian* (Cinque & Krapova 2009: 76)

- Tja [mu] Ńcupi [malkija prŕst].
3SG.F 3SG.DAT broke.3SG little.DEF finger
'She broke his little finger (on him).'

The true external possessor and the benefactive compete for the same position and are not compatible.

Similarly, it is widely accepted that internal dative possessors are a relatively recent development in Germanic. They are found in several languages which maintain a case system, i.e. some varieties of German, Swedish dialects, possibly Gothic, Old Norse, Middle Dutch and, marginally, Old English (Burridge 1995; Norde 1997; Pasicki 1998; Dahl 2015,

among others). In German, for instance, internal dative possessors appeared during the Old High German period (750–1050) in competition to genitive possessors, and the coreferential possessive pronoun which must follow the dative possessor also started developing (Lockwood 1968: 20). This eventually gave rise to the so-called “possessor doubling” construction such as *dem Jungen seine Hose* ‘the boy’s pants’ (Haspelmath 1998: 325) in colloquial standard German and a number of dialects.

The change was due to the reanalysis of the clause-level datives as DP-internal, but its exact nature is a matter of discussion. The scenario standardly assumed for Germanic goes back to as early as Havers (1911) and Behaghel (1923), see also Burridge (1995), Draye (1996) and Haspelmath (1998). It involves reanalysis of constituency (rebracketing) along the following lines: *Da zerriss* [_{DP} *dem Jungen*] [_{DP} *seine Hose*] ‘Then the pants tore on the boy’ > *Da zerriss* [_{DP} *dem Jungen* [*seine Hose*]] ‘Then the boy’s pants tore’. According to the alternative scenario proposed more recently by Whitman (2012) and Viðarsson (2017), the reanalysis was not due to rebracketing but the change of category label (ApplP to DP), perhaps with some loss of intermediate structure: *Da zerriss* [_{VP} [_{ApplP} *dem Jungen* [_{Appl’} Appl [_{DP} *seine Hose*]]]] > *Da zerriss* [_{VP} [_{DP} *dem Jungen* [_{DP} *seine Hose*]]].

This is also observed in dative-like prepositions. In Old Norse inalienable external possessors were marked by the dative case or the preposition *á* ‘on’ corresponding to Modern Norwegian *på*. In Modern Norwegian both the external (36a) and internal (36b) possessor may be marked by *på*.

- (36) *Norwegian* (Lødrup 2009)
- a. [Leveren] matte de fjerne [på ham].
liver.DEF must they remove on him
‘They had to remove his liver.’
 - b. Det floy en fugl [over hodet på ham].
there flew a bird over head.DEF on him
‘A bird flew over his head.’

Lødrup (2009) argues that there is a number of syntactic differences between the two constructions. External prepositional possessors are only available on affected direct objects and are clearly related to the external possessor construction in other Germanic languages. These restrictions do not hold for internal prepositional possessors, however. The latter are a Norwegian innovation, i.e. the dative-like postpositional phrase with a clause-level argument function was reanalysed as part of the object DP.

A similar development took place from Old Norse to Modern Icelandic. Pronominal datives are usually preposed in the language of Poetic Edda but occur in a post-nominal position in the later Old Norse prose (Havers 1911: 273–274). The postposing of datives is considered to be related to the postposing of genitives and possessive pronouns, and already in Old Norse dative possessives were in competition with possessive pronouns for the expression of inalienable possession. The rise of the hierarchical DP structure resulted in an increasingly rigid word order and the emergence of the grammaticalized determiner slot which could accommodate possessors. According to Van de Velde (2009), Van de Velde & Lamiroy (2017) and Viðarsson (2017), this led to the gradual absorption of clause-level datives into it, so that they became an integral part of the DP following the model of internal possessors. Dative possessors, however, began to decline in the 16th century and took the morphological guise of possessive pronouns or possessive PPs in Modern Icelandic.

4.2 Possessors in possessive applicatives

Going back to possessive applicatives, this section studies variation in the expression of possessor.

No overt expression of the internal possessor is necessary in external possessor constructions. This is equally true of Bulgarian, and of Okanagan and Coeur d'Alene, as seen above. What these languages have in common is that the possessor does not belong to the theme object phrase, but corresponds to a clause-level DP. Depending on analysis, the unpronounced internal possessor can be understood either as implied or as a null pronominal which stands in an anaphoric relation with the external possessor.

In contrast, we saw that in Mi'gmaq, Greater Tzeltalan, Nez Perce, Chimane, Spokane and Columbian the possessor forms a syntactic constituent with the possessed theme. There is no evidence that such internal possessor has any form of external representation in Mi'gmaq, as witnessed, among other things, by the fact that it cannot be passivized. However, the internal possessor has been claimed to have a silent external counterpart in the rest of these languages. That is, various analyses postulate a null pronominal element located externally to the theme phrase but coreferential with the internal possessor. This dual representation of possessor resembles backward raising, i.e. covert subject-to-subject movement which leaves the overt subject in the complement clause but produces a silent copy in the matrix clause (Potsdam & Polinsky 2012; cf. Lødrup's 2009 analysis of internal possessor PPs in Norwegian). The external null pronominal controls agreement on the verb, but is independently postulated based on the evidence that it participates in other clause-level processes.

According to Aissen (1987: 155ff.), the Tzotzil possessor is DP-internal on the surface but is represented externally by an unpronounced "anticopy" pronoun which acts as true object but drops like other definite pronouns. An argument in favour of this analysis is passivization of applicatives (37a), which Aissen treats as promotion of the primary object anticopy to subject. Possessor raising is impossible on underived subjects (37b); the host of raising has to be the object.

- (37) *Tzotzil* (Aissen 1987: 131, 138)
- a. Ch-i-toyilan-b-at j-jol.
ICP-B1-keep.lifting-APPL-PASS 1POSS-head
'My head was lifted over and over.'
- b. *L-i-cham-be j-tot.
CP-B1-die-APPL 1POSS-father
'My father died.'

Another argument is that possessor raising has syntactic restrictions. In particular, it is impossible in clauses that already contain an indirect object. This is because, in Aissen's analysis, the possessor anticopy is DP-external and, similarly to Bulgarian, it competes with the benefactive for the applied object status—even though possessive and benefactive applicatives are representationally distinct as far as their synchronic constructional properties are concerned (Section 3.2).

The empirical facts from closely related Tzeltal are largely the same. (38) demonstrates passivization.

- (38) *Tzeltal* (Shklovsky 2012: 71)
- Il-bot s-nah Mariya.
see-APPL.PASS.B3 3POSS-house Maria
'Maria's house was seen.'

Shklovky's (2012) analysis of Tzeltal does not require an external null, but non-local agreement with the internal possessor is explained via another mechanism: the object DP where the possessor is generated becomes transparent for the purpose of agreement when its head merges with the applicative head. Essentially this can be interpreted as some kind of covert incorporation which leaves the possessor behind and enables the complex predicate to agree with it. Further theory-internal mechanisms ensure that the possessive applicative is unaffected by passivization, but in theory-neutral terms, if we take passivization to promote an argument to subject, (38) indicates that the applied object is generated outside of the phrase to which the theme object belongs. Note that the possessor is accessible for applicativization inside a pronominalized theme. In (39), construed as an answer to the question 'Have you seen my chicken?', the 2nd person possessor is indexed on the verb whereas the possessed noun is understood as a referential null.

- (39) *Tzeltal* (Shklovsky 2012: 61)
 Lah k-mil-bat.
 PFV A1-kill-APPL.B2
 'I killed it (lit. I killed your it).'

Shklovsky (2012: 182) speculates that some pro-forms have an internal structure in Tzeltal and therefore are subject to the same analysis as non-pronominal DPs, but again, independently on whether his analysis is maintained, empirical facts point towards a possibility of an external pronominal representation of the possessor because the possessor and the possessed are pronominalized separately.

There is (admittedly, inconclusive) evidence that an analysis along similar lines may be required for at least a subset of agreeing possessors in Columbian. All available examples of Columbian possessive applicatives contain an internal possessor. As seen in Section 2.3, the agreeing possessor can be genitive and the possessive phrase as a whole is promoted to subject. However, the situation is different for 1st and 2nd person possessors. Regular 1st person (and possibly 2nd person) objects do not undergo subject promotion via passivization. Likewise, one cannot passivize a possessive applicative if the possessor of the theme is 1st or 2nd person, cf. (40a) and (40b) constructed based on the discussion in Willett (2003: 159–160):

- (40) *Columbian*
 a. *Kn c'aw'-nt-m t John.
 1SG wash-TR-PASS OBL John
 'I was washed by John.'
 b. ?in-qack xəlq'-(*t)-nt-m t sɿʷáʔɿʷaʔ.
 1POSS-older.brother kill-APPL-TR-PASS OBL cougar
 'My older brother was killed by a cougar.'

In (40b) the possessive applicative is impossible. This seems to suggest that the 1st person possessor of the theme behaves exactly like a regular 1st person grammatical object for the purpose of passivization, as would be expected if it had some kind of silent clause-level representation similar to Greater Tzeltalan.

It is not known whether the genitive possessor is passivizable in Nez Perce, but Deal (2013: 417) provides a different piece of evidence that it has a silent external representation. Regular genitive possessors in non-applicative constructions do not c-command out of the possessive phrase that contains them. In contrast, the genitive on the applicative theme may not be coreferential with the referential expressions that are (in) lower

arguments. In (41) the disjoint effect follows if the possessor phrase is in a position of c-command over *Meli* ‘Mary’.

- (41) *Nez Perce* (Deal 2013: 417)
 Haacwal-nimagent pee-kiwyek-ey'-se-Ø [ʔip-nim ciq'aamqal] [Meli-nm
 boy-ERG 3 > 3-feed-APPL-IPFV-PRS 3SG-GEN dog.NOM Mary-GEN
 ke'niks].
 leftovers.NOM
 'The boy is feeding his/her_{j/*i} dog Mary_i's leftovers.'

In this sense the genitive in (41) behaves like an external possessor. Deal (2013) explains these facts by proposing that possessor raising is either overt or covert, i.e. it produces two copies of the possessor phrase. Overt raising results in the pronunciation of the higher copy externally to the possessive phrase, and covert raising results in the pronunciation of the lower copy as the genitive in-situ possessor. Crucially, c-command relations are the same regardless of what copy is pronounced.

Chimane offers the clearest example of internal possessors doubled by external pronominals because these pronominals may actually be pronounced. In Ritchie's (2017) analysis the internal possessor has an external clause-level “proxy”, a referential pronominal which mediates the agreement relation with the verb. It is this proxy that takes the primary object role in active constructions and becomes the derived subject in passives. It can correspond to a referential null anaphorically bound by the internal possessor, as seen previously, but it can also be represented by a doubling pronominal clitic homophonous with bound possessive pronominals. Ritchie (2017: 700) suggests that, in spite of homonymy, they are functionally distinct. Bound possessors are DP-internal, as follows from the fact that they are subject to positional restrictions within the phrase: as mentioned, they cannot attach to the determiner. When they co-occur with a free-standing possessor as in (19c) above, the construction is largely parallel to Germanic possessor doubling. In contrast, the proxy clitic is clause-level and either attaches to the final element in the clause or takes a second-position, the property not shared by other discontinuous constituents.

(42) illustrates that the proxy clitic is external to the possessive phrase. I gloss it with grammatical abbreviations such as e.g. 3SG.M to distinguish it from bound possessors.

- (42) *Chimane* (Ritchie 2017: 700)
 Mi najj-bi-te [ococo Juan-si'] munja = mu'.
 2SG see-APPL-3SG.M.OBJ frog(F) Juan(M)-F yesterday = 3SG.M
 'You saw Juan's frog yesterday.'

Importantly, the clitic cannot occur in non-applicative constructions or at least it is strongly dispreferred by the speakers, cf. (42) and (43).

- (43) *Chimane* (Ritchie 2017: 700)
 Mi najjtye-ʔ [ococo Juan-si'](?* = mu').
 2SG see-3SG.F.OBJ frog(F) Juan(M)-F(= 3SG.M)
 'You saw Juan's frog.'

Additional pieces of evidence used to demonstrate that the possessor has external representation are passives and pronominalization. Example (44a) illustrates that the passive applicative verb cross-references the internal possessor or, more precisely, the proxy clitic coreferential with the internal possessor, as per Ritchie's analysis. (44b) shows that the

possessor and possessed noun are pronominalized separately, just like in Tzeltal (39). In this example the possessee refers to the part of a tree and is left unpronounced. The possessor refers to the tree itself and is indexed by means the masculine object marker on the verb.

- (44) *Chimane* (Ritchie 2015: 231; 2017: 686)
- a. [Maria-ty vojity] = mɔ' ja'-ĉat-bu-ti' (Juan).
 Maria(F)-M brother(M) = 3SG.F PASS-hit-APPL-PASS-3.SG.F.SBJ Juan(M)
 'Maria's brother was hit (by Juan).'
- b. Judyeya' aca-dyes jăc-bi-te tsun.
 and house(F)-PURP.F remove-APPL-3SG.M.OBJ 1PL
 'And we take it (lit. its it) to make houses.'

Thus, the doubling clitic is only possible in possessive applicatives and is therefore analysed as the optional clause-level representation of the internal possessor of the theme. However, unlike in Greater Tzeltalan but similar to the languages with external possessors, the internal expression of the possessor is not required.

- (45) *Chimane* (Ritchie 2017: 695)
- Cḥi-ya-cse-bi mɔ' dyijyedye'.
 know-CLF-3PL.OBJ-APPL.PL.M.SBJ DET.F thought(F)
 'He knew their thoughts.'

Table 2 summarizes the variation in possessive applicatives addressed in this section; *pro* denotes a pronominal element which must be silent in all languages except Chimane.

4.3 From external to internal

As shown, possessive applicatives where the applied object is overtly expressed externally to the theme DP and stands in a non-directional possessive relation to it are only attested in Okanagan and Coeur d'Alene. This kind of construction seems cross-linguistically infrequent (cf. Aikhenvald 2013: 39). Similarly infrequent are morphologically non-derived applicative verbs which express a non-directional possessive relation between non-subject arguments: they have only been reported for Spanish (Cuervo 2003) and Mandarin Chinese (Tsai 2018), as far as I know. Bulgarian athematic possessor raising belongs here too but, generally speaking, there are "extraordinarily few cases" (Deal 2013: 393) of unambiguous external possessors that are non-affected by the verb and simply correspond to the semantic possessor of the theme. In most languages external possessors are assigned the benefactive/affectee role, and the construction behaves like some kind of control structure.

Table 2: The expression of possessor in possessive applicatives.

Languages	Agreement controller	Possessor on the theme
Okanagan, Coeur d'Alene	external possessor	optional
Chimane	<i>pro</i> external possessor	optional
Nez Perce genitive, Greater Tzeltalan, Columbian	<i>pro</i> external possessor	obligatory
Mi'gmaq, (Spokane) ⁶	internal possessor	obligatory

⁶ Little Spokane data are available. In the absence of the evidence to the contrary, I assume that the agreeing possessor is not silently represented at the clause level.

The hypothesis I would like to put forward is that non-directional possessive applicatives are historically unstable if the possessor and possessed are independent constituents. They tend to be reanalysed: the possessor loses its argument status and becomes internal to the theme object DP assimilating to the class of internal possessors. This process was observed in the languages with dative possessors (Section 4.1), and I propose that Chimane, Greater Tzeltalan, Columbian, Spokane, Mi'gmaq and the Nez Perce genitive construction followed a similar path. It went through several stages reflected in cross-linguistic variation (Section 4.2).

This historical change has no obvious semantic effect and only targets the formal aspect of the construction, namely, constituency and grammatical relations. This can be schematically represented as follows: $[\text{OBJ1}_{\text{POSSESSOR}}] [\text{OBJ2}_{\text{POSSESSED}}] \rightarrow [\text{POSSESSOR POSSESSED}_{\text{OBJ}}]$. If we denote the structure $[\text{POSSESSOR POSSESSED}_{\text{OBJ}}]$ as SYN_3 , the result of this change is that the possessive applicative semantics SEM_2 gets associated with the new form, i.e. $\text{SEM}_2/\text{SYN}_2 \rightarrow \text{SEM}_2/\text{SYN}_3$.

Since the history of the languages discussed in this paper is poorly documented, it is impossible to judge whether the change $\text{SYN}_2 \rightarrow \text{SYN}_3$ occurred through rebracketing. This possibility cannot be excluded for Mayan and Spokane because of constituent order: the lexical benefactive invariably follows the theme object, whereas the lexical possessor follows the possessed noun, which could have facilitated rebracketing. However, rebracketing is more problematic for Nez Perce, Chimane and Mi'gmaq, where the order of the benefactive and the theme is not fixed, while in Columbian the benefactive precedes the theme but the genitive is either prenominal or postnominal (Willett 2003: 92). Chimane clitic doubling provides especially strong evidence against simple rebracketing since the possessor may be simultaneously expressed DP-internally and DP-externally.

This suggests that rebracketing did not play a major role in these languages. I propose instead that, similarly to what was suggested for Icelandic, a new possessor slot was created in the theme object DP. This was motivated by analogy with regular possessives.

Constructions are known to be organized into networks; they are related to other constructions of varying degrees of complexity through shared formal and/or functional properties. Although many changes result from the reanalysis of meaning which can further cause a change in form, some changes are driven by external dimensions, i.e. the place of the construction in the constructional network and its analogical links to other constructions. Such changes occur through the generalization of a pre-existing pattern to new instances and the redeployment of old constructional pieces for new purposes, and can involve form as well as meaning. The relevant mechanism of change has been referred to as “analogical extension” (Barðdal & Gildea 2015: 20, among others).

As discussed in Section 3, possessive applicatives convey the meaning of regular possessive constructions as far as the relation between non-subject arguments is concerned. To put it differently, they are related to possessive constructions, independently present in grammar, through the shared semantic component (SEM_2). Arguably, users of language can perceive this association and generalize over it (cf. Fischer 2007: 123; 2008; Traugott & Trousdale 2010: 36). They expect the uncancellable possessive relation between two nominals to be expressed by the frequent possessive pattern $[\text{POSSESSOR POSSESSED}]$, and it is this expectation that ensures that they create a new slot in the theme object phrase and fill it with the semantic possessor (the applied object). Thus, the abstract formal pattern associated with canonical internal possessives gets extended to possessive applicatives.

Analogical extension represents the first step in the emergence of a new construction and can be accompanied by further morphosyntactic changes (Sommerer 2015). In my example, once the internal possessor gets fixed as the obligatory component of the possessive

applicative construction, the coreferential external possessor is no longer needed for possessive interpretation. Any version of the economy principle that prohibits or disfavors expressing the same information twice will ensure that it gets deleted or is at least reduced in phonological weight.

As shown in Section 4.2, languages differ in this respect because the internal possessor can still have a partial external representation as an overt or covert pronominal. In Chimane the external possessor was pronominalized as an optionally pronounced clitic coindexed with the internal possessor. The expression of the possessor on the theme is optional, which arguably suggests that Chimane is at a less advanced stage of the grammaticalization of the internal possessor than other languages: the internal expression of the possessor has not yet become obligatory. In Greater Tzeltalan, Nez Perce and possibly Columbian, the internal expression of the possessor is required, whereas the external possessor is represented by some kind of referential null with syntactic effects but no visible phonological reflex. Finally, in Mig'maq external possessor was altogether eliminated from the clausal structure.

Another consequence of the analogical change $SYN_2 \rightarrow SYN_3$ is morphological actualization. This involves, first, the newly created possessor assuming the form of the canonical internal possessor in the language, as seen e.g. in Nez Perce. According to Deal (2013), Nez Perce syntax does not actually assign a genitive, but genitive represents a kind of last resort. It is assigned if, for whatever reason, the possessor is ineligible to receive case via movement and does not leave the possessive DP. This predicts that if the lower copy of the raised possessor is pronounced, it will be pronounced as genitive, but the point is that genitive-marked possessors were present in grammar even before the emergence of the covert raising construction (Morvillo 1891: 1–8). The structure of the latter was therefore partly assimilated to the already existing pattern.

The second morphology-related change has to do with the form of the possessed noun being remodelled based on the form of the regular primary object. As discussed in Section 3.3, the theme lost its oblique marking when the subset of general applicatives was reanalysed as possessive in Southern Interior Salish. Kiyosawa (2004) suggested that a bare theme was introduced to differentiate the benefactive applicative from the possessive applicative, however, distinct verbal morphology would have been sufficient to express the relevant contrast and the lack of oblique marking on the theme seems somewhat redundant as an additional disambiguating tool. Under my proposal, the relevant factor is the need to assimilate to the structure of regular possessives unmarked for case in the object role. The process has been proceeding at different speeds in different languages. It is most advanced in Spokane and Columbian, where the possessor is fully integrated into the structure of the theme object DP, accompanied by the change in case marking on the theme object. In Okanagan and Coeur d'Alene the theme lost its oblique case but the possessor has not (yet) lost its clause-level status.

To summarise, I proposed that possessive applicatives in which the verb agrees with the internal possessor of the theme were modelled after possessive constructions in terms of the syntactic relation between the possessor and possessed. The analogical transfer of structure removed the non-iconic mismatch between SYN_2 (two syntactically independent verbal arguments) and SEM_2 (the non-cancellable non-directional possessive relation between them), by aligning the form of possessive applicatives with that of canonical internal possessives.

5 Concluding remarks

As has been claimed in the literature, the constructional approach to language change offers a number of useful advantages. Among other things, it proves fruitful in

accounting for seemingly unmotivated syntactic patterns that do not easily fit in a synchronically attested grammatical network for a given language, or that present a typologically odd and inexplicable pattern. (Fried 2013: 421)

The present paper contributed to this general enterprise by offering a tentative historical scenario for the emergence of an unusual construction that violates standard assumptions about agreement domains: an applicative verb agreeing with the internal possessor of its theme object.

The paper proposed that this construction goes back to a more canonical structure. It developed relatively recently from the construction in which a non-directional possessive relation holds between two independent clause-level arguments, the theme object and the applied primary object, and the latter triggers object agreement on the applicative verb. Applicatives that link non-directional possessive semantics with this kind of syntactic structure are typologically rare and are likely to undergo structural reanalysis whereby the applied object gets reanalysed as the internal possessor of the theme. For the languages addressed in this paper the reanalysis consists in introducing a new possessor slot on the theme object and the subsequent elimination of the external possessor, fully or partially.

The change is motivated by analogical assimilation to another pattern which independently exists in grammar, the canonical internal possessive construction. Alignment in terms of the syntactic relation that holds between the possessor and possessed is ensured by semantic affinity between the two constructions. When constituency is reanalysed, the location of agreement remains intact on the verb, creating a non-local configuration. Agreement is then non-canonical in the resulting applicative construction essentially because this construction inherits properties of two parent constructions which served as its historical source, surface constituency of internal possessives and agreement pattern associated with clausal arguments. This scenario supports the view that grammatical constructions with mixed properties arise as the consequence of partial borrowing from other constructions at different levels of representation (cf. Traugott & Trousdale 2013: Chapter 2; Ackerman & Nikolaeva 2013).⁷

My proposal implicates analogy as a factor constraining the organization of language systems and triggering diachronic change. Analogical reasoning as a cognitive skill is based on pattern recognition ability, so the explanatory role of analogy has repeatedly been highlighted in construction-oriented grammatical research, cognitive and acquisition studies, which maintain that grammar is pattern-based (e.g. Skousen 2002; Tomasello 2003; Itkonen 2005; Blevins & Blevins 2009). The same applies to language change: analogical extension can only be explained based on the idea that the synchronic system of speakers' linguistic knowledge is a structured inventory of stored grammatical patterns that can interact and serve as bases for new constructions (e.g. Fischer 2007; 2008; Traugott & Trousdale 2010; Sommerer 2015). Following this research, the present paper emphasized the role of cross-constructional analogy as both the main driving force and the mechanism responsible for (some) diachronic changes.

Abbreviations

1 = 1st person, 2 = 2nd person, 3 = 3rd person, A = ergative agreement in Mayan, ABS = absolutive case, ABSEN = absentive, AN = animate, APPL = applicative, ApplP = applicative phrase, ASP = aspect, B = absolutive agreement in Mayan, CAUS = causative, CL

⁷ Ackerman & Nikolaeva (2013) studied another type of non-local agreement: the subject of a non-finite relative clause that triggers agreement on the relativized noun. They proposed that such relative clauses emerged as a result of constituency reanalysis, hence locality violation.

= clitic, CLF = classifier, COND = conditional, CP = completive, DAT = dative, DEF = definite, DET = determiner, DFLT = default, DIM = diminutive, DIR = direct, ERG = ergative, F = feminine, GEN = genitive, ICP = incomplete, IMP = imperative, INTR = intransitive, IPFV = imperfective, IRR = irrealis, M = masculine, NEG = negation, NOM = nominative, OBJ = object; objective case, OBL = oblique, OBV = obviative, PASS = passive, PFV = perfective, PL = plural, POSS = possessive, PP = preposition, PRS = present, PST = past, PTC = particle, PURP = purposive, REC = recent, REFL = reflexive, REM = remote, SBJ = subject, SG = singular, TOP = topic, TR = transitive, V = verb, 0 = epenthesis.

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Competing Interests

The author has no competing interests to declare.

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