ANCHOR: A DF IN DP

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Abstract

Possessors may occupy a DF position within DP, either in SPEC DP, or adjoined to NP, in line with Bresnan's (2011) Endocentric Mapping Principles. Their default discourse function is that of ANCHOR. This accounts for phenomena such as possessor doubling, and alternative positions for possessors with different semantic and pragmatic constraints.

1 Introduction

I suggest that constituents conventionally referred to as 'possessors' are generally manifestations of a discourse function, anchor, and in some cases, express only the DF, ANCHOR, and not the GF POSS as more commonly assumed. Prince (1981) defines an anchor as an NP properly contained in another and linking the containing NP to a discourse referent. Because the anchor must itself be evoked, inferable, or anchored in turn, it renders the otherwise inaccessible referent of the containing NP accessible to the addressee. Thus anchors are, of necessity, embedded within nominal structures, and may be recursively embedded. NPs properly contained in other NPs include those within a prepositional phrase modifying a noun as in (1), those within relative clauses as in (2) and possessors as in (3) [1]; (4) illustrates recursive possessive anchors.

(1) a. a friend of [John's]$_{ANCHOR}$
   b. the President of [the United States]$_{ANCHOR}$
   c. the man from [U.N.C.L.E.]$_{ANCHOR}$

(2) a guy who works with [Sam]$_{ANCHOR}$

(3) [my]$_{ANCHOR}$ neighbour

(4) [[my]$_{ANCHOR}$ neighbour's]$_{ANCHOR}$ dog

Some anchors are within complements, as in (1a) and (2b), others within adjuncts as in 1c) and (2), but the status of 'possessors' like those in (3) and (4) is a bit more controversial, and it is with these that this paper is concerned. I will argue that what unifies 'possessors' is not a shared argument status, but their shared discourse function.

Discourse functions manifest in different ways. In some cases they are functions in information structure (i-structure) which may

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[1] Assuming D and N are functional co-heads (Bresnan, 2001), the relevant relationships still hold in the DP structure adopted here.

affect the pragmatic interpretation of elements in c-structure, without any direct syntactic relationship to them. In other cases, there is a grammaticalised DF that is subject to the Extended Coherence Condition (ECC) and can link to either an argument or the adjunct GF. In other cases, a GF has a default discourse function: e.g., topic for SUBJ and focus for OBJ. I will argue that anchors manifest in all these ways. The more familiar case is when a GF POSS has a default function as an anchor, and I will propose a mechanism whereby this relationship is established for Hungarian dative possessors, but I will also argue that a grammaticalised DF ANCHOR (ANCH) is involved in other Hungarian possessive structures, in Mandarin, and in Low Saxon, where it may be linked to an ADJUNCT.

I'll first discuss issues arising from previous analyses of possessors as arguments, and review evidence for and against such an analysis. I'll then outline the current views on DFs in LFG, and indicate how ANCH would fit within these frameworks, and then present analyses of different possessor constructions in Hungarian and Low Saxon to illustrate and support my proposals.

2 When a 'possessor' is not a possessor

One defining characteristic of an argument is that its semantic role is entailed by a predicate. Generally 'possessors' that share this key characteristic do not actually possess; for those that do, the role-assigning predicate is not always evident. Consider:

(5) a. My hat/dog/lunch
    b. My neighbour/father/friend
    c. My arrival/surprise/action

The nouns in (5a) are common nouns, those in (5b), inherently relational and those in (5c), deverbal; the semantic role of *my* is different in each case. Clearly, relational nouns like those in (5b) entail the existence of another entity related to their own referent, in the way they specify. Likewise, the semantic roles of theme, experiencer and agent associated with *my* in (5c) are roles entailed by the specific deverbal noun the modify. So, in (5b) and (5c) *my* is clearly an argument of the nouns it modifies, and should be mapped to an argument GF. On the other hand in (5a), *my* is consistently interpreted as a possessor *sensu stricto,* a role that is not entailed by any common noun: their referents can all exist without being possessed. This absence of entailed meaning distinguishes common nouns like *hat*, from relational and deverbal nouns like *neighbour* or *arrival*. Henceforth, I will call possessors of common nouns, 'semantic possessors' and those of relational or deverbal nouns 'quasi-possessors', when the distinction is relevant.

Some have suggested that semantic possessors are extrinsic arguments of common nouns (Sadler, 2000), making N a kind of raising predicate; Bresnan (2001) suggests that a POSS GF is added freely to any noun by a lexical redundancy rule, making common nouns into simple predicates, while Szabolcsi (1994) suggests the possessor role may be introduced by an abstract predicate or inflection. However, Laczkó (2007) points out that these approaches all violate either the completeness or the coherence condition. If a common noun appears with an extrinsic POSS, such as proposed by Sadler (2000), then there is no predicate to assign the possessor role to the 'raised' argument, though it clearly has such a role. Conversely, if predicate nouns appear in structures with an intrinsic POSS, as proposed by Bresnan, then there are too many semantic arguments for the number of GFs available: the semantic possessor and quasi-possessor must compete for the same GF. Laczkó also takes issue with the idea that when an affixed predicate is assumed, "the Poss predicate (that is, the possessive marker), realised by a morpheme attaching to the possessed noun" is a co-head of the possessed noun's and yet the possessive relationship is not visible outside the DP. In other words, in a co-head analysis, the separation of sentence-level and DP level predications is not clear from f-structure.

Nevertheless, Laczkó argues for a uniform analysis and suggests a lexical redundancy rule makes any possessed noun into a raising predicate which has *two* arguments: an extrinsic POSS and an intrinsic XCOMP. The XCOMP contains the predicate Poss which selects an intrinsic POSS argument obligatorily controlled by the extrinsic POSS of the raising noun. The lexical entry of a possessed noun in Laczkó's analysis is thus: (↑PRED) = 'N <(↑XCOMP)> (↑POSS)' (↑POSS) = (↑XCOMP POSS). He identifies the underlying form of the Poss predicate in Hungarian as the suffix *-ja* which is clearly evident in examples like (6) (from Laczkó, 2007, p.3) and (7) (from Chisarik and Payne, 2000, p.7).

(6) *(az én) kalap-ja-i-m*
    the I   hat- Poss-pl-1sg
    'my hats'

(7) *a   lány macská-ja*
    ART girl cat-Poss.sg.3sg
    'the girl's cat'

In (6) *-ja* is followed by a plural marker referring to the host noun, *kalap* 'hat', and an agreement marker *–m* indicating that the possessor is 1st person singular. The presence of the Poss morpheme is also assumed in other agglutinating and fusional forms. A comparison of (6) and (7) shows that singular number for the possessed noun, and 3rd person singular for the possessor are not overtly marked, but can be

inferred from the occurrence of *-ja* without further suffixes. This has implications for the analysis of the feature-structure of *-ja*, which will be discussed in detail below.

While Laczkó's analysis provides a source for the semantic role of possessor, it does not do the same for the role of possessum. Moreover, in a true raising construction, there is no semantic relationship between the 'raised argument' and the raising predicate. Intuitively, the host noun should be the possessum of Poss, but it is simply unclear how the host noun gets this interpretation in Laczkó's analysis, or most of the others. And there are further problems for Laczkó's analysis, that relate specifically to languages like Hungarian, where possessive structures with common nouns express relationships other than possession. The examples in (8) are from Chisarik and Payne (2000, p.10). (8a) with a semantic possessor is a repetition of (7) above; (8b) involves an attributive modifier, and (8c) an equative relationship in the same structure.

(8) a . *a   lány macská-ja*
    ART girl cat-3
    'the girl's cat'
  b. *a   boldogság perc-e-i*
    ART happiness minute-Poss.PL
    'the minutes of happiness'
  c. *Budapest város-a*
    Budapest city-Poss.sg.3sg
    'the city of Budapest'

Another such language is Mandarin; the examples in (9) are adapted from Charters (2004); (9a) involves a semantic possessor, but the counterpart constituent in (9b) is an attributive modifier.

(9) a. *wǒ de shū*
    1sg DE book
    'my book'
  b. *yíng mùtóu de zhuōzi*
    hard wood DE table
    'table made of hard wood'

I will refer to non-possessive modifiers in structures like those in (8) and (9) as 'attributive possessors'. The fact that common nouns can have either a semantic or an attributive 'possessor' in the same structure makes it harder to argue that 'possessors' are always functionally controlled by the POSS argument of some specific predicate, Poss, as Laczkó's analysis implies. However, there is another possessive structure in Hungarian which is more restricted, to which Laczkó's analysis could potentially apply. Chisarik and Payne, (2001) discuss

similarities and differences between the Hungarian structure in (6) - (8) above, and that in (10) below. Where possessors in (6) – (8) have no case marking and cannot be followed by an article, the possessor in (10) carries a dative case-marker, *-nak,* and can be followed by an article. The attributive possessors in (8b) and (8c) cannot occur in the dative structure, as shown in (11) (from Chisarik and Payne, 2001, p.10).

(10) a. *a   lány-nak a   macská-ja*
        ART girl-DAT ART cat-3
        'the girl's cat'

(11) a. **a boldogság-nak   a   perc-ei*
          art happiness-DAT ART minute-3-PL.SUBJ
          '*happiness' minutes'
      b. **Budapest-nek   a   város-a*
          Budapest-DAT   ART city- 3sg-SUBJ
          '*Budapest's city'

Since dative possessors are restricted to semantic and quasi-possessors, it is plausible to suggest that they do involve a Poss predicate whose *semantic* argument, the possessor, is optional, making way when necessary for higher ranked obligatory roles selected by predicate nouns. The problem then is how to explain the similarity in form of the 'possessed' noun in both structures. Whether the possessor is in dative case or not, the inflections on the host noun are the same, so in Laczkó's raising analysis, both should involve the same lexical process and the same raising predicate, introducing the same GFs, XCOMP and POSS (x2). While his account might be possible for semantic and quasi-possessors, it cannot easily account for attributive ones, or the difference in the range of meanings possible in the two structures.

In Chisarik and Payne's account, each noun has an optional possessor role in a-structure but this requires two different lexical entries, one selecting a dative SUBJ, and the other, a genitive[2] NCOMP. Both are identified as unrestricted functions, but no explanation is offered of how different restrictions on acceptable semantic roles come to be enforced on each; ideally, Lexical Mapping Theory should account for GF selection in a more general way. Also, Chisarik and Payne's proposal departs significantly from the usual LFG account of displaced arguments: a link between a syntactically

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[2] Traditionally called nominative, Chisarik and Payne argue that possessors in (6) – (8) belong to a 'new genitive' paradigm, on the grounds of a few distinctive forms. Unmarked nouns will be glossed as GEN in examples and f-structures henceforth.

unrestricted DF and any GF. Below I show how this standard account can be adapted to explain the variation in possessive structures.

In fact, Charters (2004) proposed such an analysis to account for a contrast in restrictiveness between two possessive structures in Mandarin; the examples in (9) above illustrate a structure with no restrictions, comparable to the Hungarian genitive structure while (12) below illustrates a structure with even greater restrictions than the Hungarian dative: in Mandarin, only the arguments of relational and some predicate nouns can appear immediately prior to the noun that selects them, without the particle *de* intervening, as shown in (12a) and (12b) respectively. In (12d) a modifier with *de* is used to clarify the position of *mùtóu* 'wood'; here, it cannot be interpreted as a syntactically independent modifier of the noun *zhuōzi* 'table', as it is in (9c); the only available interpretation is a nonsensical one where the string *mùtóu zhuōzi* 'wooden table' functions as a compound noun.

(12) a. *wǒ māma*
     1sg mother
     'my mother'
   b. *nà liǎng chē lǐmian*
     that Class car inside
     'inside that car'
   c. *wǒ gǒu
     1sg dog
   d. ?*zìjǐ zhǒng de mùtóu zhuōzi*
     self grow DE wood table
     '?the wooden table we grew ourselves'
     NOT: 'the table made of [wood we grew ourselves]'

In Charters (2004), I suggested that this variation occurs because the position immediately prior to the noun is an argument position, Spec NP, but the unrestricted position prior to *de* is a DF[3] position in Spec DP, whence a constituent can control either an argument or an adjunct (see Charters, 2004, p. 17 for a full structural analysis). I believe this analysis can be extended to account for variation in possessive structures in Hungarian and potentially in other languages too. Before presenting that analysis a discussion of discourse functions in LFG is in order.

2 DFs and i-structure in LFG

In the introduction I referred to three different manifestations of discourse functions: as functions restricted to i-structure with no

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[3] In that analysis I referred to the DF as MOD for modifier. I now believe the label ANCHOR better reflects the discourse function such elements serve.

specific f-structure exponent; as DFs expressed in c-structure and f-structure, and subject to the ECC; and as default associations with a specific GF. I suggest the unrestricted genitive possessors in Hungarian, and the constituents preceding *de* in Mandarin are manifestations of the second type: they occupy a DF position in c-structure and are subject to the ECC. I suggest the DF they instantiate is that of ANCHOR.

According to Dalrymple and Nikolaeva "when the features TOPIC and FOCUS appear at f-structure, they are taken to be **grammaticalised** discourse functions whose synchronic role is purely syntactic, related to but different from the information-structure roles of topic and focus" (Dalrymple and Nikolaeva, 2011, p. 62, original emphasis). in contrast, discourse roles represented only at the independent level of information structure (i-structure) are based on broader notions of topicality, presupposition, contrast, newness etc., as discussed in Stalnaker (1974); Chafe (1976); Prince (1981); Reinhart (1982); Lambrecht (1987); Firbas (1996) and others. On the other hand, Asudeh (2004, 2010) argues that it is really displacement that should be represented at f-structure by a generic Unbounded Dependency Function (UDF), leaving the distinct DF labels TOPIC and FOCUS to be realised in i-structure.

I sympathise with Asudeh's view, but believe that it and Dalrymple and Nikolaeva's statement that DFs in f-structure are purely syntactic, ignore important distinctions between DFs and ungrammaticalised discourse roles on the one hand, and between DFs and GFs on the other. However discourse functions are integrated with syntax, principled distinctions can be drawn in both directions. Firstly, *grammaticalised* DFs are routinely linked, whether directly or via a generic UDF, to an f-structural constituent, never to a non-constituent. Other discourse roles (like background information or contrastive focus) may have no direct link to any constituent or GF in f-structure (see King, 1997 for a discussion of such mis-matches). Thus it is important to maintain a distinction between grammaticalised DFs, with links to f-structural constituents, and pure discourse functions without such links.

Secondly, DFs are clearly distinct from GFs, not in their syntactic treatment or effects, but in their fixed status in information structure terms. Though Dalrymple and Nikolaeva (2011, p. 62, fn 3) argue that SUBJECTs should not be included as a DF because they display different syntactic characteristics from topics and foci, they concede later that "[v]arious linguistic cues can be used to signal the information structure of an utterance to the addressee...Interestingly, *such cues are often the same as those that languages use to signal grammatical functions*" (Dalrymple and Nikolaeva, 2011, p. 67, emphasis added). Even failure to subcategorise predicates does not set DFs apart because the GFs SUBJ and ADJ do not do this either: all predicates have a Subject and any head can have an adjunct.

What distinguishes SUBJECT from DFs like TOPIC and FOCUS is that the last two are *tied inextricably* to the discourse roles of i-structure after which they are named, while GFs like SUBJ and OBJ are free to realise discourse functions other than their default, or none at all. Thus we have expletive subjects and objects, but not expletive topics or foci. The lack of expletive possessors argues in favour of their analysis as DFs. Moreover, the view that GFs and DFs are distinct is encapsulated in recent analyses of GFs as atoms defined by features that relate directly to information structure (Choi, 1999; Butt and King, 2000; Dalrymple and Nikolaeva, 2011; Mycock and Lowe, 2014). Most of these omit SUBJECT and include TOPIC, FOCUS and BACKGROUND with some variants thereof (see Dalrymple and Nikolaeva, 2011. pp, 65-8 for a comparison).

So, if ANCH is a valid DF, as I suggest, its exponents must always serve the function of anchor, just as TOPICS must be topical, and it should share the features that define other DFs in a combination that makes it distinct. In the typology of DFs proposed by Butt & King (2000) and adopted by Dalrymple & Nikolaeva (2011) anchors are simply subsumed in BACKGROUND, but Mycock and Lowe's (2014) typology which defines as many DFs as others, rests on more features, which provides an opportunity to define with some precision, what makes anchors different from other DFs, and background items. Of particular relevance are the features +about, which indicates "a matter of concern" that the proposition is about; +informative, which means "an element establishes a relationship with another element of the proposition ... resulting in a change in the addressee's representation of the world" and +update which means an element "develops the communication" due to its "novel information structure status" (Mycock and Lowe, 2014, p. 2). These account for the DFs TOP_e (a first-time TOPIC), non-contrastive FOC, TOP_c (a continuing TOPIC) and BACKGROUND, as shown in (13). BACKGROUND has a minus value for all these features, but I suggest that ANCH is + INFORM. I have added the DF ANCH, whose features, I believe, complement those of the first three.

(13) DF	± about	± inform	± update	±d-new	± h-new
TOP_e	+	−	+	±	−
FOC_{NI}	−	+	+	+	±
TOP_c	+	−	−	−	−
ANCH	−	+	±	±	−
BACKGD	−	−	−	±	±

Anchors are -about, and +inform, like foci, but –update, like topics. Explicitly, anchors do not name a "matter of concern", but help to identify such a matter by establishing a relationship between it and their own referent. Consequently, unlike foci, anchors do not 'develop

the communication' at the level of the main proposition. Their –about value reflects the fact observed by Laczkó (2007) that possessors are not visible at the level of the main proposition, and Anchors are restricted to DPs within DPs because this is where their function is best served. If we have a GF, POSS restricted to positions in DP, it seems only natural to allow a DF with similar restrictions.

So, ANCH can be defined using existing features in a way that makes it distinct from established DFs. But DFs also need to conform to syntactic requirements: being subject to the ECC, they must be linked to some GF, argument or adjunct, and ideally their structural locations will fit the predictions of Bresnan's (2001) Endocentric Mapping Principles (EMPs). These predict that a DF will typically be the specifier of a functional head or adjoined to a phrase. In nominal structure the relevant functional head is D, and the phrases to which it might be adjoined are NP, DP or possibly some other functional levels within DP, where these are indicated. Many standard analyses of possessive structures suggest possessors occupy precisely such positions. However as the next section reveals, they also assume, contrary to the EMPs, that these are *argument* positions.

3 Possessors, GFs and DFs in phrase structure

It is generally agreed in the LFG literature, that 'possessors' are arguments with a POSS GF, but there is some variation in where the GF is said to be assigned. Possessors have been said to occur in Spec NP (Sadler 2000, Charters 2004, Laczkó 2007, Lødrup 2011); Spec DP/FP (Charters, 2004; Strunk 2005); adjoined to NP (Chisarik and Payne 2001); adjoined to N (Lødrup 2011), and in the complement of N (Chisarik and Payne 2001). This basically covers all possible positions in which a phrase can occur in an extended projection of NP, and one (adjoined to N), where it normally cannot! Of these positions, only one (sister of N) is defined by the EMPs as an argument position, specifically for 'non-discourse arguments'. Chisarik and Payne are the only ones to suggest such a position for possessors of the type discussed here, and they assign it a complement function NCOMP.

The most commonly assumed positions (Spec DP, and adjoined to NP) are defined as DF positions by the EMPs, and the fourth (Spec NP) is not mentioned. If we accept the general validity of the EMPs, and conventional wisdom about the location of possessors in c-structure, we must re-assess the idea that possessors are arguments pure and simple. Of course, under the EMPs, one argument, the Subject may also occupy a DF position, because of its stipulated dual status as a GF and a DF. If we exclude SUBJ from the set of DFs, we have to re-assess its position in phrase structure; or, if SUBJ can be assigned in Spec TP by virtue of having a default association with the DF TOPIC, this supports my proposal that POSS also has a default association with a

different DF. The next section presents analyses of possessive structures involving the DF ANCH.

4 The DF ANCHOR in possessive structures

I follow Laczkó and others in assuming the involvement of an abstract or inflectional Poss predicate but I suggest it is underlyingly transitive, and for reasons that will become clear below, I suggest that its PRED feature is optional[4]. In a language like Hungarian, where an overt Poss entails the involvement of a possessor with specific feature values, even when the possessor is not overt, I assume Poss also introduces an optional($\uparrow$PRED) = 'pro' feature for its higher ranked argument, x and in some cases, can also specify features for that argument. Before GF assignment, this would give the schematic feature structure:

(14) (($\uparrow$PRED) = 'Poss $<x_{possessor}, y_{possessum}>$')
    ((x PRED) = 'pro')
    ((x NUM) = α)
    ((x PERS) = β)

However, as an abstract morpheme or bound morph, Poss cannot head a phrase in c-structure so it combines with a lexical head. I suggest this proceeds by linking the possessum role of Poss to a suitable host noun in semantic structure, and integrating the PRED values of Poss and the host in a-structure, combining all other features to create a lexical structure much like that proposed by Bresnan (2001). At the point of incorporation, a GF replaces the generic reference, 'x' as determined by Lexical Mapping Theory. In this case, the GF POSS is selected.

(15) $N_{possessum}$-Poss: ($\uparrow$ PRED) = '$N_{possessum}$ of $<(\uparrow$POSS)$>$'

This analysis readily accounts for the addition of a semantic possessor to a common noun in either of the Hungarian possessives, shown in (16) (based on Chisarik and Payne, 2001). Lexical structures are shown in (17), c-structures in Figs 1 and 2 and f-structures in (18) and (19).

(16) a. *a lány-nak a macská-ja*
      ART girl-DAT ART cat-3
      'the girl's cat'

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[4] Other alternations, such as that between English pronoun *this*, with a PRED feature, and determiner *this*, a co-head with a noun, also require optional PRED values.

b. *a lány macská-ja*
   ART girl cat-3
   'the girl's cat'

(17) *a*　　　　　(↑DEF) = +
　　lány　　　　(↑PRED) = 'girl'　　　　(↑NUM) = SG
　　　　　　　　(↑PERS) = 3　　　　　　((↑CASE) = GEN)
　　lány-nak　　(↑PRED) 'girl'　　　　(↑NUM) = SG
　　　　　　　　(↑PERS) = 3　　　　　　(↑CASE) = DAT
　　　　　　　　(↑POSS) = (↑ANCH)
　macská-ja (↑PRED) = 'cat of <(↑POSS)>' (↑NUM) = SG
　　　　　　　　((↑POSS PRED) = 'pro')　((↑POSS NUM) = SG)
　　　　　　　　((↑POSS PERS) = 3)

　　　I also assume that the dative case-marker replaces an optional case feature specified by the noun stem and equates the GF POSS with the DF ANCH. The reasons for this will become clearer below. In both structures, the common noun hosts the Poss predicate, and the possessor is mapped to the GF POSS, which replaces *x* in the generic feature specifications. To explain why the dative possessor can precede an article Chisarik and Payne suggest it is adjoined to NP, but this does not hold in a DP analysis, where the article c-commands NP. These days a DP analysis is more generally assumed, is a 'universal default' under the EMPs, and provides as good an account of ordering constraints if we place the dative possessor in Spec DP, as in Fig. 1.
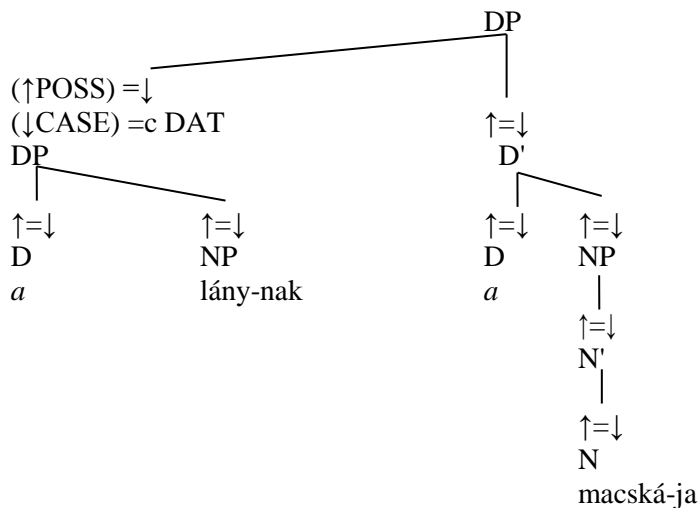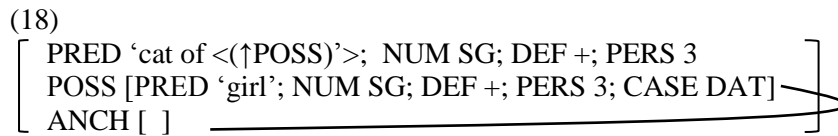

Fig. 1 Hungarian Dative Possessive

　　　The GF POSS is assigned in SPEC DP, and the dative case marker equates this with an ANCH DF, that is absent from c-structure, but appears in f-structure (18).

(18)

$$\begin{bmatrix} \text{PRED 'cat of} <(\uparrow\text{POSS})'>; \text{ NUM SG; DEF +; PERS 3} \\ \text{POSS [PRED 'girl'; NUM SG; DEF +; PERS 3; CASE DAT]} \\ \text{ANCH [ ]} \end{bmatrix}$$

In Fig. 2, it is the DF ANCH, not the GF POSS that is assigned in c-structure; it is then linked to the GF POSS in f-structure (19) to satisfy the ECC and the completeness condition.
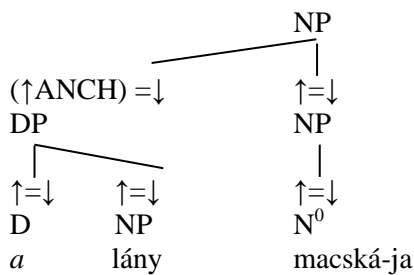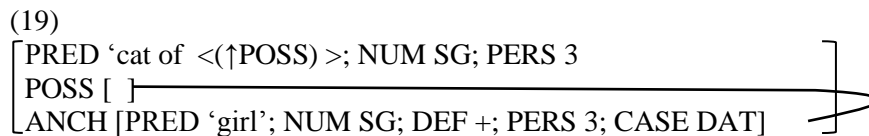
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                            NP
                   _____/ |
(↑ANCH) =↓              ↑=↓
DP                      NP
    ┌_____             |
↑=↓      ↑=↓           ↑=↓
D        NP            N⁰
a        lány         macská-ja
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Fig. 2 Hungarian 'new genitive' possessive.

(19)

$$\begin{bmatrix} \text{PRED 'cat of } <(\uparrow\text{POSS}) >; \text{ NUM SG; PERS 3} \\ \text{POSS [ ]} \\ \text{ANCH [PRED 'girl'; NUM SG; DEF +; PERS 3; CASE DAT]} \end{bmatrix}$$

The Poss predicate could also contribute a PRED Pro and other features to POSS in f-structure, in which case we would have anaphoric control, but those features are all optional.

To account for the incorporation of predicate nouns, as in (20) (adapted from Laczkó, 2000 e.g. 7) the optional PRED feature of *-ja* is simply omitted during incorporation, accounting for the absence of a strictly possessive interpretation: *Janos* is a theme here, not a possessor.

(20) a. *János-nak az érkez-és-e*
        John -dat the arrive-NOM-sg.Poss.3.sg
        'John's arrival' / 'the arrival of John's'
      b. *János érkez-és-e*
        John arrive- NOM-sg.Poss.3.sg
        'John's arrival'

The optional agreement and $((x \text{ PRED}) = \text{'pro'})$ features remain, so with omission of its PRED feature *-ja* becomes either an incorporated pronoun, when $((x \text{ PRED}) = \text{'pro'})$ is retained, or a functional morph when it is not. Also, *-ja* can contribute singular number for the host noun, and 3.sg agreement values if needed, or act as a stem for other agreement features, which block those optionally associated with *-ja*. When they are used, the PRED 'pro' contributed by

ja and any agreement features are linked to the external argument of the incorporated noun. I assume this receives the GF POSS, as part of the nominalisation process for deverbal nouns. Lexical entries for the predicate noun in (20) are shown in (21).

(21) *érkez*   (↑PRED) = 'arrive <(↑SUBJ^5)>'
      érkez-és   (↑PRED) = {'arrival' | 'arrival <(↑POSS)>'}
      érkez-és-e (↑PRED) = {'arrival' | 'arrival <(↑POSS)>'}
                (↑ NUM) = SG
                (↑ POSS NUM) = SG
                (↑POSS PERS) = 3
                ((↑POSS PRED) = 'pro')

The c-structures for (20a) and (20b) are analogous to those in Fig. 1 and Fig. 2, respectively. The f-structures are shown in (22) and (23).

(22)
$$\begin{bmatrix} \text{PRED 'arrival} <(\uparrow\text{POSS})>\text{'; NUM SG; DEF +; PERS 3} \\ \text{POSS [PRED 'NAME}_{\text{JOHN}}\text{'; NUM SG; DEF +; PERS 3; CASE DAT]} \\ \text{ANCH [ ]} \end{bmatrix}$$

(23)
$$\begin{bmatrix} \text{PRED 'arrival} <(\uparrow\text{POSS})>\text{'; NUM SG; DEF +; PERS 3} \\ \text{POSS [ ]} \\ \text{ANCH [PRED 'NAME}_{\text{JOHN}}\text{'; NUM SG; DEF +; PERS 3; CASE GEN]} \end{bmatrix}$$

As before, *-ja* could contribute a [PRED Pro] to the f-structure of POSS if there were no overt DP in the anchor position, and if it did so, the PRED Pro feature in (23) would be anaphorically controlled by the overt anchor constituent.

This brings us to common nouns that agree with 'attributive possessors' as in (24) which according to Chisarik and Payne (2001), can occur in the genitive structure (24a), but not the dative (24b). Consider the former first.

(24) a. *a   boldogság   perc-e-i*
        ART happiness.GEN minute-3-PL
        'the minutes of happiness'
     b. **a boldogság-nak a perc-e-i*
         ART happiness.DAT ART minute-3-PL

In (24a) the PRED feature of *-ja* cannot be included, as it would impose a possessor/possessum relationship between the anchor and the

---

host noun, which is semantically inappropriate in this instance. However, the host noun is not a predicate. This means there is no semantic argument in a-structure with which 'x' can be linked. Note that, if we replaced x in lexical structure with an unspecified GF, the prediction would be that the noun could agree with any argument or with any adjunct, which is not the case. Therefore, I propose that the agreement source is actually identified by reference to a function that is not syntactically required, but is often pragmatically required: the DF ANCH. A DF is not tied to any specific GF, but can associate with any GF, including ADJUNCT, as long as the adjunct serves the discourse purpose specified. Attributive possessors in this structure do seem to serve this function, by adding greater specificity to an otherwise over-general noun. The idea that 'possessed' nouns agree with an ANCH, rather than an argument is little different from the idea that a verb may agree with a TOPIC rather than a SUBJECT, or indeed that Subject-verb agreement may have arisen out of topic-verb agreement (Givon, 1976; Lehmann, 1982; Dalrymple and Nikolaeva, 2011). I therefore propose that the lexical structure of the form *-ja* is actually:

(25)   *-ja* (($\uparrow$PRED) = 'of $< x_{poss}$, $y_{possessum}>$')
        (($\uparrow$ANCH PRED) = 'pro')
        (($\uparrow$ANCH NUM) = SG)
        (($\uparrow$ANCH PERS) = 3)

I assume the features of other agreement markers are similarly designated. The lexical structure of the inflected common noun is shown in (26); the c-structure of (24a) is analogous with that in Fig.2 above; the f-structure is shown in (27).

(26) *perc-e-i* ($\uparrow$PRED) = 'minutes'
            ($\uparrow$NUM) = PL
            (($\uparrow$ANCH PRED) = 'pro')
            ($\uparrow$ANCH NUM) = SG
            ($\uparrow$ANCH PERS) = 3

(27)

$$\left[\begin{array}{l} \text{PRED 'minutes'; NUM PL; DEF +} \\ \text{ANCH [PRED 'happiness'; PERS 3; NUM SG; CASE GEN]} \\ \text{ADJ [ ]} \end{array} \right]$$

As a grammaticalised DF, ANCH is subject to some form of the Extended Coherence Condition (ECC), and since no argument function is available for it to link to, an ADJ GF is included to satisfy the ECC. This means adjuncts that are not anchors cannot trigger agreement on the noun. As the agreement features in this case are optional they may unify with those expressed by the ANCH in c-structure, or be omitted.

Now, consider the analysis of (24b). As before, I assume the PRED value of *-ja* is ruled out by semantic factors. While inanimate *happiness* might possess an attribute like *unexpected*, *minutes* does not express such a concept. Duration is a measure, not an attribute, and cannot, I suggest, be construed as a possession of *happiness*[6]. On the other hand, if the PRED feature of *-ja* were omitted, as for (24a), and the predicate noun in (20), there would be two related problems, one in c-structure and one in f-structure. Suppose the dative DP *a boldogság-nak* 'happiness' were placed in Spec DP, analogous to the dative possessors in Fig. 1. It would be assigned the GF POSS in c-structure which would lead to an incoherent f-structure because no predicate in f-structure designates a POSS GF, as shown in (28). This is true whether an ANCH is constructed in f-structure from the inflections on N, or not.

(28)
$$\begin{bmatrix} \text{PRED 'minutes'; NUM PL; DEF +} \\ \text{POSS [PRED 'happiness'; PERS 3; NUM SG; CASE GEN]} \\ \text{ANCH [PRED 'pro'; PERS 3; NUM SG]} \end{bmatrix}$$

If, instead the dative-marked possessor were adjoined to NP, like a genitive possessor in Fig. 2, and the ADJ GF were included to satisfy the ECC, as in (27), this would not only make it impossible to include an article after the possessor, counter to fact, it would also violate the control equation expressed by the dative case-marker, which equates ANCH with a POSS GF. Inserting the POSS GF in f-structure instead of ADJ would create the same violation of the coherence condition shown in (28).

A DF ANCH can also explain some other aspects of possessive structures in Hungarian and other languages.

4.1 Other structures explained

According to Chisarik and Payne, in Hungarian a noun carrying plural agreement can be accompanied by a plural marked dative possessor (29a), but not a genitive one, (29b) (Chisarik and Payne's (11)).

(29) a. *a   lány-ok-nak   a   macská-juk*
         ART girl-PL-DAT ART cat-3
         'the girls' cat'
     b. **a   lány-ok   macská-juk*
         ART girl-PL.GEN cat-3PL

---

[6] In fact, durations are more often treated as 'possessors': 'an hour's work' etc.

Chisarik and Payne suggest that an explanation may involve a distinction between agreement and incorporated pronouns, and perhaps, binding features, but do not propose a clear analysis. They also suggest this contrast supports the idea that two distinct entries are required for every noun, one referring to SUBJ (i.e. dative possessors) and the other to NCOMP (genitive possessors) so the restriction can be imposed somehow in lexical structure. In my analysis it can be explained as a characteristic of the form *–juk*, without entailing split lexical entries for very noun. If *–juk* assigns a value specifically to POSS, and indicates that POSS is not linked to the DF ANCH, the f-structure of (29a) would be complete and coherent, as in (30), but the f-structure of (29 b) would not satisfy the ECC, as shown in (31)

(30)
$$\begin{bmatrix} \text{PRED 'cat of} <(\uparrow\text{POSS})>; \text{ NUM SG; DEF +; PERS 3} \\ \text{POSS [PRED 'girl'; NUM PL; DEF +; PERS 3; CASE GEN]} \end{bmatrix}$$

(31)
$$\begin{bmatrix} \text{PRED 'cat of} <(\uparrow\text{POSS})>; \text{ NUM SG; PERS 3} \\ \text{POSS [PRED 'pro}_i\text{'; NUM PL; DEF +; PERS 3; CASE GEN]} \\ \text{ANCH [PRED 'girl}_j\text{'; NUM PL; DEF +; PERS 3; CASE GEN]} \end{bmatrix}$$

In (31) the ANCH DF gets its features from the overt DP adjoined to NP, and the POSS GF gets its features from *–juk*. It imposes disjoint reference, indicated by sub-scripts, which prevents the ANCH from satisfying the ECC.

Chisarik and Payne also say that a topic pronoun cannot appear in the dative structure, as shown in (32a), while pronominal possessors in the genitive structure have contrastive focus (32b).

(32) a. *nekem a   lany-om*
          I-DAT ART daughter-Poss.sg.1sg
      b. *az-én   lany-om*
         I-GEN daughter -Poss.sg.1sg
         'MY daughter'

In my analysis, topic pronouns would be excluded from Spec DP, as long as the dative case indicates that POSS and ANCH are linked because TOPIC is characterised as +about and ANCH as – about. At the same time, a constituent identified as an ANCH in f-structure could still coincide with contrastive focus in i-structure. In most feature-based typologies of DFs, contrastive focus is not a grammaticalised DF in the sense used here, but an *i*–structure value freely associated with anything in c-structure. Moreover, no overt ANCH is required when its referent is retrievable from an incorporated pronoun and discourse context, so it

is likely that a more marked discourse function would be assigned to an overt pronoun in the DF position, ANCH. It is effectively a contrastive anchor.

Optional possessor doubling also suggests some possessors occupy a DF position. According to Strunk (2005), a pronominal possessor in Low Saxon can appear alone or with a coreferent lexical possessor as in (33a) but the lexical possessor cannot appear alone, as in (33b); examples from Strunk, 2005.

(33) a. *(d'en Jung) sein Vadder*
   the.M.SG.ACC boy.M.SG.ACC his father
   'the boy's father'
  b. **d'en Jung Vadder*
    theM.SG.ACC boyACC father

Strunk places the pronominal possessor in D and suggests it introduces an optional ((↑POSS PRED) = 'pro'), which must be omitted when the lexical possessor appears, but does not explain why the lexical possessor cannot appear alone. Strunk proposes a constraint requiring POSS to express a + POSS feature that only the pronominal possessor can supply. Satisfaction of this constraint depends upon the features of the two possessors being combined in f-structure. If, instead, Saxon does not assign the GF POSS in c-structure, but relies on its being specified by the pronoun, the rest follows automatically. Only a pronoun can occupy D, the lexical possessor must occupy a *DF* position in Spec DP, and the optionality of the lexical possessor and obligatory presence of the pronominal follows automatically. The c-structure of (33a) shown in Fig. 3, below is analogous to that in Fig. 1.above, but with an ANCH DF assigned in Spec DP, and a possessive pronoun in place of the article.

```
                                         DP
                                          |
(↑ANCH) =↓                          ↑=↓
DP                                      D'
D'en Jung                               |
                                    ↑=↓   ↑=↓
                                     D     NP
                                    sein  Vadder
```
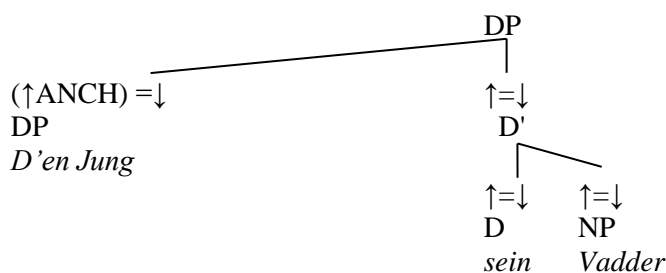
Fig. 3 Possessor doubling in Low Saxon

The f-structure is as shown (34); note that unlike in Strunk's account, the GF POSS is introduced to f-structure only by the pronominal possessor, it is not evident in c-structure.

(34)

$$
\begin{bmatrix}
\text{PRED 'father of} <(\uparrow\text{POSS})>\text{'; NUM SG; DEF +; PERS 3} \\
\text{POSS [PRED 'pro}_i\text{'; NUM SG; DEF +; PERS 3]} \\
\text{ANCH [PRED 'boy}_i\text{';NUM SG; DEF +; PERS 3; CASE ACC]}
\end{bmatrix}
$$

When there is no lexical possessor involved, the ANCH is simply absent from f-structure, but when the prior discourse does not actually warrant use of a pronominal possessor alone, an overt ANCH can anaphorically control the pronominal POSS, providing additional identifying information. The f-structure of (33b) is incomplete and violates the ECC due to the lack of a POSS argument as shown in (35).

(35)

$$
\begin{bmatrix}
\text{PRED 'father of} <(\uparrow\text{POSS})>\text{'; NUM SG; DEF +; PERS 3} \\
\text{ANCH [PRED 'boy}_i\text{';NUM SG; DEF +; PERS 3; CASE ACC]}
\end{bmatrix}
$$

5 Conclusions

I have argued that, synchronically, we need to maintain a distinction between DFs and GFs on the one hand, and non-grammaticalised discourse roles on the other, and that the DF ANCH fills a gap in typologies of DFs, distinguished in a systematic way from other recognised DFs. I have suggested that 'possessors' often appear in a GF position linked to that DF, but sometimes appear in a position in which the DF ANCH is directly assigned, from where they can control the GF POSS or the GF ADJ in f-structure. I have then shown how a Poss predicate can have a simple lexical structure, but still be multi-functional: a predicate, an incorporated pronoun or an agreement marker, depending how its optional features are omitted or included to meet semantic and syntactic demands of the context. With these assumptions it has been possible to explain, within a relatively uniform account, differences between and restrictions on marked and unmarked possession in Mandarin, dative and genitive possessives in Hungarian, and possessor doubling in Low Saxon, three unrelated and typologically different languages. Moreover, these analyses have removed the need for widespread lexical splits and complex raising constructions proposed in previous accounts, allowing exceptions shown to follow logically from the properties of anchors. The involvement of the DF ANCH could be dispensed with in accounting for the prototypical alignment of semantic and quasi-possessors, seen cross-linguistically, but it is only through involvement of this DF that we can achieve a relatively simple and uniform account of all the phenomena discussed here.

Finally, accepting that possessors sometimes have a DF status in Spec DP affords a clearer possible account of how a GF might develop diachronically from a discourse role. It is often proposed that the GF

SUBJ developed through grammaticalisation of a discourse role topic, but little is said about how this might come to pass, or what intermediate stages might look like. The discussion of anchors presented here included ungrammaticalised anchors, as in (1) and (2), the grammaticalised DF ANCH in Mandarin marked and Hungarian genitive possessives; and the GF POSS tied to the DF ANCH by a lexical specification, in Hungarian dative possessives. It is plausible to think that a c-structure position originally associated loosely, but with some frequency with a particular role in *i*–structure, might start to encode that DF directly, being linked either to an adjunct or an argument GF for coherence in f-structure; the higher frequency of higher ranked meanings serving that function could facilitate a change of status from a DF to an unrestricted GF, and at that point, the GF could in principle be released from the discourse function originally associated with that position. Given the light it can throw on synchronic and diachronic relationships between DFs and GFs, a DF analysis for possessor NPs, and recognition of the grammaticalised DF ANCH are both long overdue.

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